

MASS Updates
DIV 20 - Earthwork

Comment	Response
Section 20.04, Suggest adding: Limits shall extend outside of areas to be improved a minimum of two feet (2').	See SP changes for 20.05 Clearing
Section 20.04: Consider eliminating or modifying maximum stump height of 2 inches. Seems it would only be an issue if removing merchantable timber to sell and want to maximize profit or if stumps are being disposed of in a manner different from the rest of the vegetation and organic mat.	Stump provisions are in 20.05 Clearing (only), where stumps will remain in place. No change needed.
Section 20.09, Article 9.2: Should state that asphalt cement concrete pavement will be hauled to and disposed at Street Maintenance on Northwood, unless otherwise specified.	Leave disposal at Northwood as a SP because only applies to ARDSA roads. Don't want old pavement hauled in from Eagle River, Girdwood, etc.
Section 20.09 assumes the pavement is asphalt cement concrete without stating that explicitly. Merriam Webster defines pavement as <i>the artificially covered surface of a public thoroughfare</i> . Encyclopedia Britannica states the following: <i>Pavement, in civil engineering, durable surfacing of a road, airstrip, or similar area. The primary function of a pavement is to transmit loads to the sub-base and underlying soil. Modern flexible (emphasis added) pavements contain sand and gravel or crushed stone compacted with a binder of bituminous material, such as asphalt, tar, or asphaltic oil.</i> Accordingly, need to qualify or address "pavement" composed of Portland cement concrete, chip seal, RAP, and aggregate base.	Okay with adding "asphalt" to pavement description, but need to check with SM if chip seal or RAP is considered to be pavement.
Section 20.10, Article 10.4: Should state that asphalt cement concrete pavement will be hauled to and disposed at Street Maintenance on Northwood, unless otherwise specified.	Handled in 20.09. No change needed. Disposal at Northwood handled by SP for 20.09.
Section 20.11, Article 11.2, 1st ¶, 2nd sentence, suggest: Suitable material removed from the high areas shall be used to placed as fill the in depressions.	Change
Section 20.11, Article 11.2, 1st ¶, 3rd sentence: ... the surface shall be plowed, steeped- stepped , or broken ...	Change

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Section 20.11, Article 11.2, 2nd ¶: Within areas cut to grade but where the subgrade surface has been disturbed (e.g. during clear and grub operations or as listed in 1st), need to establish a minimum depth of compaction. Suggest 12 inches.	Change
Section 20.11, Article 11.2, 2nd ¶, 2nd sentence, suggest: Water shall be added to graded material that is too dry to be adequately compacted until the moisture content is within the optimum range for compaction. Material shall be scarified, tilled, and mixed as needed to create uniform moisture conditions throughout. Graded material which is excessively that is too wet to be adequately compacted shall be scarified, tilled, mixed, and aerated by means of blade graders, harrows, or other suitable equipment until the moisture content is satisfactory within the optimum range for compaction.	Change
Section 20.26: AWWU waterline insulation design calls for 4 inches of R-20, or R-5 per inch. Extruded polystyrene has an R-5 rating. Roadway insulation also calls for 4 inches, but MASS doesn't differentiate between extruded and expanded. Standard is to use expanded polystyrene because it is cheaper, but it has only an R-4.5 per inch rating. It would make construction a bit easier if design differences could be eliminated.	AWWU changed their spec to R-value of 4.5 per inch; no change needed in M.A.S.S.
Section 20.02, Article 2.19: Add language for withholding 10 - 25% payment for SWPPP bid item until final field SWPPP has been received.	Handle with a SP; too many variables to establish one standard.
Section 20.28, Articles 28.4 & 28.5: This is the hardest and most difficult way to pay for driveway reconstruction. All the materials that go into the driveway are imported and paid by other methods and measurements per MASS. It's very difficult and time consuming to back out quantities from weight tickets.	Agreed. Coordinate with Div 30.

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Section 20.28, Articles 28.4 & 28.5: Item needs to be changed for the measurement scope. This should be paid under the items already in place for the project (Type II, D-1, Fabric, Insulations, etc.). This work is almost always conducted at the same time as the road work and it is almost impossible to pull tickets for what is going into a driveway vs what is going into the road prism. This item is usually changed in the special provisions already and should be put into MASS	Agreed. Coordinate with Div 30.
Section 20.10, Articles 10.4: Possibly add clarification for when unusable excavation should be used versus disposal of unusable excavation. We have had contractors confused with what is roadway excavation (which includes disposal) and trench excavation (where disposal is paid separately in 20.27).	Text related to usable and unusable excavation revised for consistency and simplicity.
Section 20.01, Article 1.2: To be consistent with definition of "Fill", suggest: Backfill – Material placed in an excavated area up to the original or natural ground line.	Change
Section 20.01, Article 1.2: To be consistent with definition of "Backfill", suggest: Fill – Material placed above the original or natural ground line.	Change
Section 20.01, Article 1.2: To be more inclusive and incorporate OSHA definition, suggest: Trench – Any excavation for a utility or drainage system or where the width of the excavation is less than twice the depth of the excavation.	Change
Section 20.01, Article 1.3: Edit test designations and titles to match published standards.	Change
Section 20.01, Article 1.3: ASTM D422, ASTM D424, and AASHTO T 205 have been withdrawn.	Replace with newer standards
Section 20.25, Article 25.3C: Type A Geotextile: First sentence states join by sewing or overlapping but does not state how large of an overlap. Should state a 3 overlap to be consistent with Types B and C	Agreed, Revise to match language for Type C Geotextile.

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<p>Section 20.25, Article 25.3E: Contractors first excavate roadway section, place geotextile along the walls and bottom of the cross section, and then place 2'± of fill on top of the geotextile. Pipe trench excavations deeper than the bottom of road exc requires cutting through the bottom of road exc geotextile. When lining the trench bottom and walls, Contractors will place the geotextile on top of the first lift of backfill (for a distance of 3') and not directly on top of the road exc. geotextile. MASS doesn't state that the geotextile overlaps need to be in direct contact with each other. We need to require geotextile overlaps to be in direct contact with the adjacent geotextile unless otherwise approved by the Engineer. Suggest revising Subarticle E. Geotextile Repair by adding a 3rd par: All overlaps require geotextile to be placed directly on top the other geotextile over the full three foot (3') overlap and no backfill material will be allowed between the two (2) geotextiles.</p>	<p>Clarify in 25.3 C that overlaps of Type A and C geotextiles shall be in direct contact with each other.</p>
<p>Change all male pronoun references to gender neutral.</p>	<p>Change</p>
<p>Section 20.15, Article 15.3; Section 20.21, Article 21.4; Section 20.22, Article 22.4: Redundant specification for restricting maximum water/moisture content of delivered soil-aggregate materials. SP for Cullet in 20.22 suggests adding " and adjusted for excess moisture as provided." to the first sentence and then providing the adjustment language but similar suggestion is not made for 20.21. No moisture limitations placed on other generally clean, course materials but for those materials, they should not be able to hold more than about 4% moisture.</p>	<p>Decided not to change; RAP MC limit is 3.5%; don't want to increase it to 4.0%.</p>
<p>Section 20.02, Article 2.3A: Remove 2011 date from CGP title.</p>	<p>Change</p>
<p>Section 20.02, Article 2.9D: 6th ¶: CGP Part 2.1.5 should be 2.1.6 8th ¶: CGP Part 4.1.2 should be 4.1.3.3 9th ¶: CGP Part 4.3 should be 4.4</p>	<p>Change</p>
<p>Section 20.12, Article 12.4: Dewatering should not be Lump Sum because extent of the Work is typically not well-known or well-defined in the Contract documents.</p>	<p>Too many variables to have standard pay items; handle with SP.</p>

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Section 20.17, Article 17.5, 2nd ¶: No payment for placing filter material in French drains because it's included in 20.13, but does Contractor get paid for furnishing it to job site? No payment for furnishing & placing filter material in subdrains because both are included in 55.03.	