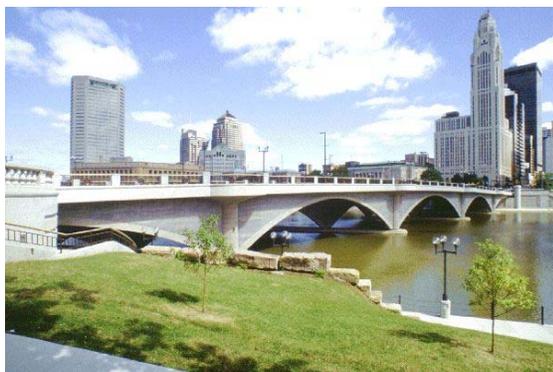




# OFFICE OF STRUCTURAL ENGINEERING

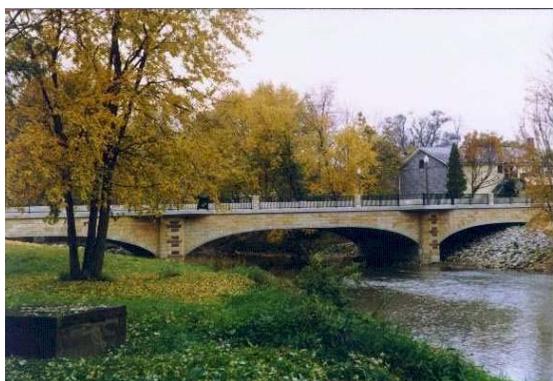
## BRIDGE INVENTORY CODING GUIDE



**Broad Street**



**US Grant**



**Cherry Street**



**Veterans' Glass City Skyway**

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## **ACKNOWLEDGMENTS**

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- "Bridge Inventory Coding Guide", October 1988, 1989, 1992, 2010, 2011 Ohio Department of Transportation.
- "Bridge Inspection Manual", 1987, 1989, 1992, 1995, 1998, 2006, 2010 Ohio Department of Transportation.
- "Recording and Coding Guide for the Structure Inventory and Appraisal of the Nations Bridges", 1995 U.S. Department of Transportation, Federal Highway Administration.
- "Census of Population and Housing 2000", U.S. Department of Commerce, Bureau of Census.

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## **INTRODUCTION TO THE OHIO BRIDGE INVENTORY SYSTEM**

The Bridge Inventory System has been developed by the Ohio Department of Transportation Office of Structural Engineering (OSE) in cooperation with the Division of Information Technology (DoIT). The system provides for a collection of bridge data to be used for producing various analytical and statistical reports which aid in the design, planning, programming, and financing of bridge maintenance and construction in Ohio, as well as a funding selection base by FHWA.

Federal legislation, and publication by the U.S. Department of Transportation, Federal Highway Administration (FHWA) of the "Recording and Coding Guide for The Structure Inventory and Appraisal of the Nation's Bridges", July 1972, (rev. JAN. 1979, DEC. 1988, DEC. 1995, DEC. 2000) and the Surface Transportation Assistance Act of 1978 render it mandatory that particular data herein specified, be collected and maintained for all bridges on the Public Highway and Street Systems in Ohio. It will be possible to accomplish this task only through the complete cooperation of all governmental and local agencies involved. Most of the identification and structural data required will be available from existing bridge inventories of the various agencies, as established under Section(s) 723.54, 5501.47, 5543.20 of the Ohio Revised Code. Some items required may compel an agency to make field measurements to obtain accurate and up-to-date data.

Provisions have been made to collect and maintain information on all bridges on the State & Non-State Highway Systems. All inventory and inspection data of bridges is stored in ODOT Bridge Management System (BMS).

Each agency (ODOT District, County, Municipality, Turnpike Commission, etc.) shall be responsible for the validity of data for its own bridges.

All bridges and culverts carrying or going over public streets and highways must be inventoried. It is necessary that all bridges be inventoried and coded with respect to a particular route known as the "Inventory Route" which is defined in more detail in this BIC Guide.

In all cases structure description items shall be coded from the viewpoint of the structure as a bridging unit, regardless of its orientation over, under or on the inventory route.

## **INVENTORY RESPONSIBILITY**

In order to eliminate duplication of records the following rule shall apply. For the purpose of this inventory each agency, State, County and Municipality shall inventory **only the structures for which it has inspection responsibility under Ohio law, or any special written agreement legally transferring inspection responsibility.** Agencies charged by law with maintenance of a

structure must **not** place that bridge record on file.

Exceptions to this rule are private and industrial structures over or under an agency route and for which the inspection responsibility has been assigned by law or mutual agreement to the private agency. In this case, the agency whose route goes over or under shall inventory the structure. Structures separating grades of two intersecting routes under the same agency jurisdiction shall be inventoried on the route carried by the bridge, i.e. code using the route on the structure as the "Inventory route."

For bridges with joint Inspection Responsibility, a public agency would be responsible to do the bridge inventory as per hierarchy (State, Turnpike, County, and Municipality) unless a special agreement is in place.

In special cases a public agency may be required to inventory a bridge inspected or maintained by a border state (Indiana, Kentucky, Michigan, Pennsylvania, or West Virginia) for cross-reference or holding bridge clearance information.

## **DEFINITION OF A BRIDGE**

A structure including supports over a depression or an obstruction such as water, highway, or railway; and having an opening measured along the centerline of the roadway of 10 ft. [3.048 m] or more between under-copings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes. It may also include multiple pipes, where the clear distance between openings is less than half of the smaller contiguous opening.

Multiple cell culverts, under a fill, with a length of 10 feet (3.05 meters) or more between extreme ends of openings, measured along the centerline of the highway, including multiple pipes where the clear distance between openings is less than half of the diameter of the smaller opening, shall be regarded as a bridge.

## **BRIDGE INVENTORY CODING GUIDE AND FORMS**

The Bridge Inventory Coding Guide (also referred to as "the BIC Guide") has been prepared through the joint efforts of the Office of Structural Engineering and Division of Information Technology to establish policies and procedures for the creation and maintenance of a Bridge Management System.

The BIC Guide is intended for use by State, County and Municipal highway officials in coding bridge inventory in the BMS or "Bridge Inventory Code Sheets" (BR87 and BR87A).

It shall be the joint responsibility of the Bridge Inventory Section of the Office of Structural Engineering and the computer systems analyst assigned to the Bridge Management System to

insure that the Guide is current. Inventory Coding Guide will be published on the Inventory website.

Printed copies of the Inventory Coding Guide can be purchased for \$15.00 from the Inventory Section in the Office of Structural Engineering on special request.

Inquiries concerning the material contained in this guide and the code sheets (BR87 and BR87A) should be directed by phone or in writing to:

Ohio Department of Transportation  
Office of Structural Engineering  
1980 West Broad Street  
Columbus, OH 43223

Attn: Bridge Inventory Section

Kathy Keller - 614-752-9973 - [kkeller@dot.state.oh.us](mailto:kkeller@dot.state.oh.us)  
Amjad Waheed, PE – 614-752-9972 – [awaheed@dot.state.oh.us](mailto:awaheed@dot.state.oh.us)

## **UPDATING THE ODOT BRIDGE MANAGEMENT SYSTEM**

Updating the ODOT BMS consists of adding bridges, retiring bridges from the database, or changing/updating data of an existing bridge record. This includes inventory as well as inspection data of a bridge.

The agency (ODOT District, County, Municipality, Turnpike Commission, etc.) responsible for the inventory of a bridge shall also be responsible for maintaining the integrity of inventory data of the bridge. Each agency shall maintain its portion of the database on a day-to-day basis.

There are three common methods to update BMS: 1) Direct data entry into the BMS (only done by authorized users of BMS); 2) Using County Engineers Association of Ohio (CEAO) program (by submitting an electronic copy of the data export file); and 3) submitting paper Bridge Inventory forms (BR87/87A) and Bridge Inspection forms (86/86S).

Direct data entry in the BMS and submission of electronic file of bridge data are the preferred methods to change BMS data.

A complete review and update of the bridge records shall be accomplished at least once a year.

**F.H.W.A. requires prompt updating of data due to replacement, rehabilitation, load posting, etc. The limit is 90 days for ODOT, and 180 days Non-ODOT agencies.**

The Bridge Inventory Section of the Office of Structural Engineering will attempt to correct batch update edit errors caused by coding or data recording mistakes. Any original data,

changed accordingly, will be reported to the originating agency, as soon as practical.

## **BRIDGE INVENTORY CODING INSTRUCTIONS**

**PROCESSING KEY** - This item is the key to process all bridge data. It includes the identification number for the structure's file, known as the Structure File Number, and also the Transaction Code.

Following is a complete listing of all items occurring on the "Bridge Inventory forms" (**BR87 & BR87A**) in the order they appear. Items are described in sufficient detail to allow easy coding of structures by all the agencies involved. Since all items do not apply to all agencies, it is necessary that each description be read carefully. **Each item should be coded in its entirety exactly as described.**

For instructions on coding Bridge Inspection forms (BR86/BR86S), refer to ODOT Bridge Inspection Manual.

## **TRANSACTION CODE FUNCTION**

Updating the inventory items on the Bridge Management System consists of four types of transactions; Adding, Retiring, Restoring or Changing. For all updates to the file, the Structure File Number and transaction code must be entered. If either code is omitted, the update record will be ignored.

## **ADDITION (Transaction Code "A" on BR87 & 87A & in BMS)**

The addition of a bridge record to the Bridge Management System establishes the existence of the bridge for the system. An addition of a bridge (i.e. Structure File Number) is a one-time entry and must be done before any updating (changes, inspection entries, etc.) can be performed.

An addition record must be coded completely and as correctly as possible since an extensive edit is performed on each bridge record added to the file. All edit criteria is based on the coding guide instructions. If errors are found, the computer will display the bridge record on an error listing and indicate the items in error. Items found to be in error will not be entered onto the file, but will be voided and the entire bridge record will be flagged in error to insure corrective action.

In BMS you will use the Transaction Code of "A" and "ADD" in the Fast Path.

Duplicate bridge records, i.e., Structure File Numbers, will not be allowed.

## **CHANGE (Transaction Code "C" on BR87 & 87A & "U" in BMS)**

A bridge record can be changed by coding the Structure File Number, a "C" in Transaction code, and the **complete** data item(s) to be changed, or by accessing the appropriate on-line screen and directly entering the changes into BMS using Transaction Code "U".

Changes must be made by item and the **entire item** must be coded to include the revised characters.

Any or all data items may be corrected on a change record either on-line or by batch forms. Items to be changed will be edited for errors before altering the bridge record on the file. Error items will be indicated on an error listing and the record will be in **error** status until the record is corrected.

A bridge record cannot be added and changed (transactions "A" and "C") during the same computer process.

Some items on the bridge record allow blanks or no data entry in the item field

## **RETIRE (Transaction Code "R" on BR87 & "U" in BMS)**

A bridge record, i.e. Structure File Number, may be retired from the file by coding the Structure File Number and placing an "R" in the transaction code on the BR87 or using Transaction Code "U" on the "RET" screen in BMS. In addition you must show the reason for retiring the structure by placing one of the following codes in the first space (character space 27) in the Feature(s) Intersected Item (Item #4) on card A of the BR87 or on the "RET" screen in BMS.

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Replaced ( $\geq$ 50% Sufficiency Rating)
2	Replaced ( $<$ 50% Sufficiency Rating)
3	Transferred to another agency (County, municipality, etc.)
4	Collapsed, not to be replaced.
5	Closed with no intent to replace.
7	Collapsed and replaced
0	Other

When a SFN is retired from the BMS, its records do not get deleted but get frozen. No further additions/deletions/changes can be made to retired bridge records. The retired SFN cannot be re-assigned to any other bridge.

If a bridge gets accidentally retired, please contact the BIS in OSE to restore the retired bridge.

## **RESTORE OR "UNRETIRE" (Transaction Code "U" in BMS)**

A bridge record that has been erroneously retired may be restored to the active file. Restore or "Un-retire" will only be done by the **Bridge Inventory Section in ODOT, Central Office (CO)**.

## **DELETE (Transaction Code "D" in BMS)**

A bridge record may be deleted from **the** "Active and Inactive" files. Deletes will only be done in the **ODOT, Central Office (CO)**. **Please contact Bridge Inventory Section in the ODOT, CO.**

### **A. Structure File Number (SFN)**

This is the identification number for the data file on a particular structure. It is a seven (7) digit numeric which is assigned from a **master list** by the appropriate SFN control authority. The first two (2) digits are the numeric code for the Ohio County (See Appendix "A") in which the structure is located. The next four (4) digits make up the specific number for that structure. The last or seventh digit is a computer calculated check digit which has no particular sequence, but is an integral and very necessary part of the file number. Using this digit, the program can check the validity of the entire number before entering the data in the record. Only numbers listed in the BM-116 report can be used.

The specific structure number (digits three thru six) will be assigned by the SFN Control Authority from predetermined blocks of numbers within any one county as follows:

State Structures	0001 thru 2999
County Structures	3000 thru 5999
Municipal Structures	6000 thru 8999
Special Systems Structures	9000 thru 9999

This block or set system of numbering will be duplicated in each County, thus permitting any record to be identified within a county as state, county or municipal. **The Structure File Number is a permanent number assigned to the structure when the bridge is first conceived and remains so until the entire structure is demolished or removed from the system.** If a structure is transferred from one jurisdiction to another, such as County to State or vice versa, it must be "Retired" from the first agency's record and "Added" to the receiving agency's record with a totally new structure file number. Structure file numbers for bridges transferred or demolished shall not be reassigned to new or other structures. If it becomes necessary, because of growth of an agency's system and through lack of availability of new unassigned numbers, a previously used number may be used for a new structure record, but only after approval is received for its reuse from the proper SFN control authority.

The State Structure Inventory section will serve as the SFN control authority for all structures on the State System and special systems state-wide. County Bridge Engineers will control assignment of numbers to structures within their jurisdiction and the State District Bridge Engineers will control and assign small blocks of numbers for each Municipality within each County included in his/her district. Each SFN control agency will be provided with initial lists of numbers available for assignment to structures under their jurisdiction. Update listings showing assigned numbers to date as well as those still available for assignment will be provided to each SFN control agency by the "State" on a regularly scheduled basis. Special listings can be obtained on a limited basis by contacting the State District Bridge Engineer.

It is imperative that the SFN is entered legibly and accurately on the forms BR87 and BR87A so that data will be entered in the proper structure's file.

### **GUIDELINES ON STRUCTURE FILE NUMBER (SFN) – Column B**

When inventorying a bridge any structure(s) with a closed median is to be recorded as one bridge. A closed median is where:

- 1) The area between the two roadways on the structure is bridged over and is capable of supporting traffic, or
- 2) The longitudinal deck opening at back-to-back median barriers is a maximum of 3 inches (75 mm) wide.

Separate superstructures with an open median (not meeting the closed median criteria above) sharing a common substructure unit or units are to be recorded as two bridges. A structure carrying a ramp that merges into another structure, has at least one distinct abutment, and is greater than 10 feet (3.1 m) in length, is to be recorded as a separate bridge. The separating point between bridges should be the closest deck joint or other logical and reasonable location as determined by the bridge owner.

A structure that divides into two (or more) separate structures (or vice versa) is to be recorded as two (or more) bridges. The separating point between bridges should be the closest deck joint or other logical and reasonable location as determined by the bridge owner.

The SFN of a bridge should usually not change when work is performed, or the portions of a structure are reconstructed except in unusual circumstances. A SFN is retained to maintain the history of the structure. Existing SFN of a bridge should be retired and a new SFN shall be assigned when a completely new Structure is built to replace the old Structure. (Example: totally new super and sub structures or when the existing deck, superstructure and substructure are removed with the exception of the piles).

In case it is deemed necessary to retire the existing SFN and assign a new SFN to the bridge, a reference to the old SFN shall be made.

For other complex or unique situations not covered here, the bridge owner should contact the Office of Structural Engineering, Inventory Section. See examples below:

<u>Example</u>	<u>Scope</u>	<u>Need New SFN?</u>
1	Deck replacement	No
2	Superstructure replaced with same type	No
3	Widening	No
4	Replacing superstructure and modifying piers and abutments	No
5	Replacing complete bridge including foundations	Yes
6	New Superstructure of different type	Yes
7	Replacing Wearing Surface	No
8	Replacing Super and Substructure except piles	Yes
9	Repairing, Replacing or removing joints, bearings, railings, parapets, sidewalks, etc.	No
10	Other than above	Contact OSE-BIS

### **B. Transaction Code**

This is the second part of the record processing key and tells the computer program what action to take concerning the data shown on the Code Sheet. The following codes shall be used:

A	Add Record (for totally new records)
C	Change Record – Changes any item or all of an established record. <b><u>Changes must be by item.</u></b> The <b><u>entire item</u></b> must be recoded to include the revised characters. <b>Record those items only which are being changed in current process. Do not fill unchanged items.</b>
R	Retire Record – Removes entire record from active inventory. Also designates reason for retire. (See instructions for Retire in Transaction Code Functions)

## **PROCEDURE FOR SUBMITTING AND PROCESSING BR87/87A FORMS**

“The Bridge Inventory Code Sheets” (BR87/87A) must **precede** or **accompany** the “Bridge Inspection Report” (BR86/86S) code form if a bridge record is being added to the file.

Code the “Bridge Inventory Code Sheets” (BR87 and BR87A) according to instructions. County, municipal agencies and Ohio Turnpike should forward the coded sheets to the ODOT Central Office Structure Inventory Section.

## **FORM #BR87 - CARD A**

### **ITEM #1 - OHIO'S DESIGNATED MPOs [2 digits]**

Enter a two (2) digit numeric code for the MPO in which the bridge is located. If this item does not apply, code NN for None. If the MPO is not known, code UU for Unknown.

See Appendix M or the link below for a list of MPOs by County.

<http://www.dot.state.oh.us/Divisions/TransSysDev/ProgramMgt/CapitalPrograms/Pages/MPOMapContacts.aspx>

<b><u>Code</u></b>	<b><u>Description</u></b>
01	AMATS (Akron)
02	BHJTS (Steubenville-Weirton)
03	BOMTS (Wheeling-Bridgeport)
04	EDATA (Youngstown)
05	HAIATS (Huntington)
06	LCATS (Newark-Heath)
07	MORPC (Columbus)
08	NOACA (Cleveland)
09	OKI (Cincinnati)
10	SCATS (Canton)
11	MVRPC (Dayton)
12	TCC (Lima)
13	TCC (Mansfield)
14	TCC (Springfield)
15	TMACOG (Toledo)
16	WWW (Parkersburg-Belpre)
17	ERPC (Erie County-City of Vermilion)
NN	None
UU	Unknown

## **ITEM #2 - CITY OR TOWN (FIPS CODE) [5 digits]**

Cities, towns, townships, villages, and other census designated places shall be identified using the Federal Information Processing Standards (FIPS) codes given in the current version of the **Census of Population and Housing -- Geographic Identification Code Scheme**. If there is no FIPS place code, then code all zeros.

See Appendix **D** for list of F.I.P.S. codes.

### **ITEM #3 - INVENTORY ROUTE [5 digits]**

The Inventory route is any route along which structures are being inventoried. Where possible, structures should be inventoried **on the route** carried on the structure. The inventory will progress from the most important routes to the least important, by established hierarchy. The inventory must start with the structure nearest the beginning of the route. Remember a structure is to be inventoried only once and by only one agency.

When two (2) or more routes are concurrent (overlapped), the highest of the hierarchy of Systems as shown in the second position (System) below will be used. If the concurrent routes are of the same hierarchy level, the lowest numbered route will be used. Routes chosen under these rules are commonly known as the "Preferred route". Structures occurring in overlap areas shall be inventoried only on the preferred route.

#### **A. On /under [1 digit] – Column C**

Enter the proper code to indicate if the route is carried by the structure or goes under it.

If there are two (2) or more physically separate routes under a structure you must inventory each route, using the same "Structure File Number" and coding appropriate A thru C "under" code for each route under the bridge. The Inventory route can never be coded "B" or "C". It may be coded as "A" only under special circumstances when one of the multiple routes under the bridge is the inventory route.

<b>Code</b>	<b>Description</b>
1	Route carried "on" the structure
2	Single route goes "under" the structure
A-C	Multiple routes go "under" the structure
"A"	Signifies the first of multiple routes under the structure
"B"	Signifies the second of multiple routes under the structure
"C"	Signifies the third of multiple routes under the structure

"On" signifies that the inventory route is carried "on" the structure. Each bridge structure carrying highway traffic must have a record identified with a type code = 1 (numeric).

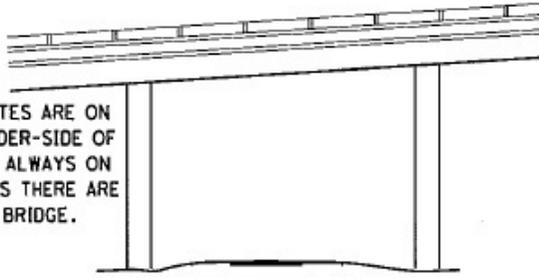
"Under" signifies that the inventory route goes "under" the structure. If an inventory route beneath the structure is on the National Highway System, is a defense route or is otherwise important, a record must be coded to identify it. The type code must be 2 or alphabetic letter A through C. When there is a single route under the bridge, code 2. If 2 or more routes go under a structure on separate roadways, the code of 2 shall not be used. Code A, B or C consecutively for multiple routes on separate roadways under the same structure. For a non-highway system, structure (pedestrian, railroad, etc.), the most significant roadway should be coded "A" in the Inventory route and "B" and/or "C" as the Intersecting route.

\* INV. ROUTE ← → INT. ROUTE

EXAMPLE 1

INT. ROUTE LOCAL STREET  
O/U = 1

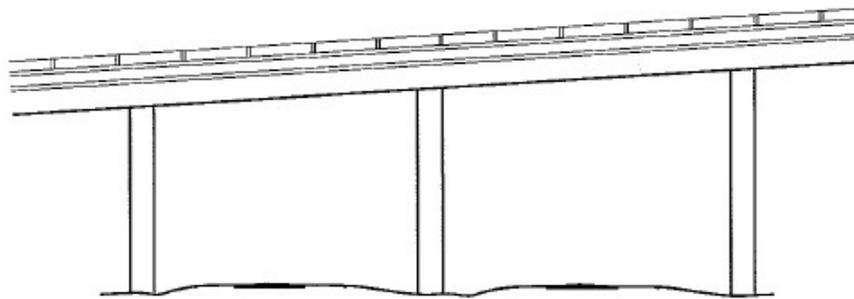
\* INVENTORY AND INTERSECTED ROUTES ARE ON OPPOSITE SIDES (ON-SIDE OR UNDER-SIDE OF A BRIDGE) BUT NOT NECESSARILY ALWAYS ON THE SAME SIDE OF A BRIDGE UNLESS THERE ARE MORE THAN ONE ROUTE UNDER THE BRIDGE.



ODOT ROUTE  
INV. ROUTE O/U=2

EXAMPLE 2

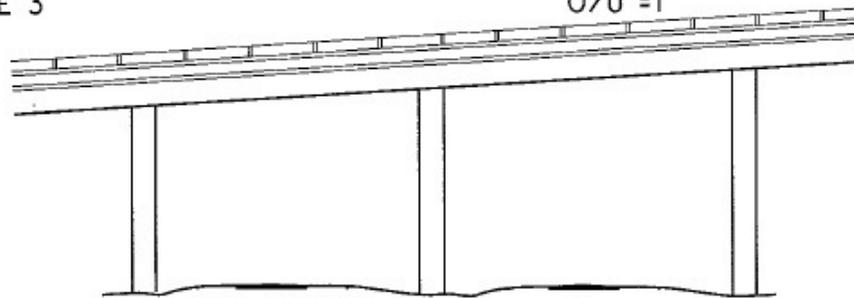
INV. ROUTE ODOT ROUTE  
O/U=1



LOCAL STREET COUNTY ROAD  
INT. ROUTE O/U=B INT. ROUTE O/U=A

EXAMPLE 3

INT. ROUTE LOCAL STREET  
O/U = 1



LOCAL STREET IR  
INT. ROUTE INV. ROUTE  
O/U=B O/U=A

The Inventory route is any route along which structures are being inventoried. Where possible, structures should be inventoried **on the route** carried on the structure. The inventory will progress from the most important routes to the least important, by established hierarchy. The inventory must start with the structure nearest the beginning of the route. Remember a structure is to be inventoried only once and by only one agency.

**B. System [1 digit] – Column D**

<b>Code</b>	<b>Description</b>
1	Interstate Highway
2	U.S. Numbered Highway
3	State Highway
4	County Highway (Township Highway)
5	Municipal Street (i.e. village, town, city)
6	Federal Lands Road
7	State Lands Road – ODNR
8	Other (including toll roads not otherwise identified)
0	Non-Highway Related (Example – A Park Pedestrian Bridge or a Bike Path over a waterway)

**C. Route Number [5 digits] – Column E (Supposed to be a 5-digit code)**

The official Route Number as shown on the State's Straight Line Mileage diagrams or posted in the records of the Agency involved, shall be coded and right justified in the five (5) available positions using leading zeros where necessary. The route number will normally be a one (1) or more digit numeric. A single letter code must be added to the route numeric in the last digit position only for routes, designated as Alternate, Directional Alternate, By Pass, etc. (See Appendix I for official letter codes to be used for such routes), these codes have no directional connotation and must be coded in the fifth (5) position only of the five (5) character field. Meaningful abbreviations for street and road names should be used by local agencies, for those streets or local roads without an established system route number.

**For special off-highway system bridges, the fourth (4) and fifth (5) digit locations of the route number must be coded with a standardized alphabetic two (2) character suffix which identifies the public complex in which the bridge is located.**

Example: State Park - SP

**D. Directional Suffix (1 digit)**

Code the directional suffix to the route number when one is part of the route number. Leave blank if not applicable.

<u>Code</u>	<u>Description</u>
1	North
2	East
3	South
4	West

**Note:** Parts "C" and "D" must be coded carefully since they will be used as part of the bridge number (Item #5) and will be the key for properly differentiating one route from another for listing purposes.

**E. Designation [1 digit] – Column F – Highway Designation**

Code a single numeric to designate the roadway carried by or going under the structure.

<u>Code</u>	<u>Description</u>
0	Other
1	Mainline
2	Alternate
3	By-Pass
4	Spur
5	Toll Road
6	Business
7	Ramp or Wye
8	Service and/or unclassified frontage road
9	Truck Route

Generally county and township roads and municipal streets are coded as mainline.

**F. Preferred Route [1 digit]**

Code letter "P" if the inventory route is the preferred route in an overlap area. Leave blank if not in overlap area.

## **ITEM #4 - FEATURE(S) INTERSECTED – Column M**

### **A. Features Description (25 digits)**

The information to be coded for the first twenty-four (24) characters of this item shall be the name or names of features intersected by the Inventory route **at the structure**. When a highway is one of the features intersected, the number of such highway (e.g., I.R. 71, C.R. 16, and S.R. 5) should be coded if known, then the local name or names of the route (Mill Rd., Stone Street, etc.). If other features such as streams, canals and railroads are crossed, they should be coded next. Abbreviations may be used, but should be meaningful. If a single description is all that is required and it is shorter than twenty-five (25) characters it is preferable that it be left justified (i.e., started in the left most position), without trailing zeros. If a bridge is closed to all traffic, code the word "closed" in parenthesis after the features description.

### **B. Special (Reserved) [1 digit]**

The 25th Character of this item must be left blank.

## **ITEM #5 - INVENTORY ROUTE BRIDGE NUMBER**

This is the Structure Location Number and will be incorporated with parts "C" and "D" of "Inventory route" to form the Bridge Number. The Bridge Number should allow ready identification and easy location of any structure.

Note: The following descriptions for coding bridge numbers apply only to State Highway Structures, but a similar scheme may be used by other agencies. Counties, Cities and Townships must establish and follow some standard numbering system for their inventory. These agencies may ignore the sub-headings under this item and code their Bridge Number left justified, and using no more than the ten (10) characters allowed under this item.

### **A. County [3 digits] – Column G**

Code the three (3) characters alphabetic shown in Appendix B for the County in which the structure is located. Counties may want to adopt a scheme similar to this one. If so, the county could code a three (3) character (locally established standard) alphabetic code for the township in which the structure occurs. If a municipality has a desire to adopt the same scheme, they should use a meaningful three (3) letter abbreviation for the name of the municipality.

### **B. Unit Number**

The Unit Number is the specific number of a structure established by its location along the inventory route and for its special location with respect to the inventory route. It is made up of some or all of several parts as follows:

#### **1. Straight Line Mileage (SLM) [5 digits] – Column H**

The first four (4) characters are coded as a numeric representing the distance from the South or West County Line or other beginning of the Route as established in the State's Straight Line Diagrams. Code leading zeros where necessary. The fifth position is reserved exclusively for coding a "B" for back station as shown in the Straight Line Diagrams. If not coded, the fifth position will be blank.

## **2. Special Designation [2 digits] –Column I**

The first position shall be used for coding "L" or "R" for Left and Right parallel structures. On divided highways with clearly separate and parallel structures for each direction of travel, each structure will carry the same straight line mileage designation, with the addition of the letter (L) for the left (or non-cardinal direction) structure and (R) for the right (or cardinal direction) structure.

On divided highways where the deck is continuous across both directions of travel and there is a longitudinal joint near the center of the bridge (closed median by F.H.W.A. definition), code as one structure. (3" or less open joint at the centerline does not constitute parallel bridges.) Both the positions may be coded to define ramp structures by using a one (1) or two (2) character alphabetic code. Note: For ramp definitions, the letters "L" and "R" may not be used in the first position. Details on basic ramp designation schemes can be obtained from the Structure Inventory Section. Final decision on ramp designations will be made by the Structure Inventory Section.

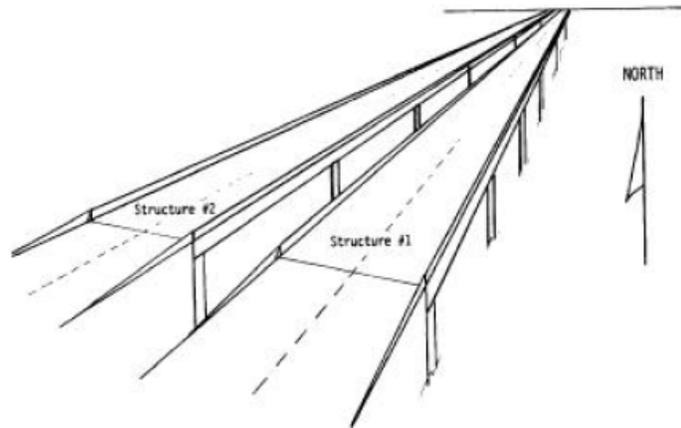
- R The right structure of parallel bridges carrying the roadway in the direction of the inventory. (For a STRAHNET highway, this is west to east and south to north.)
- L The left structure of parallel bridges. This structure carries traffic in the opposite direction.
- N No parallel structure exists.

EXAMPLE :

Structure #1  
Structure #2

Code

R  
L



## **ITEM #6 - AVERAGE DAILY TRAFFIC [6 digits]**

Code a six (6) digit numeric that shows the average daily traffic volume for the Inventory route. Use your best estimate of the traffic volume where an actual count is not available. In coding traffic counts for parallel Left and Right bridges on Multi-lane divided highways, (physically separate structures filed under different Structure File Numbers) code one-half the official route traffic count for each bridge. Right justify filling with leading zeros where necessary. **If the bridge is closed code the actual ADT from before the closure occurred.** If System = 0 for non-highway related traffic code A.D.T. all zero's.

If coding traffic in BMS, you must use Transaction Code "A" to add a new A.D.T. BMS keeps a history of A.D.T.

### **Examples:**

<b><u>Traffic Volume</u></b>	<b><u>Code</u></b>
540	000540
1560	001560
24000	024000
893	000893

**ITEM #7 - AVERAGE DAILY TRAFFIC YEAR [4 digits]**

Code the four (4) digits of the year of the Traffic Count used. (Or Year Estimated) **ADT needs to be within last 4 years.** If the Highway System Code = 0, leave this item blank.

## **ITEM #8 - AVERAGE DAILY TRUCK TRAFFIC [5 digits]**

Code a five (5) digit figure to indicate the amount of truck traffic for the inventory route. Right justify filling with leading zeros where necessary. For physically separate parallel structures, code one-half the traffic for each bridge. If Item #6 is blank leave this item blank.

Truck traffic where this item is concerned does not include vans, pick-up trucks, other light delivery trucks, school buses or recreational vehicles.

Show the actual number of trucks, if not available, estimate as closely as possible.

**If a bridge is closed code the actual ADT before the closure occurred.**

## **ITEM #9 - DIRECTION OF TRAFFIC [1 digit]**

Code the direction of traffic of the inventory route identified in Item #3 as a one (1) digit number using one (1) of the codes below. If the bridge is under a railroad don't use code 0, but code for route **under** the railroad.

<b><u>Code</u></b>	<b><u>Description</u></b>
0	Highway traffic not carried
1	One way traffic
2	Two way traffic
3	One lane bridge for two way traffic

## **ITEM #10 - TEMPORARY STRUCTURE DESIGNATION [1 digit]**

Code this item to indicate situations where temporary structures or conditions exist. This item should be coded N if not applicable.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Temporary structure or conditions exist
N	Not Applicable

Temporary structure(s) or conditions which are required to facilitate traffic flow. This may occur either before or during the modification or replacement of a structure found to be deficient. Such condition includes the following:

1. Bridge shored up, including additional temporary supports.
2. Temporary repairs made to keep a bridge open.
3. Temporary structures, temporary run-around or bypasses.
4. Other temporary measures, such as barricaded traffic lanes to keep the bridge open.

Any repaired structure or replacement structure, which is expected to remain in place without further project activity other than maintenance, for a significant period of time, shall not be considered temporary. Under such conditions, that structure regardless of its type shall be considered the minimum adequate to remain in place and be evaluated accordingly.

If this item is coded Y, then all data recorded for the structure shall be for the condition of the structure without temporary measures, except for the following items which shall be for the temporary structure:

<b><u>Item</u></b>	<b><u>Description</u></b>
66	(on Inspection Report Form BR-86) – Structure Open, Posted, or Closed to Traffic
154	Minimum Horizontal Clearance On Bridge
77	Minimum Vertical Clearance Under Bridge
78	Minimum Lateral Under clearance on Right (Cardinal)
78	Minimum Lateral Under clearance on Left (Non-Cardinal)
67	Minimum Vertical Clearance On Bridge

This item must be coded for all bridges.

**ITEM #11 - DESIGNATED NATIONAL NETWORK [1 digit]**

The national network for trucks includes most of the Interstate System and those portions of the Federal Aid Primary System Identified in the Code of Federal Regulations (23 CFR 658). The national network for trucks is available for use by commercial motor vehicles of the dimensions and configurations described in these regulations. For the inventory route identified in Item #3, indicate conditions using one of the following codes:

<b><u>Code</u></b>	<b><u>Description</u></b>
N	The inventory route is not part of the national network for trucks.
Y	The inventory route is part of the national network for trucks.

Central Office shall code this item until further notice. All agencies **except the State** shall code this item N.

## **ITEM #12 - PARALLEL STRUCTURES [1 digit]**

This item indicates situations where separate structures carry the traffic on the route in opposite directions over the same feature. Use the appropriate code when the route is a county road or city street. If the route is under a railroad, pipeline etc., or there is no parallel structure code N.

<b><u>Code</u></b>	<b><u>Description</u></b>
R	Structure carrying east bound or north bound lanes and there is a corresponding structure carrying traffic in the opposite direction. <b>Cardinal Direction</b>
L	Structure carrying west bound or south bound lanes and there is a corresponding structure carrying traffic in the opposite direction. <b>Non-Cardinal Direction</b>
N	No parallel structure

**This item must be coded.**

**ITEM #13 - [BLANK]**

## **FORM #BR87 - CARD B**

### **ITEM #14 - NATIONAL HIGHWAY SYSTEM (NHS) [1 digit]**

This code shall reflect a structure on the designated NHS as reported to the FHWA to meet the NHS "Interim System" description in Section 1006(a) of the 1991 ISTEA. For the Inventory Route (Item #3), indicate whether the route is on the NHS or not on that system. To see a map of the NHS Routes visit the link below:

[www.fhwa.dot.gov/hep10/nhs](http://www.fhwa.dot.gov/hep10/nhs)

<b><u>Code</u></b>	<b><u>Description</u></b>
N	NHS bridges excluding Congressional Corridor bridges
H	NHS bridges that are also Congressional Corridor bridges
C	Non-NHS bridges that are also Congressional Corridor bridges
X	Non-NHS bridges excluding Congressional Corridor bridges

## **ITEM #15 - MACRO LEVEL CORRIDOR [1 digit]**

This item indicates whether or not the Inventory route (Item #3) is on a Macro Level Corridor route. These routes have been determined by Access Ohio.

<http://www.dot.state.oh.us/maps/Pages/MacroCorridorMap.aspx>

<b><u>Code</u></b>	<b><u>Description</u></b>
N	Structure <b><u>is not</u></b> a Macro Level Corridor
Y	Structure <b><u>is</u></b> a Macro Level Corridor

## **ITEM #16 - FUNCTIONAL CLASSIFICATION [2 digits]**

Use the appropriate functional classification code listed below. This item **cannot be coded without first referencing the applicable Functional Classification Map.** These maps are available through the Department of Transportation District Planning Offices or on the Planning website.

<http://www.dot.state.oh.us/DIVISIONS/TRANSYSDEV/PROGRAMMGT/FUNCTIONALCLASS/Pages/FunctionalClassificationMaps.aspx>

If System Code = 0, code this item 00.

A bridge shall be coded Rural if not inside a designated Urban area.

<b><u>Code</u></b>	<b><u>Description</u></b>
00	Park or Other Public Reservation Road (0 System Code)

### **Rural**

<b><u>Code</u></b>	<b><u>Description</u></b>
01	Principal Arterial - Interstate
02	Principal Arterial – Other
06	Minor Arterial
07	Major Collector
08	Minor Collector
09	Local

### **Urban**

<b><u>Code</u></b>	<b><u>Description</u></b>
11	Principal Arterial – Interstate
12	Principal Arterial - Other Freeways or Expressways
14	Other Principal Arterial
16	Minor Arterial
17	Collector
19	Local

**ITEM #17 & #18 – [BLANK]**

## **ITEM #19 - STRAHNET HIGHWAY DESIGNATION [1 digit]**

Strategic Highway Corridor Network (STRAHNET) is a system of highways which are strategically important to the defense of the United States. It includes the Interstate Highways and other non-interstate highways. STRAHNET connectors are roads that connect military installations and ports of embarkation to the STRAHNET. Indicate the STRAHNET highway situation, using one of the following codes:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Strahnet Interstate Bridges
2	Strahnet Non-interstate bridges
3	Strahnet Non-interstate connector bridges
0	Non-Strahnet bridges

All counties and municipalities shall code this item 0.

[http://www.fhwa.dot.gov/planning/nhs/maps/oh/oh\\_ohio.pdf](http://www.fhwa.dot.gov/planning/nhs/maps/oh/oh_ohio.pdf)

**ITEM #20 & #21 - [BLANK]**

**ITEM #22 - INTERSECTED ROUTE (5 digits)**

Code same as for Item #3 with respect to the Intersected route.

**ITEM #23 - FEATURE(S) INTERSECTED [24 digits]**

Code same as for Item #4 with respect to the Intersected route.

## **ITEM #24 - INTERSECTED ROUTE BRIDGE NUMBER [5 digits]**

Code same as for Item #5 with respect to the Intersected route.

Note: If the coding agency numbers only the bridge (Roadway on the bridge) and not the underpass (Roadway under the bridge) then it is necessary to create a number for the underpass, preferably based on mileage along the intersected route. This is necessary only for structures separating the grades of highways or streets. If a bridge is not coded on the intersecting route, a structure will not be recognized at that location on the route.

**ITEM #25 – INTERSECTED ADT [6 digits]**

Code same as for Item #6 with respect to the Intersected route.

**ITEM #26 - INTERSECTED ADT YEAR [2 digits]**

Code same as for Item #7 with respect to the Intersected route.

**FORM #BR87 - CARD C**

**ITEM #27 - INTERSECTED TRUCK ADT [5 digits]**

Code same as for Item #8 with respect to the Intersected route.

**ITEM #28 - INTERSECTED NATIONAL HIGHWAY SYSTEM  
(NHS) [1 digit]**

Code same as for Item #14 with respect to the Intersected route.

**ITEM #29 - INTERSECTED MACRO LEVEL CORRIDOR**  
**(1digit)**

Code same as for Item #15 with respect to the Intersected route.

**ITEM #30 - INTERSECTED FUNCTIONAL CLASSIFICATION**  
**[2 digits]**

Code same as for Item #16 with respect to the Intersected route.

**ITEM #31 – [BLANK]**

**ITEM #32 - INTERSECTED DIRECTION OF TRAFFIC (1 digit)**

Code same as for Item #9 with respect to the Intersected route.

**ITEM #33 - INTERSECTED DESIGNATED NATIONAL NETWORK [1 digit]**

Code same as for Item #11 with respect to the Intersected route.

**ITEM #34 - INTERSECTED PARALLEL STRUCTURES [1 digit]**

Refer to Item #12 with respect to the Intersected route.

**ITEM #35 – [BLANK]**

**ITEM #36 - INTERSECTED STRAHNET HIGHWAY  
DESIGNATION [1 digit]**

Code same as for Item #19 with respect to the Intersected route.

**ITEM #37 - [BLANK]**

## **ITEM #38 - BYPASS LENGTH [2 digits]**

This item must be coded by all agencies for each structure inventoried. The bypass or detour length should be determined with respect to the route carried by the bridge, regardless of how the structure appears on the Inventory Route. If a ground level bypass is available at the structure site for the route over the structure, code the detour length as zero. If the bridge is one of twin bridges and is not at an interchange code 01 to indicate that the other twin bridge can be used as a temporary bypass. In other cases, indicate the detour distance or length to the nearest mile using the shortest temporary "Alternate" route having comparable structures. The detour length should be coded to represent **only** the total additional travel (see Appendix "J") for a vehicle which would result from closing of the bridge. The factor to consider when determining if a bypass is available at the site is the potential for moving vehicles, including military vehicles, around the structure. This is particularly true when the structure is in an interchange. For instance, a bypass likely would be available in the case of diamond interchanges where there are ramps available or other interchanges where the positioning and layout of the ramps and service roads are such that they could be used without difficulty to get around the structure. Use 00 for railroad, pedestrian walk, pipeline, etc., since they carry non highway traffic. It will appear on the inventory route as an underpass only, considered readily by passable at all times. For detour lengths exceeding 61 miles or more code "99". Use "XX" coding for structures located on any route which has no outlet (dead end) and no detour possible.

<b><u>Examples</u></b>	<b><u>Code</u></b>
Culvert	00
Diamond interchange, structure by passable	00
Cloverleaf, not by passable, 8 mile detour	08
Structure over river, 121 mile detour	99
Railroad structure over highway (Inventory route), by passable	00
Structure over stream, on local road, low traffic, no detour possible	XX



## **ITEM #39 - COORDINATES [16 digits]**

**As many more mapping applications are using BMS data, it is imperative to code the bridge coordinates accurately.**

**A. Latitude** (XX degrees, XX minutes, XX.XX seconds) (8 digits)

Code the Latitude of the rear or beginning point of each structure in the direction of inventory. Code the Latitude in degrees, minutes, and seconds to the nearest hundredth of a second.

Example: 35 degrees 27' 32.50"      Code 35273250

**Ohio's Limits:**      38 degrees, 23 minutes, 10.80 seconds  
                                 41 degrees, 58 minutes, 43.20 seconds

**B. Longitude** (XX degrees, XX minutes, XX.XX seconds) (8 digits)

Code the Longitude as instructed by "A" above for Latitude. Code the Longitude in degrees, minutes, and seconds to the nearest hundredth of a second.

Example: 81 degrees 5' 45.18"      Code 81054518

**Ohio's Limits:**      80 degrees, 30 minutes, 04.80 seconds  
                                 84 degrees, 50 minutes, 15.60 seconds

## **ITEM #40 - TOLL [1 digit]**

Code this item with respect to the route on the bridge. Use the proper one (1) digit numeric code from the list below:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Toll Bridge, Tolls are paid specifically to use the structure.
2	On Toll road, the structure carries a toll road, that is, tolls are paid to use the facility, which includes both the highway and structure.
3	On Free road, the structure is toll free and carries a toll free highway. (Default value)
N	Not Applicable (i.e. railroad, pedestrian bridges, etc.)

**ITEM #41 - DATE BUILT [8 digits]**

Code the actual day, month and year the bridge was completed, if unknown code 07/01/1900.

<b><u>Examples</u></b>	<b><u>Code</u></b>
Built June 30, 1928	06301928
If you cannot estimate the year built.	07011900

## **ITEM #42 - DATE OF MAJOR REHABILITATION [8 digits]**

Code the date of the **latest month, day and year** of major reconstruction (rehabilitation) of the structure.

Replacement of an entire deck or work of a greater magnitude should be termed "Major Reconstruction". Beyond these guidelines "Major Reconstruction" will be a judgmental determination, by a qualified person in the agency submitting the change sheet.

**Some types of work not to be considered as major reconstruction are listed below:**

- Safety feature replacement or upgrading (for example, bridge rail, approach or impact attenuators).
- Painting of structural steel.
- Overlaying of bridge deck as part of a larger highway re-surfacing project (for example overlay carried across bridge deck for surface uniformity without additional bridge work).
- Utility work.
- Emergency repair to restore structure integrity to the previous status following an accident.
- Retrofitting to correct a deficiency which does not substantially alter physical geometry or increase the load carrying capacity.
- Work performed to keep a bridge operational while plans for complete rehabilitation or replacement are under preparation (for example, adding a substructure element or extra girder).

<b><u>Examples</u></b>	<b><u>Code</u></b>
Built May 1, 1898 Major Reconstruction October 10, 1949, July 1, 1964	07011964
If there has never been Major Reconstruction on the bridge.	00000000

## **ITEM #43 - NUMBER OF LANES [4 digits]**

Code the number of through marked lanes carried by the structure and being crossed over by the structure as a four (4) digit number composed of two (2) segments of two (2) digits each. The first segment from left shall contain the number of lanes **ON** the structure.

The number of lanes should be coded right justified in each segment with leading zero(s) coded as required. If there is no highway over or under a structure, code all zeros in the appropriate segment. Where there are no lane markings on a roadway, code number of lanes as intended to carry through the traffic.

Include all lanes carrying highway traffic (i.e., cars, trucks, busses) which are striped or otherwise operated as full width traffic lanes for the entire length of the structure or under the structure. This should include any full width merge lanes and ramp lanes, and shall be independent of directional usage (i.e., a one lane bridge carrying two-way directional traffic is still considered to carry only one lane on the structure).

When an inventory route is over or under a non-highway obstruction (railroad, pedestrian, pipeline, etc.), code 00 in the appropriate segment for the non-highway obstruction. For example, when the inventory route is “under” the structure carrying railroad tracks, code 00 for the railroad bridge over if there are no highway lanes on the obstructing structure.

<b><u>Examples</u></b>	<b><u>Code</u></b>
16 lanes on and 0 lanes under the structure	1600
4 lanes on and 2 lanes under the structure	0402
Railroad or pedestrian on, 4 lanes under	0004

If a double deck bridge is coded as one structure, code total number of lanes on both decks as noted in the examples below:

<b><u>Examples</u></b>	<b><u>Code</u></b>
5 lanes on double deck each direction, 2 lanes under	1002

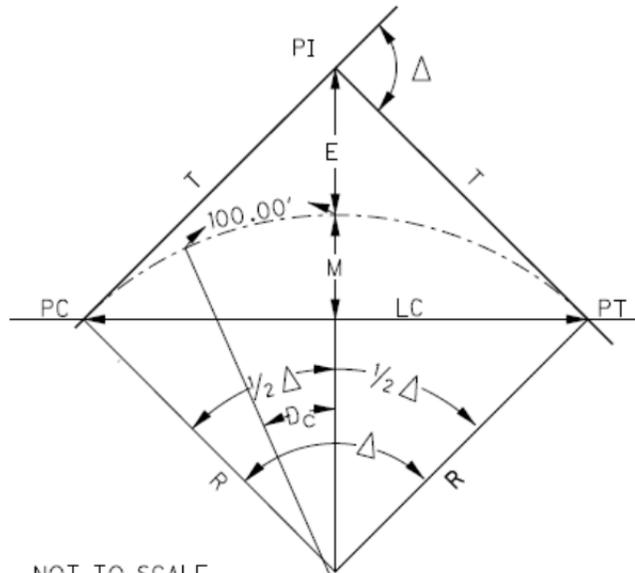
## **ITEM #44 – DEGREE OF HORIZONTAL CURVE [4 digits]**

This item must be coded for all structures, where the route carried by the structure is located within a horizontal curve. Code this item to the nearest degree and minute.

If the structure is entirely or primarily on a tangent, leave this item blank. For structures on a curve code the curve. For structures on a spiral code the spiral as 9999. And for non-tangent structures of unknown curvature code them 0000.

<u>Curve</u>	<u>Code</u>
18 degrees - 30'	1830
25 degrees - 06' - 35"	2507
Spiral	9999
Curve unknown	0000

$D_c$  = DEGREE OF HORIZONTAL CURVE  
 E = EXTERNAL DISTANCE  
 $\Delta$  = INTERSECTION ANGLE  
 LC = LENGTH OF CHORD  
 M = MIDDLE ORDINATE  
 PC = POINT OF CURVATURE  
 PI = POINT OF INTERSECTION  
 PT = POINT OF TANGENT  
 R = RADIUS  
 T = TANGENT DISTANCE

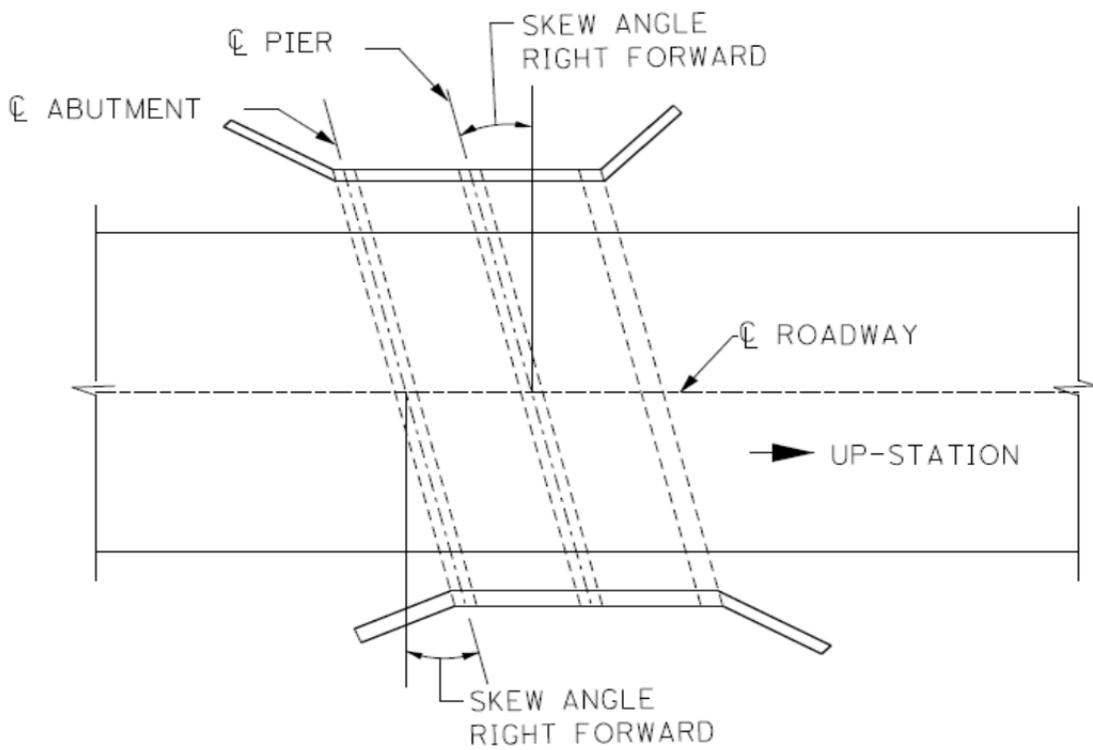
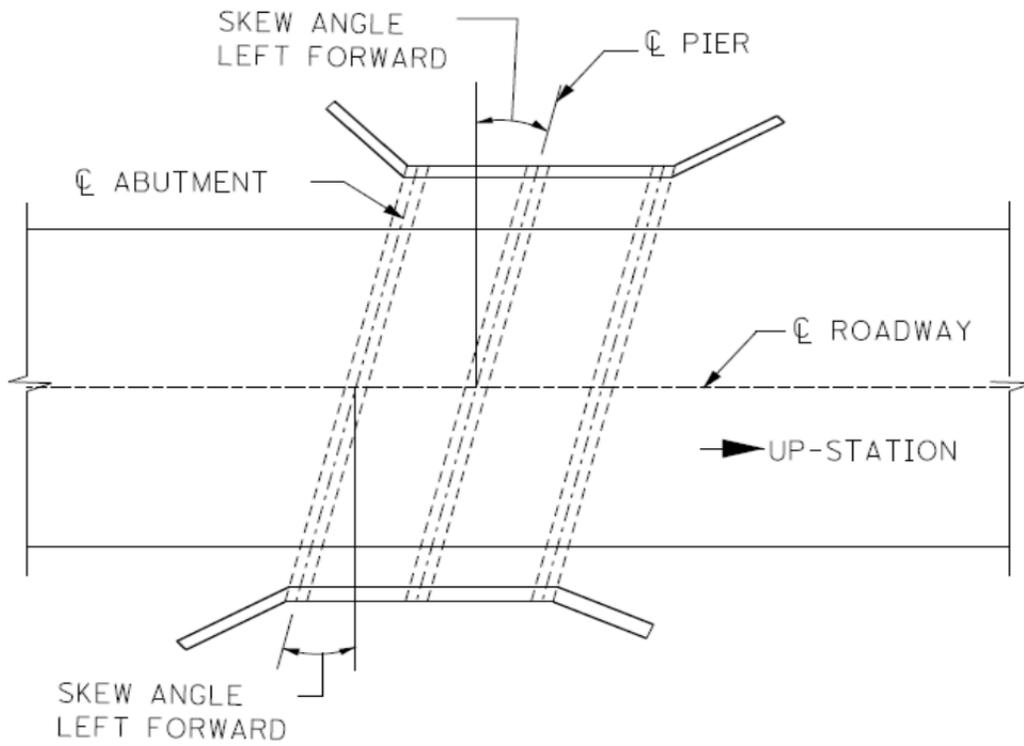


## **ITEM #45 - SKEW [2 digits]**

The skew angle is the angle between the centerline of a pier or abutment or a pipe and a line normal to the roadway centerline. When plans are available, the skew angle can be taken directly from the plans. If no plans are available, the angle is to be field measured, if possible.

The skew should be coded to the nearest degree. When the structure is on a curve or if the skew varies for some other reason, the average skew should be coded, if reasonable. Otherwise, code "99" to indicate a major variation in skews of sub-structure units. If the structure is not skewed code zeros. Always code a two (2) digit numeric using leading zeroes where necessary.

<b><u>Skew</u></b>	<b><u>Code</u></b>
10 degrees	10
8 degrees	08
29 degrees	29



## **ITEM #46 – UTILITIES (1 digit) – Columns Q through Y**

This item will indicate the type of utilities carried by the bridge.

<b><u>Item #</u></b>	<b><u>Type</u></b>	
46A	Electric	1 digit
46B	Gas	1 digit
46C	Sanitary Sewer	1 digit
46D	Telephone	1 digit
46E	T.V. Cable	1 digit
46F	Water	1 digit
46G	Other	1 digit

If the bridge carries a utility code the proper utility listed above; **Code N if it does not.**

Code other if a bridge carries a utility other than those listed above (i.e. steam line, coal slurry, petroleum line, pulp line, etc.). Code a “U” if Unknown.

**ITEM #47 - [BLANK]**

## **ITEM #48 - DESIGN LOADING [1 digit]**

Code for all structures the live load for which the structure was designed. For most of the structures the Design Loading can be taken directly from the plans. Classify any nonstandard loading, when feasible, using the nearest equivalent of the (AASHTO) H-loadings given below:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	H10
2	H15
3	HS15
4	H20
5	HS20
6	HS20-44 & Alternate Military Loading
7	HS25
8	HL93
P	Pedestrian
R	Railroad
0	Other (includes railroad bridges w/track removed)
U	Unknown

## **FORM #BR87 - CARD D**

### **ITEM #49 - APPROACH ROADWAY WIDTH [3 digits]**

This item should be coded for all structures with reference only to the roadway carried by the structure. Code a three (3) digit number to the nearest foot which represents the normal width of the roadway approaching the structure. This dimension will include the widths of the usable shoulders. For paved approach medians, the median width at the normal point should be included in this dimension. For multiple lane divided highways, where separate parallel bridges carry each direction of traffic, code only that portion, of the approach roadway width which applies to each bridge. Code the shoulders and directional pavement, ignoring unpaved median widths. When there is a variation between the approaches at either end of the structure, record and code the most restrictive of the approach conditions. If item does not apply, code all zeros.

<b>LEFT</b>		<b>RIGHT</b>	
<b><u>SHOULDER\ROADWAY</u></b>	<b><u>MEDIAN</u></b>	<b><u>ROADWAY\SHOULDER</u></b>	<b><u>CODE</u></b>
4.0\00.0	00.0	16.0\06.0	026
6.0\00.0	00.0	36.0\12.0	054
12.0\48.0	00.0	48.0\12.0	120
10.0\24.0	16.0	36.0\10.0	096

## **ITEM #50 - BRIDGE ROADWAY WIDTH (CURB TO CURB)**

### **[4 digits]**

The information to be coded in this item is the distance between curbs or sidewalks on the structure roadway. A four (4) digit code should be used to represent the distance to the nearest tenth of a foot (decimal point is implied).

If a median (level or raised) exists on the structure, the distance will be between the outside curbs of the structure; i.e., the distance will include both roadways and the median width.

The measurement should be exclusive of flared areas for ramps: i.e., it should be the minimum or nominal width. When a curb (9 inches or less in width) is used, code the measurement to face of parapet, guardrail, or railing.

For structures carrying non-highway traffic (railroads, pedestrian, buildings, conveyers, etc.) and structures with no deck such as most culverts, code all zeros, right justify all entries and fill with leading zeros where necessary.

Where deflector type parapets are the restraining elements, the bridge roadway width is measured toe/toe of parapets.

**This item must be equal to or less than Deck Width (Out/Out).**

### **Examples**

<b><u>Bridge Roadway Width</u></b>	<b><u>Code</u></b>
36.0'	0360
110.13'	1101
66.37'	0664

## **ITEM #51 - DECK WIDTH (OUT/OUT) [4 digits]**

Code a four (4) digit number to show the out/out width of the deck to the nearest tenth of a foot (decimal point is implied). If the structure is a through structure, the number to be coded will represent the lateral clearance between superstructure members. The measurement should be exclusive of flared areas for ramps, i.e., it should be the minimum width.

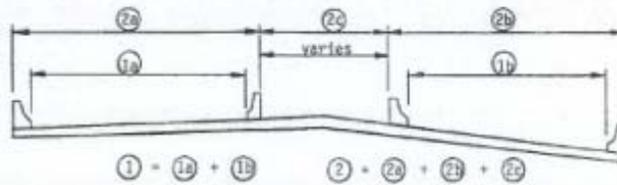
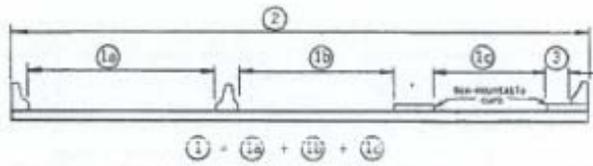
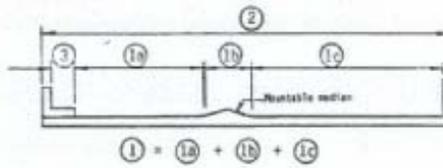
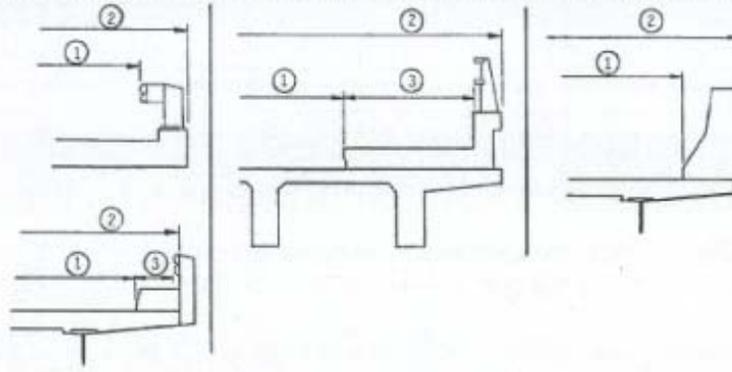
For structures with no deck such as most culverts, code all zeros; right justify all entries and fill with leading zeros where necessary.

**This item must be equal to or greater than bridge roadway width.**

### **Examples**

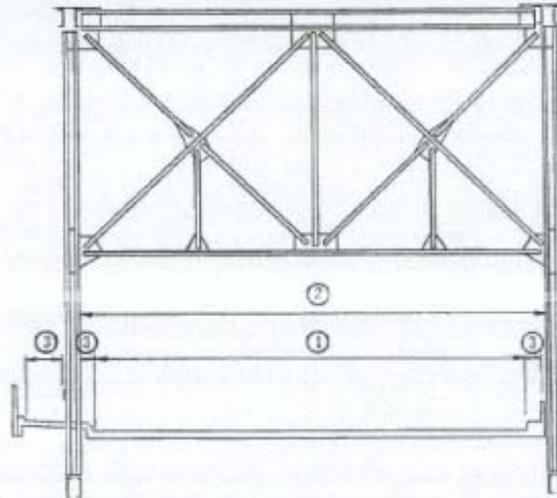
<b><u>Deck Width (OUT/OUT)</u></b>	<b><u>Code</u></b>
36.0'	0360
121.5'	1215
29.69'	0297

**Examples of: Bridge Roadway Width, Curb to Curb or Face to Face of Railing; Deck Width, Out to Out; Curb or Sidewalk Width (Cont.)**



- (1) Item 50 – Bridge Roadway Width, Curb-to-Curb
- (2) Item 51 – Deck Width, Out-to-Out
- (3) Item 54 – Curb or Sidewalk Width

**Examples of: Bridge Roadway Width, Curb to Curb or Face to Face of Railing; Deck Width, Out to Out; Curb or Sidewalk Width (Cont.)**



- (1) Item 50 – Bridge Roadway Width, Curb-to-Curb
- (2) Item 51 – Deck Width, Out-to-Out
- (3) Item 54 – Curb or Sidewalk Width

## **ITEM #52 – BRIDGE MEDIAN TYPE [3 digits]**

This item must be coded for each structure with respect to the route on the structure. Code three (3) separate digits as follows:

<b><u>1st Digit</u></b>	<b><u>2nd Digit</u></b>	<b><u>3rd Digit</u></b>
1 - Level Median	1 - Steel Barrier (Rail)	1 - Open Joint
2 - Raised Median	2 - Concrete Barrier (Rail)	2 - Filled Joint
N - None	3 - 32" Deflector Type (New Jersey Shape)	N - No Joint
	4 - 42" Deflector Type (New Jersey Shape)	
	5 - 50" Deflector Type (New Jersey Shape)	
	6 - 32" Deflector Type (General Motors Shape)	
	7 - 36" Deflector Type (New Jersey Shape)	
	N - Non Barrier	
	0 - Other (Barrier)	

All digit locations must be filled with appropriate codes. If no median exists code "NNN".

All culverts with fill and grass median code "NNN".

### **ITEM #53 - BRIDGE MEDIAN CODE [1 digit]**

Indicate if the median is non-existent, open or closed. The median is closed when the area between the two (2) roadways at the structure is bridged over and is capable of supporting traffic. All bridges that carry either one-way traffic or two-way traffic separated only by a centerline will be coded N for no median.

This item must be filled with the appropriate code from the list below:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Open median
2	Closed median (no barrier)
3	Closed median with non-mountable barriers
N	No median

**ITEM #53 - BRIDGE MEDIAN**



Open Median



Closed Median



Closed Median with Non-mountable Barrier

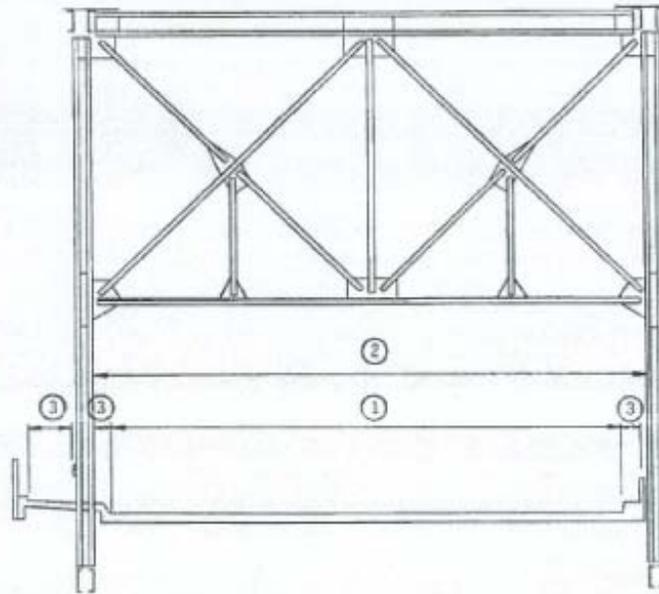
**ITEM #54 - CURBS OR SIDEWALKS [2\*3 digits]**

Code the widths of the right and left curbs or sidewalks to the nearest tenth of a foot. This essentially is a six (6) digit number, with the leftmost three (3) digits representing the left sidewalk or curb and the rightmost three (3) digits representing the right sidewalk or curb. "Left" and "Right" should be determined on the basis of the established or cardinal direction of the route. Right justify and fill with leading zeros where necessary in each subsection. (Sidewalks are greater than two feet (2') in width.)

<b><u>Left Side</u></b>	<b><u>Right Side</u></b>	<b><u>Code</u></b>
None	8.3'	000083
10.0'	4.1'	100041
12.1'	11.5'	121115

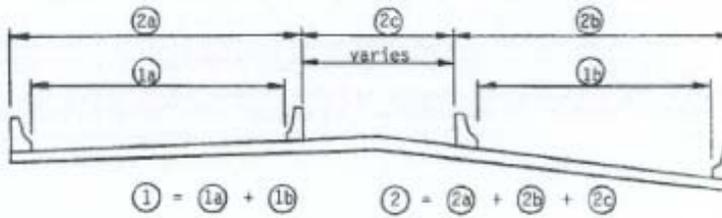
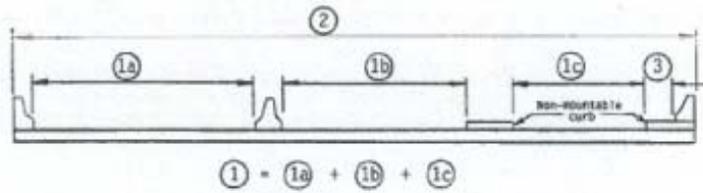
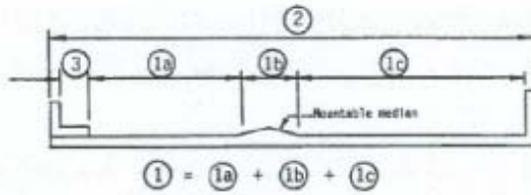
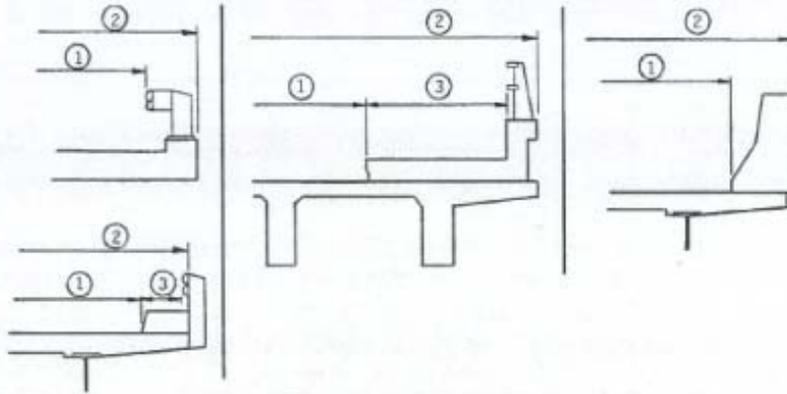
Code all zeros if no sidewalks or curbs exist.

**ITEM #54 – SIDEWALKS**



- (1) Item 50 – Bridge Roadway Width, Curb-to-Curb
- (2) Item 51 – Deck Width, Out-to-Out
- (3) Item 54 – Curb or Sidewalk Width

**ITEM #54 – SIDEWALKS**



- (1) Item 50 – Bridge Roadway Width, Curb-to-Curb
- (2) Item 51 – Deck Width, Out-to-Out
- (3) Item 54 – Curb or Sidewalk Width

## **ITEM #55 - TYPE OF CURB OR SIDEWALKS [2\*2 digits]**

Code the most appropriate type curb(s) or sidewalk(s) on the bridge (at both the right and left sides of the structure). Two digits are to be coded for the curb or sidewalk on each side of the deck. The first two digits from left represent the curb or sidewalk on the left side of the deck and the last two digits on right represent the curb or sidewalk on the right side of the deck (Right & left sides of deck looking in the direction of the route).

Code the first digit of each two digit group to represent the material and the second digit to represent the type of curb or sidewalk. If no curb or sidewalks are present code this item "NN".

<b><u>First Digit Code</u></b>	<b><u>Material</u></b>
1	Concrete
2	Steel
3	Timber
N	None
0	Other

<b><u>Second Digit Code</u></b>	<b><u>Type</u></b>
1	Safety Curb (2' or less width)
2	Sidewalk (greater than 2' in width)
3	Felloe Guards
4	Open Grid
5	Filled Grid
6	Check Plate
N	None or N/A (RR, Pedestrian, etc.)
0	Other

<b><u>Code</u></b>	<b><u>Example</u></b>
1211	Concrete safety curb on right side and concrete sidewalk on left side.
NN11	No curb or sidewalk on left; concrete safety curb on right
11NN	Concrete curb on left only

## **ITEM #56 - FLARED [1 digit]**

This item is coded to indicate whether or not the width of the structures varies. Generally, such variance will result from ramps converging with or diverging from the through lanes on the structure, but there may be other causes. Minor flares at ends of structures should be ignored.

**This item must be coded.**

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Yes
N	No flare or not applicable

## **ITEM #57 - COMPOSITE STRUCTURE [1 digit]**

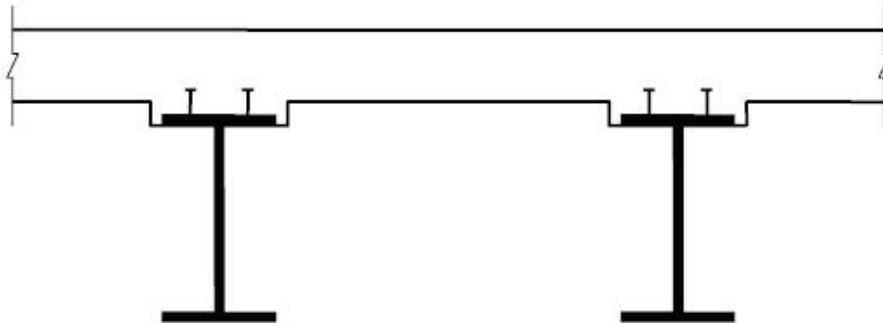
This item will reflect whether a structure is built composite (i.e. beams w/shear connectors) by using the following codes. Also considered to be composite are structures with steel beams encased in concrete and jack arch bridges.

Do not code bridges with composite material here.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Composite Construction
N	Non-composite Construction
X	Not Applicable
U	Unknown

If the bridge carries non-highway traffic (i.e. railroad, pipeline, pedestrian) over an agency's highway or if the structure is a culvert, code X.

This item **must** be coded for all structures being "Added" to the file.



## **ITEM #58 - BRIDGE RAILING TYPE [1 digit]**

Code a one (1) digit numeric for the type of bridge railing as follows:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Reinforced Concrete Parapet
2	Reinforced Concrete and Steel
3	Reinforced Concrete Safety Curb and Parapet with Aluminum Railing
4	Reinforced Concrete Post and Steel Panel
5	Reinforced Concrete Post and Concrete Panel
6	Steel Post and Steel Panel (Decorative)
7	Steel Guardrail on Steel, Concrete or Timber Posts
8	Timber
9	Twin Steel Tube Bridge Railing
N	None
0	Other
A	Tubular Backup
B	Tri-Beam
C	32" Deflector Type Parapet (New Jersey Shape)
D	42" Deflector Type Parapet (New Jersey Shape)
E	50" Deflector Type Parapet (New Jersey Shape)
F	32" Deflector Type Parapet (General Motors Shape)
G	36" Deflector Type Parapet (New Jersey Shape)
H	57" Deflector Type Parapet (Single Slope)
I	42" Deflector Type Parapet (Single Slope)

When more than one (1) type of railing exists on the bridge, code the item for the predominate type. If railing type cannot be determined code "0". If no railing exists on the structure; such as for all culverts; code N.

This item **must** be coded for all structures.

## **ITEM #59 - DECK DRAINAGE [1 digit]**

Code a one (1) digit numeric for the drainage system listed below which most nearly describes that on the structure.

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Over the side (without drip strip)
2	Opening thru curbs or wheel guards
3	Scuppers and downspouts
4	Inlets with drain pipes
5	Drainage trough under open joints
6	Over the side (with drip strip)
N	None
0	Other (Natural-off the bridge ends)

If no deck exists, such as for most culverts, code N.

**This item must be coded.**

## **ITEM #60 - DECK TYPE [1 digit]**

Code a one (1) digit numeric to describe the deck type as follows:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Reinforced concrete (Prestressed Slabs, Precast Slabs, Prestressed Box Beams, Concrete Rigid Frames)
2	Laminated timber strip
3	Timber plank
4	Steel grid – filled
5	Steel grid – open
6	Corrugated steel
7	Steel buckle plate
8	Steel checker plate
N	None
0	Other
A	Jack Arch
B	Slab prestressed in both directions
C	Slab prestressed longitudinally only
D	Slab prestressed transversely only
E	Prestressed slab on beams

Where **no** deck or **floor slab** exists, such as for culverts, code item as **N**. When more than one type of floor slab exists over the full length of the bridge, code the item for the predominate type. If a pre-dominate type cannot be determined, code zero "0".

## **ITEM #61 - DECK PROTECTION [2 digits]**

Use 1st Digit for **External Deck Protection (Type of Membrane Waterproofing)**

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Built-up (Type "D", Layers of fiberglass and coal tar)
2	Performed Fabric (Type III Waterproofing)
3	Epoxy
U	Unknown
N	None or Not Applicable (applies only to structure with no deck i.e. culverts, filled arches)
0	Other

Use 2nd Digit for **Internal Deck Protection**

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Epoxy Coated Reinforcing (Top Mat)
2	Galvanized Reinforcing
3	Other Coated Reinforcing Bar
4	Cathodic Protection
6	Polymer Impregnated
7	**Internally Sealed
8	Epoxy Coated Reinforcing (Both Mats)
N	None or Not Applicable (applies only to structures with no deck i.e. culverts, prestressed box beams).
0	Other
U	Unknown

\*\*Internally sealed: Wax beads mixed with concrete when deck is poured. After concrete cures, deck is heated by covering with electric blankets and wax beads melt and fill the capillary openings.

## **ITEM #62 - WEARING SURFACE**

**This item must be coded.**

### **A. Type [1 digit]**

The type of wearing surface material on the structure shall be coded using one of the choices given below to represent the wearing surface material. Where there are multiple layers of wearing material of various types on the structure, code the top or the exposed layer. All of the following codes are considered to be overlays except codes 2 (Integral Concrete), 7 (Timber) and 8 (Gravel).

For open Steel Grid Decks code 0 for wearing surface.

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Concrete (Separate) - Overlay
2	Integral Concrete (Monolithic) - Not an Overlay
3	Latex Modified Concrete (LMC) - Overlay
4	Dense Concrete (IOWA System) - Overlay
5	Epoxy Overlay - Overlay
6	Bituminous (Asphaltic Concrete) - Overlay
7	Timber - Not an Overlay
8	Gravel - Not an Overlay
0	Other
N	Not Applicable (Culvert under fill etc.) - Not an Overlay
A	Super-plasticized Dense Concrete (SDC) - Overlay
B	Chip & Seal - Overlay
C	Micro-silica Modified Concrete - Overlay

### **B. Thickness [2 digits]**

Whether the wearing surface material indicated in part "A" is a separate wearing surface or monolithic concrete, code a two (2) digit numeric to indicate the total thickness rounded to the nearest inch. Leave this portion of item blank if not applicable and item will default to zeros. Where there are multiple layers of wearing materials of different types on the structure code the total thickness of all materials including any monolithic concrete. Right justify and use leading zeros where necessary.

## **ITEM #63 - STRUCTURE TYPE**

### **This item must be coded.**

This item must be coded for all structures. It allows the coder to define the structure as to the main spans and approach spans.

#### **A. Main Spans**

##### **1. Number [3 digits]**

Indicate with a three (3) digit code the number of spans in the main or major unit. This part of the item will include all spans of most bridges, the major unit only of the sizable structure, or a unit of material or design, different from that of the approach spans. All entries must be right justified with leading zeros where necessary.

Example: 2 spans - "002", 10 spans - "010".

##### **2. Type [3 digits]**

Indicate by a three (3) digit code the type of the spans under the classification of "Main Spans" as defined above. This classification denotes the material, the overall type of construction, and the special design configuration of the main supporting members of the superstructure. Code using the tabulation and list of permissible combinations shown below in **Appendix "C"**.

<b><u>1st DIGIT</u></b>	<b><u>MATERIAL</u></b>	<b><u>2nd DIGIT</u></b>	<b><u>TYPE</u></b>	<b><u>3rd DIGIT</u></b>	<b><u>DESCRIPTION</u></b>
<b>1</b>	Concrete	<b>1</b>	Slab	<b>1</b>	Simple
<b>2</b>	Prestressed Concrete	<b>2</b>	Beam	<b>2</b>	Continuous
<b>3</b>	Steel	<b>3</b>	Box Beam	<b>3</b>	Deck
<b>4</b>	Timber	<b>4</b>	Truss	<b>4</b>	Thru
<b>5</b>	Stone	<b>5</b>	Arch	<b>5</b>	Filled
<b>6</b>	Aluminum	<b>6</b>	Girder (Floor System)	<b>6</b>	Orthotropic
<b>7</b>	Cast Iron	<b>7</b>	Frame	<b>7</b>	Movable – Lift
<b>8</b>	Wrought Iron	<b>8</b>	Suspension	<b>8</b>	Movable – Bascule
<b>9</b>	Composite	<b>9</b>	Culvert	<b>9</b>	Movable – Swing
<b>0</b>	Other	<b>0</b>	Other	<b>0</b>	Other
		<b>A</b>	Cable – Stayed	<b>A</b>	Pony (Truss)
		<b>B</b>	Tunnel		
<b>N</b>	None	<b>N</b>	None	<b>N</b>	None

All structures with more than two (2) lines of beams or girders (rolled or built-up) without a floor system (i.e. floor beams, stringers, etc.) shall be called beam - type bridges. Structures with a floor system are to be classified as girder type bridges.

All girder type and truss type bridges shall be described as either thru or deck. No simple or continuous descriptions are permissible for these types of structures.

A pony truss is a through truss which has no top chord lateral bracings due to its short height, generally less tall than a through truss.

If a three or four sided precast concrete box carries **twenty-four (24) inches or less of fill** \*code as a **171** (Concrete Rigid Frame Simple Span); If it carries more than **twenty-four (24) inches** of fill code as a **195** (Concrete Culvert Filled).

All structures designed as culverts and carrying earth fill, regardless of overall span length shall be coded as X95.

Culvert type bridges are structures which convey water or form a passageway through an embankment and are designed to support super-imposed loads of earth or other fill material plus a live load. Generally, prefabricated or corrugated metal structures 10' span or greater are considered culvert type bridges. Masonry arches with integral spandrel walls, sidewalks, and railings, greater than 10' span shall not be construed as culvert type structures.

\* Note - Fill is measured from top of Culvert to C/L of grade.

## **B. Approach Spans**

- 1. Number [3 digits]**  
Code same as for Part "A.1."
- 2. Type [3 digits]**  
Code same as for Part "A.2."

If there are differences of material and construction among these spans, judgment will have to be exercised in choosing the one most representative type for coding.

Note: This item allows up to two (2) types of spans to be coded. If there is one (1) type for all spans, code only the Main Span portion. If there are no Approach Spans code "NNN" for **None** in Type and **zeros** in the Number portion of this item.

**ITEM #64 - [BLANK]**

## **ITEM #65 - MAXIMUM SPAN LENGTH [4 digits]**

### **This item must be coded.**

The length of the maximum (longest) span only should be coded for this item. (This item is not for coding total length of all spans.)

Code a four (4) digit number to represent the measured length (center to center of bearings) to the nearest foot. Right justify and use leading zeros where necessary.

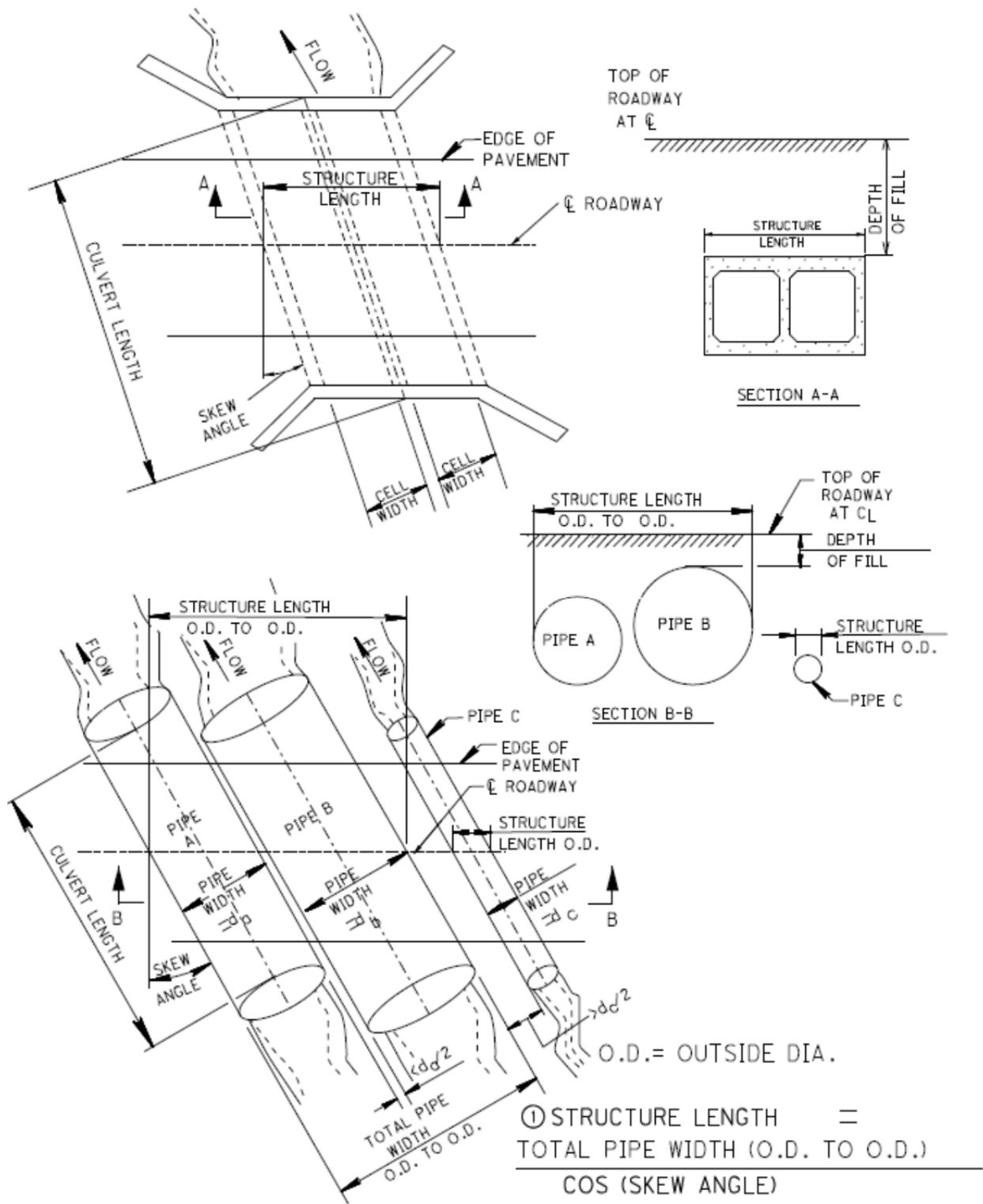
<b><u>Length of Maximum Span</u></b>	<b><u>Code</u></b>
50 Feet	0050
117 Feet	0117
1,050 Feet	1050

**ITEM #66 - OVERALL STRUCTURE LENGTH [6 digits] –  
Column K**

**This item must be coded.**

Code a six (6) digit number to represent the total length of the structure to the nearest foot. This length should be measured back to back of back walls of the abutments, between expansion joints at abutments or between paving notches. When taking the measurements from the plans, use the Bridge Limits. Right justify and use leading zeros where necessary.

<b><u>Overall Length</u></b>	<b><u>Code</u></b>
50 Feet	000050
5,421 Feet	005421
333 Feet	000333
101, 235 Feet	101235

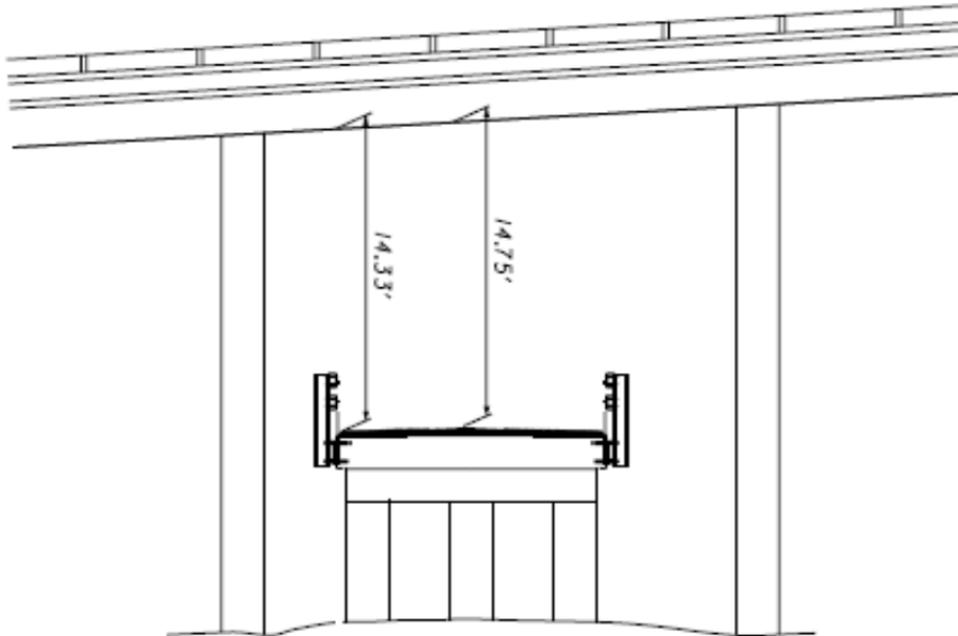


**ITEM #67 - MINIMUM VERTICAL CLEARANCE ON BRIDGE**  
**[2\*4 digits]**

**This item must be coded.**

This item includes a four (4) digit coding representing the Minimum Vertical Clearance from the roadway or railroad track **on** the structure to the underside of the superstructure. For highways on the structure, code the minimum clearance for the main lane openings in each direction of travel (Cardinal and Non-Cardinal). For undivided highways with bi-directional traffic on a structure, code the minimum clearance under the subtitle “Cardinal Opening”. For highways with one-directional traffic on the structure, code the minimum clearance under the appropriate subtitle. The item should be recorded in feet and inches, rounded down to the inch. In each subsection (Feet, inches) right justify the coded values and fill with leading zeros where necessary. All zeros (0) should be coded for any portion of the item not applicable. Code the entire item with zeros for structures which do not carry a highway.

**ITEM #67 - MINIMUM VERTICAL CLEARANCE ON BRIDGE**



*MINIMUM VERTICAL CLEARANCE ON  
STRUCTURE EQUALS 14.33 FEET*

**ITEM #68 - [BLANK]**

## **ITEM #69 - NBIS BRIDGE LENGTH [1 digit] – Column L**

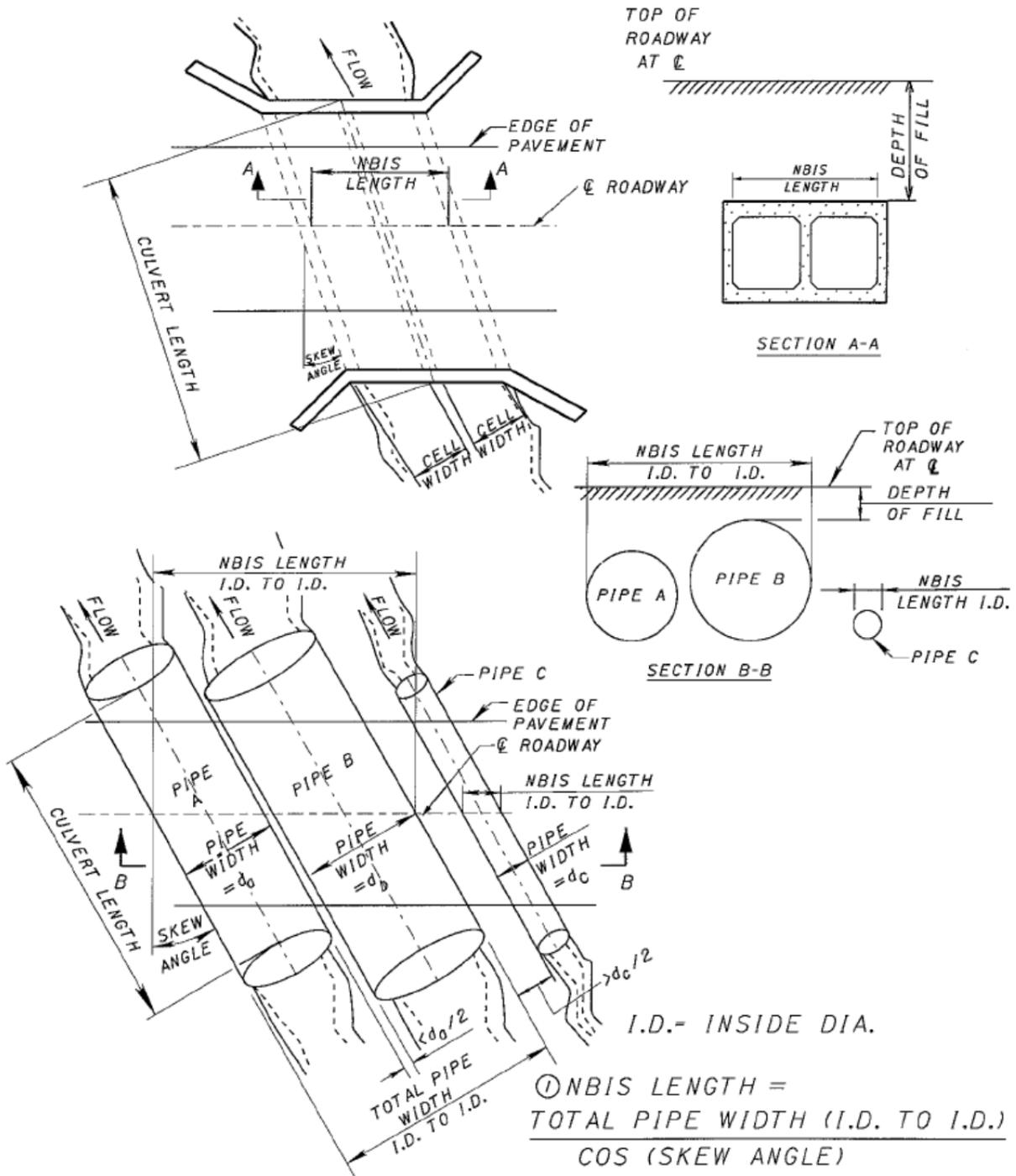
### **This item must be coded.**

Does this structure meet or exceed the minimum length specified to be designed as a bridge for National Bridge Inspection Standards purposes? The following definition of a bridge is used by AASHTO and is given in the NBIS, 23CFR650.3:

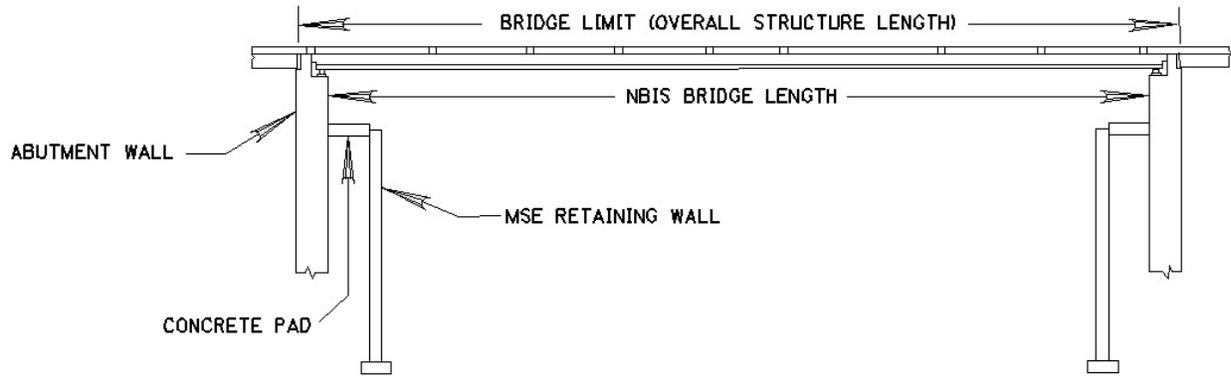
A structure including supports erected over a depression or an obstruction, such as water, highway, railway, and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet between under copings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes; it may also include multiple pipes, where the clear distance between openings is less than half of the smaller contiguous openings.

**NOTE:** NBIS Bridge Length is different from overall structure length. For single span structures with no bearings use clear span.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Yes
N	No



# **ITEM #69 - NBIS BRIDGE LENGTH**



NBIS BRIDGE LENGTH

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## **FORM #BR87 - CARD E**

### **ITEM #70 - SUBSTRUCTURE**

This item is intended to describe the substructure and therefore must be coded for all bridges on the inventory. For culverts only code if there is a discernible difference between the culvert and the abutment. (Large bridges with unusual configuration may be subdivided into more than one structure and thus may have only one abutment or no abutments.)

#### **A. Abutments [2\*1 digit]**

Code the material and type of each abutment. The coding locations are self-explanatory on the form. Particular attention must be paid to the terms "Rear" and "Forward". The rear abutment is nearest the established beginning of the route. If the structure has no abutments (Multiple pipe culverts etc.) code all N's in part "A". If the structure has only one (1) abutment (Example: long ramp type bridges connected to a main structure but inventoried as a separate bridge) code all N's in the non-applicable portion "Rear" or "Forward".

<b>Code</b>	<b>1<sup>st</sup> Digit Material</b>	<b>Code</b>	<b>2<sup>nd</sup> Digit Type</b>
<b>1</b>	Stone	<b>1</b>	Gravity
<b>2</b>	Concrete	<b>2</b>	Cantilever
<b>3</b>	Concrete and Stone	<b>3</b>	Solid Wall
<b>4</b>	Timber	<b>4</b>	Cellular or "U"
<b>5</b>	Steel	<b>5</b>	Stub Gravity
<b>6</b>	Steel and Timber	<b>6</b>	Stub – Capped Pile (Single Row Piles)
<b>7</b>	Steel and Concrete	<b>7</b>	Integral
<b>N</b>	None	<b>8</b>	Pedestal
<b>0</b>	Other	<b>9</b>	Stub – Capped Pile (Multiple Row Piles)
		<b>0</b>	Other
		<b>N</b>	None
		<b>A</b>	Proprietary Wall w/Stub Type Abutments
		<b>B</b>	Capped Pile Bent
		<b>C</b>	Cap & Column
		<b>D</b>	Semi - Integral

Note - See **Appendix E** for sketches of the typical abutment types listed above.

**B. Piers**

This item allows a four (4) digit coded description of the piers. Code all N's if the structure has no piers. The code sheet allows coding of up to three (3) types of piers, grouped by material and construction types.

**1. Predominate [4 digits]**

Code in the first two (2) digits the number of the predominate type of piers up to "99" using leading zeros where necessary. Example: 5 piers - Code "05". In the 3rd and 4<sup>th</sup> digit code the material and the type of construction for the pier or group of piers. Codes for 3rd and 4th digits are as follows:

<u>Code</u>	<u>3<sup>rd</sup> Digit Material</u>	<u>Code</u>	<u>4<sup>th</sup> Digit Type</u>
<b>1</b>	Stone	<b>1</b>	Gravity
<b>2</b>	Concrete	<b>2</b>	Cantilever (Tee) Open Panel
<b>3</b>	Concrete and Stone	<b>3</b>	Cantilever (Tee) Solid Panel
<b>4</b>	Timber	<b>4</b>	Open Column
<b>5</b>	Steel	<b>5</b>	Capped Column
<b>6</b>	Steel and Timber	<b>8</b>	Capped Pile
<b>7</b>	Steel and Concrete	<b>0</b>	Other
<b>N</b>	None	<b>A</b>	Solid Wall
<b>0</b>	Other	<b>B</b>	Tower
		<b>N</b>	None

Note - See **Appendix "G"** for sketches typical of Pier types listed above.

**2. Other [4 digits]**

Code as for Part "1", if there is a 2nd pier or group of piers that reasonably fit a material and type description different than that of Part "1".

**3. Other [4 digits]**

Code as for Parts "1" and "2", if a 3rd pier or group of piers differ sufficiently in material and construction to justify a 3rd listing.

Note: If a structure has only one (1) or two (2) piers or groups of piers of different types, code N in the remaining positions of Part "B" (Piers). If more than three (3) different type piers or groups of piers exist, the third (3rd) group coded under the heading "Other" should include the two (2) or more groups with the least count of units per group. The total number of piers coded in all three (3) listings must equal the actual total number of piers for the structure.

## **ITEM #71 - FOUNDATIONS [5 digits]**

### **This item must be coded.**

From the list below show the type foundation for the rear and forward abutments. If there is only one (1) abutment or no abutments, code N's in the appropriate spaces. Also code the type foundation for each pier. If there is only one (1) type for all piers, code it in the predominate type and code remaining spaces N's. You may code up to three (3) types of foundations for piers. If there are no piers code all N's.

For three sided precast concrete structures, code as spread footings (Code 4) or pile type foundation accordingly. For four-sided boxes code foundations as "N" for none.

<b><u>Code</u></b>	<b><u>Type</u></b>
1	Steel H Piles (Other size)
2	Cast-in-Place Reinforced Concrete Piles (Other diameter)
3	Drilled Shafts
4	Spread Footing
5	Timber Piles
6	Rock
7	Steel H Piles (HP 10 x 42)
8	Steel H Piles (HP 12 x 53)
9	Steel H Piles (HP 14 x 73)
0	Other
U	Unknown (Older Bridge being <b><u>added</u></b> to the file and foundations are unknown).
N	None (such as most Culverts) (Code all N's)
A	Cast-in-Place Reinforced Concrete Piles (12" diameter)
B	Cast-in-Place Reinforced Concrete Piles (14" diameter)
C	Cast-in-Place Reinforced Concrete Piles (16" diameter)

This item **must** be coded for any applicable portion for all new structures being "Added" to the file.

If on a rare occasion an old bridge is being "added" to the file and the foundations are unknown, code U's for the appropriate portion of the foundations.

**ITEM #72 - AVERAGE LENGTH ABUTMENT FOUNDATIONS**  
**[2 digits]**

Code to the nearest foot the average **actual** length of the abutment piles, drilled shafts, etc.

If no foundations are present or if there are spread footings, footings on rock or culverts, code zeros.

If the foundations under the abutments are unknown (coded as “U”), leave blank and item will default to zeros. If the length of abutment foundations exceeds 99 feet, code 99.

**ITEM #73 - AVERAGE LENGTH PIER FOUNDATIONS[2 digits]**

Code to the nearest foot the average **actual** length of the pier piles, drilled shafts, etc. For capped pile piers, include exposed length plus embedment length.

If no foundations are present or if there are spread footings, or footings on rock, code zeros.

The foundations under the piers are unknown (coded as "U"), leave blank and the item will default to zeros. If the length of pier foundations exceeds 99 feet, code 99.

## **ITEM #74 - SCOUR CRITICAL SUSCEPTIBILITY [1 digit]**

### **This item must be coded.**

Using a single digit code as indicated below to identify the current status of the bridge regarding its vulnerability to scour. Evaluations shall be made by hydraulic/geotechnical/structural engineers. Guidance on conducting a scour evaluation is included in the FHWA Technical Advisory T5140.23 titled, "Evaluating Scour at Bridges." Detailed engineering guidance is provided in the Hydraulic Engineering Circular 18 titled, "Evaluating Scour at bridges." Whenever a rating factor of 2 or below is determined for this item, the rating factor for Item 42 B Substructure and other affected items (i.e., load ratings, superstructure rating) should be revised to be consistent with the severity of observed scour and resultant damage to the bridge. A plan of action should be developed for each scour critical bridge (see FHWA Technical Advisory T 5140.23, HEC 18 and HEC 23). A scour critical bridge is one with abutment or pier foundation rated as unstable due to (1) observed scour at the bridge site (rating factor of 2, 1, or 0) or (2) a scour potential as determined from a scour evaluation study (rating factor of 3). It is assumed that the coding of this item has been based on an engineering evaluation, which included consultation of the NBIS filed inspection findings.

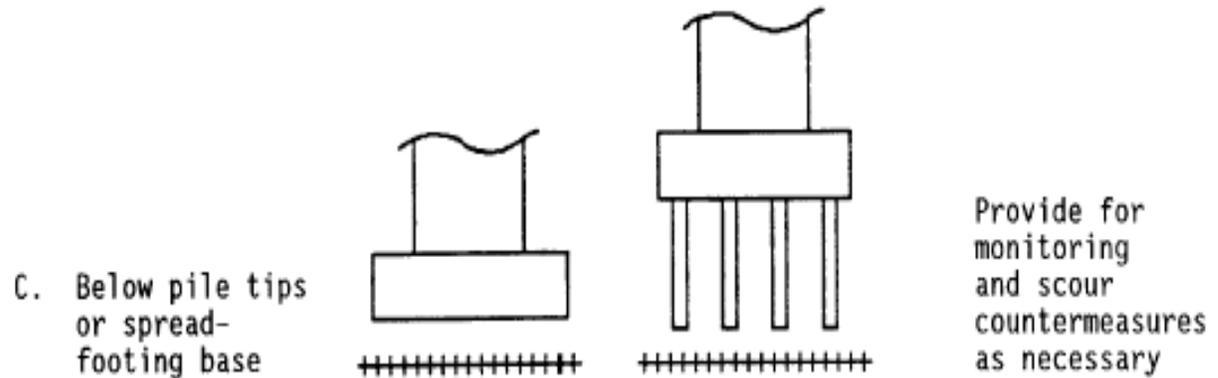
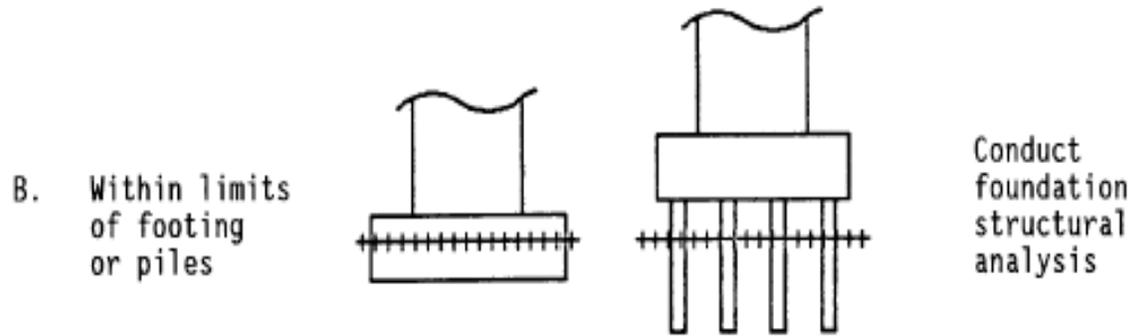
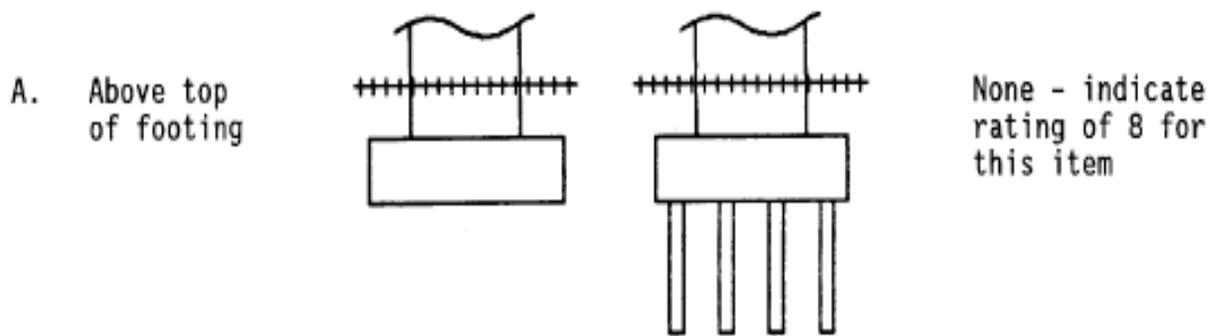
<b><u>Code</u></b>	<b><u>Description</u></b>
N	Bridge not over waterway.
U	Bridge with <b>unknown</b> foundation that has not been evaluated for scour. Until risk can be determined, a plan of action should be developed and implemented to reduce the risk to users from a bridge failure during and immediately after a flood event (see HEC 23).
T	Bridge over <b>tidal</b> waters that have not been evaluated for scour, but considered low risk. Bridge will be monitored with regular inspection cycle and with appropriate underwater inspections until an evaluation is performed ( <b>Unknown</b> foundations in <b>tidal</b> waters should be coded U.)
9	Bridge foundations (including piles) on dry land well above flood water elevations.
8	Bridge foundations determined to be stable for the assessed or calculated scour condition. Scour is determined to be above top of footing (Example A) by assessment (i.e., bridge foundations are on rock formations that have been determined to resist scour during the service life of the bridge), by calculation or by installation of properly designed countermeasures (see HEC 23).
7	Countermeasures have been installed to mitigate an existing problem with scour and to reduce the risk of bridge failure during a flood event. Instructions contained in a plan of action have been implemented to reduce the risk to users from a bridge failure during or immediately after a flood event.
6	Scour calculation/evaluation has not been made. ( <u>Use only to describe case where bridge has not yet been evaluated for scour potential.</u> )

5	Bridge foundations determined to be stable for assessed or calculated scour conditions. Scour is determined to be within the limits of footing or piles (Example B) by assessment (i.e., bridge foundations are on rock formations that have been determined to resist scour during the life of the bridge), by calculations or by installation of properly designed countermeasures (see HEC 23).
4	Bridge foundations determined to be stable for assessed or calculated scour conditions; field review indicates action is required to protect exposed foundations (see HEC 23).
3	Bridge is <b>scour critical</b> ; bridge foundations determined to be unstable for assessed or calculated scour conditions: - Scour within limits of footing or piles. (Example B) - Scour below spread footing base or pile tips. (Example C)
2	Bridge is <b>scour critical</b> ; field review indicates that extensive scour has occurred at bridge foundations, which are determined to be unstable by: - A comparison of calculated scour and observed scour during the bridge inspection, or - An engineering evaluation of the observed scour condition reported by the bridge inspector during bridge inspection on BR-86.
1	Bridge is <b>scour critical</b> ; field review indicates that failure of piers/abutments is imminent. Bridge is closed to traffic. Failure is imminent based on: - A comparison of calculated and observed scour during the bridge inspection, or - An engineering evaluation of the observed scour condition reported by the bridge inspector.
0	Bridge is <b>scour critical</b> . Bridge has failed and is closed to traffic

EXAMPLES:

CALCULATED SCOUR DEPTH

ACTION NEEDED



SPREAD FOOTING  
(NOT FOUNDED  
IN ROCK)

PILE FOOTING

+++++ = Calculated scour depth

## **ITEM #75 - TYPE OF CHANNEL PROTECTION [1 digit]**

Indicate the method, if any, used to protect the bridge and upstream channel banks from scour and other degradation caused by stream action. **Vegetation** is a form of channel protection.

Select from the list below, if there is no protection code N. For structures not over a waterway code X.

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Concrete (cast-in-place)
2	Stone
3	Sheet Piling
4	Piling
5	Rip Rap (dumped rock or rock channel protection)
6	Gabions (wire mesh baskets filled with stone)
7	Fabric bags filled with concrete or sand
N	None
0	Other (grass, bushes, trees)
X	Not Applicable
A	Precast concrete (panels)
B	Earthen Dikes
U	Unknown

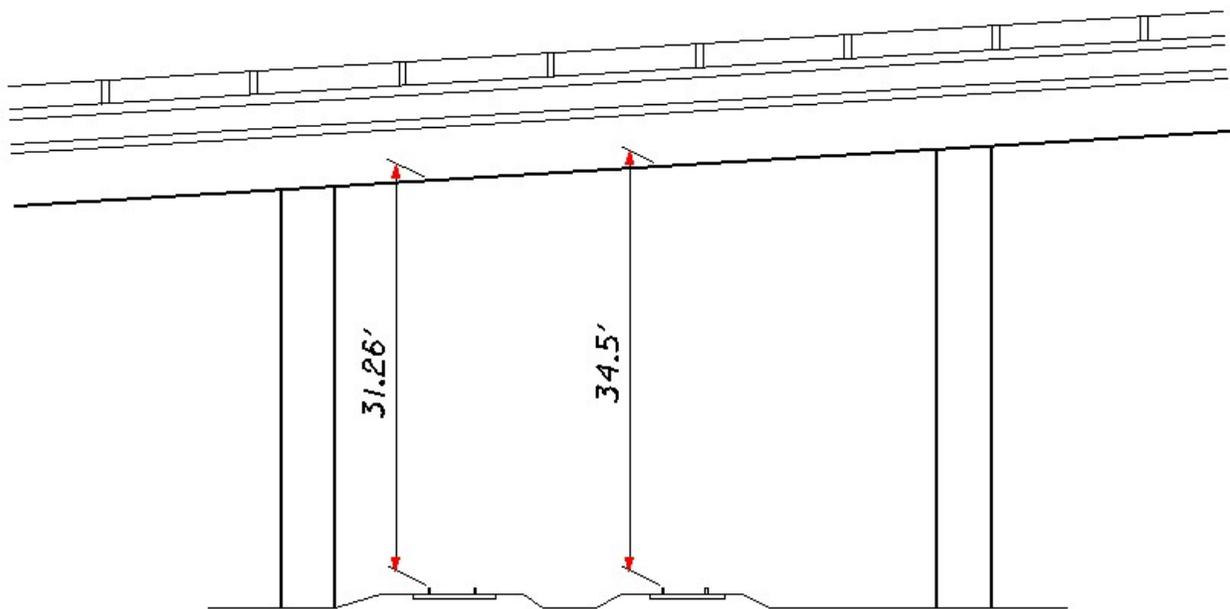
**This item must be coded.**

**ITEM #76 - [BLANK]**

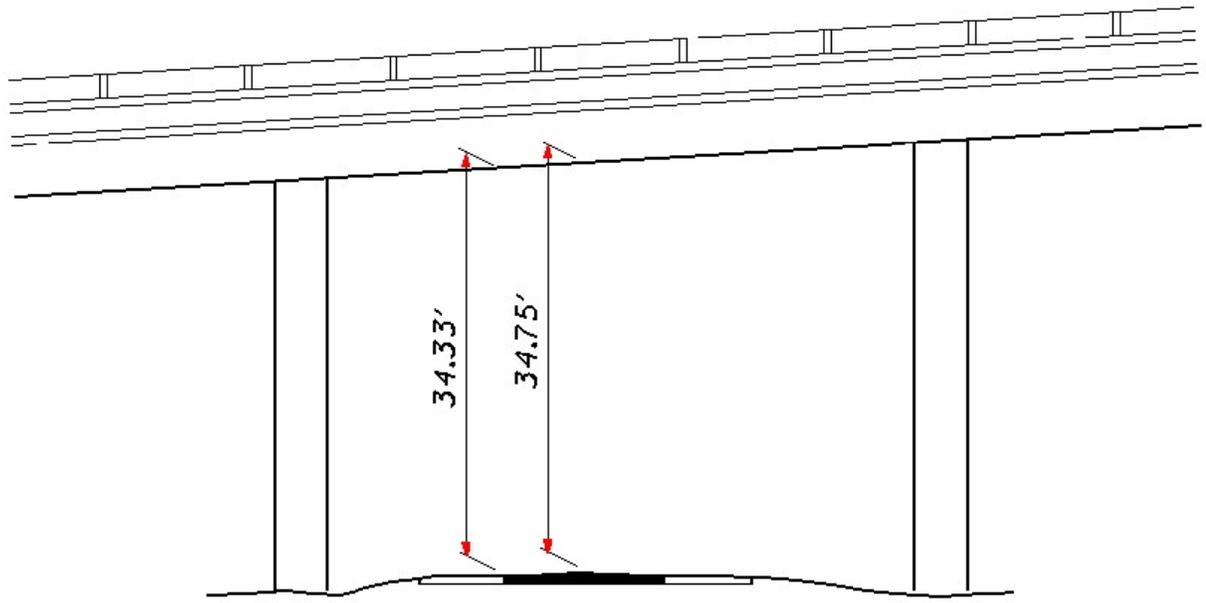
## **ITEM #77 - MINIMUM VERTICAL CLEARANCE UNDER BRIDGE [2\*4 digits]**

**This item must be coded for all bridges with roadway/railway underneath.**

This item includes a four (4) digit coding representing the Minimum Vertical Clearance from the roadway or railroad track **beneath** the structure to the underside of the superstructure. For divided highways under a structure, code the minimum clearance for the main lane openings in each direction of travel (Cardinal and Non-Cardinal). For undivided highways with bi-directional traffic under a structure, code the minimum clearance under the subtitle "Cardinal Opening". For highways with one-directional traffic under a structure, code the minimum clearance under the appropriate subtitle. If the structure is over a railroad or railroads, record the minimum clearance over any track under the sub-title "Cardinal Opening". The item should be recorded in feet and inches, rounded down to the inch. In each subsection (Feet, inches) right justify the coded values and fill with leading zeros where necessary. All zeros (0) should be coded for any portion of the item not applicable. Code the entire item with zeros for structures which are not over a highway or railroad.



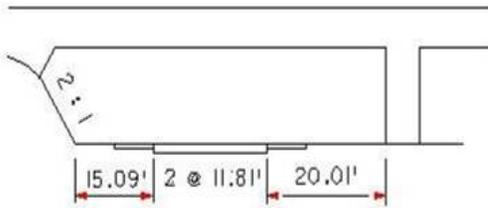
*Railroad 31.26' beneath structure*



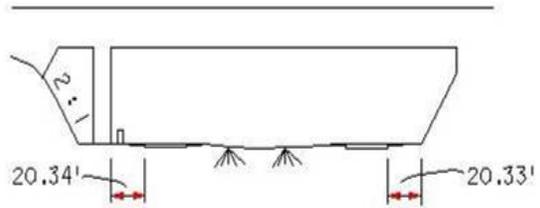
*Highway 34.33' beneath structure*

**ITEM #78 - MINIMUM LATERAL UNDERCLEARANCE (TO  
EDGE OF LANE) [2\*6 digits]**

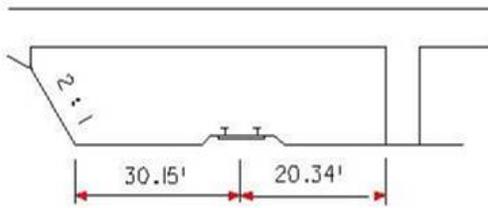
If the feature beneath the structure is either a railroad or highway, code a three (3) digit number to represent the minimum lateral clearance on the right and another three (3) digit number for the clearance on the left under the subtitle "Cardinal Opening". If the feature is not a railroad or highway leave blank and item will default to zeros. In the case of dual or divided highways requiring two (2) or more openings under the structure, record the clearances on the left and the right for the cardinal opening and the same for the Non-Cardinal opening (Main lanes only for each direction of travel.) For structures with railroads underneath, regardless of number of tracks or number of openings, record and code the absolute minimum lateral clearances (Right and Left) without regard to the opening or openings in which they occur. Lateral clearances should be measured from the right or left edge of the lane or from the centerline (between the rails) of the track (if single) and the centerline of the outside track (if multiple) to the nearest substructure unit (or toe of slope steeper than 3 to 1) on the right and to the nearest substructure unit or median barrier on the left. All measurements should be made normal to the centerline of the main or thru lanes or normal to the centerline of the main line track or tracks. For the purposes of this item, the term "Left" refers to the left hand edge or median side of the lanes on a divided highway while facing in the direction of traffic flow, while the term "Right" refers to the right hand edge or outside edge of the lanes while facing in the direction of traffic. For a non-divided single highway the terms refer to the left and right hand sides respectively, while facing in the cardinal direction of the route. For railroads," Right will be assumed to be the side to the tracks nearest the forward end of the bridge and the left side is assumed to be nearest the rear end of the bridge. Code these dimensions to the nearest tenth of a foot. If there is only a single roadway (non-divided) or track thru a single opening under the structure, code the lateral clearances under the heading "Cardinal Opening", and code all zeros under Non-Cardinal direction. In each subsection right justify all entries and fill with leading zeros where necessary.



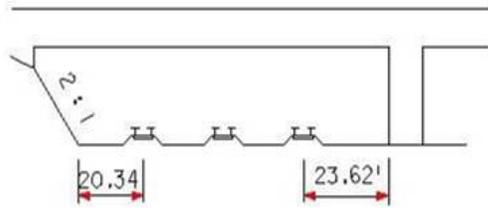
15.09' Lt. 15.09' Rt. for 2-way Traffic  
 15.09' Lt. 20.01' Rt. for 1-way Traffic



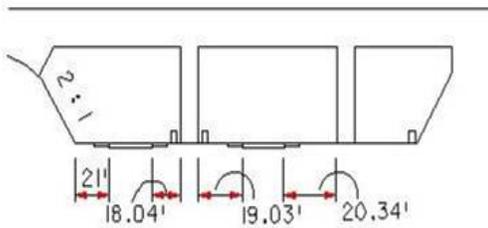
OPEN Lt 20.34 Rt



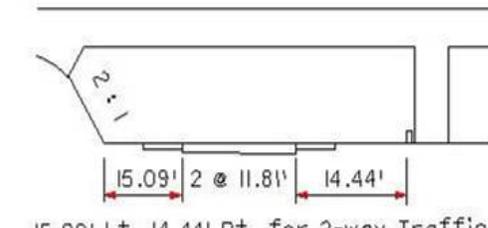
30.51' Lt. 20.34' Rt.



23.62' Lt. 20.34' Rt.



18.04' Lt. 20.34' Rt.



15.09' Lt. 14.44' Rt. for 2-way Traffic  
 15.09' Lt. 14.44' Rt. for 1-way Traffic

**ITEM #79 – [BLANK]**

## **ITEM #80 - MINIMUM LATERAL CLEARANCE ON BRIDGE (TO EDGE OF LANE) [2 x 6 digits]**

The lateral clearance on the bridge should be the minimum distance measured to nearest tenth of one foot from the outside of the painted edge line, on either edge of the pavement, to the nearest restriction (i.e., curb, railing, median, parapet, etc.) on the corresponding side of bridge.

If the surface of the traveled roadway on a structure has no painted edge line, then measure from the edge of the approach traveled roadway surface extended.

Use edge of shoulder as nearest restriction if no other restriction exists. For structure buried under fill or guardrail measure to the edge of shoulder as well as the nearest restriction. Use edge of lane to curb (gutter) 6" or higher as lateral clearance.

In the case of a divided highway crossing the structure, code the clearance on the right and the clearance on the left for both the cardinal and Non-Cardinal Openings. When two (2) or more non-divided lanes cross a structure, code only the right and left clearances in the cardinal opening. Code all zeros in the Non-Cardinal opening.

For the purposes of this item the term "Left" refers to the left edge or median side of the pavement on a divided highway when facing the direction of traffic, and the term "Right" refers to the right edge of the outside edge of the pavement when facing in the direction of traffic. For a non-divided highway the terms refer to the left and right edges of the pavement while facing in the cardinal direction of the route.

If a structure carries non-highway traffic such as railroads, pedestrian, bicycle, etc. code all zeros.

All entries in each subsection should be right justified and filled with leading zeros where necessary. If the approach roadway width is more than the pavement width of the roadway and there is no painted edge lines leave item blank and item will default to zeros. **This item must be coded for all bridges.**

**ITEM #81 - VERTICAL CLEARANCE AT VERTICAL LIFT BRIDGE [3 digits]**

Record to the nearest foot (rounding down) the minimum vertical clearance imposed at the site as measured above a datum that is specified on a navigation permit issued by a control agency. Code this item only for vertical lift bridges in the dropped or closed position, otherwise leave blank and item will default to zeros.

<u>Vertical Clearance</u>	<u>Code</u>
20.7	020
24.2	024

**ITEM #82 - BLANK**

## **FORM #BR87 - CARD F**

### **ITEM #83 - LOAD RATING [5 digits]**

**This item must be coded.**

**Ohio Percent of Legal Load - Maximum Allowable 150% [Code 150]** [3 digits]

This portion of Item #83 applies only to structures carrying highway traffic. Enter the calculated or estimated percent of Ohio Legal Load on record. Always code the figures to the nearest 5 percent. If the structure carries other than public motor vehicular traffic (e.g., railroad, pedestrian walk, pipe line, taxiway, etc.) or if structure is closed or if item does not apply, code all zeros.

<b><u>Example</u></b>	<b><u>Code</u></b>
125 %	125
65 % (Post 35%)	065
*For structures rated at greater than 150% of Legal Load	150*

**Rating Year** [2 digits]

Code the last two (2) digits of the year in which the structures load ratings coded in parts 1, 2, and 3 were determined. The most recent ratings should always be coded. If the bridge is closed, code year closed.

### **Other Structures**

Structures other than that carrying highway traffic such as railroad, pedestrian, temporary, taxiway and utility structures shall be coded according to the examples below:

<b><u>Type</u></b>	<b><u>Operating Load Factor</u></b>	<b><u>Inventory Load Factor</u></b>	<b><u>%Legal Load</u></b>
Railroad Bridge	100	100	000
Railroad Bridge (W/tracks removed)	100	100	000
Pedestrian Bridge	000	000	000
Pipeline (over Hwy)	000	000	000
Closed Bridge *	000	000	000
Temporary Bridge **	000	000	100
Shored-up Bridge ***	030	030	000
Structure under large fill (Not affected by live load). ****	299	299	150
Aircraft Taxiway Bridge	800	800	000

- \* Closed” should be included in “Features Intersected” item.
- \*\* “Y” must be coded in Item #10
- \*\*\* Load capacity without shoring.
- \*\*\*\* When there is sufficient fill over a structure such that, according to the AASHTO design specification, that structure would have insignificant live load effect.

## **ITEM #84 - METHOD OF RATING [1 digit]**

### **This item must be coded.**

This item will indicate the method of analysis for the load rating (Items #92 & #93) of the structure.

Code the appropriate description from the list below.

<b><u>Code</u></b>	<b><u>Description</u></b>
0	Field evaluation and documented engineering judgment
1	Allowable Stress Rating (ASR) or Working Stress Rating (WSR) using HS20 loading
2	Load Factor Rating (LFR)
3	Load & Resistance Factor Rating (LRFR) using HL93 loadings
4	Combination of Methods
5	Engineering Judgment – Superstructure (Default)
6	Load Testing
7	Engineering Judgment – Substructure
8	Not Used
9	Not Used
A	Not Used
B	Not Used
C	Not Used
D	Assigned Load Factor Rating (LFR) using HS20 loading
E	Not Used
F	Assigned Load & Resistance Factor Rating (LRFR) using HL93 loading
X	Not Applicable (RR bridges, buildings, Non-highway, etc.)

Code 0 is to be used when the load rating is determined by field evaluation and documented engineering judgment, typically done when plans are not available or in cases of severe deterioration. Field evaluation and engineering judgment ratings must be documented.

Code 5 is to be used when the bridge has not been load rated or load rating documentation does not exist.

## **ITEM #85 - SOFTWARE OF RATING ANALYSIS [1 digit]**

**This item must be coded.**

Code the appropriate description from the list below:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	BARS
2	BRASS
3	VIRTIS
4	DESCUS
5	LARSA Or Other Finite Element (FE) Program
6	In-House Program/Spreadsheet
7	Combination
8	Other program
9	Manual Calculations
0	No calculations were done for load rating (Default)

## **ITEM #86 - STREAM VELOCITY [3 digits]**

Record the one-hundred year velocity of the stream under the bridge to the nearest one-tenth of a foot per second.

This figure is generally found on the "Site Plan" of the "Design Plans".

This item must be coded for all applicable structures being "Added" to the file.

If not applicable code N's. If stream velocity is unknown code U=s. If left blank item will default to zeros.

## **ITEM #87 – PLAN INFORMATION AVAILABLE [1 digit]**

**This item must be coded.**

Code this item to indicate if plans/information is available for Load Rating of the bridge.

<b><u>Code</u></b>	<b><u>Description</u></b>
0	No Plans or information available for load rating analysis
1	Plan information available for load rating analysis (Default)
2	Field measured information for load rating analysis
3	Field testing information
N	Not Applicable

## **ITEM #88 - WATERWAY ADEQUACY [1 digit]**

This item appraises the waterway opening with respect to passage of flow through the bridge. The following codes shall be used in evaluating waterway adequacy. Site conditions may warrant higher or lower ratings than indicated by the table (e.g., flooding of an urban area due to a restricted bridge opening).

<b><u>Where overtopping frequency information is available, the descriptions given in the table for chance of overtopping mean the following:</u></b>	
<b><u>Chance of overtopping</u></b>	<b><u>Description</u></b>
Remote	Greater than 100 years
Slight	11 to 100 years
Occasional	3 to 10 years
Frequent	Less than 3 years
<b><u>Adjectives describing traffic delays mean the following:</u></b>	
<b><u>Adjective</u></b>	<b><u>Description</u></b>
Insignificant	Minor inconvenience. Highway passable in a matter of hours.
Significant	Traffic delays of up to several days.
Severe	Long term delays to traffic with resulting hardship.

<b>Functional Classification</b>			
<b>Principal Arterial - Interstates, Freeways, or Expressways</b>	<b>Other Principal and Minor Arterials and Major Collectors</b>	<b>Minor Collectors, Locals</b>	<b>Description</b>
N	N	N	Bridge not over a waterway.
9	9	9	Bridge deck and roadway approaches above flood water elevations (high water). Chance of overtopping roadway approaches is remote.
8	8	8	Bridge deck above roadway approaches, <b>slight</b> chance of overtopping roadway approaches.
6	6	7	<b>Slight</b> chance of overtopping bridge deck and roadway approaches.
4	5	6	Bridge deck above roadway approaches. <b>Occasional</b> overtopping of roadway approaches with insignificant traffic delays.
3	4	5	Bridge deck above roadway approaches. <b>Occasional</b> overtopping of roadway approaches with significant traffic delays.
2	3	4	<b>Occasional</b> overtopping of bridge deck and roadway approaches with significant traffic delays.
2	2	3	<b>Frequent</b> overtopping of bridge deck and roadway approaches with significant traffic delays.
2	2	2	<b>Occasional</b> or frequent overtopping of bridge deck and roadway approaches with severe traffic delays.
0	0	0	Bridge closed.

## **ITEM #89 - APPROACH ALIGNMENT [1 digit]**

Record the appropriate code from the table below about the condition of the approach alignment.

For example, if the highway section requires substantial speed reduction due to vertical or horizontal alignment, and roadway approach to the bridge requires only a very minor additional speed reduction at the bridge, the appropriate code would be a 6. This concept shall be used at each bridge site.

Speed reductions necessary because of structure width and not alignment shall not be considered in evaluating this item.

<b><u>Code</u></b>	<b><u>Description</u></b>
N	Not Applicable (Conveyor, Pedestrian, Railroad)
9	Condition superior to present desirable criteria
8	Condition equal to present desirable criteria
7	Condition better than present minimum criteria
6	Condition equal to present minimum criteria
5	Condition somewhat better than minimum adequacy to tolerate being left in place as is
4	Condition meeting minimum tolerable limits to be left in place as is
3	Basically intolerable condition requiring high priority of repair
2	Basically intolerable condition requiring high priority of replacement
0	Immediate replacement necessary to put back in service

## **ITEM #90 - PROPOSED IMPROVEMENTS**

If there are no proposed improvements planned for the bridge leave **the entire item blank.** You must code **all** or **none** of the item.

### **A. Type of Work [2 digits]**

The information to be coded for this item will be the type of work **proposed** to be accomplished at the site to provide the service needed.

It shall be coded for all structures that are eligible for HBRRP funds. (80% or less sufficiency, Structurally Deficient or Functionally Obsolete and > 20 feet clear span) It also may be coded for other structures.

<b><u>Code</u></b>	<b><u>Description</u></b>
31	Replacement of bridge or other structure because of substandard load carrying capacity or substandard bridge roadway geometry.
32	Replacement of bridge or other structure because of relocation of road.
33	Widening of existing bridge or other major structure without deck rehabilitation or replacement includes culvert lengthening.
34	Widening of existing bridge with deck rehabilitation or replacement.
35	Bridge rehabilitation because of general structure deterioration or inadequate strength.
36	Bridge deck rehabilitation with only incidental widening.
37	Bridge deck replacement with only incidental widening.
38	Other structural work.

### **B. Method [1 digit]**

The method of improvement shall be coded using one of the following codes to indicate whether the proposed work is to be done by contract or by force account:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Work to be done by contract
2	Work to be done by agency's forces

**Examples:**

<b>Code</b>	
311	A bridge is to be replaced by contract because it has deteriorated to the point that it can no longer carry legal loads. The same code should be used if the bridge is replaced because it is now too narrow or the original design was too light to accommodate today's legal loads.
321	A bridge is to be replaced because the roadway must be straightened to eliminate a dangerous curve. The work will be done by contract.
361	A bridge deck is to be rehabilitated by contract and a safety curb to be removed which results in incidental widening of 2 feet.
371	A bridge deck is to be replaced by contract and the deck cantilever overhang extended 2 feet, which is the maximum that can be done without adding another line of stringers or girders to the superstructure.

**C. Length of Improvements [6 digits]**

Code a six (6) digit number that represents the length of the bridge portion only of the proposed improvement including any necessary approach work, to the nearest foot. This length may be less than the full length of the structure if part of the bridge is to be improved.

For improvements on buried structures, use the proposed length measured along the centerline of the barrel regardless of the depth below grade. The measurement should be made between the inside faces of the top parapet or edge stiffening beam of the top slab.

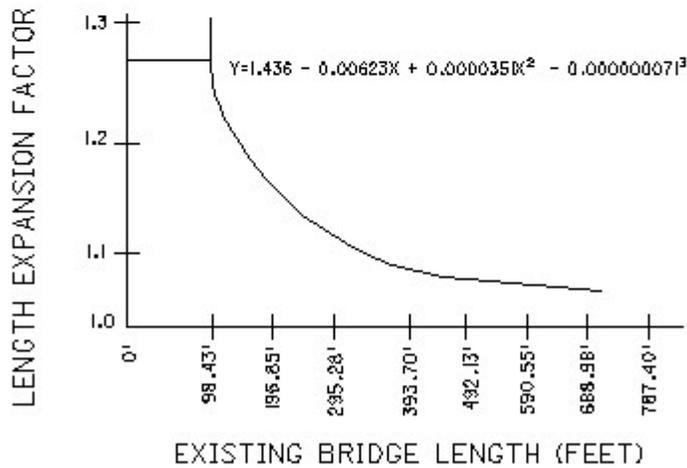
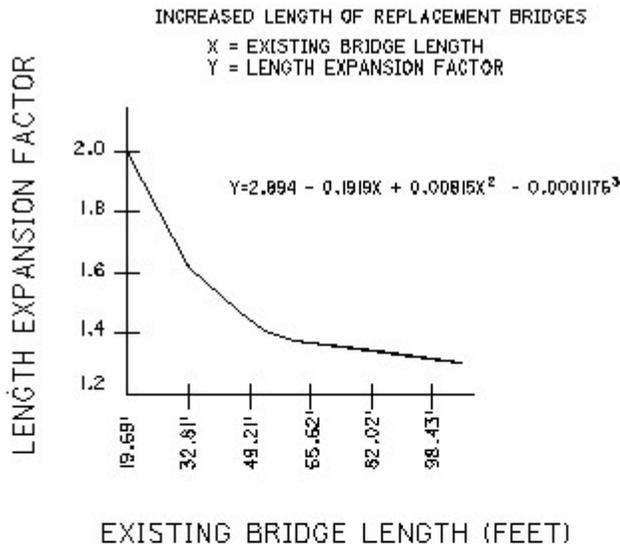
<b><u>Length of Improvement</u></b>	<b><u>Code</u></b>
250 feet	000250
1,200 feet	001200

For substructure or channel work only, code the length of superstructure over, or supported by, the substructure or channel.

Typically, a replacement bridge is longer than the existing bridge. Nationwide averages for the increase in bridge length with replacement as a function of the existing length are given in the figure on the following page. Where site-specific data is lacking, these factors are suggested for estimating the length of replacement bridges. For exceedingly long bridges (i.e., 1000 feet or more) the length expansion factor approaches 1.0.

# Length of Structure Improvement [6 digits]

## INCREASED LENGTH OF REPLACED BRIDGES



REPLACEMENT BRIDGE LENGTH = EXISTING BRIDGE LENGTH × LENGTH EXPANSION FACTOR

**D. Bridge Improvement Costs [6 digits]**

Code a six (6) digit number to represent the cost of the proposed bridge or major structure improvements in thousands of dollars. This cost shall include only bridge construction costs, **EXCLUDING** roadway, right of way, detour, demolition, preliminary engineering, etc. The year of bridge improvements costs should be coded in the Year of Improvement Cost Estimate. Do not use this item for estimating maintenance costs.

This item must be coded for all bridges eligible for the **Highway Bridge Replacement and Rehabilitation Program (HBRRP)**. It may be coded for other bridges at the option of the highway agency.

<b><u>Bridge Improvement Costs</u></b>	<b><u>Code</u></b>
\$55,850	000056
<u>250,000</u>	000250
\$7,451,233	007451

**E. Roadway Improvement Costs [6 digits]**

Code a six (6) digit number to represent the cost of the proposed roadway improvement in thousands of dollars. This shall include only roadway construction costs, excluding bridge, right-of-way, detour, extensive roadway realignment costs, preliminary engineering, etc. The base year for the costs should be coded in the Year of Improvement Cost Estimate. Do not use this item for estimating maintenance costs.

This item must be coded for bridges eligible for the **Highway Bridge Replacement and Rehabilitation Program (HBRRP)**. It may be coded for other bridges at the option of the highway agency.

In the absence of a procedure for estimating roadway improvement costs, a guide of 10 percent of the bridge costs is suggested.

**F. Total Project Costs [6 digits]**

Code a six (6) digit number to represent the total project cost in thousands of dollars, including incidental costs not included in Bridge Improvement Costs and Roadway Improvement Costs. This item should include all costs normally associated with the proposed bridge improvement project. The Total Project Cost will therefore usually be greater than the sum of the Bridge Improvement Costs and Roadway Improvement Costs. Code the total costs in the Total Project Costs. Do not use this item for coding maintenance costs.

This item must be coded for bridges eligible for the Highway Bridge Replacement and Rehabilitation Program. It may be coded for other bridges at the option of the highway agency.

In the absence of a procedure for estimating the total project cost, a guide of 10 percent of the bridge cost is suggested.

**G. Year Of Improvement Cost Estimate [2 digits]**

Record the year that the costs of work estimated in Bridge Improvement Cost, Roadway Improvement Cost, and Total Project Cost were based upon. This date and the data provided for Bridge Improvement Costs, Roadway Improvement Costs and Total Project Costs must be current; that is, Year of Improvement Cost Estimate **shall be no more than 8 years old.** Code the last two (2) digits of the year so recorded.

<u>Year of Cost Estimate</u>	<u>Code</u>
1988 costs	88
2010 costs	10

## **ITEM #91 - DESIGNATED INSPECTION FREQUENCY [2 digits]**

Code two (2) digits to represent the number of months between designated inspections of the structure. Leading zeros shall be coded. This interval is usually determined by the individual in charge of the inspection program. For posted, under strength bridges, this interval could be substantially less than the 12 month standard. The designated inspection interval may vary from inspection to inspection depending on the condition of the bridge at the time of inspection. The default value is 12 months.

<b><u>Code</u></b>	<b><u>Description</u></b>
01	Posted bridge with heavy truck traffic and questionable structural details to be inspected each month
12	Bridge is scheduled to be inspected every 12 months

It should be noted that bridges will also require special non-scheduled inspections after unusual physical traumas such as floods, earthquakes, fires or collisions. These special inspections may range from a very brief visual examination to a detailed in-depth evaluation depending upon the nature of the trauma. For example: where a substructure pier or abutment is struck by an errant vehicle, in most cases only a visual examination of the bridge is necessary. After major collisions or earthquakes, in-depth inspections may be warranted as directed by the engineer in overall charge of the program. After and during severe floods, the stability of the substructure of bridges may have to be determined by probing, underwater sensors or other appropriate measures. Underwater inspection by divers may be required for some scour critical bridges immediately after floods. See Item #74 - Scour Critical Susceptibility.

## **ITEM #92 – OPERATING LOAD RATING FACTOR [5 digits]**

### **A. OPERATING RATING FACTOR [4 digits]**

#### **This item must be coded.**

Code the Operating Load Rating Factor rounded to the nearest third decimal point as a four (4) digit number without a decimal point (all four digits to be coded). Maximum value of Rating Factor that can be coded is 9.999. There is an implied decimal point after three digits from right.

#### **Examples:**

<b><u>Operating Load Rating Factor</u></b>	<b><u>Code</u></b>
1.50	1500
1.35	1350
0.85	0850
0.25	0250
9.99	9990
0	0000
0.083	0083

If the bridge is closed and/or will not carry any live load, the Rating Factor shall be coded as 0000.

On new and other highway structures, if a load rating analysis has not been performed, the Operating Load Rating Factor may be coded as 1.25.

The use or presence of temporary bridge requires special consideration in coding. In such cases, since there is no permanent bridge, Operating Load Rating Factor should be coded as 000.

A bridge shored up or repaired on a temporary basis is considered a temporary arrangement bridge and the Rating Factor should be coded as if the temporary shoring were not in place.

#### **Operating RF cannot be less than Inventory RF.**

#### **Examples:**

<b><u>Type of Bridge</u></b>	<b><u>Code</u></b>
Temporary bridge	000
Shored-up bridge**	010
Structures under sufficient fill that live load on structure is insignificant	999

**\*\*Rating Factor without shoring.**

**B. OPERATING RATING LOAD [1 digit]**

**This item must be coded for all bridges.**

Code the type of load used in the operating rating calculations from the following table:

<b><u>Type of Load</u></b>	<b><u>Code</u></b>
Not Used	0
Not Used	1
HS20 Loading	2
HL93 Loading	3
Not Used	4
Special Maintenance Loading	5
Railroad Loading	7
Pedestrian Loading	8
Special Loading	9

**Other Structures**

Structures other than that carrying highway traffic such as railroad, pedestrian, temporary, taxiway and utility structures shall be coded according to the examples below:

<b><u>Type</u></b>	<b><u>Operating Load Factor</u></b>	<b><u>Inventory Load Factor</u></b>	<b><u>%Legal Load</u></b>
Railroad Bridge	100	100	000
Railroad Bridge (W/tracks removed)	100	100	000
Pedestrian Bridge	000	000	000
Pipeline (over Hwy)	000	000	000
Closed Bridge *	000	000	000
Temporary Bridge **	000	000	100
Shored-up Bridge ***	030	030	000
Structure under large fill (Not affected by live load). ****	299	299	150
Aircraft Taxiway Bridge	800	800	000

\* Closed” should be included in “Features Intersected” item.

\*\* “Y” must be coded in Item #10

\*\*\* Load capacity without shoring.

\*\*\*\* When there is sufficient fill over a structure such that, according to the AASHTO design specification, that structure would have insignificant live load effect.

## **ITEM #93 –INVENTORY LOAD RATING FACTOR [5 digits]**

### **A. INVENTORY RATING FACTOR [4 digits]**

#### **This item must be coded.**

The Inventory Load Rating Factor represents the load level which can safely utilize an existing structure for an indefinite period of time for unlimited cycles of traffic. Inventory rating level is the same as design level.

Code the Inventory Load Rating Factor as a four (4) digit number without a decimal point (all four digits to be coded). Maximum value of Rating Factor that can be coded is 9.999. There is an implied decimal point after three digits from right.

#### **Examples:**

<b><u>Inventory Load Rating Factor</u></b>	<b><u>Code</u></b>
1.50	1500
1.35	1350
0.85	0850
0.254	0254
9.999	9999
0	0000

If the bridge is closed and/or will not carry any live load, the Rating Factor shall be coded as 0000.

On new and other highway structures, if a load rating analysis has not been performed, the Inventory Load Rating Factor may be coded as 1.000

The use or presence of a temporary bridge requires special consideration in coding. In such cases, since there is no permanent bridge, Inventory Load Rating Factor should be coded as 0000.

A bridge shored up or repaired on a temporary basis is considered a temporary arrangement bridge and the Rating Factor should be coded as if the temporary shoring were not in place.

**Inventory RF cannot be greater than Operating RF.**

**Examples:**

<b><u>Type of Bridge</u></b>	<b><u>Code</u></b>
Temporary bridge	0000
Shored-up bridge**	0100
Structures under sufficient fill that live load on structure is insignificant	9999

**\*\*Rating Factor without shoring.**

**B. INVENTORY RATING LOAD [1 digit]**

**This item must be coded for all bridges.**

Code the type of load used in the inventory rating calculations from the following table:

<b><u>Type of Load</u></b>	<b><u>Code</u></b>
Not Used	0
Not Used	1
HS20 Loading	2
HL93 Loading	3
Not Used	4
Special Maintenance Loading	5
Railroad Loading	7
Pedestrian Loading	8
Special Loading	9

For Other structures, see Item 92.

## **ITEM #94 - INSPECTION PROGRAM RESPONSIBILITY**

### **[3digits]**

The agency or agencies legally responsible should be coded. The name should already be available from existing records in accordance with the Ohio Revised Code or by legal agreement. Code a three (3) digit numeric or alphabetic code to specify agency or agencies responsible for the Inspection Program from the table below, where the agency with the left-most code is the one with primary responsibility. **When more than one agency has equal responsibility, code them in the hierarchy of State, Ohio Turnpike, Federal, County, City, railroad and other or private.**

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Ohio State Transportation Department
2	Other Ohio State Agency (e.g., Ohio Turnpike Commission)
3	County Agency
4	City or other Local Agency
5	Federal Agency (other than listed)
6	Railroad
7	Private ( <b>other than railroad</b> )
8	<b>Not Used</b>
9	<b>Not Used</b>
A	Ohio Department of Natural Resources (ODNR)
B	Ohio Conservancy District
C	Ohio Park District
D	Ohio Institution
E	Local Transit Authority
F	Township
G	Local Toll Authority
H	Bureau of Indian Affairs
I	U.S. Forest Service
J	National Park Service
K	Bureau of Land Management
L	Bureau of Reclamation
M	Military Reservation/Corps of Engineers
N	Indian Tribal Government
O	Air Force
P	Navy/Marines
Q	Army
R	NASA

<b>S</b>	<b>Not Used</b>
<b>T</b>	<b>Not Used</b>
<b>U</b>	<b>Unknown</b>
<b>V</b>	<b>Not Used</b>
<b>W</b>	<b>Not Used</b>
<b>X</b>	<b>None</b>
<b>Y</b>	<b>Not Used</b>
<b>Z</b>	<b>Border State</b>

**Examples:**

<b><u>Responsible Agency or Agencies</u></b>	<b><u>Code</u></b>
ODOT Responsibility	1XX
Municipality Responsibility	4XX
ODOT and County Responsibility	13X
Border State Responsibility	ZXX
ODOT and Border State Responsibility	1ZX
County, Municipality & Railway Responsibility	346
Railway and City Responsibility	64X
Ohio Turnpike & ODOT Responsibility	21X

**ITEM #95 - MAJOR MAINTENANCE PROGRAM RESPONSIBILITY [3 digits]**

The agency or agencies legally responsible should be coded. The name should already be available from existing records in accordance with the Ohio Revised Code or by legal agreement. Code a three (3) digit numeric or alphabetic code to specify agency or agencies responsible for the Major Maintenance Program from the table below, where the agency with the left-most code is the one with primary responsibility. **When more than one agency has equal responsibility, code them in the hierarchy of State, Ohio Turnpike, Federal, County, City, railroad and other or private.**

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Ohio State Transportation Department
2	Other Ohio State Agency (e.g., Ohio Turnpike Commission)
3	County Agency
4	City or other Local Agency
5	Federal Agency (other than listed)
6	Railroad
7	Private ( <b>other than railroad</b> )
8	<b>Not Used</b>
9	<b>Not Used</b>
A	Ohio Department of Natural Resources (ODNR)
B	Ohio Conservancy District
C	Ohio Park District
D	Ohio Institution
E	Local Transit Authority
F	Township
G	Local Toll Authority
H	Bureau of Indian Affairs
I	U.S. Forest Service
J	National Park Service
K	Bureau of Land Management
L	Bureau of Reclamation
M	Military Reservation/Corps of Engineers
N	Indian Tribal Government
O	Air Force
P	Navy/Marines
Q	Army
R	NASA
S	<b>Not Used</b>
T	<b>Not Used</b>
U	<b>Unknown</b>

<b>V</b>	<b>Not Used</b>
<b>W</b>	<b>Not Used</b>
<b>X</b>	<b>None</b>
<b>Y</b>	<b>Not Used</b>
<b>Z</b>	<b>Border State</b>

**Examples:**

<b><u>Responsible Agency or Agencies</u></b>	<b><u>Code</u></b>
ODOT Responsibility	1XX
Municipality Responsibility	4XX
ODOT and County Responsibility	13X
Border State Responsibility	ZXX
ODOT and Border State Responsibility	1ZX
County, Municipality & Railway Responsibility	346
Railway and City Responsibility	64X
Ohio Turnpike & ODOT Responsibility	21X

## **ITEM #96 – ROUTINE MAINTENANCE RESPONSIBILITY**

### **[3digits]**

The agency or agencies legally responsible should be coded. The name should already be available from existing records in accordance with the Ohio Revised Code or by legal agreement. Code a three (3) digit numeric or alphanumeric code to specify agency or agencies responsible for the routine maintenance from the table below, where the agency with the left-most code is the one with primary responsibility. **When more than one agency has equal responsibility, code them in the hierarchy of State, Ohio Turnpike, Federal, County, City, railroad and other or private.**

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Ohio State Transportation Department
2	Other Ohio State Agency (e.g., Ohio Turnpike Commission)
3	County Agency
4	City or other Local Agency
5	Federal Agency (other than listed)
6	Railroad
7	Private ( <b>other than railroad</b> )
8	<b>Not Used</b>
9	<b>Not Used</b>
A	Ohio Department of Natural Resources (ODNR)
B	Ohio Conservancy District
C	Ohio Park District
D	Ohio Institution
E	Local Transit Authority
F	Township
G	Local Toll Authority
H	Bureau of Indian Affairs
I	U.S. Forest Service
J	National Park Service
K	Bureau of Land Management
L	Bureau of Reclamation
M	Military Reservation/Corps of Engineers
N	Indian Tribal Government
O	Air Force
P	Navy/Marines
Q	Army
R	NASA
S	<b>Not Used</b>
T	<b>Not Used</b>

<b>U</b>	<b>Unknown</b>
<b>V</b>	<b>Not Used</b>
<b>W</b>	<b>Not Used</b>
<b>X</b>	<b>None</b>
<b>Y</b>	<b>Not Used</b>
<b>Z</b>	<b>Border State</b>

**Examples:**

<b><u>Responsible Agency or Agencies</u></b>	<b><u>Code</u></b>
ODOT Responsibility	1XX
Municipality Responsibility	4XX
ODOT and County Responsibility	13X
Border State Responsibility	ZXX
ODOT and Border State Responsibility	1ZX
County, Municipality & Railway Responsibility	346
Railway and City Responsibility	64X
Ohio Turnpike & ODOT Responsibility	21X

**ITEM #97 - [BLANK]**

## **ITEM #98 - TYPE SERVICE [2 digits]**

This item is intended to show the type of service on the bridge and the type of service under the bridge. The service types for this item will be indicated by a two (2) digit code.

**This first (1st) digit for the service on the bridge is as follows:**

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Highway
2	Railroad
3	Pedestrian and/or bikeway
4	Highway/Railroad
5	Highway/pedestrian
6	Overpass structure at an interchange or second level of a multilevel interchange
7	Third level (Interchange)
8	Fourth level (Interchange)
9	Building or plaza
0	Other
A	Railroad (Abandoned w/rails removed)

**The second (2nd) digit will indicate the type of service under the bridge.**

**Code 9 (Relief) for a railroad, under a highway with the rails removed**

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Highway, with or without pedestrian
2	Railroad
3	Pedestrian and/or bikeway
4	Highway/railroad
5	Waterway
6	Highway/waterway
7	Railroad/waterway
8	Highway/waterway/railroad
9	Relief (includes Railroad with tracks removed)
0	Other

**ITEM # 99 – [BLANK]**

**ITEM # 100 – [BLANK]**

## **FORM #BR87 - CARDS G**

**Card G – PE Number (6 digits); First Name (20 Characters); and Last Name (20 Characters) of Rating Engineer**

## **FORM #BR87 - CARDS H & I – REMARKS**

**Cards H & I - Retired Bridges, list SFN (s) that will replace this bridge.**

**Cards H & I - Add Bridges – SFN (s) that were replaced by this bridge.**

## **FORM #BR87A - CARD J**

### **ITEM #101 - LOCATION OF STRUCTURE [25 digits]**

This item gives a description of the bridge location. The location should be keyed to some recognizable feature on the official highway map, (county map for county, township or municipal structures), such as road junctions and topographical features (using meaningful abbreviations when necessary).

<b><u>Examples</u></b>
6 MI. S. of SCIOTO RIVER
3.5 MI. S. of JCT SR 89

Item shall be left justified with no trailing zeros and must be coded for all structures.

**ITEM #102 - FACILITY CARRIED BY STRUCTURE [18 digits] –  
Column N**

The facility being carried by the structure shall be recorded and coded. This item shall be left justified without trailing zeros. Meaningful abbreviations may be used when necessary.

<b><u>Examples:</u></b>
County Road 450
USR 66
Main Street
C & O Railroad (appropriate only when route is under railroad)
Pedestrian Bridge (appropriate only when route is under pedestrian bridge)

## **ITEM #103 - ROUTE ON THE BRIDGE [2 digits]**

Code a two (2) digit numeric for the agency whose route is carried by the bridge:

<b><u>Code</u></b>	<b><u>Description</u></b>
00	Other
10	State (ODOT) (Toll Free)
11	ODNR
12	State (Other) (Toll Free)
20	Federal Domain
30	Toll Bridge (State)
31	Toll Bridge (Private)
40	County
41	Municipal
42	Township
43	Park District
44	Conservancy District
99	Non highway traffic on bridge (i.e. pedestrian, railroad, pipeline etc.)

Do not code Turnpike as a toll road on the bridge.

**ITEM #104 - ROUTE UNDER THE BRIDGE [2 digits]**

Code the Agency of the route which goes under the bridge and use the same codes used in Item #103. For non-highway service under the bridge code the item 99.

## **ITEM #105 - BORDER BRIDGE [5 digits]**

Use this item to indicate structures crossing borders of States. Code a five (5) digit number composed of two (2) segments specifying the responsibility for improvements to the existing structure when it is shared with a neighboring state. Code the first three (3) digits using state codes listed below to code the neighboring state of the border bridge.. **Code the fourth and fifth digits with the percentage of total deck area of the existing bridge that the neighboring State is responsible for funding. (Maintenance agreements do not apply.)**

If a neighboring State codes the structure and accepts 100% of the responsibility, FHWA still requires Ohio agencies to code a record for the structure. Code the fourth and fifth digits as “99” to represent that the neighboring state has full responsibility for the structure.

If structure is not on a border, leave blank.

<b><u>Segment</u></b>	<b><u>Description</u></b>	<b><u>Length</u></b>
A	Neighboring State Code	3 digits
B	Percent Responsibility	2 digits

<b><u>Code</u></b>	<b><u>State</u></b>
185	Indiana
214	Kentucky
265	Michigan
423	Pennsylvania
543	West Virginia

<b><u>Example</u></b>	
<b><u>Code</u></b>	<b><u>Description</u></b>
21445	A structure connects Ohio with Kentucky and Kentucky is responsible for funding 45 percent of future improvement costs.
21499	A structure connects Ohio with Kentucky and Kentucky is responsible for funding 100 percent of future improvement costs.

**ITEM #106 - BORDER BRIDGE STRUCTURE NUMBER [15  
digits]**

Code the neighboring State's fifteen (15) digit National Bridge Inventory structure number for any structure noted in Item #105 - Border Bridge. This number must match exactly the neighboring State's submitted NBI structure number. The entire fifteen (15) digit field must be accounted for including zeros and blank spaces whether they are leading, trailing, or embedded in the fifteen (15) digit field. If Item #105 is blank, this item must be blank.

**ITEM #107 – [BLANK]**

**Item #108 – [BLANK]**

## **FORM #BR87A - CARD K**

### **ITEM #109 - APPROACH GUARDRAIL TYPE [1 digit]**

Using one of the codes below indicate the type guardrail on approach to the bridge. Code X when bridge carries non-highway traffic (i.e. railroads, pedestrians, conveyor belts, etc.). Use this item to code railing on a culvert (X9X).

<b><u>Code</u></b>	<b><u>Type</u></b>
1	Steel Beam
2	Flexible Steel Plate
3	Steel Cable
4	Steel Tape
5	Timber Rail
6	Timber & Steel Cable
7	Concrete Deflector Parapet
N	None
0	Other
X	Not applicable

**ITEM #110 - APPROACH PAVEMENT WEARING SURFACE**  
**TYPE [1 digit]**

Code the appropriate wearing surface for the approach pavement from the following list:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Concrete
2	Bituminous
3	Brick
4	Gravel
0	Other
N	None or Not Applicable

When the bridge carries non-highway traffic (i.e. railroads, pedestrians, conveyor belts, etc.) code N.

## **ITEM #111 - APPROACH PAVEMENT GRADE [1 digit]**

Note and rate the effect the grade of the approach pavement has on the impact to the bridge and safety to the vehicle.

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Good
2	Fair
3	Poor
4	Critical
N	None or Not Applicable

When the bridge carries non-highway traffic (i.e. Railroad, Pedestrian, Conveyor Belts, etc.) code N.

## **ITEM #112 - APPROACH SLAB [1 digit]**

This item indicates whether a bridge has at least one approach slab.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Yes
N	No
U	Unknown

For structures which carry non-highway traffic and most Culverts code N.

**ITEM #113 - LENGTH OF APPROACH SLAB [3 digits]**

If Item #112 is coded Y then code the length of the approach slab to the nearest foot. If Item #112 is coded N leave blank and item will default to zeros.

**ITEM #114 - #118 BLANK**

**ITEM #119 - DATE OF WEARING SURFACE [8 digits]**

Code eight (8) digits for the month, day and year of the most recent wearing surface application (i.e. concrete overlays, bituminous, etc.). If not applicable leave item blank.

**ITEM #120 – BLANK**

## **ITEM #121 - MAIN MEMBER TYPE [1 digit]**

This item must be coded for any structure whose main span is of the girder, beam or slab type regardless of material.

Select the appropriate code from the following list. If item is not applicable code N.

<b><u>Code</u></b>	<b><u>Type</u></b>
1	Rolled Steel
2	Riveted Built-Up Steel
3	Welded Built-Up Steel
4	Concrete Tee Beam
5	Concrete Girder
6	Prestressed Concrete Box Beam
7	Prestressed Concrete I Beam
8	Timber
9	Segmental Box Girder
0	Other (Concrete Rigid Frame)
A	Channel Beam
B	Cast-In-Place Concrete Box Beam
C	Slab
N	Not Applicable (Culverts, Trusses, Arches, etc.)

## **ITEM #122 - MOMENT PLATES [1 digit]**

If the structure has moment plates, code the appropriate response from the listing below. If there are no moment plates code N.

Code "X" may be coded when a non-highway (railroad, pedestrian; bikeway; coal haul beltway, etc.) passes over a roadway.

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Moment Plates (Welded)
2	Moment Plates (Riveted or Bolted)
N	No Moment Plates
X	Not Applicable

This item must be coded for every new structure being "Added" to the database.

**ITEM #123 – [BLANK]**

## **ITEM #124 - BEARING DEVICE [2 digits]**

Code a one (1) digit numeric which most closely describes the superstructure bearing device system. You may code either one (1) or two (2) types from the list below:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Rollers
2	Rockers & Bolsters
3	Sliding (Bronze)
4	Elastomeric (Plain)
5	Pot
6	Spherical
7	Disc
8	Fixed Arch-Rib
N	None
0	Other
A	Sliding (Other)
B	Fixed
C	Elastomeric (laminated)
D	Integral & semi-integral abutment bearings

For integral & semi-integral type abutments code D. For structures which have no superstructure, such as culverts, code N.

**ITEM #125 - [BLANK]**

## **ITEM #126 - NAVIGATION**

This item is only for structures over a waterway and therefore should be left blank if the entire item does not apply. If left blank, controlled portion will default to X and Vertical and Horizontal Clearance will default to zeros.

### **A. Controlled [1 digit]**

Indicate for this item whether or not navigation control exists. The determination of whether or not a water course is navigable is made by the **U.S. Coast Guard** or **U.S. Army Corps of Engineers**, whoever has the authority or control.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Yes it is a navigable stream
N	No it is not a navigable stream
X	N/A

### **B. Vertical Clearance [3 digits]**

If Part "A" has been coded "Y", record to the nearest foot the minimum vertical clearance imposed at the site as measured above a datum that is specified on navigation permits issued by a control agency. This measurement will show the clearance that is allowable for navigation purposes. In the case of a bascule bridge, the vertical clearance should be measured with the bridge in the closed position (i.e. open to vehicular traffic). If Part "A" of this item is coded "N", or if a permit has not been issued to establish the clearances, code all zeros to indicate not applicable. Clearance shall be added right-justified with leading zeros.

#### **Examples**

<b><u>Actual</u></b>	<b><u>Record</u></b>	<b><u>Code</u></b>
150.0	150	150
20.6	21	021

**C. Horizontal Clearance [4 digits]**

If Part "A" has been coded "Y"; this item must be coded for the minimum horizontal clearance to the nearest foot. This measurement should be that shown on a navigation permit and may be less than the structure allows. If Part "A" of this item is coded "N", or if a permit has not been issued to establish the clearances, code all zeros to indicate not applicable. Clearance should be added right-justified with leading zeros.

**Examples**

<b><u>Actual</u></b>	<b><u>Code</u></b>
95 ft.	0095
538 ft.	0538
1200 ft.	1200

## **ITEM #127 - LENGTH OUT/OUT OF CULVERT [4 digits]**

This item shall be used to record the out/out length of circular or elliptical pipes, barrels, closed boxes and culvert type bridges, etc. to the nearest foot. The length shall be measured along the axis from inlet to outlet at invert. If there is a bend or curve along the length, measure the length along the bend or the curve.

This item must be recorded for all structure types coded as X9X. Code the length right-justified with leading zeros. For all other structure types, leave this item blank.

### **Example**

<b><u>Length</u></b>	<b><u>Code</u></b>
127'	0127

**Length Out/Out of Culvert is measured differently than Overall Structure Length.**

**ITEM #128 – [BLANK]**

## **ITEM #129 - DEPTH OF FILL OVER CULVERT [2 digits]**

- Code to the nearest foot the depth of fill over a structure type (Item #63) that is coded as a culvert (X95).
- If depth of fill exceeds 99' code 99.
- If bridge type is other than XX5 leave this item blank and item will default to zeros.

The depth of the fill should be measured from the top of the structure to the top of the pavement. DO NOT subtract for the depth of the pavement. If the depth of fill over the structure varies, measure the depth of fill at the center of the structure at centerline of the paved surface on the structure.

This item **must** be coded for all filled culverts (structure type X95).

### **Examples**

<b><u>Depth of Fill</u></b>	<b><u>Code</u></b>
4.83 ft.	05
10.16 ft.	10
105 ft.	99

**ITEM #130 - HEADWALLS OR ENDWALLS [1 digit]**

Code the material type of headwall or end-wall for culvert type structures from the list below:

<b><u>Code</u></b>	<b><u>Type</u></b>
1	Concrete
2	Stone
3	Metal
4	Wood
5	Gabion
N	None or Not Applicable (Not a Culvert)
0	Other

Leave this item blank if the structure type is other than X95 and it will default to N.

## **ITEM #131 - CULVERT/BRIDGE TYPE (1 digit)**

If the structure is coded as a culvert X9X or rigid frame X7X in Item #63, then this item must reflect the appropriate code from the following list. For a combination of more than one type, code the most appropriate type under the pavement.

If structure is not a Culvert or Frame type code N.

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Slab Top
2	4-Sided Box (Concrete Cast-In-Place), structure material type must be coded as "1"
3	3-Sided Frame (Concrete Cast-In-Place), structure material type must be coded as "1"
4	Pipe-Circular
5	Pipe-Arch (also includes stone)
6	Pipe-Elliptical
7	Arch (Multi-Plate)
8	4-Sided Box (Concrete Precast), structure material type must be coded as "1"
9	3-Sided Frame (Concrete Precast), structure material type must be coded as "1"
0	Other
A	4-Sided Box (Aluminum)
B	4-Sided Box (Other)
C	3-Sided Frame (Aluminum)
D	Conspan (Concrete pre-cast)
E	Bebo-type (Concrete pre-cast)
F	Metal Arch on concrete pedestal wall & footing
N	Not a Culvert or Rigid Frame

**ITEM #132 - #134 – [BLANK]**

**ITEM #135 – PINS, HANGERS, & HINGES [1 digit]**

Code the type of hinges on the bridge. Code N for none if not applicable.

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Pins & Hangers
2	Pins, Pin Plates
3	Seated Hinges (Rollers, Plates, Pot Bearings)
4	Other (includes Strut)
N	Not Applicable (structures with no hinges)

**ITEM #136 & #137 - [BLANK]**

**ITEM #138 - TYPE OF MAIN LONGITUDINAL BRIDGE MEMBERS [1 digit]**

Code the type of main bridge member of which the bridge is constructed, from the list below:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Two Girder Bridge
2	Three Girder Bridge
3	Four or More Girder Bridge
4	Two Trusses (Welded)
5	Two Trusses (Riveted)
6	Three or More Trusses (Welded)
7	Three or More Trusses (Riveted)
0	Other
A	Two or more Steel Arches (Welded)
B	Two or more Steel Arches (Riveted)
C	Two Concrete Arches
D	Three Concrete Arches
E	Four or more Concrete Arches
F	Jack Arch
G	One Concrete Arch
N	Not Applicable (i.e. Culvert, Beam, Slab, etc.)

Note: See Item #63 A2 for definition of girder.

## **ITEM #139 - FRAMING TYPE [1 digit]**

Code the appropriate framing type for prestressed concrete I-beam, steel beam or steel girder bridges.

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Curved Beams/Girders
2	Dog-legged Beams/Girders
3	Flared Beams/Girders
4	Straight Beams/Girders
0	Other
N	None or Not Applicable

Code "N" if it is not applicable (concrete slabs, timber, culverts, trusses, etc.)

**ITEM #140 – [BLANK]**

## **ITEM #141 - STRUCTURAL STEEL**

Leave this item blank if bridge has no structural steel (e.g., concrete slab, culverts, etc.) and the item will default to all zeros in Pay Weight and all N's for the rest of the item.

### **A. Member [1 digit]**

Record the appropriate code for the predominant type of structural steel (beams, girders, cross frames, etc.) used for a bridge.

<b><u>Code</u></b>	<b><u>Type</u></b>
1	A588 (Weathering Steel)
2	A572
3	A441
4	A440
5	A373
6	A242
7	A36
8	A7
9	A6
0	Other
A	Wrought Iron
B	Hybrid (A572 or A588 flanges with A36 webs)
C	Hybrid (A709 grade 70W flanges with 50W webs)
D	A709 Grade 50
E	A 709 Grade 50W
N	None
U	Unknown

### **B. Bridge Railing [1 digit]**

Use the codes in part (A) to list the appropriate material for the bridge railing. (Guardrail not counted as bridge railing). Any structure type "inventoried" as a culvert (X9X) shall not show bridge railing.

### **C. Structural Steel Pay Weight [8 digits]**

Record the actual pay weight of the structural steel, for the bridge, in pounds. When the actual pay weight is unknown, code the estimated pay weight to the nearest pound. Right justify using leading zeros.

**D. Prime Coat Location [1 digit]**

Indicate where the prime coat of paint was applied to structural steel from the list of codes below:

<b><u>Code</u></b>	<b><u>Location</u></b>
1	Shop
2	Field
3	Combination (Shop & Field)
U	Unknown
N	None (i.e. steel = A588, unpainted)

**E. Protective Coating System (PCS) [1 digit]**

Use the appropriate code from the list below to indicate the protective coating system. This item (when applicable) should be coded for all structures.

<b><u>Code</u></b>	<b><u>Type Protection</u></b>
1	Red lead
2	Unpainted Weathered Steel
3	Paint System A
4	Paint System B
5	Paint System OZEU
6	Galvanized
7	Metalized (Alum/Zinc)
8	Paint System A with intermediate tie coat
9	Paint System IZEU
0	Other Paint
A	EEU
B	Epoxy – Urethane sealers
C	Non – Epoxy sealers
N	None or Not Applicable
U	Unknown Sealant

This item (when applicable) should be coded for all new structures being "Added" to the file.

**FORM #BR85A - CARD L**

**ITEM #142 - NAME OF FABRICATOR [14 digits]**

List the name of the fabricator for the structural steel (i.e. beams, girders etc.) for the original bridge. Leave blank if not applicable.

Left justify and use meaningful abbreviations if necessary.

**ITEM #143 - NAME OF CONTRACTOR [14 digits]**

This item will show the prime contractor for the original construction of the bridge. Leave blank if not applicable.

Left justify and use meaningful abbreviations, if necessary.

**ITEM #144 - OHIO ORIGINAL CONSTRUCTION PROJECT  
NUMBER [4 & 2 digits]**

Code the number of the Ohio Project which the structure was originally constructed. Right justify the project number in the first four (4) digits using leading zeros where necessary. Code the last two (2) digits of the project year in the last two (2) positions. Agencies other than the State may code this item using any numeric system which fits within the six (6) digit field provided. If non-state agencies choose not to code or the State project number is unknown, leave this item blank.

Note: See also **Appendix F**

**ITEM #145 - RAILROAD IDENTIFICATION [2 digits]**

Code the appropriate railroad identification number for the railroad going over or under the bridge. If not applicable leave blank and item will default to NN.

See **Appendix K** for railroad identification list.

**ITEM #146 & #147 – [BLANK]**

## **ITEM #148 - DECK CONCRETE TYPE [1 digit]**

Code the appropriate type concrete for the deck from the list below:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Class C
2	Class S Superstructure
3	Class S Superstructure using shrinkage compensating cement
4	Class S Superstructure with Type 2 cement
5	High Performance Concrete Superstructure, Type 3
6	High Performance Concrete Superstructure, Type 4
7	Super-plasticized Concrete
8	Pre-cast Concrete (5,000 psi minimum)
0	Other
A	QSC1-Substructure concrete
B	QSC2-Superstructure concrete
C	QSC3-Project specific
N	None or Not Applicable
U	Unknown

For Concrete Rigid Frames (171) code 8. For culverts (X9X), railroad structures, pipelines, etc., code N.

**ITEM #149 & #150 – [BLANK]**

**ITEM #151 - STANDARD DRAWING NUMBER [11 digits]**

Code the Standard Drawing Number for the bridge superstructure. Left justify and do not fill with trailing zeros.

## **ITEM #152 - DRAINAGE AREA [3 digits]**

Code the drainage area to the nearest square mile for all the bridges over waterways. If the drainage area on plans is given in acres, use the equation shown below to find square miles.

$$\text{No. of Acres}/640 = \text{sq. mile}$$

Code the drainage area right justified with leading zeros. Code 001 if area is less than 1 square mile. If the drainage area is unknown code all U's. However every effort should be made to determine the drainage area.

If not applicable code N's (i.e. structures over roadways, railroads, etc.). If number of square miles exceeds 999 code all 9's.

### **Examples**

<b><u>Drainage area</u></b>	<b><u>Code</u></b>
29.8 sq. miles	030
12.1 sq. miles	012

## **FORM #BR87A - CARD M**

### **ITEM #153 – WORK HISTORY**

This item is to be filled in for each repair done to a particular bridge in order to keep a history of work on the bridge. All work, whether it is major or minor (i.e. wearing surface, spot painting, etc.) should be recorded, regardless if it is done by contract or state forces. When coding this item Start Date, End Date and Type Work must be coded.

**Note: Paint Year can only be changed by coding Bridge Work Type - 020 and entering a Start Date and End Date. Paint Year can only be DELETED by Central Office.**

**Bridge painting is defined as part of a Protective Coating System (PCS). Enter the Bridge Work Type (BWT) Code 020, a Start Date and an End Date for the bridge paint work. BWT Code 020 shall only be used when the whole structural steel members are being painted. DO NOT use BWT code 020 when only ends of a beam (e.g., ends of an A588 steel beam) are being painted.**

#### **A. Bridge Work Type [3 digits]**

This item should be coded with the three (3) digit work code that most closely fits the repair work done to the bridge, from the list below:

<b><u>General</u></b>	
<b><u>Code</u></b>	<b><u>Description</u></b>
001	Structure (New)
002	Structure (Replacement)
003	Superstructure (Replacement)
004	Deck Replacement
005	Structure Widening
006	Graffiti Removal
007	Movable Bridge (fix cost)
008	Movable Bridge (repair)
009	Collision Damage
010	Concrete Patching (non-deck)
011	Bridge Inspection (consultant)
012	Bridge Analysis
013	Structural Removal
014	Heat Straightening after an under-bridge hit
015	Raising Bridge

<b>Superstructure</b>	
<b>Code</b>	<b>Description</b>
020	Painting Structural Steel
021	Spot Painting Structural Steel
022	Structure Steel Repair
023	Fatigue Retrofit
024	Pin and Hanger Retrofit
025	Bearing Reset/Replaced
026	Overhead Concrete Spall Removal
027	Bridge Diapering Installation
028	Drainage System Cleaned/Repaired
029	Back-wall Replacement/Repair
039	Superstructure (Other)

<b>Deck Surface</b>	
<b>Code</b>	<b>Description</b>
040	Deck Overlay (Concrete)
041	Deck Overlay (Asphaltic Concrete)
042	Deck Overlay (Asphaltic Concrete with Waterproofing)
043	Deck Overlay (Epoxy)
044	Deck Overlay (Other)
045	Deck Skid Resistance Retrofit
046	Deck Cathodic Protection Installation
047	Deck and Abutment Seat Cleaning
048	Expansion Joint Repair/Replacement
049	Deck Patching (Concrete)
050	Deck Patching (Asphalt)
051	Deck Sealing
052	Spall Removal
059	Deck Surface (Other)

<b>Deck Other</b>	
<b>Code</b>	<b>Description</b>
060	Sidewalk Repair/Replacement
061	Bridge Railing Upgrade/Repair
062	Fence Installation/Repair
063	Bridge Light Installation/Repair

<b><u>Substructure</u></b>	
<b><u>Code</u></b>	<b><u>Description</u></b>
080	Foundation Stabilization
081	Channel Drift Removal
082	Slope Repair & Protection Installation
083	Scour Prevention and Correction
084	Pile Encasement
085	Pier Replacement/Repair
086	Abutment Replacement/Repair
087	Channel Clean Out
088	Substructure Sealing
089	Semi-Integral Abutment Conversion
099	Substructure (Other)

<b><u>Approach</u></b>	
<b><u>Code</u></b>	<b><u>Description</u></b>
100	Approach Slab Replacement/Repair
101	Approach Roadway Grade Profile Correction
102	Approach Railing Repair
103	Pressure Relief Joint Installation
119	Approach (Other)

<b><u>Structure Type Culvert</u></b>	
<b><u>Code</u></b>	<b><u>Description</u></b>
120	Culvert Invert Repair
121	Tunnel Liner Installation
122	Culvert Liner Repair
139	Culvert (Other)

**B. Work Start Date** [6 digits]

Record the month, day and year the most recent repair work started.

<b>Date 06-23-1995</b>	062395
------------------------	--------

**C. Work End Date** [6 digits]

Record the month, day and year the most recent repair of the structure was finished.

<b>Date 10-10-1995</b>	101095
------------------------	--------

**D. Purchase Order Number** [8 digits]

If the repairs were done by "purchase order", list the correct "purchase order number" in this item.

**E. Project Number** [4 digits]

This project number is for the current or most recent repair job on the bridge, sold by state contract, and becomes part of the work history file for the bridge.

Code the three (3) or four (4) digit number under which this project was sold. Right justify and use leading zeros where necessary. If there has been no repair on the structure by contract, then leave the item blank.

**F. Project Year** [2 digits]

If there is a project number coded then code the last two (2) digits of the year of the most recent repair project sold. Otherwise leave this item blank.

**G. Project I.D. Number** [9 digits]

Record the "Project I.D." for the most recent repair done to the bridge. Right justify using leading zeros.

**H. Total Work Costs** [11 digits]

Record the total cost in dollars of the most recent repairs or work to the bridge. Right justify using leading zeros.

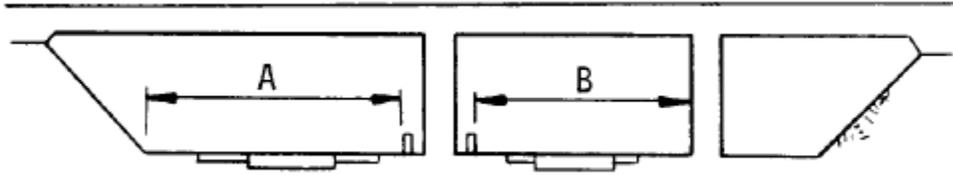
## **ITEM #154 - TOTAL MINIMUM HORIZONTAL CLEARANCE ON BRIDGE [6 digits]**

This item refers to the bridge roadway horizontal clearance on the bridge. Code the available clearance measured normal to the centerline of roadway between restrictive features such as curbs, railings, sidewalks, wheel guards, raised medians and other structural features limiting the roadway surface width in the cardinal and non-cardinal directions. Raised Button-Type medians and small raised lane channeling curbs, etc. are not considered restrictions.

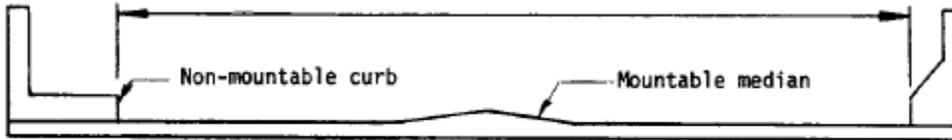
If more than one roadway exists, a measurement should be made for each, but only the horizontal clearance of the mainline in each direction of travel shall be coded.

The term “Cardinal” in the item heading refers to the “Primary” direction of the route on the bridge (direction in which the route is officially measured for a particular agency’s records).

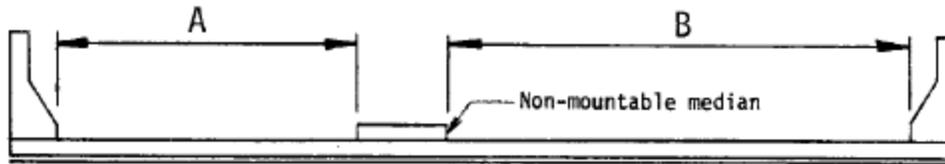
The purpose of this item is to give the largest available horizontal clearance for the movement of wide loads on the bridge. If a single or non-divided roadway is present, the clearance figure shall be coded in the space for the “Cardinal” opening and all zeros shall be coded under Non-Cardinal opening. For culvert type structures, which appear on the route as a bridge but actually have no deck, the coded clearance should show the **full width of the pavement plus shoulders except where this dimension is limited by guardrail, culvert end-walls, etc.** All clearances are to be coded in feet to the nearest tenth of a foot (with decimal point implied).



**CLEARANCE A > B      ITEM #154**



No Median or Flush or Mountable Median



Raised Median or Non-mountable Median

**B > A      ITEM #154 = B**

**ITEM #155 - PRACTICAL MAXIMUM VERTICAL  
CLEARANCE ON BRIDGE [4 digits]**

The information to be coded for this item is the maximum vertical clearance on the bridge. It is to be coded in feet and inches. The minimum clearance for a ten-foot width of pavement traveled part of the roadway (shoulders paved or unpaved and median areas not included) where the clearance is greatest should be coded.

For structures having multiple openings on the bridge, vertical clearance for each mainline opening should be measured and recorded, but only the greatest of the minimum vertical clearances for two or more openings should be coded on the inventory form regardless of the direction of travel. Where no restrictions exist, code "9999".

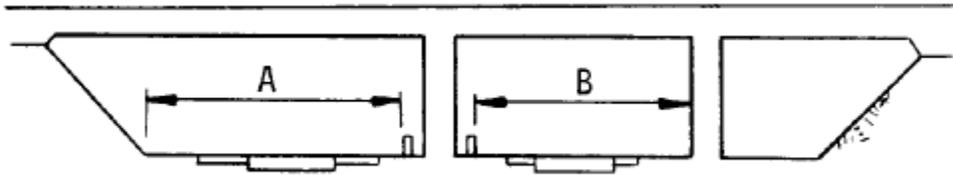
## **ITEM #156 - TOTAL MINIMUM HORIZONTAL CLEARANCE UNDER BRIDGE [6 digits]**

This item refers to the bridge roadway horizontal clearance under the bridge. Code the available clearance measured normal to the centerline of roadway between restrictive features such as curbs, railings, sidewalks, wheel guards, raised medians and other structural features limiting the roadway surface width in the cardinal and non-cardinal directions. Raised Button-Type medians and small raised lane channeling curbs, etc. are not considered restrictions.

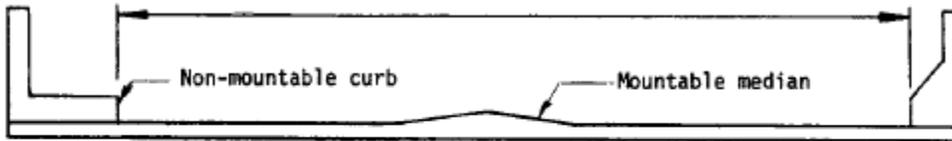
If more than one roadway exists, a measurement should be made for each, but only the horizontal clearance of the mainline in each direction of travel shall be coded.

The term “Cardinal” in the item heading refers to the “Primary” direction of the route under the bridge (direction in which the route is officially measured for a particular agency’s records).

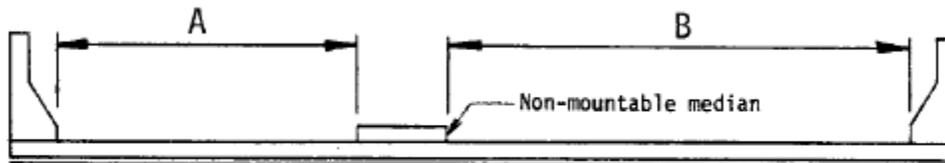
The purpose of this item is to give the largest available horizontal clearance for the movement of wide loads under the bridge. If a single or non-divided roadway is present, the clearance figure shall be coded in the space for the “Cardinal” opening and all zeros shall be coded under Non-Cardinal opening. For culvert type structures which have no deck, the coded clearance should show the **full width of the pavement plus shoulders except where this dimension is limited by guardrail, culvert end-walls, etc.** All clearances are to be coded in feet to the nearest tenth of a foot (with decimal point implied).



**CLEARANCE A > B      ITEM #156**



No Median or Flush or Mountable Median



Raised Median or Non-mountable Median

**B > A      ITEM #156 = B**

**ITEM #157 - PRACTICAL MAXIMUM VERTICAL  
CLEARANCE UNDER BRIDGE [4 digits]**

The information to be coded for this item is the maximum vertical clearance under the bridge. It is to be coded in feet and inches. The minimum clearance for a ten-foot width of pavement traveled part of the roadway (shoulders paved or unpaved and median areas not included) where the clearance is greatest should be coded.

For structures having multiple openings under the bridge, vertical clearance for each mainline opening should be measured and recorded, but only the greatest of the minimum vertical clearances for two or more openings should be coded on the inventory form regardless of the direction of travel. Where no restrictions exist, code "0000".

**ITEM #158 – [BLANK]**

**FORM # BR87A - CARD N**

**ITEM #159 - TEMPORARY BRIDGE CONDITION [4 \* 1 digit]**

Code Y or N for each of the following temporary conditions:

Barrier
Debris Net
Shored
Sub decking

<u>Code</u>	<u>Description</u>
Y	Yes the condition exists
N	No the condition does not exist

**ITEM #160 – [BLANK]**

**ITEM #161 - SPECIAL FEATURES [6\*1 digit]**

This item will indicate the type of special features carried by the bridge. Code Y or N for each of the following special features carried by the bridge:

Lighting
Fencing
Glare Screen
Splash Guard
Catwalks
Other

If the bridge carries a special feature code Y in the appropriate space. **Code N if a special feature does not exist.** If a bridge carries a feature other than those listed above code as "other".

**ITEM #162 - HEIGHT OF FENCING ON BRIDGE [2 digits]**

Code a two (2) digit number in feet to represent the height of fencing on the bridge. Measure from the top of the parapet to the highest point on the fencing regardless if the fence is vertical or curved.

Code the height of the fence to the nearest foot using a leading zero. Leave blank if not applicable and item will default to zeros.

**ITEM #163 - NOISE BARRIER WALLS [1 digit]**

Code this item to indicate if Noise Barrier Walls are present on the bridge.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	The bridge does have Noise Barrier Walls
N	The bridge does not have Noise Barrier Walls

**ITEM #164 – (BLANK)**

**ITEM #165 - POST TENSIONED [1 digit]**

Code the item to indicate if the bridge is post tensioned.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Bridge is Post Tensioned
N	Bridge is not Post Tensioned

**ITEM #166 – [BLANK]**

**ITEM #167 - SCENIC RIVER [1 digit]**

Code the item to indicate if the river under the bridge is designated as a Scenic River.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Waterway is classified as Scenic River
N	Waterway is not classified as Scenic River

**ITEM #168 – [BLANK]**

## **ITEM #169 - EXPANSION JOINT TYPE [3 digits]**

You may code up to three (3) different types of expansion joints for a bridge. Code N in all non-applicable sections.

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Metal Finger
2	Sliding Metal Plate Angle
3	Compression Seal
4	Poured
5	Open (Armored)
6	Open (Unarmored)
7	Steel Reinforced Elastomeric
8	Elastomeric Strip Seal
N	None
0	Other
A	Modular
B	Polymer modified expansion device

**ITEM #170 – [BLANK]**

## **ITEM #171 - JOINT RETROFIT [6 digits]**

This item may be coded for existing expansion joints coded in Item #169, for up to three (3) expansion joints, which have been retrofitted with a replacement joint system. The following codes may be used for RETRO 1, 2 or 3.

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Elastomeric strip seal device
2	Polymer modified expansion device
3	Compression seal device
4	Modular type expansion device
5	Hot poured joint sealer
6	Silicon joint sealer
0	Other
N	None or Not Applicable
U	Unknown

TROUGH 1, 2 or 3 may be coded as Y for yes or N for no to define the presence of an elastomeric trough installed as part of the expansion joint system retrofit. Code all N's if not applicable.

**ITEM #172 – [BLANK]**

**ITEM #173 - HAUNCHED GIRDER [1 digit]**

This item indicates if the bridge has a haunched girder.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Bridge contains a haunched girder
N	Bridge does not contain a haunched girder

## **ITEM #174 - HAUNCHED GIRDER DEPTH [4 digits]**

Measure and record to the nearest inch the depth of the haunch (depth over pier or abutment) of the girder if Item #173 is coded Y. If Item #173 is coded N leave this item blank and item will default to zeros.

<b><u>Examples</u></b>	
<b><u>Haunched Girder Depth</u></b>	<b><u>Code</u></b>
6 ft. 10 inches	0610
5 ft. 2 inches	0502

## **ITEM #175 - MAIN MEMBER DEPTH [4 digits]**

Measure and record the vertical height of the main member of the structure to the nearest inch (i.e. girder, beam, slab, lower chord, etc.).

If the main member is a haunched girder record the height of the girder to the nearest inch at mid-span.

<b><u>Examples</u></b>	
<b><u>Main Member Depth</u></b>	<b><u>Code</u></b>
3 ft. 4 inches	0304
27 inches	0203

**ITEM #176 & #177 – [BLANK]**

**ITEM #178 - PILE LOG [1 digit]**

This item will indicate if a pile log has been maintained for the structure.

<u>Code</u>	<u>Description</u>
Y	Yes
N	No

**ITEM #179 - ABUTMENT/PILE LOAD TESTING [1 digit]**

Code Y if dynamic or static load testing has been performed on the abutments and/or piers.  
Code N if no testing has been performed code N.

<u>Code</u>	<u>Description</u>
Y	Yes
N	No

**ITEM #180 – [BLANK]**

## **FORM #BR85A - CARD O**

### **ITEM #181 - NON-CARDINAL RAMP**

This item is for recording under clearances and roadway widths for ramps entering or exiting under a bridge on one or both sides of a mainline. Leave item blank if there is no ramp and item will default to zeros.

#### **A. Minimum Vertical Under clearance** [4 digits]

This item includes a four (4) digit coding representing the Minimum Vertical Clearance from the roadway of the ramp **beneath** the structure to the underside of the superstructure. The item should be recorded in feet and inches, rounded down to the inch. In each subsection (feet, inches) right justify the coded values and fill with leading zeros where necessary.

#### **B. Minimum Lateral Under Clearance to Edge of Lane** [2 \* 3 digits]

If the feature beneath the structure is a ramp, code a three (3) digit number to represent the Minimum Lateral clearance on the right and another number for the clearance on the left. Code each under the appropriate heading on the code sheet. Lateral clearances should be measured from the right or left edge of the lane to the nearest substructure unit (Or toe of slope steeper than 3 to 1) on the right and to the nearest substructure unit or median barrier. All measurements should be made normal to the centerline of the ramp. The term "Left" refers to the left hand edge of the lane on a ramp while facing in the direction of traffic flow, while the term "Right" refers to the right hand edge of the lane while facing in the direction of traffic. Code these dimensions to the nearest tenth of a foot. In each subsection right justify all entries and fill with leading zeros where necessary.

#### **C. Ramp Roadway Width** [3 digits]

Measure and record the roadway width of the ramp between edges of pavement to the nearest tenth of a foot. Use leading zeros where necessary.

<b><u>Example</u></b>	
<b><u>Roadway width of Ramp</u></b>	<b><u>Code</u></b>
24 ft.	240
18 ft. 5 inches	184

## **ITEM #182 - CARDINAL RAMP**

This item is for recording under clearances and roadway widths for ramps entering or exiting under a bridge on one or both sides of a mainline. Leave item blank if there is no ramp and item will default to zeros.

### **A. Minimum Vertical Under clearance [4 digits]**

This item includes a four (4) digit coding representing the Minimum Vertical Clearance from the roadway of the ramp **beneath** the structure to the underside of the superstructure. The item should be recorded in feet and inches, rounded down to the inch. In each subsection (feet, inches) right justify the coded values and fill with leading zeros where necessary.

### **B. Minimum Lateral Under clearance to Edge of Lane [2 \* 3 digits]**

If the feature beneath the structure is a ramp, code a three (3) digit number to represent the Minimum Lateral clearance on the right and another number for the clearance on the left. Code each under the appropriate heading on the code sheet. Lateral clearances should be measured from the right or left edge of the lane to the nearest substructure unit (on toe of slope steeper than 3 to 1) on the right and to the nearest substructure unit or median barrier. All measurements should be made normal to the centerline of the ramp. The term "Left" refers to the left hand edge of the lane on a ramp while facing in the direction of traffic flow, while the term "Right" refers to the right hand edge of the lane while facing in the direction of traffic. Code these dimensions to the nearest tenth of a foot. In each subsection right justify all entries and fill with leading zeros where necessary.

### **C. Ramp Roadway Width [3 digits]**

Measure and record the roadway width of the ramp between edges of pavement to the nearest tenth of a foot. Use leading zeros where necessary.

<b><u>Example</u></b>	
<b><u>Roadway width of Ramp</u></b>	<b><u>Code</u></b>
24 ft.	240
18 ft. 5 inches	185

**ITEM #183 – [BLANK]**

## **ITEM #184 - SIGN ON/UNDER BRIDGE [2 digits]**

This item is composed of two (2) parts: The first column will determine if there are signs attached to the bridge that deal with the traffic on the bridge. The second column will indicate if there are signs attached to the structure that affect traffic under the bridge.

Code the item “Y” or “N” for each area to indicate the presence of a traffic sign.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Yes
N	No

## **ITEM #185 - WATER FLOW DIRECTION [1 digit]**

The default value of this item is “N”. Code this item to indicate the direction of water flow under the bridges over waterways. The direction of water flow shall be determined while standing on the bridge facing the forward direction of the route (cardinal direction); if water flows from your left to your right, Code “R” if water flows from your right to your left, Code “L”. Code “N” if there is negligible water flow as in a lake or pond, etc.

## **ITEM #186 - SLOPE PROTECTION [1 digit]**

Indicate the method, if any, used to protect the areas **under the bridge** from erosion and other degradation. Natural protection (grass, bushes, trees) are to be coded N. If channel extends all the way to the abutments, there is no slope protection. The dominant slope protection must be coded for all structures. (See also Item #75 – Channel Protection, which is different from this item.)

Select from the list below:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Concrete (cast-in-place)
2	Stone (No. 1 Aggregate)
3	Rip Rap (dumped rock or rock channel protection)
4	Gabions (wire mesh baskets filled with stone)
5	Fabric bags filled with concrete
0	Other
A	Reinforced Cast-In-Place Concrete Wall
B	Soldier Pile and Lagging Wall
C	Mechanically Stabilized Earth (MSE) Wall
D	Soil Nail Wall
E	Tie Back Wall
F	Sheet Pile Wall
G	Cribbed Wall
H	Concrete Block Wall
I	Stone Wall
S	Soil
N	None

**ITEM #187 – [BLANK]**

## **ITEM #188 - FRACTURE CRITICAL INSPECTION – Column P**

A fracture critical bridge is defined as having one (1) or more fracture critical members.

A fracture critical member is a member (usually a tension member) or component, whose failure will result in a sudden collapse of all or part of the structure.

Welded structures are particularly susceptible to fracture criticality as are bridges containing only two (2) main members (non-redundant).

This item consists of three (3) parts. In the first part, first column, indicate if a fractural critical member is present on the bridge by coding the fracture critical switch to “Y” or “N”.

### **Fracture Critical Switch [1 digit]**

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Yes, there is a fracture critical member on the bridge.
N	No, there is no fracture critical member on the bridge.

### **A. Inspection Frequency Months [2 digits]**

In the second part, in next two (2) columns, code the frequency of inspection in months.

If the fracture critical switch is coded Y the fracture critical inspection frequency must be coded for the structure.

Code right justified a two (2) digit number indicating the number of months between inspections.

If fracture critical switch is coded N leave inspection frequency months blank and they will default to zeros.

**B. Date of Inspection [6 digits] Column Q**

Code the most recent date of fracture critical inspection for the structure including month, day and year.

If fracture critical inspection is coded N leave this item blank.

<b><u>Most recent date of Fracture Critical Inspection</u></b>	<b><u>Code</u></b>
July 7, 2003	070703
10/17/1998	101798

## **ITEM #189 - UNDERWATER INSPECTION**

This item shall be coded for all bridges over waterways.

### **A. Diving Inspection Switch [1 digit]**

If a wading inspection cannot be done, a dive inspection must be done. A wading inspection is when the substructure units and the waterway are evaluated using a probing rod, sounding rod or line, waders, and possibly a boat.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Bridge to be inspected by diving
N	Bridge does not need inspection by diving

Code N for structures not over water.

### **B. Diving Inspection Frequency [2 digits]**

If the diving inspection switch is coded Y the diving inspection frequency in months must be coded for the structure.

Code right justified a two (2) digit number indicating the number of months between diving inspections.

<b><u>Code</u></b>	<b><u>Frequency of Diving Inspection</u></b>
06	Every 6 months
60	5 years
24	2 years

If Diving inspection switch is coded N leave this item blank and it will default to zeros.

**C. Date of Diving Inspection [6 digits]**

Code the most recent date of diving inspection for the structure including month, day and year. If the diving inspection switch is coded N leave this date blank and it will default to zeros.

<b>Code</b>	<b>Date of Last Diving Inspection</b>
072103	07/21/03
050105	May 1, 2005

**D. Probed [1 digit]**

If the bridge is probed code the item Y. All bridges over water don=t have to be probed if the elements are out of the water.

**E. Frequency of Probing [2 digits]**

If the Probed Switch is coded “Y”, code the frequency of probing inspection in months. This item cannot have a frequency coded greater than 12 months.

If the probe switch is coded N this item must be blank.

**ITEM #190 - INSPECTION FROM SNOOPER [1 digit]**

Code this item “Y” or “N” to indicate if a Snooper is required to inspect the bridge.

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Needs snooper to inspect bridge
N	Does not need snooper to inspect bridge

**ITEM #191 - INSPECTION FROM BOAT [1 digit]**

Code this item “Y” or “N” to indicate if a boat is required to inspect the bridge.

<u>Code</u>	<u>Description</u>
Y	Needs boat to inspect bridge
N	Does not need boat to inspect bridge

**ITEM #192 – BLANK**

## **ITEM #193 - SPECIAL INSPECTION [1 digit]**

The inspection of a structure with a critical feature that needs inspected more frequently than the regular twelve month cycle.

### **A. Special Inspection Switch [1 digit]**

<b><u>Code</u></b>	<b><u>Description</u></b>
Y	Special Inspection needed
N	No Special Inspection needed

### **B. Special Inspection Frequency [2 digits]**

Designate the inspection interval in months for any structure that has a critical feature that needs inspected more frequently than the regular twelve month cycle. Code the frequency of special inspection in months. If the special inspection frequency switch is coded “Y” the special inspection frequency must be coded.

Example:	A bridge that has been temporarily shored and needs to be inspected every 3 months code 03.
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Since **Fracture Critical, Scour Critical bridges** and Snooper Inspection are covered elsewhere in this manual, disregard them when coding this item.

If there are no features that are critical other than fracture or scour critical, Code N in the Special Inspection Switch, and the special inspection frequency will default to zeros.

### **C. Date of Special Inspection [6 digits]**

Code the most recent date of special inspection for the structure including month, day and year. If the special inspection switch is coded N leave this date blank and it will default to zeros.

<b><u>Code</u></b>	<b><u>Date of Special Inspection</u></b>
072103	07/21/03
050105	May 1, 2005

## **ITEM #194 – SEISMIC SUSCEPTIBLE[1 digit]**

Code this item according to the following table:

<b><u>Code</u></b>	<b><u>Description</u></b>
1	Unreinforced masonry (laid-up stone abutments and piers)
2	Simple span approaches to large truss bridges
3	Prestressed I or box beams <b><u>if not</u></b> tied together over the piers <b><u>or</u></b> pinned into the piers and abutments
4	Non-redundant steel pier caps which are not tied to either the pier columns or other bridge superstructure
5	Multiple column type piers with no pier cap
6	Bridges with centerline of bearing 4” or less to face of abutment or pier
7	Bridge with seated hinges (not pins and hangers)
N	Not applicable

## APPENDIX A

### Ohio County Code Numbers

<u>Code</u>	<u>County</u>	<u>District</u>	<u>Code</u>	<u>County</u>	<u>District</u>
<b>01</b>	Adams	09	<b>02</b>	Allen	01
<b>03</b>	Ashland	03	<b>04</b>	Ashtabula	04
<b>05</b>	Athens	10	<b>06</b>	Auglaize	07

<b>07</b>	Belmont	11	<b>08</b>	Brown	09
<b>09</b>	Butler	8			

<b>10</b>	Carroll	11	<b>11</b>	Champaign	07
<b>12</b>	Clark	07	<b>13</b>	Clermont	08
<b>14</b>	Clinton	08	<b>15</b>	Columbiana	11
<b>16</b>	Coshocton	05	<b>17</b>	Crawford	03
<b>18</b>	Cuyahoga	12			

<b>19</b>	Darke	07	<b>20</b>	Defiance	01
<b>21</b>	Delaware	06			

<b>22</b>	Erie	03			
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<b>23</b>	Fairfield	05	<b>24</b>	Fayette	06
<b>25</b>	Franklin	06	<b>26</b>	Fulton	02

<b>27</b>	Gallia	10	<b>28</b>	Geauga	12
<b>29</b>	Greene	08	<b>30</b>	Guernsey	05

<b>31</b>	Hamilton	08	<b>32</b>	Hancock	01
<b>33</b>	Hardin	01	<b>34</b>	Harrison	11
<b>35</b>	Henry	02	<b>36</b>	Highland	09
<b>37</b>	Hocking	10	<b>38</b>	Holmes	11
<b>39</b>	Huron	03			

## **APPENDIX A**

**(Continued)**

### **Ohio County Code Numbers**

<b><u>Code</u></b>	<b><u>County</u></b>	<b><u>District</u></b>	<b><u>Code</u></b>	<b><u>County</u></b>	<b><u>District</u></b>
<b>40</b>	Jackson	09	<b>41</b>	Jefferson	11

<b>42</b>	Knox	05			
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<b>43</b>	Lake	12	<b>44</b>	Lawrence	09
<b>45</b>	Licking	05	<b>46</b>	Logan	07
<b>47</b>	Lorain	03	<b>48</b>	Lucas	02

<b>49</b>	Madison	06	<b>50</b>	Mahoning	04
<b>51</b>	Marion	06	<b>52</b>	Medina	03
<b>53</b>	Meigs	10	<b>54</b>	Mercer	07
<b>55</b>	Miami	07	<b>56</b>	Monroe	10
<b>57</b>	Montgomery	07	<b>58</b>	Morgan	10
<b>59</b>	Morrow	06	<b>60</b>	Muskingum	05

<b>61</b>	Noble	10			
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<b>62</b>	Ottawa	02			
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<b>63</b>	Paulding	01	<b>64</b>	Perry	05
<b>65</b>	Pickaway	06	<b>66</b>	Pike	09
<b>67</b>	Portage	04	<b>68</b>	Preble	08
<b>69</b>	Putnam	01			

<b>70</b>	Richland	03	<b>71</b>	Ross	09
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**APPENDIX A**  
**(Continued)**

**Ohio County Code Numbers**

<b><u>Code</u></b>	<b><u>County</u></b>	<b><u>District</u></b>	<b><u>Code</u></b>	<b><u>County</u></b>	<b><u>District</u></b>
<b>72</b>	Sandusky	02	<b>73</b>	Scioto	09
<b>74</b>	Seneca	02	<b>75</b>	Shelby	07
<b>76</b>	Stark	04	<b>77</b>	Summit	04

<b>78</b>	Trumbull	04	<b>79</b>	Tuscarawas	11
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<b>80</b>	Union	06			
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<b>81</b>	Van Wert	01	<b>82</b>	Vinton	10
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<b>83</b>	Warren	08	<b>84</b>	Washington	10
<b>85</b>	Wayne	03	<b>86</b>	Williams	02
<b>87</b>	Wood	02	<b>88</b>	Wyandot	01

## APPENDIX B

List of Counties by District  
Showing Alphabetic and Numeric  
County Codes

<u>CODE</u>	<u>DISTRICT 1</u>	<u>COUNTY</u>	<u>CODE</u>	<u>DISTRICT 2</u>	<u>COUNTY</u>
02	Allen	ALL	26	Fulton	FUL
20	Defiance	DEF	35	Henry	HEN
32	Hancock	HAN	48	Lucas	LUC
33	Hardin	HAR	62	Ottawa	OTT
63	Paulding	PAU	72	Sandusky	SAN
69	Putnam	PUT	74	Seneca	SEN
81	Van Wert	VAN	86	Williams	WIL
88	Wyandot	WYA	87	Wood	WOO

<u>CODE</u>	<u>DISTRICT 3</u>	<u>COUNTY</u>	<u>CODE</u>	<u>DISTRICT 4</u>	<u>COUNTY</u>
03	Ashland	ASD	04	Ashtabula	ATB
17	Crawford	CRA	50	Mahoning	MAH
22	Erie	ERI	67	Portage	POR
39	Huron	HUR	76	Stark	STA
47	Lorain	LOR	77	Summit	SUM
52	Medina	MED	78	Trumbull	TRU
70	Richland	RIC			
85	Wayne	WAY			

<u>CODE</u>	<u>DISTRICT 5</u>	<u>COUNTY</u>	<u>CODE</u>	<u>DISTRICT 6</u>	<u>COUNTY</u>
16	Coshocton	COS	21	Delaware	DEL
23	Fairfield	FAI	24	Fayette	FAY
30	Guernsey	GUE	25	Franklin	FRA
42	Knox	KNO	49	Madison	MAD
45	Licking	LIC	51	Marion	MAR
60	Muskingum	MUS	59	Morrow	MRW
64	Perry	PER	65	Pickaway	PIC
			80	Union	UNI

## **APPENDIX B**

**(Continued)**

List of Counties by District  
Showing Alphabetic and Numeric  
County Codes

<b><u>CODE</u></b>	<b><u>DISTRICT 7</u></b>	<b><u>COUNTY</u></b>	<b><u>CODE</u></b>	<b><u>DISTRICT 8</u></b>	<b><u>COUNTY</u></b>
06	Auglaize	AUG	09	Butler	BUT
11	Champaign	CHP	13	Clermont	CLE
12	Clark	CLA	14	Clinton	CLI
19	Darke	DAR	29	Greene	GRE
46	Logan	LOG	31	Hamilton	HAM
54	Mercer	MER	68	Preble	PRE
55	Miami	MIA	83	Warren	WAR
57	Montgomery	MOT			
75	Shelby	SHE			

<b><u>CODE</u></b>	<b><u>DISTRICT 9</u></b>	<b><u>COUNTY</u></b>	<b><u>CODE</u></b>	<b><u>DISTRICT 10</u></b>	<b><u>COUNTY</u></b>
01	Adams	ADA	05	Athens	ATH
08	Brown	BRO	27	Gallia	GAL
36	Highland	HIG	37	Hocking	HOC
40	Jackson	JAC	53	Meigs	MEG
44	Lawrence	LAW	56	Monroe	MOE
66	Pike	PIK	61	Noble	NOB
71	Ross	ROS	82	Vinton	VIN
73	Scioto	SCI	84	Washington	WAS

<b><u>CODE</u></b>	<b><u>DISTRICT 11</u></b>	<b><u>COUNTY</u></b>	<b><u>CODE</u></b>	<b><u>DISTRICT 12</u></b>	<b><u>COUNTY</u></b>
07	Belmont	BEL	18	Cuyahoga	CUY
10	Carroll	CAR	28	Geauga	GEA
15	Columbiana	COL	43	Lake	LAK
34	Harrison	HAS			
38	Holmes	HOL			
41	Jefferson	JEF			
79	Tuscarawas	TUS			

## APPENDIX C

### STRUCTURE TYPE CODING – Column J

The following list of structure type code combinations established in accordance with the three (3) digit coding scheme shown in Item #63 Part A(2) and used also in Part B(2) includes a word description for the bridge type opposite each code shown. All bridges inventoried must be type coded using the applicable code combination from this list. Code combinations not shown may not be used as they will be rejected as an error by the computer.

<u>Code</u>	<u>Material</u>	<u>Type</u>	<u>Description</u>
000	Other	Other	Other
055	Other	Arch	Filled
095	Other	Culvert	Filled

<u>Code</u>	<u>Material</u>	<u>Type</u>	<u>Description</u>
100	Concrete	Other	Other
105	Concrete	Other	Filled

<u>Code</u>	<u>Material</u>	<u>Type</u>	<u>Description</u>
110	Concrete	Slab	Other
111	Concrete	Slab	Simple
112	Concrete	Slab	Continuous
115	Concrete	Slab	Filled

<u>Code</u>	<u>Material</u>	<u>Type</u>	<u>Description</u>
120	Concrete	Beam	Other
121	Concrete	Beam	Simple
122	Concrete	Beam	Continuous

<u>Code</u>	<u>Material</u>	<u>Type</u>	<u>Description</u>
130	Concrete	Box Beam	Other
131	Concrete	Box Beam	Simple
132	Concrete	Box Beam	Continuous

**APPENDIX C**  
**(Continued)**

**STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
150	Concrete	Arch	Other
153	Concrete	Arch	Deck
154	Concrete	Arch	Thru
155	Concrete	Arch	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
160	Concrete	Girder	Other
163	Concrete	Girder	Deck
164	Concrete	Girder	Thru

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
170	Concrete	Frame	Other
171	Concrete	Frame	Simple

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
190	Concrete	Culvert	Other
195	Concrete	Culvert	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
1A0	Concrete	Cable Stayed	Other
1A4	Concrete	Cable Stayed	Thru

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
1B0	Concrete	Tunnel	Other
1B4	Concrete	Tunnel	Thru

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
200	Prestressed Concrete	Other	Other
205	Prestressed Concrete	Other	Filled

**APPENDIX C**  
**(Continued)**

**STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
210	Prestressed Concrete	Slab	Other
211	Prestressed Concrete	Slab	Simple
212	Prestressed Concrete	Slab	Continuous
215	Prestressed Concrete	Slab	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
220	Prestressed Concrete	Beam	Other
221	Prestressed Concrete	Beam	Simple
222	Prestressed Concrete	Beam	Continuous
225	Prestressed Concrete	Beam	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
230	Prestressed Concrete	Box Beam	Other
231	Prestressed Concrete	Box Beam	Simple
232	Prestressed Concrete	Box Beam	Continuous
235	Prestressed Concrete	Box Beam	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
250	Prestressed Concrete	Arch	Other
253	Prestressed Concrete	Arch	Deck
254	Prestressed Concrete	Arch	Thru
255	Prestressed Concrete	Arch	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
260	Prestressed Concrete	Girder	Other
261	Prestressed Concrete	Girder	Simple
262	Prestressed Concrete	Girder	Continuous
263	Prestressed Concrete	Girder	Deck
264	Prestressed Concrete	Girder	Thru

## **APPENDIX C**

**(Continued)**

### **STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
295	Prestressed Concrete	Culvert	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
300	Steel	Other	Other
305	Steel	Other	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
320	Steel	Beam	Other
321	Steel	Beam	Simple
322	Steel	Beam	Continuous
326	Steel	Beam	Orthotropic
327	Steel	Beam	Movable – Lift
328	Steel	Beam	Movable – Bascule
329	Steel	Beam	Movable - Swing

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
330	Steel	Box Beam	Other
331	Steel	Box Beam	Simple
332	Steel	Box Beam	Continuous
336	Steel	Box Beam	Orthotropic

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
340	Steel	Truss	Other
343	Steel	Truss	Deck
344	Steel	Truss	Thru
347	Steel	Truss	Movable – Lift
348	Steel	Truss	Movable – Bascule
349	Steel	Truss	Movable – Swing
34A	Steel	Truss	Pony

## **APPENDIX C**

**(Continued)**

### **STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
350	Steel	Arch	Other
353	Steel	Arch	Deck
354	Steel	Arch	Thru
355	Steel	Arch	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
360	Steel	Girder	Other
363	Steel	Girder	Deck
364	Steel	Girder	Thru
366	Steel	Girder	Orthotropic
367	Steel	Girder	Movable – Lift
368	Steel	Girder	Movable – Bascule
369	Steel	Girder	Movable - Swing

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
370	Steel	Frame	Other
371	Steel	Frame	Simple
372	Steel	Frame	Continuous

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
380	Steel	Suspension	Other
383	Steel	Suspension	Deck (Truss)
384	Steel	Suspension	Thru (Truss)
386	Steel	Suspension	Orthotropic

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
390	Steel	Culvert	Other
395	Steel	Culvert	Filled

**APPENDIX C**  
**(Continued)**

**STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
3A0	Steel	Cable Stayed	Other
3A4	Steel	Cable Stayed	Thru

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
3B0	Steel	Tunnel	Other
3B4	Steel	Tunnel	Thru

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
400	Timber	Other	Other
405	Timber	Other	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
410	Timber	Slab	Other
411	Timber	Slab	Simple
412	Timber	Slab	Continuous
415	Timber	Slab	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
420	Timber	Beam	Other
421	Timber	Beam	Simple
422	Timber	Beam	Continuous

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
440	Timber	Truss	Other
443	Timber	Truss	Deck
444	Timber	Truss	Thru

## **APPENDIX C**

**(Continued)**

### **STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
450	Timber	Arch	Other
453	Timber	Arch	Deck
454	Timber	Arch	Thru

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
460	Timber	Girder	Other
463	Timber	Girder	Deck
464	Timber	Girder	Thru

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
470	Timber	Frame	Other
471	Timber	Frame	Simple
472	Timber	Frame	Continuous

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
480	Timber	Suspension	Other

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
490	Timber	Culvert	Other
495	Timber	Culvert	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
500	Stone	Other	Other
505	Stone	Other	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
511	Stone	Slab	Simple

**APPENDIX C**  
**(Continued)**

**STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
550	Stone	Arch	Other
555	Stone	Arch	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
590	Stone	Culvert	Other
595	Stone	Culvert	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
5B0	Stone	Tunnel	Other
5B4	Stone	Tunnel	Thru

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
600	Aluminum	Other	Other
605	Aluminum	Other	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
620	Aluminum	Beam	Other
621	Aluminum	Beam	Simple
622	Aluminum	Beam	Continuous

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
630	Aluminum	Box Beam	Other
631	Aluminum	Box Beam	Simple
632	Aluminum	Box Beam	Continuous

**APPENDIX C**  
**(Continued)**

**STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
640	Aluminum	Truss	Other
643	Aluminum	Truss	Deck
644	Aluminum	Truss	Thru
647	Aluminum	Truss	Movable – Lift
648	Aluminum	Truss	Movable – Bascule
649	Aluminum	Truss	Movable – Swing
64A	Aluminum	Truss	Pony

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
650	Aluminum	Arch	Other
653	Aluminum	Arch	Deck
654	Aluminum	Arch	Thru
655	Aluminum	Arch	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
660	Aluminum	Girder	Other
663	Aluminum	Girder	Deck
664	Aluminum	Girder	Thru
666	Aluminum	Girder	Orthotropic
667	Aluminum	Girder	Movable – Lift
668	Aluminum	Girder	Movable – Bascule
669	Aluminum	Girder	Movable - Swing

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
670	Aluminum	Frame	Other
671	Aluminum	Frame	Simple
672	Aluminum	Frame	Continuous

**APPENDIX C**  
**(Continued)**

**STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
680	Aluminum	Suspension	Other

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
690	Aluminum	Culvert	Other
695	Aluminum	Culvert	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
700	Cast Iron	Other	Other
705	Cast Iron	Other	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
720	Cast Iron	Beam	Other
721	Cast Iron	Beam	Simple
722	Cast Iron	Beam	Continuous

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
740	Cast Iron	Truss	Other
743	Cast Iron	Truss	Deck
744	Cast Iron	Truss	Thru
747	Cast Iron	Truss	Movable – Lift
748	Cast Iron	Truss	Movable – Bascule
749	Cast Iron	Truss	Movable – Swing
74A	Cast Iron	Truss	Pony

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
750	Cast Iron	Arch	Other
755	Cast Iron	Arch	Filled

**APPENDIX C**  
**(Continued)**

**STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
760	Cast Iron	Girder	Other
763	Cast Iron	Girder	Deck
764	Cast Iron	Girder	Thru
767	Cast Iron	Girder	Movable – Lift
768	Cast Iron	Girder	Movable – Bascule
769	Cast Iron	Girder	Movable - Swing

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
770	Cast Iron	Frame	Other
771	Cast Iron	Frame	Simple
772	Cast Iron	Frame	Continuous

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
790	Cast Iron	Culvert	Other
795	Cast iron	Culvert	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
800	Wrought Iron	Other	Other
805	Wrought Iron	Other	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
820	Wrought Iron	Beam	Other
821	Wrought Iron	Beam	Simple
822	Wrought Iron	Beam	Continuous

## **APPENDIX C**

**(Continued)**

### **STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
840	Wrought Iron	Truss	Other
843	Wrought Iron	Truss	Deck
844	Wrought Iron	Truss	Thru
847	Wrought Iron	Truss	Movable – Lift
848	Wrought Iron	Truss	Movable – Bascule
849	Wrought Iron	Truss	Movable – Swing
84A	Wrought Iron	Truss	Pony

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
850	Wrought Iron	Arch	Other
855	Wrought Iron	Arch	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
860	Wrought Iron	Girder	Other
863	Wrought Iron	Girder	Deck
864	Wrought Iron	Girder	Thru
867	Wrought Iron	Girder	Movable – Lift
868	Wrought Iron	Girder	Movable – Bascule
869	Wrought Iron	Girder	Movable - Swing

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
880	Wrought Iron	Suspension	Other

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
890	Wrought Iron	Culvert	Other
895	Wrought Iron	Culvert	Filled

**APPENDIX C**  
**(Continued)**

**STRUCTURE TYPE CODING**

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
910	Composite	Slab	Other
911	Composite	Slab	Simple
912	Composite	Slab	Continuous
913	Composite	Slab	Deck

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
920	Composite	Beam	Other
921	Composite	Beam	Simple
922	Composite	Beam	Continuous

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
970	Composite	Frame	Other
971	Composite	Frame	Simple
975	Composite	Frame	Filled

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Type</u></b>	<b><u>Description</u></b>
995	Composite	Culvert	Filled

## **APPENDIX D**

### **GEOGRAPHIC CODING FOR CITIES AND PLACES IN OHIO Federal Information Processing Standards (FIPS)**

#### **ADAMS COUNTY**

CHERRY FORK	13834	MANCHESTER	47012
PEEBLES	61420	ROME	68196
SEAMAN	71206	WEST UNION	84294
WINCHESTER	85876	BRATTON TWP	08350
BRUSH CREEK TWP	09722	FRANKLIN TWP	28196
GREEN TWP	31668	JEFFERSON TWP	38486
LIBERTY TWP	43036	MANCHESTER TWP	47026
MEIGS TWP	48888	MONROE TWP	51268
OLIVER TWP	58366	SCOTT TWP	71052
SPRIGG TWP	74069	TIFFIN TWP	76768
WAYNE TWP	82012	WINCHESTER TWP	85890

#### **ALLEN CONTY**

BEAVERDAM	04752	BLUFFTON	07426
CAIRO	10884	DELPHOS	21602
ELIDA	24808	FORT SHAWNEE	27944
HARROD	34118	LAFAYETTE	41118
LIMA	43554	SPENCERVILLE	74034
AMANDA TWP	01602	AMERICAN TWP	01756
AUGLAIZE TWP	02988	BATH TWP	04206
JACKSON TWP	37646	MARION TWP	47656
MONROE TWP	51282	PERRY TWP	61742
RICHLAND TWP	66614	SHAWNEE TWP	71955
SPENCER TWP	73982	SUGAR CREEK TWP	75199

**ASHLAND COUNTY**

ASHLAND	02568	BAILEY LAKES	03562
HAYESVILLE	34636	JEROMESVILLE	39060
LOUDONVILLE	45066	MIFFLIN	50036
PERRYSVILLE	62190	POLK	63996
SAVANNAH	70576	CLEAR CREEK TWP	15672
GREEN TWP	31682	HANOVER TWP	33236
JACKSON TWP	37660	LAKE TWP	41272
MIFFLIN TWP	50050	MILTON TWP	50610
MOHICAN TWP	51086	MONTGOMERY TWP	51688
ORANGE TWP	58562	PERRY TWP	61756
RUGGLES TWP	68966	SULLIVAN TWP	75357
TROY TWP	77532	VERMILLION TWP	79758

**ASHTABULA COUNTY**

ANDOVER	02050	ASHTABULA	02638
CONNEAUT	18350	GENEVA	29610
GENEVA ON LAKE	29652	JEFFERSON	38500
NORTH KINGSVILLE	56700	ORWELL	58856
ROAMING SHORES	67600	ROCK CREEK	67846
ANDOVER TWP	02064	ASHTABULA TWP	02652
AUSTINBURG TWP	03156	CHERRY VALLEY TWP	13890
COLEBROOK TWP	16560	DENMARK TWP	21672
DORSET TWP	22344	GENEVA TWP	29624
HARPERSFIELD TWP	33642	HARTSGROVE TWP	34300
JEFFERSON TWP	38514	KINGSVILLE TWP	40404
LENOX TWP	42742	MONROE TWP	51296
MORGAN TWP	52066	NEW LYME TWP	54964
ORWELL TWP	58870	PIERPONT TWP	62568
PLYMOUTH TWP	63772	RICHMOND TWP	66796
ROME TWP	68224	SAYBROOK TWP	70646
SHEFFIELD TWP	72053	TRUMBULL TWP	77686
WAYNE TWP	82040	WILLIAMSFIELD TWP	85372
WINDSOR TWP	85988		

**ATHENS COUNTY**

ALBANY	01042	AMESVILLE	01784
ATHENS	02736	BUCHTEL	09834
CHAUNCEY	13778	COOLVILLE	18588
GLOUSTER	30674	JACKSONVILLE	38304
NELSONVILLE	53886	TRIMBLE	77406
ALEXANDER TWP	01112	AMES TWP	01770
ATHENS TWP	02750	BERN TWP	05942
CANAAN TWP	11220	CARTHAGE TWP	12336
DOVER TWP	22414	LEE TWP	42420
LODI TWP	44590	ROME TWP	68238
TRIMBLE TWP	77420	TROY TWP	77546
WATERLOO TWP	81777	YORK TWP	86982

**AUGLAIZE COUNTY**

BUCKLAND	09974	CRIDERSVILLE	19400
MINSTER	50918	NEW BREMEN	54194
NEW KNOXVILLE	54838	ST MARYS	69680
UNIOPOLIS	78848	WAPAKONETA	80766
WAYNESFIELD	82390	CLAY TWP	15448
DUCHOUQUET TWP	22722	GERMAN TWP	29848
GOSHEN TWP	30954	JACKSON TWP	37674
LOGAN TWP	44618	MOULTON TWP	52472
NOBLE TWP	55986	PUSHETA TWP	65018
ST MARYS TWP	69694	SALEM TWP	69806
UNION TWP	78204	WASHINGTON TWP	81074
WAYNE TWP	82054		

**BELMONT COUNTY**

BARNESVILLE	03926	BELLAIRE	05074
BELMONT	05312	BETHESDA	06138
BRIDGEPORT	08560	BROOKSIDE	09316
FAIRVIEW	26348	FLUSHING	27552
HOLLOWAY	35924	MARTINS FERRY	48104
MORRISTOWN	52346	POWHATAN POINT	64542
ST CLAIRSVILLE	69526	SHADYSIDE	71640
WILSON	85834	YORKVILLE	87178
COLERAIN TWP	16602	FLUSHING TWP	27566
GOSHEN TWP	30968	KIRKWOOD TWP	40600
MEAD TWP	48580	PEASE TWP	61378
PULTNEY TWP	64962	RICHLAND TWP	66628
SMITH TWP	72736	SOMERSET TWP	72970
UNION TWP	78218	WARREN TWP	80864
WASHINGTON TWP	81088	WAYNE TWP	82068
WHEELING TWP	84602	YORK TWP	86996

**BROWN COUNTY**

ABERDEEN	00142	FAYETTEVILLE	26796
GEORGETOWN	29778	HAMERSVILLE	32984
HIGGINSPOORT	35168	MT ORAB	52906
RIPLEY	67272	RUSSELLVILLE	69316
ST MARTIN	69666	SARDINIA	70534
BYRD TWP	10758	CLARK TWP	15224
EAGLE TWP	23072	FRANKLIN TWP	28210
GREEN TWP	31696	HUNTINGTON TWP	36834
JACKSON TWP	37688	JEFFERSON TWP	38528
LEWIS TWP	42910	PERRY TWP	61770
PIKE TWP	62596	PLEASANT TWP	63212
SCOTT TWP	71066	STERLING TWP	74559
UNION TWP	78232	WASHINGTON TWP	81102

**BUTLER COUNTY**

COLLEGE CORNER	16700	FAIRFIELD	25970
HAMILTON	33012	JACKSONBURG	38192
MIDDLETOWN	49840	MILLVILLE	50540
MONROE	51310	NEW MIAMI	55104
OXFORD	59234	SEVEN MILE	71444
SHARONVILLE	71892	SOMERVILLE	72998
TRENTON	77322	FAIRFIELD TWP	25984
HANOVER TWP	33250	LEMON TWP	42672
LIBERTY TWP	43050	MADISON TWP	46340
MILFORD TWP	50162	MORGAN TWP	52080
OXFORD TWP	59241	REILY TWP	66096
ROSS TWP	68616	SAINT CLAIR TWP	69498
WAYNE TWP	82082	WEST CHESTER TWP	83150

**CARROLL COUNTY**

CARROLLTON	12280	DELLROY	21560
LEESVILLE	42518	MAGNOLIA	46844
MALVERN	46998	MINERVA	50834
SHERRODSVILLE	72242	AUGUSTA TWP	03030
BROWN TWP	09400	CENTER TWP	12896
EAST TWP	23226	FOX TWP	28126
HARRISON TWP	33782	LEE TWP	42434
LOUDON TWP	45038	MONROE TWP	51324
ORANGE TWP	58576	PERRY TWP	61784
ROSE TWP	68420	UNION TWP	78260
WASHINGTON TWP	81116		

**CHAMPAIGN COUNTY**

CHRISTIANSBURG	14296	MECHANICSBURG	48706
MUTUAL	53480	NORTH LEWISBURG	56770
ST PARIS	69708	URBANA	79072
WOODSTOCK	86478	ADAMS TWP	00212
CONCORD TWP	18126	GOSHEN TWP	30982
HARRISON TWP	33796	JACKSON TWP	37702
JOHNSON TWP	39228	MAD RIVER TWP	46760
RUSH TWP	69078	SALEM TWP	69820
UNION TWP	78274	URBANA TWP	79086
WAYNE TWP	82096		

**CLARK COUNTY**

CATAWBA	12560	CLIFTON	16056
DONNELSVILLE	22288	ENON	25452
LAWRENCEVILLE	42210	N HAMPTON	56588
NEW CARLISLE	54334	S CHARLESTON	73124
S VIENNA	73796	SPRINGFIELD	74118
TREMONT CITY	77308	BETHEL TWP	06054
GERMAN TWP	29862	GREEN TWP	31703
HARMONY TWP	33586	MADISON TWP	46354
MAD RIVER TWP	46788	MOOREFIELD TWP	51912
PIKE TWP	62610	PLEASANT TWP	63226
SPRINGFIELD TWP*	74119	CRYSTAL LAKES (CDP)	19596

**CLERMONT COUNTY**

AMELIA	01742	BATAVIA	04150
BETHEL	06068	CHILO	14226
FELICITY	26880	LOVELAND	45108
MILFORD	50176	MOSCOW	52416
NEVILLE	53956	NEW RICHMOND	55384
NEWTONSVILLE	55664	OWENSVILLE	59220
WILLIAMSBURG	85288	BATAVIA TWP	04157
FRANKLIN TWP	28224	GOSHEN TWP	31010
JACKSON TWP	37716	MIAMI TWP	49322
MONROE TWP	51338	OHIO TWP	57960
PIERCE TWP	62540	STONELICK TWP	74825
TATE TWP	76155	UNION TWP	78288
WASHINGTON TWP	81130	WAYNE TWP	82110
WILLIAMSBURG TWP	85302		

**CLINTON COUNTY**

BLANCHESTER	06908	CLARKSVILLE	15406
LYNCHBURG	45542	MARTINSVILLE	48118
MIDLAND	49896	NEW VIENNA	55748
PORT WILLIAM	64360	SABINA	69400
WILMINGTON	85792	ADAMS TWP	00226
CHESTER TWP	13974	CLARK TWP	15238
GREEN TWP	31710	JEFFERSON TWP	38542
LIBERTY TWP	43064	MARION TWP	47670
RICHLAND TWP	66642	UNION TWP	78302
VERNON TWP	79772	WASHINGTON TWP	81144
WAYNE TWP	82124	WILSON TWP	85820

**COLUMBIANA COUNTY**

COLUMBIANA	17036	EAST LIVERPOOL	23730
EAST PALESTINE	23940	HANOVERTON	33306
LEETONIA	42560	LISBON	44030
MINERVA	50834	NEW WATERFORD	55790
ROGERS	68084	SALEM	69834
SALINEVILLE	70100	SUMMITVILLE	75574
WASHINGTONVILLE	81732	WELLSVILLE	82740
BUTLER TWP	10562	CENTER TWP	12910
ELKRUN TWP	24906	FAIRFIELD TWP	25998
FRANKLIN TWP	28238	HANOVER TWP	33264
KNOX TWP	40824	LIVERPOOL TWP	44226
MADISON TWP	46368	MIDDLETON TWP	49784
PERRY TWP	61798	SAINT CLAIR TWP	69512
SALEM TWP	69848	UNITY TWP	78890
WASHINGTON TWP	81158	WAYNE TWP	82138
WEST TWP	82852	YELLOW CREEK TWP	86912

**COSHOCTON COUNTY**

BALTIC	03744	CONESVILLE	18266
COSHOCTON	18868	NELLIE	53816
PLAINFIELD	63044	WARSAW	81032
WEST LAFAYETTE	83608	ADAMS TWP	00240
BEDFORD TWP	04864	BETHLEHEM TWP	06152
CLARK TWP	15266	CRAWFORD TWP	19218
FRANKLIN TWP	28252	JACKSON TWP	37730
JEFFERSON TWP	38556	KEENE TWP	39634
LAFAYETTE TWP	41132	LINTON TWP	43960
MILL CREEK TWP	50274	MONROE TWP	51352
NEWCASTLE TWP	54376	OXFORD TWP	59248
PERRY TWP	61812	PIKE TWP	62624
TIVERTON TWP	76953	TUSCARAWAS TWP	77896
VIRGINIA TWP	80220	WASHINGTON TWP	81172
WHITE EYES TWP	84714		

**CRAWFORD COUNTY**

BUCYRUS	10030	CHATFIELD	13694
CRESTLINE	19330	GALION	29162
NEW WASHINGTON	55776	N ROBINSON	56994
TIRO	76932	AUBURN TWP	02890
BUCYRUS TWP	10044	CHATFIELD TWP	13708
CRANBERRY TWP	19134	DALLAS TWP	19932
HOLMES TWP	35980	JACKSON TWP	37744
JEFFERSON TWP	38570	LIBERTY TWP	43078
LYKENS TWP	45500	POLK TWP	64010
SANDUSKY TWP	70366	TEXAS TWP	76463
TOD TWP	76967	VERNON TWP	79786
WHETSTONE TWP	84644		

**CUYAHOGA COUNTY**

BAY VILLAGE	04416	BEACHWOOD	04500
BEDFORD	04878	BEDFORD HEIGHTS	04920
BENTLEYVILLE	05550	BEREA	05690
BRATENAHL	08336	BRECKSVILLE	08364
BROADVIEW HTS	09064	BROOKLYN	09246
BROOKLYN HEIGHTS	09274	BROOK PARK	09288
CHAGRIN FALLS	13358	CLEVELAND	16000
CLEVELAND HEIGHTS	16014	CUYAHOGA HEIGHTS	19806
EAST CLEVELAND	23380	EUCLID	25704
FAIRVIEW PARK	26446	GARFIELD HEIGHTS	29428
GATES MILLS	29498	GLENWILLOW	30632
HIGHLAND HEIGHTS	35252	HIGHLAND HILLS	35255
HUNTING VALLEY	36918	INDEPENDENCE	37240
LAKEWOOD	41664	LINNDALE	43918
LYNDHURST	45556	MAPLE HEIGHTS	47306
MAYFIELD	48468	MAYFIELD HEIGHTS	48482
MIDDLEBURGH HTS	49644	MORELAND HILLS	52052
NEWBURGH HEIGHTS	54250	NORTH OLMSTED	56882
NORTH RANDALL	56924	NORTH ROYALTON	57008
OAKWOOD	57750	OLMSTED FALLS	58422
ORANGE	58604	PARMA	61000
PARMA HEIGHTS	61028	PEPPER PIKE	61686
RICHMOND HEIGHTS	66894	ROCKY RIVER	68056
SEVEN HILLS	71416	SHAKER HEIGHTS	71682
SOLON	72928	SOUTH EUCLID	73264
STRONGSVILLE	75098	UNIVERSITY HEIGHTS	78932
VALLEY VIEW	79268	WALTON HILLS	80738
WARRENSVILLE HTS	80990	WESTLAKE	83622
WOODMERE	86394	CHAGRIN FALLS TWP	13372
OLMSTED TWP	58408		

**DARKE COUNTY**

ANSONIA	02120	ARCANUM	02330
BRADFORD	08084	BURKETTSTVILLE	10296
CASTINE	12504	GETTYSBURG	29974
GORDON	30912	GREENVILLE	32340
HOLLANSBURG	35896	ITHACA	37604
NEW MADISON	54978	NEW WESTON	55818
NORTH STAR	57064	OSGOOD	58912
PALESTINE	59598	PITTSBURG	62890
ROSSBURG	68672	UNION CITY	78624
VERSAILLES	79912	WAYNE LAKES	82348
YORKSHIRE	87164	ADAMS TWP	00254
ALLEN TWP	01294	BROWN TWP	09414
BUTLER TWP	10576	FRANKLIN TWP	28266
GREENVILLE TWP	32354	HARRISON TWP	33810
JACKSON TWP	37758	LIBERTY TWP	43092
MISSISSINAWA TWP	50960	MONROE TWP	51366
NEAVE TWP	53732	PATTERSON TWP	61168
RICHLAND TWP	66656	TWIN TWP	77980
VAN BUREN TWP	79380	WABASH TWP	80248
WASHINGTON TWP	81186	WAYNE TWP	82152
YORK TWP	87010		

**DEFIANCE COUNTY**

DEFIANCE	21308	HICKSVILLE	35098
NEY	55874	SHERWOOD	72256
ADAMS TWP	00268	DEFIANCE TWP	21322
DELAWARE TWP	21420	FARMER TWP	26614
HICKSVILLE TWP	35112	HIGHLAND TWP	35196
MARK TWP	47852	MILFORD TWP	50190
NOBLE TWP	56014	RICHLAND TWP	66670
TIFFIN TWP	76772	WASHINGTON TWP	81200

**DELAWARE COUNTY**

ASHLEY	02582	COLUMBUS	18000
DELAWARE	21434	DUBLIN	22694
GALENA	29148	OSTRANDER	58940
POWELL	64486	SHAWNEE HILLS	71976
SUNBURY	75602	WESTERVILLE	83342
BERKSHIRE TWP	05774	BERLIN TWP	05788
BROWN TWP	09428	CONCORD TWP	18140
DELAWARE TWP	21448	GENOA TWP	29694
HARLEM TWP	33516	KINGSTON TWP	40362
LIBERTY TWP	43106	MARLBORO TWP	47908
ORANGE TWP	58618	OXFORD TWP	59262
PORTER TWP	64178	RADNOR TWP	65312
SCIOTO TWP	70842	THOMPSON TWP	76617
TRENTON TWP	77336	TROY TWP	77560

**ERIE COUNTY**

BAY VIEW	04402	BELLEVUE	05228
BERLIN HEIGHTS	05900	CASTALIA	12476
HURON	37016	KELLEYS ISLAND	39662
MILAN	50134	SANDUSKY	70380
VERMILION	79716	BERLIN TWP	05802
FLORENCE TWP	27482	GROTON TWP	32578
HURON TWP	37030	MARGARETTA TWP	47572
MILAN TWP	50148	OXFORD TWP	59276
PERKINS TWP	61714	VERMILION TWP	79730

**FAIRFIELD COUNTY**

AMANDA	01630	BALTIMORE	03758
BREMEN	08392	BUCKEYE LAKE	09890
CANAL WINCHESTER	11332	CARROLL	12252
COLUMBUS	18000	LANCASTER	41720
LITHOPOLIS	44086	MILLERSPORT	50400
PICKERINGTON	62498	PLEASANTVILLE	63716
REYNOLDSBURG	66390	RUSHVILLE	69204
STOUTSVILLE	74916	SUGAR GROVE	75252
THURSTON	76764	WEST RUSHVILLE	84182
AMANDA TWP	01637	BERNE TWP	05956
BLOOM TWP	06950	CLEAR CREEK TWP	15686
GREENFIELD TWP	32060	HOCKING TWP	35812
LIBERTY TWP	43120	MADISON TWP	46382
PLEASANT TWP	63240	RICHLAND TWP	66684
RUSH CREEK TWP	69120	VIOLET TWP	80206
WALNUT TWP	80570		

**FAYETTE COUNTY**

BLOOMINGBURG	07188	JEFFERSONVILLE	38920
MILLEDGEVILLE	50316	NEW HOLLAND	54726
OCTA	57918	WASHINGTON CH	81214
CONCORD TWP	18154	GREEN TWP	31724
JASPER TWP	38388	JEFFERSON TWP	38598
MADISON TWP	46396	MARION TWP	47684
PAINT TWP	59486	PERRY TWP	61826
UNION TWP	78316	WAYNE TWP	82166

**FRANKLIN COUNTY**

BEXLEY	06278	BRICE	08532
CANAL WINCHESTER	11332	COLUMBUS	18000
DUBLIN	22694	GAHANNA	29106
GRANDVIEW HTS	31304	GROVE CITY	32592
GROVEPORT	32606	HARRISBURG	33740
HILLIARD	35476	LITHOPOLIS	44086
LOCKBOURNE	44310	MARBLE CLIFF	47474
MINERVA PARK	50862	NEW ALBANY	53970
OBETZ	57862	PICKERINGTON	62498
REYNOLDSBURG	66390	RIVERLEA	67440
UPPER ARLINGTON	79002	URBANCREST	79100
VALLEYVIEW	79282	WESTERVILLE	83342
WHITEHALL	84742	WORTHINGTON	86604
BLENDON TWP	06922	BROWN TWP	09442
CLINTON TWP	16112	FRANKLIN TWP	28280
HAMILTON TWP	33026	JACKSON TWP	37772
JEFFERSON TWP	38612	MADISON TWP	46410
MIFFLIN TWP	50064	NORWICH TWP	57344
PERRY TWP	61840	PLAIN TWP	62974
PLEASANT TWP	63254	PRAIRIE TWP	64570
SHARON TWP	71787	TRURO TWP	77714
WASHINGTON TWP	81242		

**FULTON COUNTY**

ARCHBOLD	02344	DELTA	21616
FAYETTE	26768	LYONS	45626
METAMORA	49238	SWANTON	75896
WAUSEON	81928	AMBOY TWP	01728
CHESTERFIELD TWP	14072	CLINTON TWP	16126
DOVER TWP	22442	FRANKLIN TWP	28294
FULTON TWP	29036	GERMAN TWP	29876
GORHAM TWP	30940	PIKE TWP	62638
ROYALTON TWP	68896	SWAN CREEK TWP	75861
YORK TWP	87024		

**GALLIA COUNTY**

CENTERVILLE	13169	CHESHIRE	13932
CROWN CITY	19554	GALLIPOLIS	29204
RIO GRANDE	67258	VINTON	80178
ADDISON TWP	00422	CHESHIRE TWP	13946
CLAY TWP	15462	GALLIPOLIS TWP	29218
GREEN TWP	31738	GREENFIELD TWP	32074
GUYAN TWP	32760	HARRISON TWP	33824
HUNTINGTON TWP	36848	MORGAN TWP	52094
OHIO TWP	57974	PERRY TWP	61854
RACCOON TWP	65228	SPRINGFIELD TWP	74120
WALNUT TWP	80584		

**GEAUGA COUNTY**

AQUILLA	02274	BURTON	10436
CHARDON	13554	HUNTING VALLEY	36918
MIDDLEFIELD	49700	S RUSSELL	73684
AUBURN TWP	02904	BAINBRIDGE TWP	03590
BURTON TWP	10464	CHARDON TWP	13561
CHESTER TWP	13988	CLARIDON TWP	15168
HAMB DEN TWP	32914	HUNTSBURG TWP	36946
MIDDLEFIELD TWP	49714	MONTVILLE TWP	51842
MUNSON TWP	53340	NEWBURY TWP	54292
PARKMAN TWP	59948	RUSSELL TWP	69232
THOMPSON TWP	76628	TROY TWP	77574

**GREENE COUNTY**

BEAVERCREEK	04720	BELLBROOK	05102
BOWERSVILLE	07930	CEDARVILLE	12784
CENTERVILLE	13190	CLIFTON	16056
FAIRBORN	25914	HUBER HEIGHTS	36610
JAMESTOWN	38374	KETTERING	40040
SPRING VALLEY	74216	XENIA	86772
YELLOW SPRINGS	86940	BATH TWP	04220
BEAVERCREEK TWP	04724	CAESARCREEK TWP	10856
CEDARVILLE TWP	12798	JEFFERSON TWP	38626
MIAMI TWP	49336	NEW JASPER TWP	54810
ROSS TWP	68630	SILVERCREEK TWP	72473
SPRING VALLEY TWP	74223	SUGARCREEK TWP	75201
XENIA TWP	86786		

**GUERNSEY COUNTY**

BYESVILLE	10716	CAMBRIDGE	10996
CUMBERLAND	19694	FAIRVIEW	26348
KIMBOLTON	40264	LORE CITY	44954
OLD WASHINGTON	58226	PLEASANT CITY	63436
QUAKER CITY	65116	SALESVILLE	70072
SENECAVILLE	71360	ADAMS TWP	00282
CAMBRIDGE TWP	11003	CENTER TWP	12938
JACKSON TWP	37786	JEFFERSON TWP	38640
KNOX TWP	40838	LIBERTY TWP	43134
LONDONDERRY TWP	44716	MADISON TWP	46424
MILLWOOD TWP	50568	MONROE TWP	51380
OXFORD TWP	59290	RICHLAND TWP	66698
SPENCER TWP	73986	VALLEY TWP	79156
WASHINGTON TWP	81256	WESTLAND TWP	83664
WHEELING TWP	84616	WILLS TWP	85708

**HAMILTON COUNTY**

ADDYSTON	00436	AMBERLEY	01672
ARLINGTON HTS	02428	BLUE ASH	07300
CHEVIOT	14128	CINCINNATI	15000
CLEVES	16028	DEER PARK	21266
ELMWOOD PLACE	25186	EVENDALE	25802
FAIRFAX	25942	FAIRFIELD	25970
FOREST PARK	27706	GLENDALE	30380
GOLF MANOR	30786	GREENHILLS	32158
HARRISON	33838	INDIAN HILL	76582
LINCOLN HEIGHTS	43722	LOCKLAND	44366
LOVELAND	45108	MADEIRA	46312
MARIEMONT	47600	MILFORD	50176
MONTGOMERY	51716	MT HEALTHY	52752
N COLLEGE HILL	56322	NEWTOWN	55678
NORTH BEND	56182	NORWOOD	57386
READING	65732	SHARONVILLE	71892
SILVERTON	72522	SPRINGDALE	74104
ST BERNARD	69470	TERRACE PARK	76428
WOODLAWN	86366	WYOMING	86730
ANDERSON TWP	01980	COLERAIN TWP	16616
COLUMBIA TWP	16882	CROSBY TWP	19470
DELHI TWP	21504	GREEN TWP	31752
HARRISON TWP	33852	MIAMI TWP	49364
SPRINGFIELD TWP	74121	SYCAMORE TWP	75973
SYMMES TWP	76028	WHITEWATER TWP	84938

### **HANCOCK COUNTY**

ARCADIA	02316	ARLINGTON	02400
BENTON RIDGE	05662	BLUFFTON	07426
FINDLAY	27048	FOSTORIA	28014
JENERA	38948	MCCOMB	45808
MT BLANCHARD	52598	MT CORY	52668
RAWSON	65634	VAN BUREN	79394
VANLUE	79534	ALLEN TWP	01308
AMANDA TWP	01644	BIGLICK TWP	06362
BLANCHARD TWP	06838	CASS TWP	12392
DELAWARE TWP	21462	EAGLE TWP	23086
JACKSON TWP	37800	LIBERTY TWP	43148
MADISON TWP	46438	MARION TWP	47698
ORANGE TWP	58632	PLEASANT TWP	63268
PORTAGE TWP	64066	UNION TWP	78330
VAN BUREN TWP	79408	WASHINGTON TWP	81284

### **HARDIN COUNTY**

ADA	00198	ALGER	01210
DUNKIRK	22946	FOREST	27636
HALE	32837	KENTON	39886
MCGUFFEY	46046	MT VICTORY	53144
PATTERSON	61182	RIDGEWAY	67118
BLANCHARD TWP	06866	BUCK TWP	09848
CESSNA TWP	13316	DUDLEY TWP	22736
GOSHEN TWP	31024	HALE TWP	32837
JACKSON TWP	37814	LIBERTY TWP	43162
LYNN TWP	45598	MARION TWP	47712
MCDONALD TWP	45920	PLEASANT TWP	63282
ROUNDHEAD TWP	68784	TAYLOR CREEK TWP	76198
WASHINGTON TWP	81298		

**HARRISON COUNTY**

ADENA	00464	BOWERSTON	07916
CADIZ	10800	DEERSVILLE	21294
FREEPORT	28798	HARRISVILLE	34090
HOPEDALE	36260	JEWETT	39172
NEW ATHENS	54068	SCIO	70814
ARCHER TWP	02358	ATHENS TWP	02764
CADIZ TWP	10814	FRANKLIN TWP	28308
FREEPORT TWP	28812	GERMAN TWP	29890
GREEN TWP	31766	MONORE TWP	51394
MOOREFIELD TWP	51940	NORTH TWP	56084
NOTTINGHAM TWP	57456	RUMLEY TWP	68994
SHORT CREEK TWP	72361	STOCK TWP	74724
WASHINGTON TWP	81312		

**HENRY COUNTY**

DESHLER	21812	FLORIDA	27538
HAMLER	33096	HOLGATE	35854
LIBERTY CENTER	43414	MALINTA	46942
MCCLURE	45794	NAPOLEON	53550
NEW BAVARIA	54110	BARTLOW TWP	04052
DAMASCUS TWP	20016	FLATROCK TWP	27342
FREEDOM TWP	28700	HARRISON TWP	33866
LIBERTY TWP	43176	MARION TWP	47726
MONROE TWP	51408	NAPOLEON TWP	53564
PLEASANT TWP	63296	RICHFIELD TWP	66502
RIDGEVILLE TWP	67062	WASHINGTON TWP	81326

### **HIGHLAND COUNTY**

GREENFIELD	32088	HIGHLAND	35210
HILLSBORO	35560	LEESBURG	42476
LYNCHBURG	45542	MOWRYSTOWN	53186
SARDINIA	70534	SINKING SPRING	72578
BRUSH CREEK TWP	09736	CLAY TWP	15476
CONCORD TWP	18168	DODSON TWP	22204
FAIRFIELD TWP	26026	HAMER TWP	32970
JACKSON TWP	37828	LIBERTY TWP	43190
MADISON TWP	46452	MARSHALL TWP	48034
NEW MARKET TWP	55048	PAINT TWP	59500
PENN TWP	61588	SALEM TWP	69862
UNION TWP	78344	WASHINGTON TWP	81340
WHITE OAK TWP	84826		

### **HOCKING COUNTY**

BUCHTEL	09834	LAURELVILLE	42084
LOGAN	44632	MURRAY CITY	53410
BENTON TWP	05578	FALLS TWP	26488
GOOD HOPE TWP	30842	GREEN TWP	31780
LAUREL TWP	42056	MARION TWP	47740
PERRY TWP	61868	SALT CREEK TWP	70142
STARR TWP	74405	WARD TWP	80780
WASHINGTON TWP	81354		

### **HOLMES COUNTY**

BALTIC	03744	GLENMONT	30506
HOLMESVILLE	35994	KILLBUCK	40180
LOUDONVILLE	45066	MILLERSBURG	50372
NASHVILLE	53634	BERLIN TWP	05830
CLARK TWP	15280	HARDY TWP	33460
KILLBUCK TWP	40194	KNOX TWP	40852
MECHANIC TWP	48692	MONROE TWP	51422
PAINT TWP	59514	PRAIRIE TWP	64584
RICHLAND TWP	66712	RIPLEY TWP	67286
SALT CREEK TWP	70156	WALNUT CREEK TWP	80626
WASHINGTON TWP	81368		

**HURON COUNTY**

BELLEVUE	05228	GREENWICH	32368
MILAN	50134	MONROEVILLE	51618
N FAIRFIELD	56420	NEW LONDON	54908
NORWALK	57302	PLYMOUTH	63800
WAKEMAN	80458	WILLARD	85232
BRONSON TWP	09148	CLARKSFIELD TWP	15364
FAIRFIELD TWP	26040	FITCHVILLE TWP	27216
GREENFIELD TWP	32102	GREENWICH TWP	32382
HARTLAND TWP	34258	LYME TWP	45514
NEW HAVEN TWP	54712	NEW LONDON TWP	54922
NORWALK TWP	57316	NORWICH TWP	57358
PERU TWP	62246	RICHMOND TWP	66810
RIDGEFIELD TWP	67006	RIPLEY TWP	67300
SHERMAN TWP	72193	TOWNSEND TWP	77158
WAKEMAN TWP	80472		

**JACKSON COUNTY**

COALTON	16434	JACKSON	37842
OAK HILL	57596	WELLSTON	82712
BLOOMFIELD TWP	07090	COAL TWP	16336
FRANKLIN TWP	28322	HAMILTON TWP	33040
JACKSON TWP	37856	JEFFERSON TWP	38654
LIBERTY TWP	43204	LICK TWP	43442
MADISON TWP	46466	MILTON TWP	50624
SCIOTO TWP	70856	WASHINGTON TWP	81382

**JEFFERSON COUNTY**

ADENA	00464	AMSTERDAM	01938
BERGHOLZ	05718	BLOOMINGDALE	07202
DILLONVALE	22022	EMPIRE	25368
IRONDALE	37422	MINGO JUNCTION	50904
MT PLEASANT	52976	NEW ALEXANDRIA	54012
RAYLAND	65662	RICHMOND	66824
SALINEVILLE	70100	SMITHFIELD	72760
STEUBENVILLE	74608	STRATTON	75000
TILTONSVILLE	76806	TORONTO	77112
WINTERSVILLE	86184	YORKVILLE	87178
BRUSH CREEK TWP	09750	CROSS CREEK TWP	19484
ISLAND CREEK TWP	37534	KNOX TWP	40866
MOUNT PLEASANT TWP	52990	ROSS TWP	68644
SALEM TWP	69876	SALINE TWP	70086
SMITHFIELD TWP	72767	SPRINGFIELD TWP	74122
STEUBENVILLE TWP	74615	WARREN TWP	80878
WAYNE TWP	82180	WELLS TWP	82698

**KNOX COUNTY**

CENTERBURG	13036	DANVILLE	20114
FREDERICKTOWN	28658	GAMBIER	29246
GANN	29288	MARTINSBURG	48090
MT VERNON	53102	UTICA	79114
BERLIN TWP	05844	BROWN TWP	09470
BUTLER TWP	10590	CLAY TWP	15504
CLINTON TWP	16140	COLLEGE TWP	16686
HARRISON TWP	33880	HILLIAR TWP	35462
HOWARD TWP	36526	JACKSON TWP	37870
JEFFERSON TWP	38668	LIBERTY TWP	43218
MIDDLEBURY TWP	49658	MILFORD TWP	50204
MILLER TWP	50330	MONROE TWP	51436
MORGAN TWP	52108	MORRIS TWP	52290
PIKE TWP	62652	PLEASANT TWP	63310
UNION TWP	78358	WAYNE TWP	82194

**LAKE COUNTY**

EASTLAKE	23618	FAIRPORT HARBOR	26306
GRAND RIVER	31234	KIRTLAND	40642
KIRTLAND HILLS	40670	LAKELINE	41398
MADISON	46480	MENTOR	49056
MENTOR ON LAKE	49098	NORTH PERRY	56910
PAINESVILLE	59416	PERRY	61882
TIMBERLAKE	76834	WAITE HILL	80402
WICKLIFFE	85036	WILLOUGHBY	85484
WILLOUGHBY HILLS	85512	WILLOWICK	85638
CONCORD TWP	18196	LEROY TWP	42812
MADISON TWP	46494	PAINESVILLE TWP	59430
PERRY TWP	61896	NORTH MADISON (CDP)	56812

**LAWRENCE COUNTY**

ATHALIA	02722	CHESAPEAKE	13904
COAL GROVE	16378	HANGING ROCK	33194
IRONTON	37464	PROCTORVILLE	64766
SOUTH POINT	73670	AID TWP	00562
DECATUR TWP	21084	ELIZABETH TWP	24822
FAYETTE TWP	26782	HAMILTON TWP	33054
LAWRENCE TWP	42154	MASON TWP	48174
PERRY TWP	61910	ROME TWP	68280
SYMMES TWP	76031	UNION TWP	78372
UPPER TWP	78974	WASHINGTON TWP	81396
WINDSOR TWP	86002		

**LICKING COUNTY**

ALEXANDRIA	01154	BUCKEYE LAKE	09890
GRANVILLE	31402	GRATIOT	31458
HANOVER	33292	HARTFORD	34202
HEATH	34748	HEBRON	34790
JOHNSTOWN	39340	KIRKERSVILLE	40572
NEW ALBANY	53970	NEWARK	54040
PATASKALA	61112	REYNOLDSBURG	66390
ST LOUISVILLE	69652	UTICA	79114
BENNINGTON TWP	05494	BOWLING GREEN TWP	07944
BURLINGTON TWP	10366	EDEN TWP	24332
ETNA TWP	25690	FALLSBURY TWP	26530
FRANKLIN TWP	28336	GRANVILLE TWP	31416
HANOVER TWP	33299	HARRISON TWP	33894
HARTFORD TWP	34188	HOPEWELL TWP	36316
JERSEY TWP	39102	LIBERTY TWP	43232
LICKING TWP	43456	MADISON TWP	46508
MARY ANN TWP	48132	MCKEAN TWP	46116
MONROE TWP	51450	NEWARK TWP	54054
NEWTON TWP	55580	PERRY TWP	61924
SAINT ALBANS TWP	69456	UNION TWP	78400
WASHINGTON TWP	81410		

**LOGAN COUNTY**

BELLE CENTER	05116	BELLEFONTAINE	05130
DEGRAFF	21378	HUNTSVILLE	36988
LAKEVIEW	41608	QUINCY	65200
RIDGEWAY	67118	RUSHSYLVANIA	69176
RUSSELLS POINT	69302	VALLEY HI	79226
W LIBERTY	83734	W MANSFIELD	83818
ZANESFIELD	88070	BLOOMFIELD TWP	07118
BOKES CREEK TWP	07552	HARRISON TWP	33908
JEFFERSON TWP	38682	LAKE TWP	41286
LIBERTY TWP	43246	MCARTHUR TWP	45682
MIAMI TWP	49378	MONROE TWP	51464
PERRY TWP	61938	PLEASANT TWP	63324
RICHLAND TWP	66740	RUSHCREEK TWP	69134
STOKES TWP	74780	UNION TWP	78414
WASHINGTON TWP	81424	ZANE TWP	88042

**LORAIN COUNTY**

AMHERST	01798	AVON	03352
AVON LAKE	03464	ELYRIA	25256
GRAFTON	31150	KIPTON	40544
LAGRANGE	41230	LORAIN	44856
N RIDGEVILLE	56966	OBERLIN	57834
ROCHESTER	67762	S AMHERST	73040
SHEFFIELD	72060	SHEFFIELD LAKE	72088
VERMILION	79716	WELLINGTON	82642
AMHERST TWP	01812	BRIGHTON TWP	08770
BROWNHelm TWP	09568	CAMDEN TWP	11010
CARLISLE TWP	12140	COLUMBIA TWP	16910
EATON TWP	24220	ELYRIA TWP	25270
GRAFTON TWP	31164	HENRIETTA TWP	34972
HUNTINGTON TWP	36876	LAGRANGE TWP	41244
NEW RUSSIA TWP	55446	PENFIELD TWP	61532
PITTSFIELD TWP	62960	ROCHESTER TWP	67776
SHEFFIELD TWP	72067	WELLINGTON TWP	82656

**LUCAS COUNTY**

BERKEY	05732	HARBOR VIEW	33376
HOLLAND	35882	MAUMEE	48342
OREGON	58730	OTTAWA HILLS	59010
SWANTON	75896	SYLVANIA	76022
TOLEDO	77000	WATERVILLE	81858
WHITEHOUSE	84770	HARDING TWP	33418
JERUSALEM TWP	39116	MONCLOVA TWP	51156
PROVIDENCE TWP	64836	RICHFIELD TWP	66516
SPENCER TWP	73990	SPRINGFIELD TWP	74123
SWANTON TWP	75903	SYLVANIA TWP	76025
WASHINGTON TWP	81438	WATERVILLE TWP	81872

**MADISON COUNTY**

LONDON	44674	MIDWAY	50008
MT STERLING	53046	PLAIN CITY	63030
SOUTH SOLON	73768	WEST JEFFERSON	83580
CANAAN TWP	11234	DARBY TWP	20142
DEER CREEK TWP	21154	FAIRFIELD TWP	26068
JEFFERSON TWP	38696	MONROE TWP	51478
OAK RUN TWP	57708	PAINT TWP	59528
PIKE TWP	62666	PLEASANT TWP	63338
RANGE TWP	65480	SOMERFORD TWP	72960
STOKES TWP	74784	UNION TWP	78428

**MAHONING COUNTY**

ALLIANCE	01420	BELOIT	05410
CAMPBELL	11066	CANFIELD	11360
COLUMBIANA	17036	CRAIG BEACH	19106
LOWELLVILLE	45178	NEW MIDDLETOWN	55118
POLAND	63954	SALEM	69834
SEBRING	71220	STRUTHERS	75126
WASHINGTONVILLE	81732	YOUNGSTOWN	88000
AUSTINTOWN TWP	03198	BEAVER TWP	04668
BERLIN TWP	05858	BOARDMAN TWP	07468
CANFIELD TWP	11374	COITSVILLE TWP	16476
ELLSWORTH TWP	25088	GOSHEN TWP	31038
GREEN TWP	31794	JACKSON TWP	37884
MILTON TWP	50638	POLAND TWP	63968
SMITH TWP	72740	SPRINGFIELD TWP	74124
AUSTINTOWN (CDP)	03184	BOARDMAN (CDP)	07454

**MARION COUNTY**

CALEDONIA	10954	GREEN CAMP	31948
LA RUE	41902	MARION	47754
MORRAL	52276	NEW BLOOMINGTON	54152
PROSPECT	64780	WALDO	80500
BIG ISLAND TWP	06348	BOWLING GREEN TWP	07958
CLARIDON TWP	15196	GRAND PRAIRIE TWP	31192
GRAND TWP	31178	GREEN CAMP TWP	31962
MARION TWP	47768	MONTGOMERY TWP	51730
PLEASANT TWP	63352	PROSPECT TWP	64794
RICHLAND TWP	66754	SALT ROCK TWP	70240
SCOTT TWP	71073	TULLY TWP	77742
WALDO TWP	80514		

**MEDINA COUNTY**

BRUNSWICK	09680	CHIPPEWA LAKE	14282
CRESTON	19344	GLORIA GLENS PARK	30660
LODI	44604	MEDINA	48790
RITTMAN	67356	SEVILLE	71486
SPENCER	73992	WADSWORTH	80304
WESTFIELD CENTER	83468	BRUNSWICK HILLS TWP	09708
CHATHAM TWP	13750	GRANGER TWP	31374
GUILFORD TWP	32676	HARRISVILLE TWP	34104
HINCKLEY TWP	35644	HOMER TWP	36078
LAFAYETTE TWP	41174	LITCHFIELD TWP	44072
LIVERPOOL TWP	44240	MEDINA TWP	48804
MONTVILLE TWP	51856	SHARON TWP	71801
SPENCER TWP	73999	WADSWORTH TWP	80318
WESTFIELD TWP	83426	YORK TWP	87052

**MEIGS COUNTY**

MIDDLEPORT	49756	POMEROY	64024
RACINE	65256	RUTLAND	69358
SYRACUSE	76050	BEDFORD TWP	04906
CHESTER TWP	14016	COLUMBIA TWP	16924
LEBANON TWP	42336	LETART TWP	42868
OLIVE TWP	58282	ORANGE TWP	58646
RUTLAND TWP	69372	SALEM TWP	69904
SALISBURY TWP	70114	SCIPIO TWP	70996
SUTTON TWP	75847		

**MERCER COUNTY**

BURKETTSTVILLE	10296	CELINA	12868
CHICKASAW	14156	COLDWATER	16532
FT RECOVERY	27902	MENDON	49042
MONTEZUMA	51674	ROCKFORD	67874
ST HENRY	69540	BLACK CREEK TWP	06586
BUTLER TWP	10604	CENTER TWP	12952
DUBLIN TWP	22708	FRANKLIN TWP	28350
GIBSON TWP	30058	GRANVILLE TWP	31430
HOPEWELL TWP	36344	JEFFERSON TWP	38724
LIBERTY TWP	43260	MARION TWP	47782
RECOVERY TWP	65781	UNION TWP	78442
WASHINGTON TWP	81452		

**MIAMI COUNTY**

BRADFORD	08084	CASSTOWN	12462
COVINGTON	19050	FLETCHER	27412
HUBER HEIGHTS	36610	LAURA	42028
LUDLOW FALLS	45374	PIQUA	62848
PLEASANT HILL	63534	POTSDAM	64430
TIPP CITY	76876	TROY	77588
WEST MILTON	83902	UNION	78470
BETHEL TWP	06110	BROWN TWP	09498
CONCORD TWP	18224	ELIZABETH TWP	24836
LOST CREEK TWP	44968	MONROE TWP	51492
NEWBERRY TWP	54138	NEWTON TWP	55594
SPRING CREEK TWP	74097	STAUNTON TWP	74475
UNION TWP	78456	WASHINGTON TWP	81466

**MONROE COUNTY**

ANTIOCH	02148	BEALLSVILLE	04542
CLARINGTON	15210	GRAYSVILLE	31542
JERUSALEM	39130	LEWISVILLE	42980
MILTONSBURG	50722	STAFFORD	74300
WILSON	85834	WOODSFIELD	86436
ADAMS TWP	00296	BENTON TWP	05606
BETHEL TWP	06124	CENTER TWP	12966
FRANKLIN TWP	28357	GREEN TWP	31808
JACKSON TWP	37898	LEE TWP	42448
MALAGA TWP	46928	OHIO TWP	57988
PERRY TWP	61952	SALEM TWP	69918
SENECA TWP	71349	SUMMIT TWP	75497
SUNSBURY TWP	75686	SWITZERLAND TWP	75945
WASHINGTON TWP	81480	WAYNE TWP	82208

**MONTGOMERY COUNTY**

BROOKVILLE	09358	CARLISLE	12168
CENTERVILLE	13190	CLAYTON	15644
DAYTON	21000	ENGLEWOOD	25396
FARMERSVILLE	26656	GERMANTOWN	29932
HUBER HEIGHTS	36610	KETTERING	40040
MIAMISBURG	49434	MORaine	52010
NEW LEBANON	54852	OAKWOOD	57764
PHILLIPSBURG	62414	RIVERSIDE	67468
SPRINGBORO	74076	TROTWOOD	77504
UNION	78470	VANDALIA	79492
VERONA	79898	W CARROLLTON	83111
BUTLER TWP	10618	CLAY TWP	15518
GERMAN TWP	29904	HARRISON TWP	33922
JACKSON TWP	37912	JEFFERSON TWP	38738
MIAMI TWP	49392	PERRY TWP	61966
WASHINGTON TWP	81494		

**MORGAN COUNTY**

CHESTERHILL	14086	MALTA	46970
MCCONNELSVILLE	45822	STOCKPORT	74748
BLOOM TWP	06964	BRISTOL TWP	08910
CENTER TWP	12980	DEERFIELD TWP	21182
HOMER TWP	36092	MALTA TWP	46984
MANCHESTER TWP	47040	MARION TWP	47796
MEIGSVILLE TWP	48930	MORGAN TWP	52122
PENN TWP	61602	UNION TWP	78484
WINDSOR TWP	86016	YORK TWP	87066

**MORROW COUNTY**

CARDINGTON	12084	CHESTERVILLE	14114
EDISON	24598	FULTON	29050
MARENGO	47558	MT GILEAD	52738
SPARTA	73950	BENNINGTON TWP	05508
CANAAN TWP	11248	CARDINGTON TWP	12098
CHESTER TWP	14030	CONGRESS TWP	18294
FRANKLIN TWP	28378	GILEAD TWP	30128
HARMONY TWP	33600	LINCOLN TWP	43680
NORTH BLOOMFLD TWP	56224	PERRY TWP	61980
PERU TWP	62260	SOUTH BLOOMFLD TWP	73061
TROY TWP	77602	WASHINGTON TWP	81508
WESTFIELD TWP	83454		

**MUSKINGUM COUNTY**

ADAMSVILLE	00380	DRESDEN	22610
FRAZEYSBURG	28574	FULTONHAM	29064
GRATIOT	31458	NEW CONCORD	54446
NORWICH	57372	PHILO	62442
ROSEVILLE	68560	S ZANESVILLE	73894
ZANESVILLE	88084	ADAMS TWP	00310
BLUE ROCK TWP	07398	BRUSH CREEK TWP	09757
CASS TWP	12406	CLAY TWP	15532
FALLS TWP	26502	HARRISON TWP	33936
HIGHLAND TWP	35238	HOPEWELL TWP	36372
JACKSON TWP	37926	JEFFERSON TWP	38752
LICKING TWP	43470	MADISON TWP	46536
MEIGS TWP	48916	MONORE TWP	51506
MUSKINGUM TWP	53438	NEWTON TWP	55608
PERRY TWP	61994	RICH HILL TWP	66600
SALEM TWP	69932	SALT CREEK TWP	70170
SPRINGFIELD TWP	74125	UNION TWP	78498
WASHINGTON TWP	81522	WAYNE TWP	82236

**NOBLE COUNTY**

BATESVILLE	04192	BELLE VALLEY	05158
CALDWELL	10940	DEXTER CITY	21910
SARAHSVILLE	70520	SUMMERFIELD	75406
BEAVER TWP	04682	BROOKFIELD TWP	09162
BUFFALO TWP	10142	CENTER TWP	12994
ELK TWP	24878	ENOCH TWP	25438
JACKSON TWP	37940	JEFFERSON TWP	38766
MARION TWP	47810	NOBLE TWP	56028
OLIVE TWP	58310	SENECA TWP	71352
SHARON TWP	71826	STOCK TWP	74728
WAYNE TWP	82250		

**OTTAWA COUNTY**

CLAY CENTER	15588	ELMORE	25144
GENOA	29722	MARBLEHEAD	47502
OAK HARBOR	57582	PORT CLINTON	64150
PUT-IN-BAY	65032	ROCKY RIDGE	68042
ALLEN TWP	01322	BAY TWP	04304
BENTON TWP	05620	CARROLL TWP	12266
CATAWBA ISLAND TWP	12588	CLAY TWP	15546
DANBURY TWP	20058	ERIE TWP	25578
HARRIS TWP	33726	PORTAGE TWP	64080
PUT-IN-BAY TWP	65046	SALEM TWP	69946

**PAULDING COUNTY**

ANTWERP	02204	BROUGHTON	09386
CECIL	12700	GROVER HILL	32620
HAVILAND	34552	LATTY	41986
MELROSE	49000	OAKWOOD	57792
PAULDING	61252	PAYNE	61322
SCOTT	71080	AUGLAIZE TWP	03002
BENTON TWP	05634	BLUE CREEK TWP	07370
BROWN TWP	09512	CARRYALL TWP	12308
CRANE TWP	19176	EMERALD TWP	25298
HARRISON TWP	33950	JACKSON TWP	37954
LATTY TWP	42000	PAULDING TWP	61266
WASHINGTON TWP	81536		

**PERRY COUNTY**

CORNING	18770	CROOKSVILLE	19456
GLENFORD	30436	HEMLOCK	34888
JUNCTION CITY	39508	NEW LEXINGTON	54866
NEW STRAITSVILLE	55552	RENDVILLE	66222
ROSEVILLE	68560	SHAWNEE	71962
SOMERSET	72977	THORNVILLE	76680
BEARFIELD TWP	04584	CLAYTON TWP	15658
COAL TWP	16350	HARRISON TWP	33964
HOPEWELL TWP	36386	JACKSON TWP	37968
MADISON TWP	46550	MONDAY CREEK TWP	51198
MONROE TWP	51520	PIKE TWP	62680
PLEASANT TWP	63366	READING TWP	65760
SALT LICK TWP	70226	THORN TWP	76659

**PICKAWAY COUNTY**

ASHVILLE	02680	CIRCLEVILLE	15070
COMMERCIAL POINT	18070	DARBYVILLE	20212
HARRISBURG	33740	NEW HOLLAND	54726
ORIENT	58800	SOUTH BLOOMFIELD	73068
TARLTON	76148	WILLIAMSPORT	85414
CIRCLEVILLE TWP	15077	DARBY TWP	20156
DEER CREEK TWP	21168	HARRISON TWP	33978
JACKSON TWP	37982	MADISON TWP	46564
MONROE TWP	51534	MUHLENBERG TWP	53256
PERRY TWP	62008	PICKAWAY TWP	62484
SALT CREEK TWP	70184	SCIOTO TWP	70870
WALNUT TWP	80598	WASHINGTON TWP	81550
WAYNE TWP	82264		

**PIKE COUNTY**

BEAVER	04696	PIKETON	62708
WAVERLY	81942	BEAVER TWP	04710
BENTON TWP	05648	CAMP CREEK TWP	11122
JACKSON TWP	37996	MARION TWP	47824
MIFFLIN TWP	50078	NEWTON TWP	55622
PEBBLE TWP	61392	PEE PEE TWP	61434
PERRY TWP	62022	SCIOTO TWP	70884
SEAL TWP	71171	SUNFISH TWP	75637
UNION TWP	78512		

**PORTAGE COUNTY**

AURORA	03086	BRADY LAKE	08168
GARRETTSVILLE	29442	HIRAM	35658
KENT	39872	MANTUA	47180
MOGADORE	51058	RAVENNA	65592
STREETSBORO	75014	SUGAR BUSH KNOLL	75196
TALLMADGE	76106	WINDHAM	85946
ATWATER TWP	02862	BRIMFIELD TWP	08840
CHARLESTOWN TWP	13610	DEERFIELD TWP	21210
EDINBURG TWP	24584	FRANKLIN TWP	28392
FREEDOM TWP	28742	HIRAM TWP	35672
MANTUA TWP	47194	NELSON TWP	53858
PALMYRA TWP	59668	PARIS TWP	59822
RANDOLPH TWP	65452	RAVENNA TWP	65606
ROOTSTOWN TWP	68392	SHALERSVILLE TWP	71731
SUFFIELD TWP	75189	WINDHAM TWP	85960

**PREBLE COUNTY**

CAMDEN	11024	COLLEGE CORNER	16700
EATON	24234	ELDORADO	24766
GRATIS	31472	LEWISBURG	42938
NEW PARIS	55188	VERONA	79898
W ALEXANDRIA	82880	W ELKTON	83216
W MANCHESTER	83804	DIXON TWP	22106
GASPER TWP	29484	GRATIS TWP	31486
HARRISON TWP	33992	ISRAEL TWP	37590
JACKSON TWP	38010	JEFFERSON TWP	38780
LANIER TWP	41846	MONROE TWP	51548
SOMERS TWP	72964	TWIN TWP	77994
WASHINGTON TWP	81564		

**PUTNAM COUNTY**

BELMORE	05396	CLOVERDALE	16266
COLUMBUS GROVE	18014	CONTINENTAL	18504
DUPONT	22974	FT JENNINGS	27818
GILBOA	30114	GLANDORF	30282
KALIDA	39536	LEIPSIC	42602
MILLER CITY	50358	OTTAWA	58982
OTTOVILLE	59052	PANDORA	59738
WEST LEIPSIC	83706	BLANCHARD TWP	06880
GREENSBURG TWP	32228	JACKSON TWP	38024
JENNINGS TWP	38976	LIBERTY TWP	43288
MONROE TWP	51562	MONTEREY TWP	51660
OTTAWA TWP	58996	PALMER TWP	59612
PERRY TWP	62036	PLEASANT TWP	63380
RILEY TWP	67174	SUGAR CREEK TWP	75206
UNION TWP	78526	VAN BUREN TWP	79450

**RICHLAND COUNTY**

BELLVILLE	05284	BUTLER	10632
CRESTLINE	19330	GALION	29162
LEXINGTON	42994	LUCAS	45276
MANSFIELD	47138	ONTARIO	58520
PLYMOUTH	63800	SHELBY	72102
SHILOH	72298	BLOOMINGGROVE TWP	07230
BUTLER TWP	10646	CASS TWP	12420
FRANKLIN TWP	28406	JACKSON TWP	38038
JEFFERSON TWP	38794	MADISON TWP	46578
MIFFLIN TWP	50092	MONROE TWP	51576
PERRY TWP	62050	PLYMOUTH TWP	63814
SANDUSKY TWP	70394	SHARON TWP	71830
SPRINGFIELD TWP	74128	TROY TWP	77616
WASHINGTON TWP	81578	WELLER TWP	82628
WORTHINGTON TWP	86618		

**ROSS COUNTY**

ADELPHI	00450	BAINBRIDGE	03604
CHILLICOTHE	14184	CLARKSBURG	15336
FRANKFORT	28182	KINGSTON	40376
SOUTH SALEM	73698	BUCKSKIN TWP	10016
COLERAIN TWP	16630	CONCORD TWP	18238
DEERFIELD TWP	21224	FRANKLIN TWP	28420
GREEN TWP	31822	HARRISON TWP	34006
HUNTINGTON TWP	36890	JEFFERSON TWP	38808
LIBERTY TWP	43302	PAINT TWP	59542
PAXTON TWP	61308	SCIOTO TWP	70898
SPRINGFIELD TWP	74129	TWIN TWP	78008
UNION TWP	78540		

**SANDUSKY COUNTY**

BELLEVUE	05228	BURGOON	10282
CLYDE	16308	ELMORE	25144
FREMONT	28826	GIBSONBURG	30072
GREEN SPRINGS	32256	HELENA	34860
LINDSEY	43904	WOODVILLE	86492
BALLVILLE TWP	03730	GREEN CREEK TWP	31990
JACKSON TWP	38052	MADISON TWP	46592
RICE TWP	66460	RILEY TWP	67188
SANDUSKY TWP	70408	SCOTT TWP	71087
TOWNSEND TWP	77162	WASHINGTON TWP	81592
WOODVILLE TWP	86506	YORK TWP	87080

**SCIOTO COUNTY**

NEW BOSTON	54166	OTWAY	59066
PORTSMOUTH	64304	RARDEN	65508
S WEBSTER	73824	BLOOM TWP	06992
BRUSH CREEK TWP	09764	CLAY TWP	15560
GREEN TWP	31836	HARRISON TWP	34020
JEFFERSON TWP	38815	MADISON TWP	46606
MORGAN TWP	52150	NILE TWP	55902
PORTER TWP	64206	RARDEN TWP	65522
RUSH TWP	69092	UNION TWP	78554
VALLEY TWP	79170	VERNON TWP	79828
WASHINGTON TWP	81606		

**SENECA COUNTY**

ATTICA	02820	BETTSVILLE	06194
BLOOMVILLE	07286	FOSTORIA	28014
GREEN SPRINGS	32256	NEW RIEGEL	55398
REPUBLIC	66320	TIFFIN	76778
ADAMS TWP	00324	BIG SPRING TWP	06432
BLOOM TWP	07006	CLINTON TWP	16154
EDEN TWP	24346	HOPEWELL TWP	36400
JACKSON TWP	38066	LIBERTY TWP	43316
LOUDON TWP	45052	PLEASANT TWP	63394
REED TWP	65942	SCIPIO TWP	71024
SENECA TWP	71355	THOMPSON TWP	76632
VENICE TWP	79674		

**SHELBY COUNTY**

ANNA	02092	BOTKINS	07832
FT LORAMIE	27832	JACKSON CENTER	38220
KETTLERSVILLE	40054	LOCKINGTON	44352
PORT JEFFERSON	64262	RUSSIA	69344
SIDNEY	72424	CLINTON TWP	16168
CYNTHIAN TWP	19834	DINSMORE TWP	22050
FRANKLIN TWP	28434	GREEN TWP	31850
JACKSON TWP	38080	LORAMIE TWP	44884
MCCLEAN TWP	46172	ORANGE TWP	58660
PERRY TWP	62064	SALEM TWP	69960
TURTLE CREEK TWP	77854	VAN BUREN TWP	79464
WASHINGTON TWP	81620		

**STARK COUNTY**

ALLIANCE	01420	BEACH CITY	04458
BREWSTER	08504	CANAL FULTON	11304
CANTON	12000	EAST CANTON	23324
EAST SPARTA	24052	HARTVILLE	34328
HILLS AND DALES	35532	LIMAVILLE	43596
LOUISVILLE	45094	MAGNOLIA	46844
MASSILLON	48244	MEYERS LAKE	49294
MINERVA	50834	NAVARRE	53690
NORTH CANTON	56294	WAYNESBURG	82376
WILMOT	85806	BETHLEHEM TWP	06180
CANTON TWP	12014	JACKSON TWP	38094
LAKE TWP	41314	LAWRENCE TWP	42168
LEXINGTON TWP	43022	MARLBORO TWP	47936
NIMISHILLEN TWP	55944	OSNABURG TWP	58926
PARIS TWP	59850	PERRY TWP	62078
PIKE TWP	62694	PLAIN TWP	62988
SANDY TWP	70436	SUGAR CREEK TWP	75208
TUSCARAWAS TWP	77910	WASHINGTON TWP	81634

**SUMMIT COUNTY**

AKRON	01000	BARBERTON	03828
BOSTON HEIGHTS	07790	CLINTON	16182
CUYAHOGA FALLS	19778	FAIRLAWN	26166
GREEN	31860	HUDSON	36651
LAKEMORE	41454	MACEDONIA	45976
MOGADORE	51058	MUNROE FALLS	53312
NEW FRANKLIN	54562	NORTHFIELD	56448
NORTON	57260	PENINSULA	61574
REMINDEVILLE	66152	RICHFIELD	66530
SILVER LAKE	72494	STOW	74944
TALLMADGE	76106	TWINSBURG	78050
BATH TWP	04248	BOSTON TWP	07776
COPLEY TWP	18658	COVENTRY TWP	19036
NORTHFLD CENTER TWP	56490	RICHFIELD TWP	66544
SAGAMORE HILLS TWP	69428	SPRINGFIELD TWP	74130
TWINSBURG TWP	78064		

**TRUMBULL COUNTY**

CORTLAND	18812	GIRARD	30198
HUBBARD	36582	LORDSTOWN	44912
MCDONALD	45934	NEWTON FALLS	55650
NILES	55916	ORANGEVILLE	58674
W FARMINGTON	83384	WARREN	80892
YANKEE LAKE	86856	YOUNGSTOWN	88000
BAZETTA TWP	04444	BLOOMFIELD TWP	07160
BRACEVILLE TWP	08056	BRISTOL TWP	08938
BROOKFIELD TWP	09190	CHAMPION TWP	13470
FARMINGTON TWP	26684	FOWLER TWP	28098
GREENE TWP	32046	GUSTAVUS TWP	32732
HARTFORD TWP	34230	HOWLAND TWP	36554
HUBBARD TWP	36596	JOHNSTON TWP	39298
KINSMAN TWP	40502	LIBERTY TWP	43344
MECCA TWP	48678	MESOPOTAMIA TWP	49210
NEWTON TWP	55636	SOUTHINGTON TWP	73397
VERNON TWP	79856	VIENNA TWP	80052
WARREN TWP	80906	WEATHERSFIELD TWP	82446

**TUSCARAWAS COUNTY**

BALTIC	03744	BARNHILL	03940
BOLIVAR	07594	DENNISON	21714
DOVER	22456	GNADENHUTTEN	30702
MIDVALE	49966	MINERAL CITY	50764
NEWCOMERSTOWN	54432	NEW PHILADELPHIA	55216
PARRAL	61056	PORT WASHINGTON	64346
ROSWELL	68742	STONE CREEK	74804
STRASBURG	74958	SUGAR CREEK	75210
TUSCARAWAS	77924	UHRICHSVILLE	78176
ZOAR	88168	AUBURN TWP	02918
BUCKS TWP	09988	CLAY TWP	15574
DOVER TWP	22470	FAIRFIELD TWP	26082
FRANKLIN TWP	28462	GOSHEN TWP	31066
JEFFERSON TWP	38836	LAWRENCE TWP	42182
MILL TWP	50232	OXFORD TWP	59304
PERRY TWP	62092	RUSH TWP	69106
SALEM TWP	69974	SANDY TWP	70443
SUGAR CREEK TWP	75217	UNION TWP	78568
WARREN TWP	80920	WARWICK TWP	81060
WASHINGTON TWP	81648	WAYNE TWP	82292
YORK TWP	87094		

**UNION COUNTY**

DUBLIN	22694	MAGNETIC SPRINGS	46830
MARYSVILLE	48160	MILFORD CENTER	50218
PLAIN CITY	63030	RICHWOOD	66936
UNIONVILLE CENTER	78834	ALLEN TWP	01336
CLAIBOURNE TWP	15112	DARBY TWP	20170
DOVER TWP	22484	JACKSON TWP	38108
JEROME TWP	39046	LEESBURG TWP	42490
LIBERTY TWP	43358	MILL CREEK TWP	50288
PARIS TWP	59864	TAYLOR TWP	76194
UNION TWP	78582	WASHINGTON TWP	81662
YORK TWP	87122		

**VAN WERT COUNTY**

CONVOY	18546	DELPHOS	21602
ELGIN	24794	MIDDLE POINT	49728
OHIO CITY	58002	SCOTT	71080
VAN WERT	79562	VENEDOCIA	79632
WILLSHIRE	85736	WREN	86632
HARRISON TWP	34034	HOAGLIN TWP	35756
JACKSON TWP	38122	JENNINGS TWP	38990
LIBERTY TWP	43372	PLEASANT TWP	63408
RIDGE TWP	66978	TULLY TWP	77756
UNION TWP	78596	WASHINGTON TWP	81676
WILLSHIRE TWP	85750	YORK TWP	87136

**VINTON COUNTY**

HAMDEN	32956	MCARTHUR	45696
WILKESVILLE	85190	ZALESKI	88028
BROWN TWP	09526	CLINTON TWP	16210
EAGLE TWP	23100	ELK TWP	24892
HARRISON TWP	34048	JACKSON TWP	38136
KNOX TWP	40880	MADISON TWP	46620
RICHLAND TWP	66768	SWAN TWP	75854
VINTON TWP	80192	WILKESVILLE TWP	85204

**WARREN COUNTY**

BLANCHESTER	06908	BUTLERVILLE	10674
CARLISLE	12168	CORWIN	18840
FRANKLIN	28476	HARVEYSBURG	34384
LEBANON	42364	LOVELAND	45108
MAINEVILLE	46872	MASON	48188
MIDDLETOWN	49840	MONROE	51310
MORROW	52374	PLEASANT PLAIN	63576
SOUTH LEBANON	73446	SPRINGBORO	74076
WAYNESFIELD	82418	CLEAR CREEK TWP	15700
DEERFIELD TWP	21238	FRANKLIN TWP	28490
HAMILTON TWP	33068	HARLAN TWP	33474
MASSIE TWP	48216	SALEM TWP	69988
TURTLE CREEK TWP	77868	UNION TWP	78610
WASHINGTON TWP	81690	WAYNE TWP	82306

**WASHINGTON COUNTY**

BELPRE	05424	BEVERLY	06222
LOWELL	45164	LOWER SALEM	45220
MACKSBURG	46158	MARIETTA	47628
MATAMORAS	48286	ADAMS TWP	00338
AURELIUS TWP	03072	BARLOW TWP	03898
BELPRE TWP	05438	DECATUR TWP	21098
DUNHAM TWP	22918	FAIRFIELD TWP	26096
FEARING TWP	26810	GRANDVIEW TWP	31276
INDEPENDENCE TWP	37268	LAWRENCE TWP	42196
LIBERTY TWP	43386	LUDLOW TWP	45360
MARIETTA TWP	47642	MUSKINGUM TWP	53452
NEWPORT TWP	55356	PALMER TWP	59626
SALEM TWP	70002	WARREN TWP	80934
WATERFORD TWP	81774	WATERTOWN TWP	81844
WESLEY TWP	82838		

**WAYNE COUNTY**

APPLE CREEK	02232	BURBANK	10254
CONGRESS	18308	CRESTON	19344
DALTON	19974	DOYLESTOWN	22568
FREDERICKSBURG	28616	MARSHALLVILLE	48048
MT EATON	52682	NORTON	57260
ORRVILLE	58828	RITTMAN	67356
SHREVE	72396	SMITHVILLE	72788
WEST SALEM	84196	WOOSTER	86548
BAUGHMAN TWP	04276	CANAAN TWP	11276
CHESTER TWP	14044	CHIPPEWA TWP	14240
CLINTON TWP	16224	CONGRESS TWP	18322
EAST UNION TWP	24136	FRANKLIN TWP	28504
GREEN TWP	31878	MILTON TWP	50666
PAINT TWP	59556	PLAIN TWP	62995
SALT CREEK TWP	70198	SUGAR CREEK TWP	75231
WAYNE TWP	82320	WOOSTER TWP	86562

**WILLIAMS COUNTY**

ALVORDTON	01588	BLAKESLEE	06810
BRYAN	09792	EDGERTON	24486
EDON	24640	HOLIDAY CITY	35864
MONTPELIER	51772	PIONEER	62834
STRYKER	75140	W UNITY	84308
BRADY TWP	08140	BRIDGEWATER TWP	08630
CENTER TWP	13008	FLORENCE TWP	27530
JEFFERSON TWP	38864	MADISON TWP	46634
MILL CREEK TWP	50302	NORTHWEST TWP	57162
PULASKI TWP	64920	SAINT JOSEPH TWP	69638
SPRINGFIELD TWP	74131	SUPERIOR TWP	75819

**WOOD COUNTY**

BAIRDSTOWN	03646	BLOOMDALE	07062
BOWLING GREEN	07972	BRADNER	08112
CUSTAR	19750	CYGNET	19820
FOSTORIA	28014	GRAND RAPIDS	31206
HASKINS	34412	HOYTVILLE	36568
JERRY CITY	39074	LUCKEY	45332
MILLBURY	50260	MILTON CENTER	50708
N BALTIMORE	56154	NORTHWOOD	57190
PEMBERVILLE	61504	PERRYSBURG	62148
PORTAGE	64108	RISING SUN	67314
ROSSFORD	68686	TONTOGANY	77070
W MILLGROVE	83888	WALBRIDGE	80486
WAYNE	82334	WESTON	83972
BLOOM TWP	07020	CENTER TWP	13015
FREEDOM TWP	28756	GRAND RAPIDS TWP	31220
HENRY TWP	34986	JACKSON TWP	38164
LAKE TWP	41328	LIBERTY TWP	43400
MIDDLETON TWP	49812	MILTON TWP	50680
MONTGOMERY TWP	51744	PERRY TWP	62106
PERRYSBURG TWP	62162	PLAIN TWP	63002
PORTAGE TWP	64122	TROY TWP	77630
WASHINGTON TWP	81704	WEBSTER TWP	82544
WESTON TWP	83986		

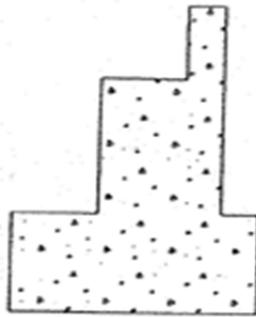
**WYANDOT COUNTY**

CAREY	12112	HARPSTER	33656
KIRBY	40558	MARSEILLES	47992
NEVADA	53942	SYCAMORE	75980
UPPER SANDUSKY	79044	WHARTON	84574
ANTRIM TWP	02190	CRANE TWP	19190
CRAWFORD TWP	19246	EDEN TWP	24360
JACKSON TWP	38178	MARSEILLES TWP	48006
MIFFLIN TWP	50106	PITT TWP	62904
RICHLAND TWP	66782	RIDGE TWP	66992
SALEM TWP	70016	SYCAMORE TWP	75987
TYMOCHTEE TWP	78141		

# APPENDIX E

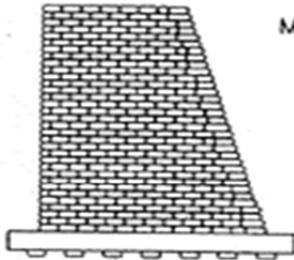
## ABUTMENT TYPES

The following sketches show varying views or sections of some of the typical abutment types:

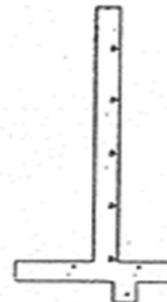
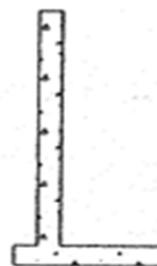
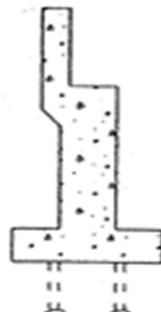
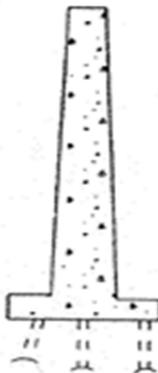


STUB GRAVITY

NATURAL STONE, BLOCK  
OR BRICKS, DRY OR  
MORTAR FILLED JOINTS.



GRAVITY



(WITH OR WITHOUT PILING)

CANTILEVER TYPES

INTEGRAL ABUTMENT

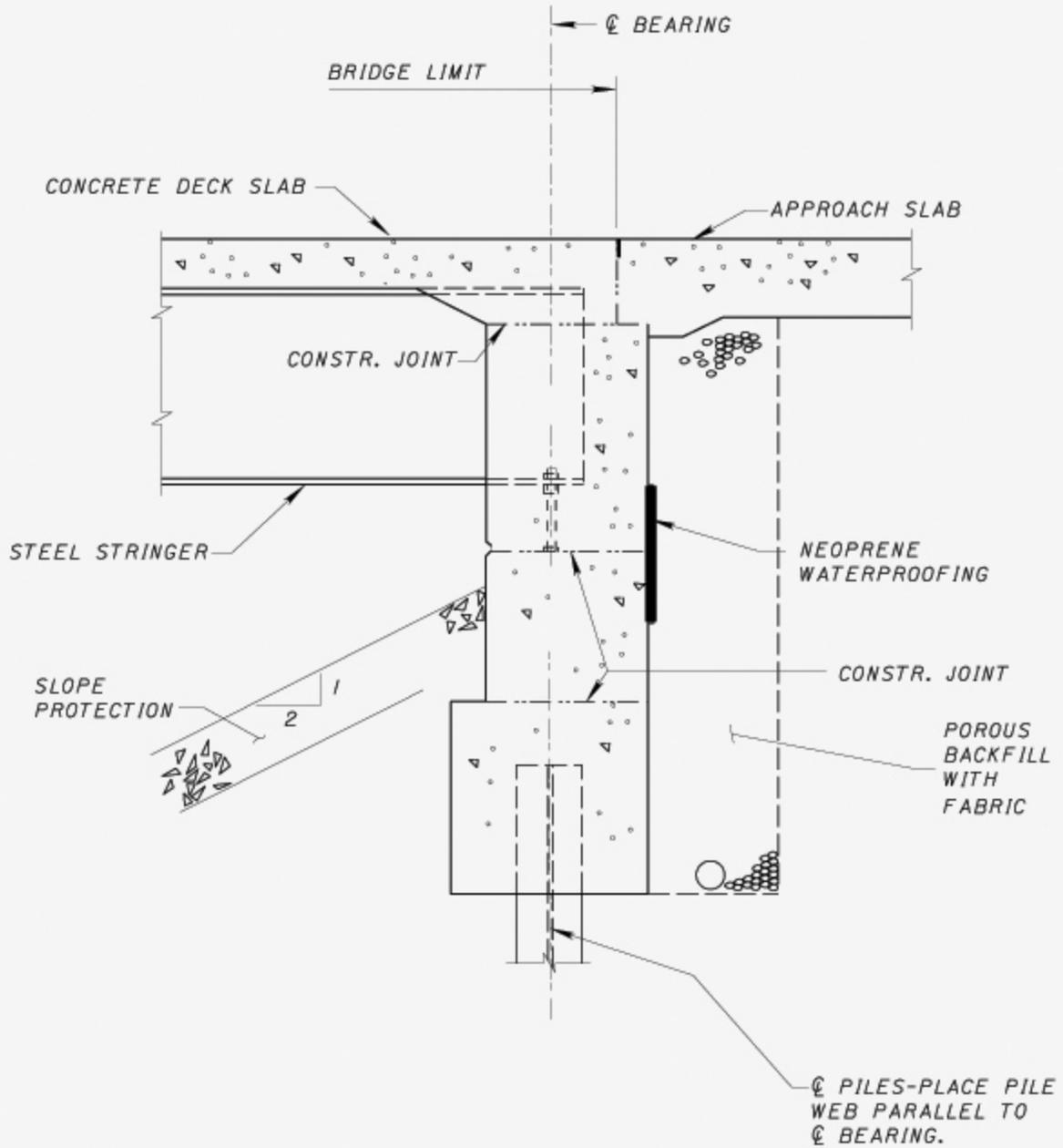


Figure 324

SEMI-INTEGRAL ABUTMENT

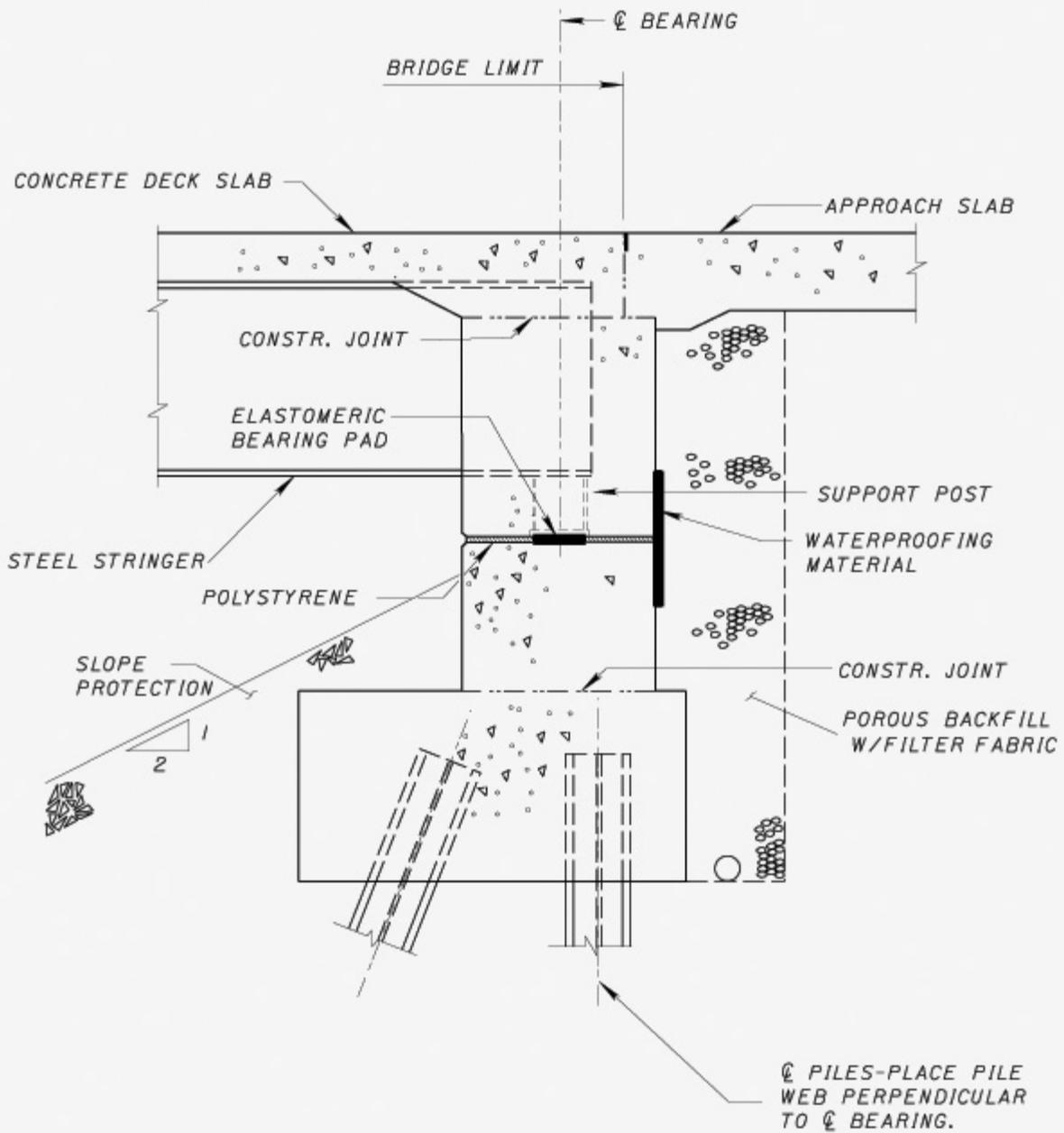


Figure 325



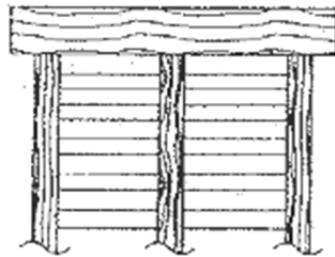
SINGLE ROW



MULTIPLE ROW



### STUB CAPPED PILE

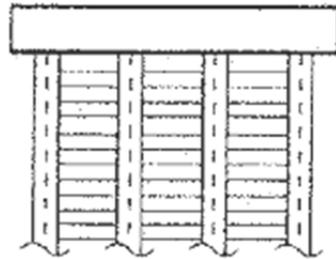


(FRONT)



(END)

### CAPPED PILE BENT (TIMBER)



(FRONT)

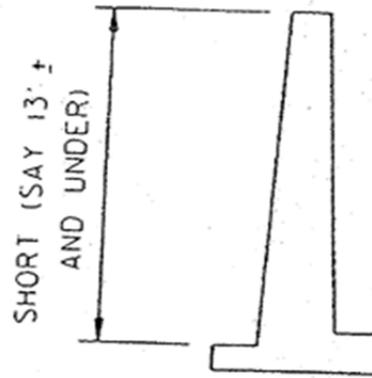
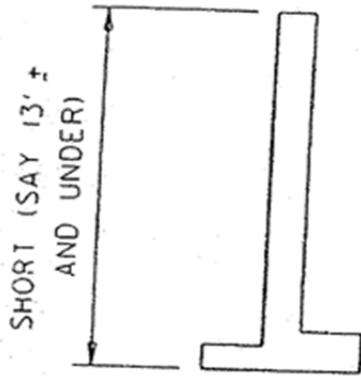


(END)

### CAPPED PILE BENT (STEEL)

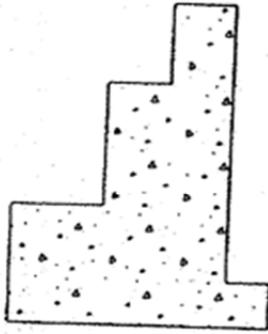


INTEGRAL

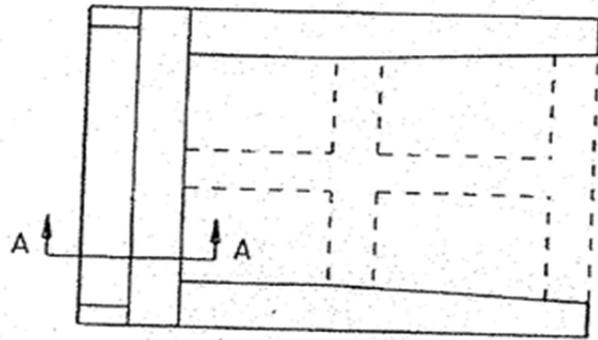


(WITH OR WITHOUT PILING)

SOLID WALLS



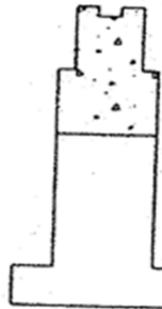
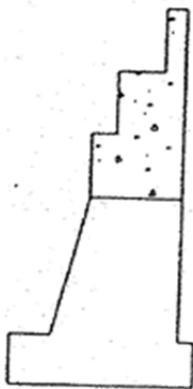
SECTION A-A



PLAN VIEW

LATERAL AND LONGITUDINAL  
CONCRETE BEAMS ADDED  
FOR CELLULAR DESIGN.

U TYPE OF CELLULAR



## **APPENDIX F**

### **ITEM #144 - OHIO ORIGINAL CONSTRUCTION PROJECT NO.**

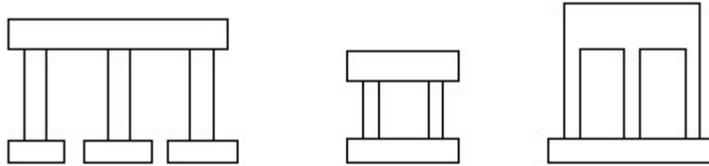
This item must be coded by all State agencies as follows:

- A. Structures sold and originally built under a Project Number. Code the project number in the first four (4) positions of the item, right justified and using leading zeros where necessary. Code the last two (2) digits of the year in which the project was sold in the last two (2) positions of the item.
- B. Structures built by Force Account (by Agency Forces). Code the capital letters "FA" in the third and fourth character position of the item and code the last two (2) digits of the year in which the structure was built in the last two (2) positions of the item.
- C. Structures built by non-state agencies, including those built by States other than Ohio and those constructed under private contracts. Code an alphabetic abbreviation to represent the agency that constructed the bridge using all capital letters. A combination of alphabetic and numeric characters may be used in this item to identify specific contracts by an agency. Numerals, if used, may only be coded in the first four (4) character positions. Coded abbreviations using less than six (6) characters must be right justified and filled with leading zeros. See Appendix H for suggested abbreviation standards.
- D. Structures built by State agencies other than the Department of Transportation, such as the Ohio Turnpike Commission, the Conservancy Districts, the Department of Natural Resources, etc., should code a contract or project number using that agency's scheme of alphabetic and/or numeric characters. If such a number is not available or impractical, code an abbreviation following the scheme described in Part "C" above. See Appendix H for suggested standards.
- E. Structures for which either incomplete or no information is available. Code the key word "UNKNWN" in the item. Although it is recommended that all records submitted include the information required in this item non-state agencies (Counties, municipalities, etc.) are not required to code the item. If these agencies decide to code the information, a uniform individualized system should be adopted by each agency. If an agency has a bridge that was sold through ODOT "Contract Sales", they should code the item for that bridge as described.

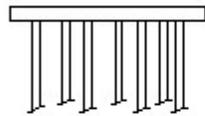
# APPENDIX G

## PIER TYPES

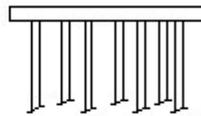
### PIER TYPES



### CAP & COLUMN

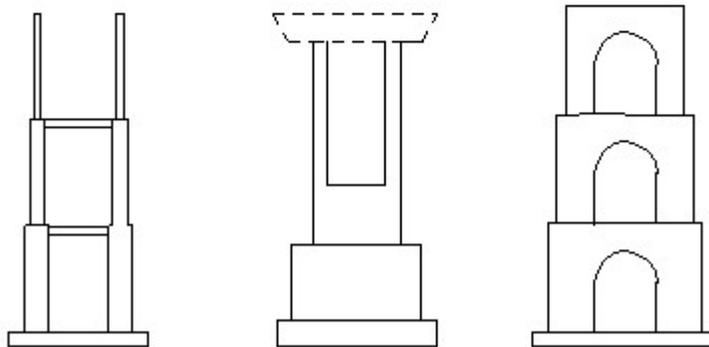


(STEEL)



(TIMBER OR CONCRETE)

### CAPPED PILE TYPES



NOTE: ALL PIERS OF THIS TYPE ARE EXCEPTIONALLY TALL AND INCLUDING COMBINATIONS OF BASIC DESIGNS

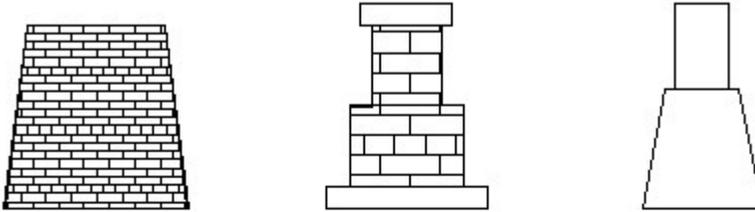
# **APPENDIX G** **(Continued)**

## **PIER TYPES**

### **PIER TYPES**

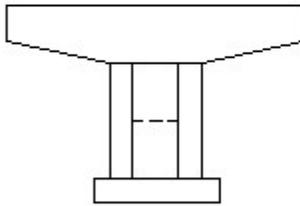
THE FOLLOWING SKETCHES SHOW VARIOUS VIEWS AND SECTIONS OF THE TYPICAL PIER TYPES

NOTE: ALL GRAVITY TYPES SHOWN ARE END OR SECTION VIEWS

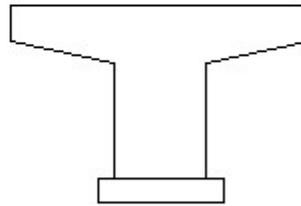


GRAVITY TYPES MAY BE MADE OF SOLID CONCRETE, BRICKS, NATURAL STONE OR BLOCKS WITH DRY MORTAR FILLED JOINTS

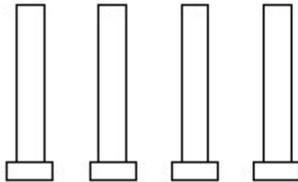
### **GRAVITY TYPES**



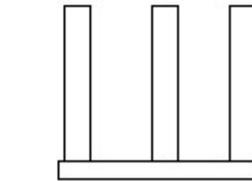
CANTILEVER  
OPEN PANEL "T"



CANTILEVER  
CLOSED PANEL "T"



**OPEN COLUMN**



## **APPENDIX H**

### **SUGGESTED STANDARD CODINGS For Ohio Original Construction Project Numbers**

The following list of abbreviations includes those for non-state and other (non-DOT) State agencies most commonly involved. For agencies not listed, it will be necessary for the coder to create his own abbreviation using the same logic and being careful not to cause confusion by duplicating those shown in this list.

<b>NON-STATE AGENCY CONSTRUCTION</b>	
<b><u>Structure built by</u></b>	<b><u>Code</u></b>
Federal Public Work Programs such as "WPA" and "CCC"	"OOOFPW"
County Construction not sold under State contract system	"COUNTY"
Army Corps of Engineers	"OOOOCE"
Private Contract	"OOOOPC"
City Construction not sold under State contract system	"OOOCITY"
Other State DOT (Example: Florida DOT)	"FLADOT"

<b>OTHER STATE AGENCY CONSTRUCTION</b>	
<b><u>Structure built by</u></b>	<b><u>Code</u></b>
Ohio Turnpike Commission (Using Contract Number)	"OOOOTP" "OO25TP"
State Public Works Program	"OOOSPW"
Ohio Building Authority	"OOOoba"
Ohio Department of Natural Resources	"OODNR"
Ohio Bridge Commission	"OOOBC"
Ohio National Guard	"OOOONG"
Muskingum Conservancy District	"OOMCD"

# **APPENDIX I**

## **ODOT STANDARDIZED CODINGS FOR ROUTE NUMBER SUFFIX'S**

To be coded in last digit positions only of "ROUTE" portion of Item #3 and #22 when a single digit suffix is required to describe an official special category route.

<b><u>Suffix Code</u></b>	<b><u>Special Route Designation</u></b>
"A"	Alternate
"B"	Bypass
"C"	Spur or Connector
"D"	Directional Alternate (1 <sup>st</sup> within County)
"F"	Directional Alternate (2 <sup>nd</sup> for same route within County)
"G"	Directional Alternate (3 <sup>rd</sup> for same route within County)
"J"	Future
"T"	Temporary
"K"	Turnpike (special code to allow differentiation between I-80 & I-76 Ohio Turnpike and ODOT controlled I-80 & I-76)
"X"	Duplicate Route (usually old route still on System after new route of same number is open to traffic)

## APPENDIX J

### BYPASS (DETOUR) LENGTH

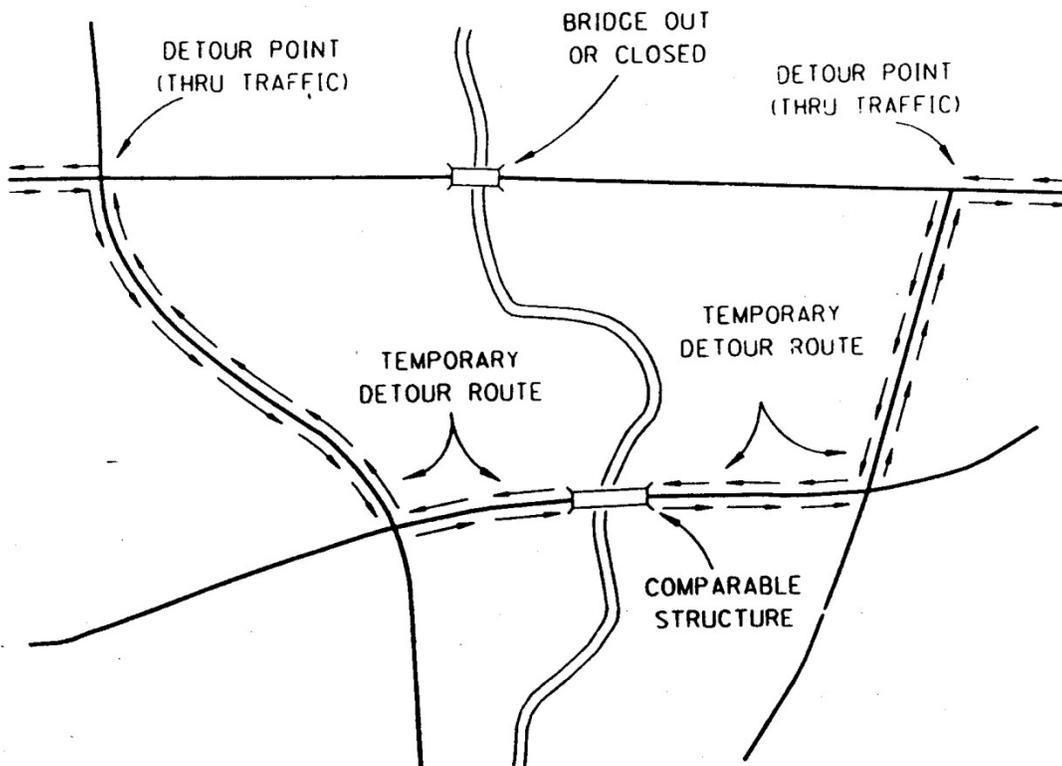
THE BYPASS (DETOUR) LENGTH (ADDITIONAL TRAVEL DISTANCE) FOR THE EXAMPLE SHOWN BELOW IS CALCULATED AS FOLLOWS:

LENGTH OF ROUTE BEING BYPASSED MEASURED BETWEEN DETOUR POINTS = 10.3 MILES.

LENGTH OF DETOUR ROUTE USED TO TEMPORARILY BYPASS THE PROBLEM SITE, MEASURED BETWEEN DETOUR POINTS = 19.6 MILES.

BYPASS (DETOUR) LENGTH = 19.6 MILES - 10.3 MILES = 9.3 MILES (CODE 09 MILES)

### BYPASS (DETOUR) LENGTH



## **APPENDIX K**

### **RAILROAD IDENTIFICATION**

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>01</b>	<b>Ann Arbor Railroad</b>
<b>02</b>	<b>Akron Barberton Cluster Railroad</b>
<b>03</b>	<b>Ashtabula, Carson &amp; Jefferson Railroad</b>
<b>04</b>	<b>Ashland Railway</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>05</b>	<b>Bessemer &amp; Lake Erie Railroad Company</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>10</b>	<b>Central Railroad Company of Indiana</b>
<b>11</b>	<b>Columbus &amp; Ohio River Railroad Company</b>
<b>12</b>	<b>Consolidated Railroad Corporation</b>
<b>13</b>	<b>CSX Transportation Inc.</b>
<b>14</b>	<b>Cincinnati Terminal Railway Company</b>
<b>15</b>	<b>Cuyahoga Valley Railway Company</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>20</b>	<b>Great Miami &amp; Scioto Railway Company</b>
<b>21</b>	<b>Germantown Rail Siding Company</b>
<b>22</b>	<b>Grand Trunk &amp; Western Railroad</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>23</b>	<b>Indiana &amp; Ohio Central Railroad</b>
<b>24</b>	<b>Indiana Northeastern Railway Company</b>
<b>25</b>	<b>Indiana &amp; Ohio Rail Corporation</b>
<b>30</b>	<b>Indiana &amp; Ohio Railway</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>31</b>	<b>Lake Terminal Railroad</b>

## **APPENDIX K**

(Continued)

### **RAILROAD IDENTIFICATION**

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>32</b>	<b>Norfolk Southern Corporation</b>
<b>33</b>	<b>Nimishillon &amp; Tuscarawas Railway Company</b>
<b>34</b>	<b>Newburgh &amp; South Shore Railway Company</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>35</b>	<b>Ohio-Rail Corporation</b>
<b>40</b>	<b>Ohio Central Railroad</b>
<b>41</b>	<b>Ohio Southern Railroad</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>42</b>	<b>Pittsburgh &amp; Lake Erie Railroad Company</b>
<b>43</b>	<b>PL &amp; W Railroad</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>44</b>	<b>R.J. Corman Railroad</b>
<b>45</b>	<b>River Terminal Railway Company</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>50</b>	<b>Spencerville &amp; Elgin Railroad</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>51</b>	<b>Temperance Yard Corporation</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>52</b>	<b>Wheeling &amp; Lake Erie Railway Company</b>
<b>53</b>	<b>The Warren &amp; Trumbull Railroad Company</b>
<b>54</b>	<b>Wabash &amp; Erie Railroad Company</b>

**APPENDIX K**  
(Continued)

**RAILROAD IDENTIFICATION**

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>55</b>	<b>Youngstown &amp; Austintown Railroad Company</b>

<b><u>Code</u></b>	<b><u>Railroad Company</u></b>
<b>90</b>	<b>Greater Cleveland Regional Transit Authority (Transit)</b>
<b>91</b>	<b>Central Ohio Transit Authority (Transit)</b>
<b>92</b>	<b>Southwestern Ohio Regional Transit Authority</b>
<b>93</b>	<b>Akron Metro Regional Transit Authority</b>
<b>NN</b>	<b>None or Not Applicable</b>

## APPENDIX L

### MPO CODE TABLE ITEM #1

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
ADA	NN	NONE
ALL	12	TCC: Lima & Allen County
ASD	NN	NONE
ATB	NN	NONE
ATH	NN	NONE
AUG	NN	NONE

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
BEL	03	BOMTS: Wheeling – Bridgeport
BRO	NN	NONE
BUT	09	OKI: Ohio Kentucky Indiana - Cincinnati

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
CAR	NN	NONE
CHP	NN	NONE
CLA	14	TCC: Springfield
CLE	09	OKI: Ohio Kentucky Indiana – Cincinnati
CLI	NN	NONE
COL	NN	NONE
COS	NN	NONE
CRA	NN	NONE
CUY	08	NOACA: Cleveland

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
DAR	NN	NONE
DEF	NN	NONE
DEL	07	MORPC: Mid Ohio - Columbus

## APPENDIX L

(continued)

### MPO CODE TABLE ITEM #1

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
ERI	17	ERPC – Erie County - Vermilion

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
FAI	07	MORPC: Mid Ohio – Columbus
FAI	NN	NONE
FAI	UU	UNKNOWN: Fairfield

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
FAY	NN	NONE
FRA	07	MORPC: Mid Ohio – Columbus
FUL	NN	NONE

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
GAL	NN	NONE
GEA	08	NOACA: Cleveland
GRE	11	MVRPC: Miami Valley – Dayton
GUE	NN	NONE

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
HAM	09	OKI: Ohio Kentucky Indiana – Cincinnati
HAN	NN	NONE
HAR	NN	NONE
HAS	NN	NONE
HEN	NN	NONE
HIG	NN	NONE
HOC	NN	NONE
HOL	NN	NONE
HUR	NN	NONE

## APPENDIX L

(continued)

### MPO CODE TABLE ITEM #1

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
JAC	NN	NONE
JEF	02	BHJTS: Steubenville – Weirton

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
KNO	NN	NONE

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
LAK	08	NOACA: Cleveland
LAW	05	HAIATS: Huntington
LAW	NN	NONE
LAW	UU	UNKNOWN
LIC	06	LCATS: Newark – Heath
LIC	07	MORPC: Mid Ohio – Columbus
LIC	UU	UNKNOWN
LOG	NN	NONE
LOR	08	NOACA: Cleveland
LOR	17	ERPC – Vermilion
LUC	15	TMACOG – Toledo

<u>COUNTY</u>	<u>MPO</u>	<u>DESCRIPTION</u>
MAD	NN	NONE
MAH	04	EDATA: Youngstown
MAR	NN	NONE
MED	08	NOACA: Cleveland
MEG	NN	NONE
MER	NN	NONE
MIA	11	MVRPC: Miami Valley – Dayton
MOE	NN	NONE
MOT	11	MVRPC: Miami Valley – Dayton
MRG	NN	NONE
MRW	NN	NONE
MUS	NN	NONE

## **APPENDIX L**

**(continued)**

### **MPO CODE TABLE ITEM #1**

<b><u>COUNTY</u></b>	<b><u>MPO</u></b>	<b><u>DESCRIPTION</u></b>
<b>NOB</b>	<b>NN</b>	<b>NONE</b>

<b><u>COUNTY</u></b>	<b><u>MPO</u></b>	<b><u>DESCRIPTION</u></b>
<b>OTT</b>	<b>NN</b>	<b>NONE</b>

<b><u>COUNTY</u></b>	<b><u>MPO</u></b>	<b><u>DESCRIPTION</u></b>
<b>PAU</b>	<b>NN</b>	<b>NONE</b>
<b>PER</b>	<b>NN</b>	<b>NONE</b>
<b>PIC</b>	<b>NN</b>	<b>NONE</b>
<b>PIK</b>	<b>NN</b>	<b>NONE</b>
<b>POR</b>	<b>01</b>	<b>AMATS: Akron</b>
<b>PRE</b>	<b>NN</b>	<b>NONE</b>
<b>PUT</b>	<b>NN</b>	<b>NONE</b>

<b><u>COUNTY</u></b>	<b><u>MPO</u></b>	<b><u>DESCRIPTION</u></b>
<b>RIC</b>	<b>13</b>	<b>TCC: Mansfield</b>
<b>ROS</b>	<b>NN</b>	<b>NONE</b>

<b><u>COUNTY</u></b>	<b><u>MPO</u></b>	<b><u>DESCRIPTION</u></b>
<b>SAN</b>	<b>NN</b>	<b>NONE</b>
<b>SCI</b>	<b>NN</b>	<b>NONE</b>
<b>SEN</b>	<b>NN</b>	<b>NONE</b>
<b>SHE</b>	<b>NN</b>	<b>NONE</b>
<b>STA</b>	<b>10</b>	<b>SCATS: Canton</b>
<b>SUM</b>	<b>01</b>	<b>AMATS: Akron</b>

**APPENDIX L**  
**(continued)**

**MPO CODE TABLE**  
**ITEM #1**

<b><u>COUNTY</u></b>	<b><u>MPO</u></b>	<b><u>DESCRIPTION</u></b>
<b>TRU</b>	<b>04</b>	<b>EDATA: Youngstown</b>
<b>TUS</b>	<b>NN</b>	<b>NONE</b>

<b><u>COUNTY</u></b>	<b><u>MPO</u></b>	<b><u>DESCRIPTION</u></b>
<b>UNI</b>	<b>NN</b>	<b>NONE</b>

<b><u>COUNTY</u></b>	<b><u>MPO</u></b>	<b><u>DESCRIPTION</u></b>
<b>VAN</b>	<b>NN</b>	<b>NONE</b>
<b>VIN</b>	<b>NN</b>	<b>NONE</b>

<b><u>COUNTY</u></b>	<b><u>MPO</u></b>	<b><u>DESCRIPTION</u></b>
<b>WAR</b>	<b>09</b>	<b>OKI: Ohio Kentucky Indiana – Cincinnati</b>
<b>WAS</b>	<b>NN</b>	<b>NONE</b>
<b>WAS</b>	<b>UU</b>	<b>UNKNOWN</b>
<b>WAS</b>	<b>16</b>	<b>WWW: Parkersburg – Belpre</b>
<b>WAY</b>	<b>01</b>	<b>AMATS: Akron</b>
<b>WAY</b>	<b>NN</b>	<b>NONE</b>
<b>WAY</b>	<b>UU</b>	<b>UNKNOWN</b>
<b>WIL</b>	<b>NN</b>	<b>NONE</b>
<b>WOO</b>	<b>15</b>	<b>TMACOG: Toledo</b>
<b>WYA</b>	<b>NN</b>	<b>NONE</b>

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