

# Minnesota Department of Labor and Industry

## Proposed Expedited Permanent Rules Regulating Window Cleaning Anchors

### Memorandum Regarding Amendments to Chapter 1305

The purpose of this rulemaking is to amend chapter 1305 of the Minnesota State Building Code, to modify the window cleaning safety requirements in compliance with state statute. This expedited rulemaking is needed to update the current requirements to provide all windows with building and site development features that support safe window cleaning methods that comply with ANSI/IWCA I-14.1-2001 Standard for Window Cleaning (“ANSI/IWCA I-14.1-2001”). The current rule requires buildings that are four stories or more in height be provided with dedicated anchorages for the purposes of suspended window cleaning. The proposed amendments revise the current rule to require the installation of window cleaning anchors based on the height of the glazing in windows, rather than the height of the building, and exempts buildings from requirements for the installation of window cleaning anchors where the use of suspended window cleaning methods is technically infeasible. The proposed rule includes requirements for the installation of anchors and a working surface at anchor points to facilitate the safe use of anchors to attach suspended window cleaning equipment.

## I. Background

In 2012, the Minnesota Legislature required the Minnesota State Building Code to adopt requirements for installation of dedicated anchorages for the purpose of suspended window cleaning on new buildings four stories or greater in height and on existing buildings four stories or greater in height that are undergoing reconstruction, alteration, or repair that exposes the primary structural components of the roof.<sup>1</sup> This legislation was intended to provide building features that would improve safety for window cleaning professionals. Accordingly, the Department adopted these requirements for window cleaning anchors as part of Minnesota Rules, chapter 1305, Minnesota Building Code, and required that the design, installation, and location of anchors comply with ANSI/IWCA I-14.1-2001.<sup>2</sup> However, the requirement was overly burdensome and too prescriptive for designers and building owners because the installation of costly window cleaning anchors was required where they could not be used and other methods of safe window cleaning must be implemented.

In the 2023 legislative session, the statute was amended to strike the existing language and to now require that window cleaning safety features be provided on all new buildings as determined by the code and existing buildings undergoing alterations that do not have safe window cleaning features and the area being altered can include provisions for safe window cleaning. Laws of Minnesota 2023, chapter 53, article 11, section 30, directed the Commissioner of the Department of Labor and Industry to conduct expedited rulemaking to adopt rules addressing window cleaning safety features that comply with a nationally recognized standard as a part of the Minnesota State Building Code:

***Laws of Minnesota 2023, chapter 53, article 11, section 30.***

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<sup>1</sup> See [Laws of Minnesota 2012, chapter 182](#).

<sup>2</sup> See [Minnesota Rules, part 1305.3112 \(2015\)](#), and [Minnesota Rules, part 1305.3114](#).

*(m) **Window cleaning safety.** The code must require the installation of dedicated anchorages for the purpose of suspended window cleaning on (1) new buildings four stories or greater; and (2) buildings four stories or greater, only on those areas undergoing reconstruction, alteration, or repair that includes the exposure of primary structural components of the roof. The commissioner shall adopt rules, using the expedited rulemaking process in section 14.389, requiring window cleaning safety features that comply with a nationally recognized standard as part of the State Building Code. Window cleaning safety features shall be provided for all windows on:*

*(1) new buildings where determined by the code; and*

*(2) existing buildings undergoing alterations where both of the following conditions are met:*

*(i) the windows do not currently have safe window cleaning features; and*

*(ii) the proposed work area being altered can include provisions for safe window cleaning.*

Minnesota Statutes, section 326B.106, subdivision 1, requires the Department to consult with the Construction Codes Advisory Council (“CCAC”) in connection with the adoption of rules, codes, and standards relating to building construction. Minnesota Statutes, section 326B.07, subdivision 1, sets forth the requirements for membership of the CCAC. Minnesota Statutes, section 326B.07, subdivision 2, directs the CCAC to review code changes and provide recommendations to the Commissioner on proposed changes to the rule chapters that comprise the Minnesota State Building Code.

In consultation with the CCAC, the Department appointed a Window Cleaning Safety Features Technical Advisory Group (“TAG”) to review the current requirements and ANSI/IWCA I-14.1-2001 to propose reasonable and necessary amendments to the existing rule. The Window Cleaning Safety Features TAG members were appointed by the CCAC and represented buildings officials, commercial building owners and operators, commercial construction, commercial design, professional window cleaners, and department personnel. Upon completion of the review of the existing rules and ANSI/IWCA I-14.1-2001 by the Window Cleaning Safety Features TAG, a report was submitted to the CCAC detailing the TAG’s recommended changes to the current Minnesota Rules, part 1305.3114, to require building and site development features to facilitate window cleaning methods permitted by the ANSI/IWCA I-14.1-2001. After review, the CCAC forwarded this report, with comments, to the Commissioner for consideration in proposing amendments to chapter 1305.<sup>3</sup>

Based on the recommendations of the CCAC, the Department prepared draft rules and published a Notice to Adopt Proposed Expedited Permanent Rules Without a Public Hearing in the February 5, 2024, edition of the State Register. However, window cleaning professionals expressed concerns about the requirements for anchors for purposes of suspended window cleaning in the proposed rule. Because of these concerns, the Department published a Notice of Withdrawn Rules in the March 18, 2024, edition of the State Register and reconvened the Window Cleaning Safety Features TAG to consider requirements for anchors to be installed based on the elevation of the glazing. The reconvened TAG submitted an updated draft to the CCAC detailing additional changes to the current Minnesota Rules, part 1305.3114, requirements for the installation of window cleaning anchors. After review, the CCAC

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<sup>3</sup> The report detailing the Window Cleaning Safety Features review of window cleaning methods can be found at: <https://www.dli.mn.gov/sites/default/files/pdf/ccac-110823-TAG-report.pdf>.

recommended that the Commissioner consider adopting these proposed amendments to chapter 1305.<sup>4</sup> The proposed amendments in this rulemaking incorporate changes proposed by the Window Cleaning Safety Features TAG members and approved by the CCAC.

## II. Proposed Rule Amendments

DLI is proposing amendments to Minnesota Rules, part 1305.3114, with the purpose of requiring all windows be provided with a safe window cleaning method permitted by ANSI/IWCA I-14.1-2001 and building and site development features that support that method. These rule amendments replace the current requirements that only apply to new buildings four stories or greater in height and existing buildings of that height undergoing roof alterations. The proposed rule updates the current rule to exempt buildings from compliance with anchor installation requirements where the use of suspended window cleaning anchors is technically infeasible. Furthermore, the proposed amendments update the current rule to require the installation of anchorages for purposes of safe window cleaning where the glazing in windows is located 38 feet above a work surface, rather than based on the height of the building. The proposed rule also adds requirements for the installation of anchors and a working surface at anchor points to facilitate the safe use of anchors to attach suspended window cleaning equipment. These proposed rule amendments will allow for greater safety and design flexibility. The proposed rule amendments are not expected to increase the cost of construction and will reduce the cost of construction for some buildings by permitting alternatives to anchor installation where the use of suspended window cleaning methods are technically infeasible due to a building's design. The proposed requirements for the installation of window cleaning anchors will likely continue to apply to buildings four stories in height above grade unless the use of suspended window cleaning methods is technically infeasible because four story buildings generally have glazing in windows that is located 38 feet above an associated working surface. The proposed rule also includes requirements for fall restraint; however, those requirements are similar to fall protection provisions already required in other chapters of the Minnesota State Building Code and ANSI/IWCA I-14.1-2001.

### **PART 1305.3114 SECTION 3114 WINDOW CLEANING SAFETY FEATURES**

The title of this section is changed by replacing “anchors” with “safety features” because the proposed rule requires windows to be provided with a safe window cleaning method in accordance with the ANSI/IWCA I-14.1-2001 and safety features in support of that method.

**Section 3114.1 Window cleaning methods and limitations.** The proposed rule deletes the current requirements for the installation of building anchors for window cleaning safety that comply with ANSI/IWCA I-14.1-2001 on new buildings four stories or greater in height and on existing buildings that are four stories or more in height and undergoing renovation that exposes primary structural roof components. The proposed rule requires all windows on new buildings to be provided with a safe window cleaning method that complies with ANSI/IWCA I-14.1-2001 and building and site development features be provided to facilitate that safe window cleaning method.

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<sup>4</sup> The updated report detailing the Window Cleaning Safety Features review of window cleaning methods and requirements for the installation anchors for purposes of suspended window cleaning can be found at: <https://www.dli.mn.gov/sites/default/files/pdf/ccac-110823-TAG-report.pdf>.

The proposed rule requires the safe window cleaning method to comply with ANSI/IWCA I-14.1-2001 because it is the latest edition of the industry standard for professional window cleaners and identifies accepted safe practices for window cleaning. ANSI/IWCA I-14.1-2001 was developed by the International Window Cleaning Association (“IWCA”) under procedures accredited as meeting the criteria of the American National Standards Institute (“ANSI”) to identify accepted safe practices for window cleaning. The current rule references ANSI/IWCA I-14.1-2001 for the design criteria for building anchors, but the proposed rule permits the use of other methods and safe practices for window cleaning that comply with that standard.

**Section 3114.1.1 Windows with glazing 38 feet or higher.** The proposed rule requires windows with glazing 38 feet or higher above an associated working surface to be provided with either roof anchorage, wall anchorage, and anchor points at structural members to allow for the use of manual swinging scaffolds, boatswain’s chairs, and rope descent systems or a permanently installed powered platform. This replaces the current requirement that window cleaning safety anchors be provided for buildings four or more stories above grade. The proposed rule is a reasonable clarification of current rule requirements because the elevation of the glazing, rather than the height of the building, indicates whether suspended window cleaning methods must be used or if the windows may be safely cleaned from the ground surface. TAG members representing professional window cleaners stated that ladders used for window cleaning are generally 40 feet in height, and when used in compliance with applicable safety standards, can be used to reach glazing that is 38 feet above the ground surface. Therefore, it is reasonable to require the installation of anchors or permanently installed platforms where glazing is located at an elevation that cannot be safely reached from a ladder.

The exception does not require the installation window cleaning anchors or a permanently installed powered platform where the glazing is 60 feet above an associated work surface and directly below a roof that has a slope 4 units vertical in 12 units horizontal or greater. The proposed exception is reasonable because the use of suspended window cleaning equipment is often technically infeasible for these windows due to the proximity of the windows to the roof line. Additionally, suspended systems for window cleaning are difficult to deploy from internal anchors located within the attic spaces of sloped roofs. For these reasons, professional window cleaners are unlikely to use suspended methods of safe window cleaning in buildings with roofs that have slopes that are 4 units vertical in 12 units horizontal or greater. Therefore, it is reasonable to permit the use of manually propelled mobile scaffolds and mobile elevating work platforms as an alternative method of compliance with safe window cleaning requirements for buildings with glazing located 60 feet above the associated work surface and directly under a roof that has a slope 4 units vertical in 12 units horizontal or greater.

**3114.1.2 Existing buildings with glazing 38 feet or higher.** The proposed rule requires existing buildings with glazing 38 feet or higher to comply with this section where the building is not currently provided with a method of safe window cleaning in accordance with the ANSI/IWCA I-14.1 and the alteration includes the exposure of the primary structural frame of the roof. The proposed requirement is consistent the legislative directive for when window cleaning safety features are to be required for windows on existing buildings.<sup>5</sup> Additionally, the proposed requirements for windows on existing buildings are consistent with the requirements of the Minnesota Conservation Code for Existing

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<sup>5</sup> See [Laws of Minnesota 2023, article 1, section 30](#).

Buildings, which generally requires areas of a building undergoing alteration to comply with the requirements for new construction.<sup>6</sup>

**Section 3114.2 Manually propelled mobile scaffolds and mobile elevating work platforms.** The proposed rule permits safe window cleaning methods that use manually propelled mobile scaffolds and mobile elevating work platforms where the use of suspended methods of window cleaning are technically infeasible. The proposed rule requires manually propelled mobile scaffolds and mobile elevating work platforms to comply with the equipment manufacturer's recommendations for height limitations, working surface, and equipment access because each manufacturer provides different recommendations for the safe use of their equipment.

**Section 3114.3 Roof anchorage, wall anchorage, and anchor points at structural members for use of manual swinging scaffolds, boatswain's chairs, and rope descent systems.** ANSI/IWCA I-14.1-2001 permits the use of manual swinging scaffolds, boatswain's chairs, and rope descent systems for safe window cleaning and provides design and installation criteria for roof anchors, wall anchors, and anchor points at structural members that are used to attach the equipment to the building. To facilitate the safe use of anchors to attach equipment, the proposed rule requires building features to include anchor point working surfaces and access to the anchor point working surfaces as well as specific requirements for each anchor type. The proposed rule also requires fall restraint be provided where a fall hazard is present because the anchor point working surface is located at an elevated location.

The anchor point working surface must comply with size, slope, and vertical clearance requirements to provide a safe working space at anchor points. The anchor point working surface is required to be 30 inches deep and 30 inches wide. The Window Cleaning Safety Features TAG members recommended the working surface of this size for consistency with the working surface requirements of the Minnesota Mechanical and Fuel Gas Codes.<sup>7</sup> A working surface that is not less than 30 inches by 30 inches provides adequate space for the maintenance and repair of appliances and is necessary to provide sufficient space for the professional window cleaner to work and use equipment. The anchor point working surface must have a slope no greater than 4 units vertical in 12 units horizontal because that is the maximum slope permitted for a safe walking surface that provides access to appliances or equipment in the Minnesota Fuel Gas Code.<sup>8</sup> The working surface is required to have a vertical clearance of 80 inches to provide sufficient headroom for a professional window cleaner to stand while working and is the minimum headroom requirement in the Minnesota State Building Code.

The proposed rule requires an accessway be provided to the anchor point working surface that complies with similar requirements for accessways to mechanical equipment and appliances on roofs and elevated surfaces in the Minnesota Mechanical and Fuel Gas Codes. The proposed rule, like those codes, requires the accessway to have solid flooring and be 6 feet in height and 24 inches in width and permits

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<sup>6</sup> Minnesota Rules, chapter 1311, Minnesota Conservation Code for Existing Buildings, incorporates by reference the 2018 edition of the International Existing Building Code ("IEBC") with amendments. See [Minnesota Rules, part 1311.0010](#) and [2018 IEBC, section 503.1](#).

<sup>7</sup> Minnesota Rules, chapter 1346, Minnesota Mechanical and Fuel Gas Codes, incorporates by reference the 2018 editions of the International Mechanical Code ("IMC") and International Fuel Gas Code ("IFGC") with amendments. See Minnesota Rules, [part 1346.0050](#); [2018 IMC, section 306](#) as amended by [part 1346.0306](#); and [2018 IFGC, section 306](#) as amended by [part 1346.5306](#).

<sup>8</sup> See [2018 IFGC, section 306.5.1](#).

a reduction in size of the accessway to 30 inches in height and 22 inches in width for a length no more than 20 feet.<sup>9</sup> The proposed rule also requires the vertical access to comply with the requirements for access to mechanical equipment and appliances in Minnesota Rules, chapter 1346, the Minnesota Mechanical and Fuel Gas Codes. It is reasonable for the accessway to anchor point working surfaces to comply with the requirements for access to mechanical equipment and appliances on roofs and elevated surfaces because anchor points are also located in remote locations like roofs and elevated surfaces that are difficult to reach unless the building features include a path of access. The proposed rule requires fall restraint be provided where the slope of the accessway is greater than 4 units vertical in 12 units horizontal because that is the steepest slope permissible for safely walking to access appliances or equipment in Minnesota's Fuel Gas Code due to the hazards associated with walking on steep slopes.<sup>10</sup> Where the height and the width of the accessway is reduced, the slope of the accessway is limited to 1 unit vertical in 12 units horizontal because of the difficulty navigating a narrow passage that does not permit standing.

Accessways where fall hazards are present must be provided with fall restraint anchorage connected devices or guards installed not less than 6 feet beyond the working surface. As previously discussed, fall restraint anchor connector devices are required to comply with ANSI/ASSE Z 359.1 because the Minnesota State Building Code and ANSI/IWCA I-14.1-2001 require fall restraint devices to comply with that standard. Fall restraint anchorage connector devices are required where the accessway is 10 feet or less from the roof edge because the other chapters of the Minnesota State Building Code require guards or personal fall arrest anchorage connected devices that comply with ANSI/ASSE Z 359.1 to be provided where the working surface is within 10 feet of the roof edge.<sup>11</sup> Fall restraint anchorage devices must also be provided where the slope of the accessway exceeds 4 units vertical in 12 units because it is difficult and dangerous to walk on an elevated sloped surface. Lastly, the proposed exception permits the installation of guards that extend not less than 6 feet beyond the working surface on the fall hazard side. The exception requires the guards to extend not less 6 feet beyond the work surface because section 3.8 of ANSI/IWCA I-14.1-2001 requires fall protection within 6 feet of an unguarded edge.

Proposed section 3114.3.3 contains requirements specific to roof anchors where swinging scaffolds, boatswain chairs, and rope descent systems are used. Roof anchors are required to comply with the design criteria of sections 9 and 17 of ANSI/IWCA I-14.1-2001 and the design must be certified by a licensed structural engineer. ANSI/IWCA I-14.1-2001 requires anchor designs to be certified by an engineer and the proposed design requirements are necessary to ensure roof anchors are correctly installed and able to support the load of the equipment.

The proposed rule includes several requirements for wall anchors that are also located in section 9 of ANSI/IWCA I-14.1-2001. It is necessary to include these requirements in the proposed rule so that designers are aware of ANSI/IWCA I-14.1-2001 requirements for the installation of wall anchors that will be used to support window cleaning equipment. The proposed rule requires wall anchors to sustain a 5000-pound minimum load or a minimum 4-to-1 safety factor, in any direction.<sup>12</sup> This requirement is

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<sup>9</sup> See [2018 IMC, section 306.3](#) and [2018 IFGC, section 306.3](#).

<sup>10</sup> See [2018 IFGC, section 306.5.1](#).

<sup>11</sup> Minnesota Rules, chapter 1305, incorporates by reference the 2018 edition of the International Building Code ("IBC") that includes requirements for guards. See [Minnesota Rules, part 1305.0011](#); [2018 IBC, section 1015.7](#); [2018 IMC, section 304.11](#); and [Minnesota Rules, part 1346.5306, subpart 3](#).

<sup>12</sup> See ANSI/IWCA I-14.1-2001, section 9.1.1.

reasonable because ANSI/IWCA I-14.1-2001 requires anchors that can sustain that load to support the load of equipment and professional window cleaners. The proposed rule includes requirements specific to different wall anchor installations. Where epoxy anchors are used, they must be provided with a minimum of two fasteners per anchorage to provide an additional factor of safety.<sup>13</sup> Wall anchors that have permanently concealed surfaces are required to be corrosion resistant steel or a noncorrosive material that is able to withstand impact loads and physical abrasion.<sup>14</sup> This requirement is reasonable because wall anchors that are concealed from view cannot be visually inspected prior to use with equipment and therefore, must be constructed from a material that is damage and corrosion resistant so the equipment may be safely attached. Lastly, the proposed rule requires the anchors to be unobstructed and located behind and in line with the equipment or portion of building they are serving and free of sharp edges that may damage appurtenances, which is consistent with the requirements of section 9.1.6 of ANSI/IWCA I-14.1-2001. This requirement for anchorage is necessary so manual swinging scaffolds, boatswain's chairs, and rope descent systems can be safely attached to the building.

Proposed section 3114.3.5 is added to include requirements for anchorage to certified structural members. The rule requires the structural member where the anchor point is installed, the anchor point, and anchor designs to be certified by a licensed structural engineer. This is necessary to ensure that the structural members can support the anchor point and anchor and provide support to the swinging scaffold, boatswain's chairs, and rope descent systems that are attached. Furthermore, the certification requirements for anchorage to structural members are consistent with the requirements of ANSI/IWCA I-14.1-2001.

**Section 3114.4 Permanently installed powered platforms.** The section requires building and site development features to support the use of permanently installed power platforms as a method of safe window cleaning. The proposed rule requires the installation of the permanently installed power platform to be certified by a licensed structural engineer to ensure that it is properly installed. The requirements for access to the working surface and fall restraint are substantively the same as the proposed working surface and fall restraint requirements that apply to roof anchorage, wall anchorage, and anchor points at structural members. It is reasonable that permanently installed powered platforms comply with substantively similar requirements because permanently installed powered platforms are also installed in elevated locations such as roofs that present similar fall hazards and difficulties in providing access to the building location. The working surface requirements for powered platform locations are similar to those for anchor point working surface, but the working surface provided at each powered platform location must be at least the service length of the powered platform with a slope not greater than 1 unit vertical in 12 units horizontal. The proposed length requirement is reasonable because the professional window cleaner must have access to the entire length of the powered platform to verify it is in operating condition. The low slope of the powered platform location is needed to provide a relatively flat walking surface at the powered platform location, which is generally near a roof edge.

### III. Conclusion

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<sup>13</sup> See ANSI/IWCA I-14.1-2001, section 9.1.4.

<sup>14</sup> See ANSI/IWCA I-14.1-2001, section 9.1.5.

As discussed in this memorandum, the proposed rules meet the intent of Laws of Minnesota 2023, chapter 53, article 11, section 30, to adopt rules that require window cleaning safety features that comply with a nationally recognized standard as a part of the Minnesota State Building Code for all windows on new commercial buildings where determined by the code and existing commercial buildings undergoing alterations where windows do not currently have safe window cleaning features and the proposed work area being altered can include provisions for safe window cleaning. The proposed rule requires buildings with windows and the surrounding building sites to be provided with features or equipment to facilitate safe window cleaning in accordance with ANSI/IWCA I-14.1-2001 for new construction and on existing buildings undergoing alteration that do not have safe window cleaning features where the proposed work being altered can include provisions for safe window cleaning.