

S-1 (1804) PROSECUTION OF WORK (ADA)

Always when have any 2521 &/or 2531 pay items. (Includes both 2521/2531.5xx and 2521/2531.6xx pay items.)
SP2018-52

The provisions of MnDOT 1804 are supplemented and/or modified with the following:

S-1.1 SPECIAL PROJECT ADA REQUIREMENTS

All pedestrian facilities on this Project must be constructed according to Public Rights-of-Way Accessibility Guidelines (PROWAG) which can be found at: <http://www.dot.state.mn.us/ada/pdf/PROWAG.pdf>. The appropriate pedestrian ramp details for each quadrant are included in the Plan. The Engineer may provide additional details to those provided in the Plan that meet the PROWAG guidelines as the need arises and field conditions dictate.

(A) The Contractor must designate a responsible person competent in all aspects of PROWAG to assess proposed sidewalk layouts at each site before work begins. The designated person must have attended the MNDOT ADA Construction Certification Course and received a passing score, with in the past 3 years. For class dates and locations please refer to the following link at: <http://www.dot.state.mn.us/ada/training.html>. A minimum of one person per project must possess a valid ADA Construction Certification card anytime ADA work is being performed on the project. If work on electrical components is the only ADA work taking place on the project the electrician must have in their possession a current MNDOT Signals and Lighting Certification.

ADA work shall include, but not be limited to, the following: assessment of proposed sidewalk layouts at each site before work begins, determining and marking removal limits for work pertaining to pedestrian facilities, all ADA related removals and grading, forming and finishing of concrete at all pedestrian facilities, paving pedestrian crossings, placing bituminous pedestrian facilities, final grading, and pavement markings. Any ADA work not listed above can be added at the discretion of the Engineer. An ADA Certified person is not required on site if the only work being performed concerns traffic signals and APS installations.

These requirements shall be effective as of May 1st, 2019. Any time work the Contractor is performing concerns pedestrian facilities, the Contractor's ADA Certified person shall be on site.

(B) Pedestrian facilities must be constructed to meet the following criteria:

- (1) Pedestrian Access Routes (PAR) must be constructed to meet the following:
 - Minimum 4 feet width.
 - A maximum cross slope of 2.0%.
 - Vertical discontinuities must be less than 0.25 inches.
 - Must provide positive drainage without allowing any ponding and maintain existing drainage flow patterns unless indicated otherwise in the Plan.
 - All grade breaks shall be constructed perpendicular to the path of travel.
 - Maximum 5% running slope unless adjacent roadway profile exceeds 5%.
- (2) Landings are part of the PAR and must be constructed to meet the following:
 - 4 feet by 4 feet minimum width and shall match full width of incoming PAR.
 - Maximum slope of 2.0% in all directions.
 - Required at all locations where the PAR changes directions or inverse running slopes are >2%.
 - Must be connected to the PAR.
 - Shall be constructed as a single plane surface having no grade breaks.
- (3) Ramps are part of the PAR and must be constructed to meet either of the following criteria:
 - Longitudinal slopes less than 5% in the direction of travel requires no landing at the top of the ramp (unless the PAR changes direction).
 - Longitudinal slopes between 5 - 8.3% in the direction of travel require a landing at the top of the ramp.

(C) The Contractor and the Engineer shall work together to construct all pedestrian facilities set forth in the plans and in the above Section **S-X.1.B.**

If the plan or site conditions do not allow accessibility standards to be met, the Contractor shall consult with the Engineer to determine a resolution. The Engineer shall respond to the Contractor, in a timely manner (up to 24 hours), with a solution on how to proceed. The Contractor shall mitigate any potential delays by progressing other available work on the project.

If the Contractor constructs any pedestrian facilities that are not per Plan, do not meet the above requirements in Section **S-X.1.B.**, or do not follow the agreed upon resolution with the Engineer, the Contractor will be responsible for correcting the deficient facilities with no compensation paid for the corrective work.

The following hold points will be utilized in the construction of pedestrian facilities.

- (1) **Removals** - The Contractor and the Engineer shall use the appropriate ramp, sidewalk, and driveway details in the Plan, and calculate the removal limits for the sidewalk and curb and gutter. If it is determined that the removal limits will exceed the plan removal limits by more than 10 feet and the plan removal limits are not adequate to meet PROWAG and MnDOT Standards, the Contractor shall consult with the Engineer to determine a solution. Once the Engineer and the Contractor reach an agreement on how to proceed, the Contractor may finish the removals.

- (2A) **Curb and Gutter at Quadrants** – Prior to pouring the curb and gutter at curb ramps the Contractor and the Engineer must verify that the curb and gutter will work with any vertical constraints (doorways, steps, bus stops, outwalks and landing areas). Prior to pouring curb and gutter at quadrants the Contractor must verify the zero height curb, and curb transitions will be located as shown in the Plans and will provide an adequate detectable edge as shown on Standard Plan 5-297.250 (Sheet 4 of 6). Verify curb tapers are constructed at correct heights so that positive boulevard slopes and drainage is maintained away from landings and sidewalks, to the newly constructed curb and gutter sections. The Contractor shall verify that the proposed gutter flow lines will provide positive drainage as well as maintain existing drainage patterns including existing gutter inflows/outflows. The curb and gutter shall be constructed as detailed in the Plan with a defined flow line and with no vertical discontinuities over 1/4". For required flow line corrections including curb line raises and curb ramp cross slope "tabling", see Standard Plan 5-297.250 (Sheet 6 of 6). Curb shall be poured at 3% inflow around the radius or at a minimum distance of 10 feet from any zero height curb section when machine placed. The Contractor shall consult with the Engineer to determine a resolution if any of these conditions cannot be met. Once the Engineer and the Contractor reach an agreement on how to proceed, the Contractor may proceed with pouring the curb and gutter.

- (2B) **Curb and Gutter at Roadway Sections** - Prior to pouring curb and gutter at roadway sections the Contractor must verify proposed curb and gutter heights will work with existing roadway and shoulder slopes. The Contractor shall verify prior to placing the pedestrian facilities that positive drainage is maintained within public Right-Of-Way (R/W), as well as maintaining existing off R/W drainage. The Contractor shall check to ensure all top back of curb elevations will allow for adequate boulevard slopes, PAR slopes, and widths as shown on Standard Plan 5-297.254 (Sheet 4 of 4) while maintaining all vertically constrained match points (doorways, steps, bus stops, outwalks and landing areas). The Contractor shall check all driveway locations and widths and follow driveway details and plans for all driveway layouts including curb heights and curb tapers. Driveway curbs sections and aprons shall be constructed to minimize changes in the sidewalk width, alignment, and profile. The Contractor shall consult with the Engineer to determine a resolution if any of these conditions cannot be met. Once the Engineer and

the Contractor reach agreement on how to proceed, the Contractor may proceed with pouring the curb and gutter.

- (3) **Forming and Finishing** - After the curb and gutter has been correctly poured, and the Contractor has set the sidewalk forms, the Contractor shall verify prior to placing the curb ramps and sidewalks that positive drainage is maintained within public R/W, as well as maintaining existing off R/W drainage, and that all the requirements in Section **S-X.1.B** will be achieved.

Ramps – In addition, the longitudinal slopes shown in the Construction Plans and the Standard Plan shall be utilized unless these conditions cannot be met. The starting point for setting the forms on the controlling ramp leg, landing, and sidewalk slopes should be the following:

Steep (S) = 7%
Flat (F) = 4%
Landing = 1%
Sidewalk Cross Slope = 1.5%

If any of these requirements cannot be met the Contractor shall meet with the Engineer to determine the best solution. Once the Engineer and the Contractor reach an agreement on how to proceed, the Contractor may proceed with the curb ramp and sidewalk pour.

Landings – An initial landing is the first required landing of a pedestrian ramp. All initial landings required at the top of a ramped sloped surface (>2% longitudinal slope), shall be formed and placed separately in an independent concrete pour. This does not include initial landings placed at roadway grade such as depressed corners, parallel ramps, rural flat landings, or flat cut-throughs. Secondary landings consist of all landings beyond the initial landing. These secondary landings do not require a separate landing pour.

Wet casting or drill and grouting of reinforcement bars will be required in accordance with the details shown in Standard Plan 5-297.250 (Sheet 6 of 6). Wet casting of reinforcement bars shall be installed through holes or slots in the forms, with a form height at least equal to the walk thickness of the formed concrete shown in the plans. These bars shall be deformed and installed with 2” minimum concrete cover.

When not accounted for in the Plan, payment for these bars will be made under Item 2301.602 (Drill & Grout Reinforcement Bar (Epoxy Coated)) by the Each at the Predetermined Price of \$10.00 per bar furnished and installed. All necessary subgrade preparation and aggregate base placement for the entire ramp construction limit shall be done before the initial landing is constructed at each location.

(D) It shall be the responsibility of the Contractor, or Contractor’s Surveyor if applicable, to lay out all proposed work at each intersection in accordance with the Plan and requirements listed in this Special Provision. The Contractor may confer with the Engineer for guidance in laying out the proposed work, but it will be the Contractor’s responsibility to ensure the proposed work meets all the requirements of this Special Provision. This layout includes, but is not limited to placement of grade breaks, curb transitions, gutter flow lines, truncated dome placement, crosswalk marking placement, flares, landing limits, removal limits, driveway tie in limits, and ramp limits. It is important that the Contractor lay out this work properly to achieve the construction of a compliant pedestrian facility. The owner’s surveyor will only stake points and elevations provided in the Plan. For custom designs, other than specific dimensions provided in the Plan, the Contractor shall be expected to scale dimensions from the Plan as needed to construct the facility. If scaled dimensions do not allow for a facility to be constructed to meet the requirements of this Special Provision, the Contractor shall follow the process listed in Section **S-X.1.C**. This layout work shall be incidental.

(E) The Contractor shall utilize measures and methods when working near existing buildings that will avoid damaging the building's face or structure. The contractor will be responsible for any damage to the building's face or structure, both below and above ground. Any damage resulting from Contractor's operations will be repaired at the Contractor's expense to the satisfaction of the Engineer.

(F) The Contractor will round all joints and edges with a 1/4 inch radius grooving or edging tool within the PAR. This requirement includes all curb and gutter joints at zero inch height curb sections at curb ramps. Contraction joints shall extend to at least 30 percent of walk thickness. The Contractor shall also have the option of providing saw cuts to construct the sidewalk joints. If saw cutting, provide 1/8" wide contraction joints within the PAR, including all curb and gutter joints at zero inch height curb sections. When greater than 50 feet of continuous sidewalk runs are constructed the contractor shall saw cut all joints. This work shall be incidental.

The top grade break of walkable flares needs a visual joint to indicate a change in grade. To eliminate the use of excessive contraction joints in the quadrant the visual joint shall meet MnDOT 2521.3C, except the depth requirement is reduced to 1/4 inch.

In sections where concrete boulevard is placed between the back of curb and the sidewalk, the 1/2 inch preformed joint filler material shall be placed at the back of curb and between the outside edge of sidewalk at existing building or structures. The 1/2 inch wide preformed joint filler shall not be placed in the longitudinal joint between the sidewalk and boulevard, unless it is necessary to provide expansion at fixed structures. At locations where sidewalk is adjacent to existing buildings, extend walk up to the edge of building and place 1/2 inch preformed joint filler 1/2 inch lower than top of walk whenever possible. Furnish and install Backer Rod of appropriate diameter when joints are 1/4 inch wide or greater, clean surfaces and apply approved silicon joint filler to flush with top of walk. If the transverse sidewalk and boulevard joint layouts cannot be aligned, use approved preformed joint filler with a maximum 1/8 inch width and place between the sidewalk and boulevard to prevent contraction joints from migrating into the adjacent concrete panels.

(G) The minimum continuous and unobstructed clear width of a pedestrian access route shall be 4.0 feet. All new or reconstructed sidewalk widths shall match or exceed in place sidewalk and in no case shall it be less than 5.0 feet in width except at locations where obstructions cannot be moved or at driveways where slopes exceed the maximum allowable grades. The cross slope of the sidewalk or shared use path shall not exceed 2%, and shall be measured perpendicular to the path of travel across the entire surface width of the sidewalk or shared use path. Curb ramps should match proposed sidewalk PAR width and shall match full shared use path widths. Whenever possible, the entire landings should be placed in a single concrete placement. If this is not possible due to construction staging, follow requirements for reinforcement bar placement and tie adjacent landings together.

In areas where the sidewalk is to be constructed around fixed structures and the grade has been changed, the sidewalk shall be finished around these structures to the satisfaction of the Engineer at no additional cost.

Architectural elements such as brick pavers, concrete stamping, and multiple colored concrete placements shall be kept outside the curb ramps and landing areas. Any architectural elements that do not maintain a consistent flat smooth surface shall not be used within the PAR.

Use (H) on all jobs that have pedestrian signal system work.

(H) All pedestrian signal systems should be installed as shown in the Plan and must be constructed to meet the following criteria. The Contractor shall verify that the proposed push button locations will meet all of the following criteria before proceeding with the installation of the pedestrian push button system:

- Pedestrian push buttons shall be oriented with the button facing towards the intersection and the button face placed parallel to the outside edge of the crosswalk.
- Pedestrian push buttons shall be a minimum of 4 feet and a maximum of 10 feet from the back of curb/edge of roadway, but may be placed 1.5 feet to 4 feet from the back of curb/edge of roadway if mounted on a signal pole as indicated in the Plan or as approved by the Engineer.

- Pedestrian push buttons shall be located at the outside crosswalk edge and shall be no more than 5 feet offset from the projected outside edge of the crosswalk/ detectable warnings.
- Pedestrian push buttons shall be a minimum of 10 feet apart, except in islands and medians where only a 6 foot clear distance must be maintained. This 6 foot obstruction free area is called a (MAR) Maintenance Access Route.
- The MAR is defined as a 6 foot minimum clear distance between any raised obstacles such as push button stations, electrical foundations (signal, lighting, or cabinet), buildings, V curb, utility poles, sign posts, etc.
This MAR is needed for mechanical removal of snow and ice. A maintenance access route is only required on the same route as the PAR. At quadrants, the MAR should be a paved surface but does not need to meet the PAR cross slope criteria.
- Each pedestrian push button shall have a landing immediately adjacent to the push button face with minimum dimensions of 4 feet by 4 feet and a maximum slope of 2.0% in all directions. Center the push button on the edge of landing if possible to do so without violating any of the requirements listed in this Special Provision. The landing must be connected to the Pedestrian Access Route.
- All new hand holes shall be placed outside of the PAR, inclusive of ramps and landings.
- The push buttons shall be mounted at a height of 42 inches as indicated in the Plan, and shall have a 10 inch maximum side reach. Every effort should be made to reduce the side reach distance to the least amount possible.
- Crosswalk pavement markings shall be striped in a straight alignment between the outside edges of the detectable warnings from the corner closest to the roadway edge. Markings shall be placed with no kinks unless the crosswalks are shown as kinked in the Plan.
- The Contractor shall maintain all working points marked by the surveyor and use the working points to lay out push button locations in accordance with the Plans and Special Provisions.

If any of these conditions cannot be met, the Contractor shall consult with the Engineer to determine a resolution per Section **S-X.1.C**. Once the Engineer and the Contractor reach an agreement on how to proceed, the Contractor may proceed. If the Contractor constructs any pedestrian push button systems or pedestrian facilities which do not meet the criteria or the agreed upon resolution with the Engineer, the Contractor will be responsible for correcting the deficiencies with no compensation paid for the corrective work.

To help ensure signal systems are properly constructed the Contractor must adhere to the following practices:

- All push button station bases shall be installed using a breakaway pedestal base, see Typical APS Pedestrian Push Button Location and MnDOT approved /qualified products list. The pedestal base shall be fastened to the station foundation using 4 5/8 inch (UNC) x 7 1/2 inch stainless steel anchor rods. The push button station foundation shall be constructed as part of the sidewalk by increasing the sidewalk dimension to a 12 inches minimum thickness and an 18 inches minimum diameter to top of sidewalk surface. The push button station foundation shall be placed as part of the landing. All construction joints/grade breaks shall be located outside of foundation area and designated landing area.
- When not accounted for in the Plan, and determined necessary by the Engineer payment to furnish and install additional APS pedestrian push button station will be \$1,000.00 each and will be made under Item 2565.602 (Pedestrian Push Button Station). Payment shall include all components necessary to furnish and install APS push button station, including additional conduit, wiring, APS push button base installation, and shaft with reflective tape and cap.

- Signal pole foundations which are being constructed in or adjacent to sidewalk shall be constructed in accordance with the applicable MnDOT Standard Plate 8120 or 8126. If a push button is proposed to be mounted on a signal pole, a MnDOT approved extension bracket shall be used. If a push button is proposed to be mounted on a signal pole, the APS push button shall meet the vertical, horizontal, and crosswalk skew requirements.
- All newly installed pedestal foundations when used as a push button station shall be constructed in accordance with applicable MnDOT Standard Plate 8112. Concrete for new foundation shall be placed either with or after the landing concrete is placed, and the top of the foundation surface shall be 1/4 inch maximum higher than the top of the landing surface. If a push button is placed on a new or existing pedestal pole, the push button shall be installed using 3 APS push button spacers (Saddle Adaptors), and the APS push button shall meet the vertical, horizontal, and crosswalk skew requirements.