



# Minnesota Department of Transportation

MS 610  
3485 Hadley Avenue North  
Oakdale, MN 55128

Office Tel: (651) 366-4506  
Office Fax: (651) 366-4497

## Memo

**TO:** Bridge Design Engineers

**FROM:** Arielle Ehrlich   
State Bridge Design Engineer

**DATE:** August 10, 2015

### MEMO TO DESIGNERS (2015-01): Concrete Mix Design Designations

With the publishing of the 2016 Edition of the MnDOT *Standard Specifications for Construction* (2016 MnDOT Specs.), MnDOT is switching to Contractor mix designs for concrete. One of the results of this change is new concrete mix designations. Beginning with the October 23, 2015 letting, all projects will utilize the 2016 MnDOT Specs.

In order to decrease the work involved in making the transition, abbreviated changes are allowed for bridge plans that are let in October, November, or December of 2015, in accordance with the following:

- In the “CONSTRUCTION NOTES” placed on the “GENERAL PLAN AND ELEVATION” sheet, add the following note:  
    CONVERT OLD CONCRETE MIX DESIGN DESIGNATIONS SHOWN IN PLANS  
    TO 2016 CONCRETE MIXES USING TABLES 2461-6 AND 2462-6 FOUND IN  
    THE PROJECT SPECIAL PROVISIONS, DIVISION S.
- In the “Schedule of Quantities” table placed near the front of the plan, replace each 2014 MnDOT Spec. pay item that contains an old concrete mix designation with the 2016 MnDOT Spec. pay item that contains the new concrete mix designation.
- For each pay item that has been replaced as stated above, include a circled note below the table stating that the new pay item replaces all references to the old pay item found throughout the bridge plan.
  - Examples:
    - ① PAY ITEM “STRUCTURAL CONCRETE (1G52)” REPLACES ALL REFERENCES TO “STRUCTURAL CONCRETE (1A43)” THROUGHOUT THIS PLAN.
    - ② PAY ITEM “TYPE F (TL-4) BARRIER CONCRETE (3S52)” REPLACES ALL REFERENCES TO “TYPE F (TL-4) RAILING CONCRETE (3Y46)” THROUGHOUT THIS PLAN.



For all bridge plans in the January 2016 letting and thereafter, provide the new concrete mix designations throughout the plan and do not include plan notes for conversion.

The Trns\*port pay item list has been updated and can be found at:

<http://bidlet.dot.state.mn.us/english2016.aspx>

The Division "SB" bridge special provisions have been updated and can be found at:

<http://www.dot.state.mn.us/bridge/construction.html>

The LRFD Bridge Design Manual (BDM) Table 5.1.1.1, "Design Concrete Mix Summary", has been updated to the new concrete mix designations. However, other locations where a concrete mix is listed within the BDM have not been updated, but will be when the section they are in is revised. A conversion table for bridge elements is attached as a reference.

If you have any questions, please contact Dave Dahlberg ([dave.dahlberg@state.mn.us](mailto:dave.dahlberg@state.mn.us) or (651) 366-4491) or me.

cc: Bev Farraher  
Dave Dahlberg  
Dave Conkel/Local Consultants  
Colleen Harer/Design Consultants



**Concrete Mix Design Conversion Table  
for Bridge and Structural Elements**

Location/Element	Old MnDOT Mix Designation	New MnDOT Mix Designation
Cofferdam seals	1X62	1X62
Cast-in-place concrete piles and spread footing leveling pads	1C62	1P62
Drilled shafts	1X46 1Y46	1X62 3X62
Footings and pile caps	1A43	1G52
Abutment stems, wingwalls, cast-in-place wall stems, pier columns, and pier caps	3Y43	3B52
Integral abutment diaphragms and pier continuity diaphragms	Same mix as used in deck	Same mix as used in deck
Pretensioned superstructures	1W36 3W36 special	1W82 3W82 N/A
Cast-in-place and precast box girders	3JM	3JM
Monolithic decks and slabs	3YHPC-M 3YLCHPC-M 3Y33	3YHPC-M 3YLCHPC-M 3Y42
Decks and slabs that will receive a 2 inch concrete wearing course	3YHPC-S 3YLCHPC-S 3Y36	3YHPC-S 3YLCHPC-S 3Y42
Barriers, end posts, parapets, median barrier, raised medians, and sidewalks	3Y46	3S52
Concrete wearing course	3U17A	3U17A
MSE wall panels, PMBW blocks, and noisewall panels	3Y43	3Y82
Precast box culverts, arches, and 3-sided structures	3W36	3W82

