

Highway Design Manual (Vol. I)
List of Major Revisions to Chapter 8 (Quantities)
(referenced to the 1999 Manual)

This sheet lists MAJOR changes. Be aware there are other subtle changes to items not made reference to here.

1. Introduction

- a. Added section about proprietary items.
- b. Revised the method for rounding to more of a % basis.
- c. Added a section about keeping a cadd drawing with measurements for in-house reference

2. Division 200 - Earthwork

Section 201 – Clearing and Grubbing

- a. Added a Section 201 (under 202 in 1999)
- b. Added a distinction between large and small tree items.
- c. Added Item 201.6 – Clearing for Fence Lines & Item 201.7xx Selective Clearing and Thinning.

Section 202 – Removal of Structures and Obstructions

- a. Added Item 202.1xx – Demolishing Buildings Subject to Prior Removal, Item 202.30x – Building Asbestos Abatement, Item 202.3x – Fill Abandoned Pipe (or Structure)
- b. Revised Description for Item 202.6, from “Curb Removal for Storage” to “Curb Removal for Salvage”
- c. Removed subsidiary guardrail removal, noting that any removal is now paid under Item 202.7 – Removal of Guardrail.

Section 203 – Excavation and Embankment

- a. Added references to use of 3D modeling.
- b. Removed reference to use of a “K” factor.
- c. Revised the Earthwork Calculation Sheet.
- d. Added lines 2a “Bituminous Pavement (Removed) in Fill Sections”, and 41a “Bituminous Pavement (Replaced) in Fill Sections”, to the Earthwork Summary Sheet. LRS Item added as well as procedure for calculation.
- e. Added Item 203.2 – Rock Excavation
- f. Removed Item 203.5 – Borrow
- g. Replaced Item 203.52 with Item 203.53 – Low Permeability Fill
- h. Revised Item 206.2 - Clarifies payment of removal of masonry or concrete headers by size.

Section 207 – Channel Excavation

- a. Added description to this section

Section 210 – Geotechnical Investigation

- a. Added description to this section

Section 211 – Vibration Monitoring

- a. Added this section

Section 214 – Fine Grading

- a. Removed reference to cost estimating factor due to possibility of continuously changing costs.
- b. Added guidance on use during reclaim projects
- c. Added Item 214.3- Fine Grading Earth Berms in Rock Cuts
- d. Added Item 214.42 – Fine Grading – Mound and Pool Microtopography

Section 217 – Prefabricated Vertical Drains

- a. Added this section

Section 223 – Slope Stabilization by Soil Nailing

- a. Added this section

Section 225 – Rock Bolts

- a. Added this section

3. Division 300 – Base Courses

Section 304 – Aggregate Base Courses

- a. Added average end area and 3D modeling to choices of calculation methods.
- b. Added Item 304.32 – Crushed Gravel for Shoulder Leveling as it is used continuously in resurfacing projects.

Section 306 – Reclaimed Stabilized Base

- a. Added to the description of the section

4. Division 400 - Pavements

Section 403 – Hot Bituminous Pavement

- a. Added a description of the section
- b. Added guidance on determining left over millings beyond what can be recycled back into the mix.
- c. Added to Item 403.11 general guidance on inclusion of QC/QA Tier.
- d. Added to Item 403.12 further guidance on its use.
- e. Added Item 403.4 – Material Transfer Vehicle, Item 403.6 – Pavement Joint Adhesive, Item 403.98 – Hot Bituminous Leveling, Machine Method, 411.1 Hot Bituminous Leveling Course, & Temporary Bituminous Pavement

Section 410 – Bituminous Surface Treatment

- a. Revised the wording under this section
- b. Added Item 410.22 – Tack Coat

Section 413 – Hot Poured Crack Sealant

- a. Added this section

Section 417 – Cold Planing of Bituminous Surfaces

- a. Added Item 417.41X – Rumble Strips, X” Wide & Item 417.53 – Remove and Inlay Existing Rumble Strips

5. Division 500 – Structures

Section 503 – Cofferdams and Water Diversion Structures

- a. Added this section

Section 506 – Sheet Piling

- a. Added this section

Section 520 - Concrete

- a. Added guidance on selection of concrete items.
- b. Added Items 520.32 – Grouting Voids in Backfill Material & 521.1 – Shotcrete Liner

Section 544 – Reinforcing Steel

- a. Added a description of roadway reinforcement
- b. Added an ASTM table for calculation of lbs of steel

Section 570 – Stone Masonry

- a. Added guidance on the use of MRM headwalls

Section 583 - Riprap

- a. Added this section

Section 585 – Stone Fill

- a. Added guidance on typical application of stone fill

Section 593 - Geotextile

- a. Revised guidance on the application of geotextile.
- b. Removed calculation of end wrap.

Section 595 - Geogrid

- a. Added this section

6. Division 600 – Incidental Construction

Section 602 – Pipe Lining

- a. Added this section

Section 603 – Culverts & Storm Drains

- a. Added description under this section
- b. Added Item 603.0001 – Video inspection
- c. Added guidance on selection of end sections

Section 604 – Catch Basins, Drop Inlets and Manholes

- a. Added to the description under this section
- b. Added Item 604.0007 – Polyliners
- c. Added guidance on basin diameter sizing and slab top need.

Section 606 - Guardrail

- a. Added to the description under this section for new items such as reset block and rail and temporary impact attenuators.
- b. Revised Item 606.95 – Temporary Traffic Control Barrier to be Item 606.41XX – Portable Concrete Barrier for Traffic Control and Item 606.95XXX – Temporary Traffic Control Barrier.

Section 608 - Sidewalks

- a. Added to the description and guidance on selection.

Section 609 - Curbs

- a. Added to the guidance under the description such as minimum reveal.

Section 614 – Electrical Conduit

- a. Added that steel conduit requirements of PSNH now applied to every location and also added additional guidance on short runs.
- b. Added plan and elevation details for guidance

Section 615 – Traffic Signs

- a. Added relocation item guidance
- b. Added removal of signs item

Section 616 – Traffic Signals

- a. Added description under this section

Section 618 – Uniformed Officers and Flaggers

- a. Added an excel spreadsheet for guidance in use of items

Section 619 – Maintenance of Traffic

- a. Added guidance on Item – 619.253 – Portable Changeable Message Sign (Unit/Week)
- b. Revised CSWD package description to remove operational signs/devices.

Section 621 - Delineators

- a. Revised the method of calculation to reflect separation of colors for use in the Summary.

Section 628 – Sawed Pavements

- a. Added guidance on when bituminous is subsidiary and when paid for.

Section 632 – Retroreflective Pavement Markings

- a. Added guidance for 2nd coat on new pavement
- b. Added guidance for including re-striping in multi-season projects
- c. Added Item 632.3xxx – Thermoplastic Pavement Markings
- d. Added Item 632.712xx – Grooved Polyurea
- e. Added guidance under Item 632.9XX – Obliterate Pavement Marking

Section 645 – Erosion Control

- a. Revised Item 645.11 & 645.111 – Mulch, to Item 645.1XX
- b. Added Item 645.3 – Erosion Stone
- c. Replaced Slope Stabilization Items 645.21, 645.22, 645.23, 645.24, and 645.25 with 645.42, 645.44, 645.45 and 645.46.
- d. Added Item 645.512 – Compost Sock for Erosion and Settlement Control and added guidance of this and silt fence.
- e. Added Items 645.611, 645.612, and 645.613 (Fiber Matrix's).
- f. Added Item 645.7 Stormwater Pollution Prevention Plan
- g. Added guidance under Item 645.71 – Monitoring SWPPP and Erosion and Sediment Controls

Section 646 – Turf Establishment

- a. Revised guidance on the use of this item

Section 650 - Landscaping

- a. Added this section

Section 670 – Special Items

- a. Replaced Item 670.045 – Construct and Remove Detour with Item 670.045XX – Construct and Remove Diversion to reflect updated terms.

- b. Added Item 670.046X – Construct and Remove Temporary Widening
- c. Added Item 670.049X – Construct and Remove Temporary Access Road
- d. Revised Item 670.101 – Temporary Lighting to Item 670.10X – Temporary Lighting and removed Item 1008.1 as an option. Added 670.104 & 670.105 (Temporary Portable Lighting)

Section 692 - Mobilization

- a. Added guidance under the description

Section 698 – Field Facilities

- a. Added guidance for Items 698.X – Field Office and 698. – Physical Testing Laboratory

Section 699 – Temporary Project Water Pollution Control (Soil Erosion) is revised to Miscellaneous Temporary Erosion and Sediment Control

7. Division 1000 – Dollar Amounts

- a. Added this division
- b. Added Item 1008.11 – Unanticipated Work, Item 1010.15 Fuel Adjustment, Item 1010.2 Asphalt Adjustment, and Item 1010.3 Quality Control and Quality Assurance (QC/QA) Asphalt

8. Appendix

- a. Removed Erosion Control Detail Sheet
- b. Added Building Demolition Checklist
- c. Added Sample Pipe Diameters for Sliplining
- d. Added Item 618. Calculation Sheet
- e. Added Drainage Note Format
- f. Added Earthwork Summary Spreadsheet