

M.A.S.S. Update
DIV 30 - Portland Cement Concrete

| Comment | Response |
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| There is no language in MASS re: sidewalk joint sealant being required. | Sidewalk joint sealant for new concrete work shall be in accordance with Section 30.02, Article 2.3, SubArticle E - Expansion and Contraction Joints. For existing sidewalk, Section 30.11 Sidewalk Joint Sealant provides language of preparing and sealing joints for the purpose of sealing and repair. |
| <p>Update the 6" setback to the 2" setback.</p> <p>Add DW detail that shows how to install on pie pieces instead of rectangles.</p> <p>Requirement for Blended Transition instead of parallel ramp if radius < say 15'???</p> <p>Distance at front of landing. Is 5' sufficient for smaller radius?</p> <p>Specify measurements taken at TBC?</p> <p>Specify 1 or 2' transition for backer curb next to c&g for plowing issues.</p> | <ul style="list-style-type: none"> ● Std Dtls revised to show a 2-inch maximum gap from the edge of the detectable warning and back of curb and gutter. ● Std Dtls revised to show a rectangular detectable warning for perpendicular, a radial detectable warning for parallel, and both for a unidirectional curb ramp. ● Blended transition curb ramp detail added. ● 5-foot landing width should be adequate at smaller radiuses if measured from the back of sidewalk. ● Not neccesary. ● 2-foot taper provided where backing curb meets with the curb and gutter to minimize snow plowing concerns. |
| Show break point between retaining wall and sidewalk pay items. Smith's preference is to show sidewalk whole width and retaining wall below. | Pay item for sidewalk retaining wall to remain unchanged, since the sidewalk portion consists of thickening and placing rebar in the sidewalk. |

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| <p>See attached. The epoxy is an anchoring adhesive; the other product is for waterproofing.</p> <p>Looked through M.A.S.S. and don't see either(or similar product) specifically called out. Both are relevant to Div 30 primarily.</p> <p>Pro-Poxy 500 is an epoxy anchoring system. This type product is used on almost every commercial and residential foundation ; new construction and renovation. For chemically anchoring dowels, bolts and rod. Meets all the testing for our seismic region.</p> <p>Mapethane LT is a sheet membrane for waterproofing horizontal and vertical walls and decks ; new construction and renovation. Common to commercial work.</p> <p>pro-poxy)500.pdf mapethene lt.pdf</p> | <p>Products under review.</p> |
| <p>Let's put this on the list to consider for a M.A.S.S. revision this coming fall/winter. We should also consider going to cast iron detectable warning strips.</p> <p>J-22 DayChem Cure and Seal.pdf</p> | <p>Products under review. MOA to convert to cast iron detectable warning tile.</p> |
| <p>One thing we've been discussing over the past couple of weeks is to modify the concrete spec to set a hard date in place of the temperature (say September 15) where both an accelerator and blankets are required unless approved by the MOA Project Engineer.</p> <p>I would do both – temperature if it happens before Sept 15 and then always after Sept 15. That way if we hit a cold snap earlier in the year we are still covered</p> | <p>M.A.S.S. Section 30.01 General under Article 1.9 Weather Limitations and Article 1.10 Protection of Work updated to reflect temperature change and avoid concrete from scaling.</p> |

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| Article 2.3 Construction, E.1 Sidewalk Expansion Joints - Remove "where the sidewalk span exceeds seventy-five (75')". | Language removed. |
| High Strength Concrete for Curbs at Narrowing Tapers. | Bid item for High-Performance P.C.C. Curb and Gutter added under Section 30.02 for curb narrowing. |
| Tuff Tiles cast iron tiles have been used in the Anchorage area as well as Fairbanks, Kenai, and Soldotna. They are currently approved by the State for State work and have held up over the years. I would recommend adding these into Section 30.04 Article 4.2 for adding what is locally available to the contractors to keep the market fair in regards to tile supply. Cast-Iron-Submittal-Sheet.pdf | MOA to convert to cast iron detectable warning tile. Tuf Tiles added as another manufacturer. |
| General, Article 1.6: Mix Requirements ● Update mix designs | Concrete Class AA-3 mix design requirements revised to match AKDOT&PF Section 550 Class B concrete. |
| General, Article 1.10: Protection of Work ● Clarify the word "Adjacent". Every year this word is argued over on job sites. ● Cure time for weight of vehicular traffic. ● Concrete Strength at 80%. | ● Instead of clarifying the word "adjacent", language added "as directed by the Engineer". ● Language added to have concrete protected until lab testing of field-cured specimens has attained at least 80 percent of the Specified Compressive Strength or a minimum of seven (7) days. ● Language added to have concrete attain at least 80 percent of the Specified Compressive Strength. |
| Curb & Gutter, Article 2.3: Construction, E: Expansion ● More detail on expansion joint locations (curb cuts at driveways and ramps). | ● Driveway curb-cut with attached sidewalk and curb ramp details revised to show expansion joints located at the top of ramp. |
| Curb & Gutter, Steel Face Curb ● Installation at catch basins: Stop at expansion joint or go through to CB frame? | ● Project specific, will not be addressed in M.A.S.S. |

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| <ul style="list-style-type: none"> ● Detail 30-8: Change 6" gap between tile and curb to 2". ● Detail 30-9: Change 6" gap between tile and curb to 2". ● Detail 30-10: Type 1A Curb: 17" or 18"? ● ADA: Backing Curb Design: Height, tapers, etc.... ● ADA: How are 15ft ramps measured? TBC, center of ramp, or back of ramp? ● ADA: Control joints in ramps? ● ADA: Broom finish for perpendicular ramp flares. ● Curb transition minimums (tapers) at driveways without sidewalk 2ft, 4ft, 6ft? | <ul style="list-style-type: none"> ● Gap between tile and curb reduced to 2 inches maximum. ● Gap between tile and curb reduced to 2 inches maximum. ● Revised to 18 inches to meet ADA Standards. ● Backing curb design depicted in the curb ramp details. ● 15 feet ramp measured along the back of the ramp. ● Contraction joints shall be in accordance with Section 30.02, Article 2.3, SubArticle E - Expansion and Contraction Joints. ● Broom finish on perpendicular curb ramp flares shown in detail. ● Curb transition length shall be in accordance with Detail #30-7. |
| <p>Article 1.3 Material, item B WWM. Remove "galvanized". Galvanized mesh is unheard of in Alaska. It is also incredibly costly.</p> | <p>Galvanized mesh removed.</p> |
| <p>Article 1.4 Mix, Change the last paragraph from "addition of water to the mix will not be permitted" to "water will be permitted with approval of the engineer". More often than not, the mix comes dry and needs water added. It is common practice, nor is it detrimental to the concrete if the addition is within reason and doesn't take the slump out of spec.</p> | <p>Language revised.</p> |
| <p>Article 1.6 Mix requirements. I highly recommend that this item gets a complete overhaul. The mix designs the MOA has in place are antiquated and do not follow ACI recommendations. I recommend that the MOA goes with the DOT mix designs they have in place. The DOT updates their mix designs yearly based on ACI standards for cold weather climates.</p> | <p>Concrete Class AA-3 mix design requirements revised to match AKDOT&PF Section 550 Class B concrete.</p> |

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| <p>Article 1.10 Protection of work. 2nd paragraph needs language added that “if the breaks meet 85% of strength”. The DOT uses this language. It is very common that the breaks will come in at 85% in 3-5 days, which will speed up the overall project. This used to be in MASS some time ago.</p> | <p>Language revised to have concrete attain at least 80 percent of the Specified Compressive Strength.</p> |
| <p>Article 2.2 Item D Forms. Second paragraph, change “form may be removed on the day following” to “the forms may be removed the same day”. It is common practice to strip forms the same day.</p> | <p>Language revised.</p> |
| <p>Article 2.2 Item D Forms. Remove “Forms shall be held securely in place by metal stakes at 3’ intervals and replace with “Forms shall be held in place with metal stakes to insure no irregularities in the forms”. 3’ intervals are an arbitrary number that means nothing.</p> | <p>Language revised.</p> |
| <p>Article 2.3 Item D Curing. Remove “curing compounds shall contain a color dye”. That type of cure is more expensive and hasn’t been used for the DOT or the MOA in years. 3rd and 4th paragraphs are repeats of other sections and need to be removed.</p> | <p>Color dye curing removed. Paragraphs removed.</p> |
| <p>Article 2.3 Item E, section 1 Expansion Joints. Add the use of a hot applied asphalt-based product for use in sealing joints. We have been using this product for years, and is preferred by many with the MOA. It is a superior product over the poly based.</p> | <p>The use of hot applied asphalt-based product as sealing joints added.</p> |
| <p>Article 2.4 Measurement. 3rd paragraph needs to be changed. The yellow paint shouldn’t be incidental to the item. There should be an item in the striping section to pay for this work.</p> | <p>Striping on curb noses will be paid under Division 70.</p> |

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| <p>Article 3.3 Item C, Placing and finishing sidewalk, paragraph 6. Add “or provide 3 projects within the MOA of exposed aggregate that have been poured” to the 2 X 2 test panel. Test panels are extremely costly as there is a minimum yardage that has to be purchased. If a known contractor has already done this type of work for the MOA, that work should be allowed to be used as a “test panel”.</p> | <p>Language added.</p> |
| <p>Article 4.2 Item B, Detectable Warning Tiles. I would HIGHLY recommend getting away from the plastic warning tiles, such as “Armor Tile”. They don not stand up to the graders in the winter.</p> | <p>MOA to convert to cast iron detectable warning tile.</p> |
| <p>Article 4.2 Item B, Detectable Warning Tiles. I would HIGHLY recommend that the MOA goes to cast iron tiles. The DOT made this move over 10 years ago. They are a much more durable product, and can be replaced without removing concrete in most instances. Remove the Neenah and the East Jordan in its entirety. This is very old verbiage. Replace with Tuf-Tile and Advantage. These are the two companies that make and supply all tiles used in Alaska for the DOT.</p> | <p>Advantage Tactile Systems and Tuf Tile added. EJ Group to remain.</p> |
| <p>Article 4.3 Construction, 2nd paragraph. Remove this paragraph in its entirety. 1. This has never been enforced. 2. The design should not be put on the contractor. This work should be performed by the engineer.</p> | <p>Contractor to submit layout of each curb ramp prior to construction to remain.</p> |
| <p>Article 4.3 Construction, paragraph 4. Remove placement of 25-pound weights. Cast iron tiles do not float, so no weights are needed.</p> | <p>Placement of 25 pound weights removed due to detectable warning tiles revised to cast iron.</p> |
| <p>Article 4.3 Construction, paragraph 7. Remove the 3’ x 5’ template requirement. This is not needed as this can be measured with a tape measure.</p> | <p>3' x 5' rectangular template to remain.</p> |

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| Article 4.4 Tolerances. This item needs a complete rework. This was written when ADA was something fairly new. Tolerances should be spelled out (no more than 8.33 %, 2% cross slope, 15' maximum length, etc.) These are now industry standards and should be incorporated in the language. | Tolerances meeting ADA Standards are depicted in the Standard Details. |
| Article 4.5 & 4.6 Measurement and payment. Remove measurement and payment by the square yard. All ramps should be paid by the each. | Pay item for P.C.C. Curb Ramp in square yard to remain. |
| Article 5.2 Construction, item A reinforcing steel, paragraph 4. Add "shop drawings shall be submitted to be approved by the engineer". This will help ensure that the bar ordered and placed is correct and to the engineer's intent. | Sentence added requesting shop drawings. |
| Article 5.2 Construction, item B Forms, paragraph 3. Add "or snap ties" to "All forms shall be securely tied with bolts or rods". Some may still use rods, but that is old technology. Most contractor use snap ties, and have for years. | Snap ties added as another means of securing forms. |
| Article 5.2 Construction, item C, placing. Add concrete pumps to means of placement. | Concrete pumps added as another means of placement. |
| Article 5.2 Construction, item E, Finishing Concrete. Replace "neatly painted" with "sack and patched". | Language revised. |
| Article 5.2 Construction, item G, Removal of forms. Replace removal of forms after 3 days with 24 hours. Next day removal is common practice and has been for many years. | Revised from 3 days to 24 hours. |
| Article 5.2 Construction, item H, Curing. This item is out of date. Wet curing of walls hasn't happened in over 20 years. Replace with "spray with an approved curing compound". | Language revised to allow the engineer to identify specific curing methods appropriate to the project requirements. |

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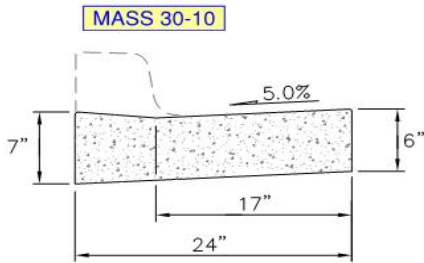
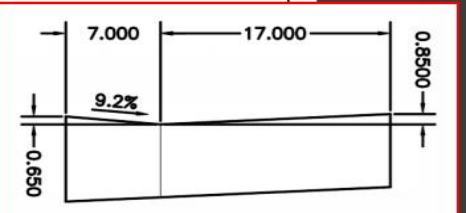
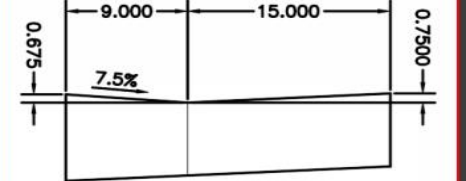
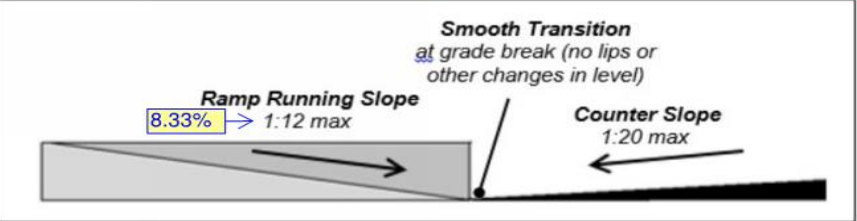
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| Article 5.2 Construction, item J, Earthwork. 4th paragraph. Replace "14 days" for backfill with "when the concrete breaks reach 85% of design strength". Also add "self- compacting material" as an option for backfill. | Revised from 14 days to have concrete attain at least 80 percent of the Specified Compressive Strength. Controlled Low Strength Material, a self-compacting material, added as a substitution for backfill. |
| Article 5.3 & 5.4 Measurement and basis of payment. Remove method of payment by the cubic yard and replace with linear foot or by the each. Payment by the cubic yard almost always turns into issue in the field and when processing pay apps. | Method of payment in cubic yard to remain since concrete pricing is based on volume. |
| Article 10.2 Materials, item A. If you are going to go to the DOT mix designs, the class AA-3 reference needs to be removed. Also, remove reference to white cement, white aggregate, and white sand. Finding these products anymore is almost impossible without and incredible cost. | Concrete Class AA-3 mix design requirements revised to match AKDOT&PF Section 550 Class B concrete. Alternatives for white concrete under review. |
| Article 10.2 Materials, Item C. This item needs to be removed. The reference to the sealant is outdated. Should be Sika-Flex. Also, backer rod is not used hardly at all anymore. Use of expansion joint with "zip strip" is common practice and has been for many years. | Sealant updated to "Sika-Flex" polyurethane. Expansion joints with "zip strip" under review. |
| Article 11 Sealant. The use of hot applied asphalt sealant needs to be added to the language. It has been commonly used in the MOA for many years and is preferred by many. It is a far superior product to the poly product, as it works its way into any voids, as the poly doesn't. | The use of hot applied asphalt-based product as sealing joints added. |
| Replace all of these with the DOT profiles. The DOT profiles are very similar, but slightly different. Also, add the landscape curb detail that Parks uses. | P.C.C. Curb and Gutter Type 1A revised similar to AKDOT&PF to meet ADA Standards. Landscape curb is project specific , will not be addressed in M.A.S.S. |
| Std Dtl 30-1 Remove note that paint is incidental. This should be paid under a bid item. | Note removed. Striping of curb noses will be paid under Division 70. |
| Std Dtl 30-8 Remove the 5% min. This is not an ADA regulation, as ADA prefers flatter if possible. | 5% minimum slope removed. |

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| Std Dtl 30-16 Remove the 5% min. This is not an ADA regulation, as ADA prefers flatter if possible. | 5% minimum slope removed. |
| Std Dtl 55-22 Replace "Pavement" in the side view detail. The casting, from the face to the toe of the curb, should be concrete, not asphalt. | Revised to show concrete instead of pavement between the catch basin inlet and the lip of curb and gutter. |
| Std Dtl 70-40 Cluster mailbox pad. Need to have a detail showing the thickness and rebar size with layout for the rebar. | P.C.C. Cluster Mailbox Base detail added under Section 30.08. |
| Article 1.6 Mix Requirements Consider including estimating factors for sack of concrete (94 lbs) and gallon of water (8.3 lbs). Many construction submittals are provided in weight ratios and require conversions to sacks/CY and gal/sack to verify specifications are met. Having these estimating factors would reduce time calculating the ratios. | Estimating factor added for sack/gallon conversion to pounds. |
| Will cast iron detectable tiles be required? Gray tiles as specified do not meet ADA requirements. Cast iron tiles hold up better to plows. | MOA to convert to cast iron detectable warning tiles and shall be federal yellow. |
| Consider adding specifications for high-performance concrete. Traffic has used a special on a regular basis for raised crosswalks and intersections. | Specifications for High-Performance Concrete added. |
| Std Dtl 30-1 Consider adding 4" mountable curb and gutter (Type 1/3 reduced height) | Project specific, will not be addressed in M.A.S.S. |
| Std Dtl 30-12 Update reach requirements to PROWAG requirements (to be adopted 9/7/23) to pedestrian push button access. | Reach requirement for pedestrian push button access revised to 5 feet maximum according to PROWAG. |

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| <p>On MASS 30-10 the PCC Curb and Gutter Type 1A appears to direct contractors to build a non ADA compliant slope within the curb. The detail does not give a slope for the bottom of the curb, but if the gutter slope is used it gives a 9.2% slope exceeding the maximum 8.3%. We recommend lengthening the curb portion similar to the DOT&PF curb detail. An image with the MASS detail, calculated slope, and ADA requirement is below.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>MASS 30-10</p> <p>P.C.C. CURB AND GUTTER TYPE 1A (FOR USE IN CURB RAMPS)</p> </div> <div style="border: 2px solid red; padding: 5px;">  <p>MOA ADA CURB & GUTTER</p> </div> <div style="border: 2px solid red; padding: 5px;">  <p>DOT&PF ADA CURB & GUTTER</p> </div> </div> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p>Transition to Street From US Access Board</p> <p>§406.2</p>  <p>Smooth Transition at grade break (no lips or other changes in level)</p> <p>Ramp Running Slope 8.33% → 1:12 max</p> <p>Counter Slope 1:20 max</p> </div> | <p>P.C.C. Curb and Gutter Type 1A revised to meet ADA Standards.</p> |

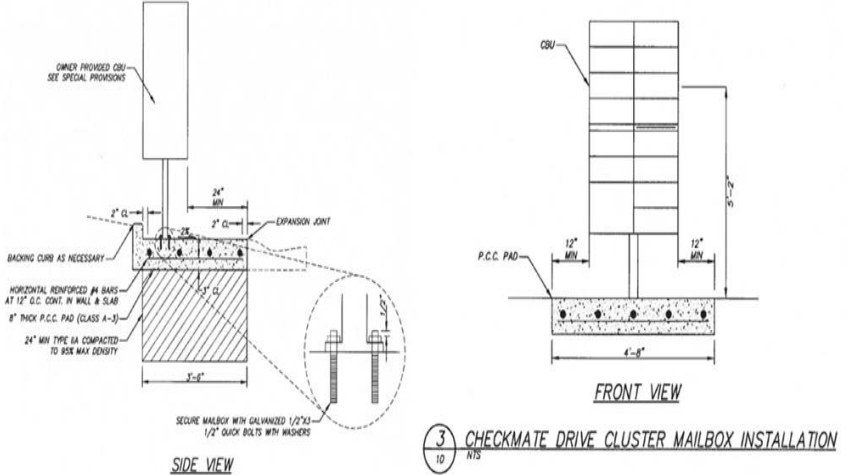
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| <p>Article 2.4 Third paragraph, curb nose painting work is performed by the striping subcontractor. The concrete subcontractor doesn't perform this work and excludes it from their bid to the primes. Then the prime contractor forgets to have the striping subcontractor perform the work. Make yellow paint on curb nose a bid item in Section 70.10 Traffic Markings. Also remove the yellow paint is incidental to the bid item curb nose in Detail 30-4.</p> | <p>Striping on curb noses will be paid under Division 70. Note regarding yellow paint on curb noses removed.</p> |
| <p>Article 3.3 Require 6" x 6" woven wire mesh reinforcement in sidewalks adjoining driveways.</p> | <p>Welded steel wire fabric added for sidewalks with adjoining driveways.</p> |
| <p>Article 4.2 Update to include Tuf-Tile and Advantage cast iron tiles. We have been directing A/E's to write special provisions to use cast iron tiles for years.</p> | <p>In addition to EJ Group, manufacturers Advantage Tactile Systems and Tuf Tile added for cast iron detectable warning tiles.</p> |

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| <p>Below are my comments in regards to the cluster mailbox base detail.</p> <p>1. Suggest adding base material requirements underneath the concrete pad. Below is an example from one of our previous projects (Checkmate Drive Sidewalk, 2014). For this project we included 24" of Type II-A classified fill and backfill material, but may want to confirm with Tim on material type & depth. The detail below was also for a location without a sidewalk, which is why some of the other dimensions vary from your detail to provide a standing area.</p>  <p>2. Suggest providing clearance offset from front and back edge of concrete for rebar (see above)</p> <p>3. Suggest showing rebar in each direction similar to MASS Standard Detail 30-15 and above detail for consistency.</p> <p>4. If applicable, suggest adding anchoring/bolting requirements (see above). This may be more applicable to the cluster mailbox unit itself than the base.</p> | <p>P.C.C. Cluster Mailbox Base Detail revised accordingly.</p> |