CITY OF Dickinson North Dakota | ENGINEERING

Memorandum

Date: 6/5/2024
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RE: Concrete Removal Standard Operating Procedure for Projects

Remarks

The following guidelines are used for determining concrete replacements in projects where concrete improvements are assessed back to the adjacent landowner. Concrete meeting any of the following conditions is to be marked for replacement. These standards are intended to follow ASTM D6433 when determining the types and severity of distresses

- Distress Types Requiring Replacement
  - Cracking
    - Uncontrolled cracks that have separated or are offset. Many cracks are starting to experience chipping along the length of the cracks.
    - Concrete has multiple cracks, including a single _separating crack.
    - Concrete with a single hairline crack is typically left in place unless adjacent to other panels designated for removal.
    - A minimum of 2 five-foot-long panels may left in place between panels that are designated for removal
  - Spalling and Popouts
    - Concrete with 25% or more spalling/scaling.
    - Popouts that cover more than 20% of the surface and result in an uneven surface or are extremely unsightly.
  - Damaged (Blow up, Corner Break, Divided Slab, Faulting,)
    - Damaged concrete that has any deficiencies listed above shall be removed.
    - Use engineering judgement to determine if curb and gutter with minor snowplow damage without drainage concerns may be left in place. In general curb and gutter Having a “snow plow chip greater than .5” deep or over 18 square inches in area shall be replaced.
- ADA Compliance
  - Sidewalk panels with greater than 0.25-inch vertical edge is considered a tripping hazard; typically, the panel that has settled is replaced.

    - If pedestrian ramp is not present at an intersection, ADA ramps shall be installed. Two sidewalk panels are typically removed for the ramp on a relatively flat grade. Use engineering judgment and follow ADA guidelines in areas with steep grades.
    - If pedestrian ramps are present, ramps are left in place if in good condition and do not otherwise warrant replacement.
    - If the sidewalk or driveway has more than a 2% cross slope section should be replaced. This may not be economically possible or require going off the Right of Way. Use judgement to validity.
- Drainage Issues
    - Concrete that is settled and holding water or causing a lack of drainage flow on the pavement.
    - Curb and gutter radii where new valley gutters are proposed.
    - Sidewalk and curb & gutter where trench drains are required.
    - Concrete that has had elevations impacted by tree roots.
- Concrete Patches
    - Concrete patches in asphalt pavement roadway.

Note: In some instances, there may be longer stretches of concrete replacement with one sidewalk panel or curb section that is questionable. In these cases, use engineering judgement to determine if the entire length should be replaced. i.e. saving segments of 5-feet or less should be considered from a constructability standpoint.