Draft - SECTION 3114 WINDOW CLEANING SAFETY

3114.1 Window cleaning methods and limitations. All buildings shall be provided with a safe window cleaning method in accordance with ANSI/IWCA I-14.1-2001 and be provided with building and site development features applicable to that safe cleaning method as required by sections 3114.2 through 3114.9.

Exceptions:

1. Windows with tilt or pivot functions designed so that they can be completely cleaned from the building interior. Windows shall be operated to the cleaning position and cleaned from a compliant working surface within the range of extension devices in accordance with Section 3114.2.

2. Buildings without windows.

3. Buildings where the top of the window is less than 48 inches above grade.

3114.1.2. Existing Buildings. Existing buildings undergoing alterations shall be required to comply with this section where both of the following conditions are met:

(1) the existing building does not currently have safe window cleaning features; and

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

3114.2 Extension Devices. Where the top of the highest window is not more than 30 feet vertically above a work surface the use of extension devices as a window cleaning method is permitted and an extension device work surface shall be provided at each window cleaning location. The work surface shall be not less than 30 inches deep and 30 inches wide, free and clear of obstructions, and having a slope not greater than 3:12 or 25 percent.

3114.3 Portable Ladders. Where ladders are used for window cleaning a ladder landing working surface shall be provided. Each ladder landing working surface shall be not less than 30 inches deep and 30 inches wide, free and clear of obstructions, and having a slope not greater than 3:12 or 25 percent. (from MN 1346, 306.5.1) The leading edge of the ladder landing working surface shall be located not closer than 25% the sill height of the lowest window to work surface plane, nor farther than 25% of the head height of the highest window to the work surface plane.

3114.3.1 Horizontal distance. The window shall be no more than 6 feet (1800 mm) horizontally as measured from the center of the ladder landing working surface.

3114.3.2 Building support. The building support for the top ladder position shall be rigid and shall have strength to support not less than 65 lbs of lateral force. The surface shall be even to support the ladder rails perpendicular to the wall.

3114.4 Window Cleaner's Belts. The use of window cleaner's belts is permitted at interior locations where there is a fall hazard or exterior locations where the standing surface size is less than 30 inches deep by 30 inches wide and the fall hazard is greater than 48 inches. Building and site elements where

Commented [MG(1]: Per IWCA I14.1, Section 5.2.10 and OSHA 1926.1053(b)(4).

Commented [MG(2]: Derived as a safe horizontal reach range from IWCA I14.1, Section 5.7.10. And section 5.2.24

Commented [MG(3]: Derived from IWCA I14.1, Section 5.2.6. 65 lbs of lateral force is the horizontal force equivalent of a 250 lb person standing on a 35 foot tall ladder.

safe window cleaning methods include the use of window cleaner's belts shall comply with sections 3114.4.1 through 3113.4.5.

3114.4.1 Windowsills or work surfaces. A continuous sill, ledge, or work surface shall be provided with at least 6 inches of standing surface in front of the mullions unless each window is not provided with a minimum sash opening size in compliance with section 3114.4.2. The sill, ledge or work surfaces shall have a slope not greater than X%.

3114.4.2 Exterior access sash. Not less than one window in each grouping of windows shall be provided with a minimum sash opening size for gaining access to the building exterior. The minimum clear opening for the sash shall be not less than 5.7 square feet with a minimum width of not less than 20 inches and a minimum height of not less than 24 inches.

Commented [MG(4]: Derived from IBC 1030.2 for Emergency Escape and Rescue Openings designed for firefighter access through an opening with equipment.

3113.4.3 Window Cleaner's Belt Anchors Wall anchors shall be provided for line attachment in accordance with section 3114.8.

3113.4.4 Sill access anchors. Not fewer than two wall anchors shall be provided for sill access. The sill access anchors shall be located within 24 inches beyond the open window sash where there is access to the standing surface.

3113.4.5 Other wall anchors. Wall anchors, other than sill access anchors, at the window location shall be spaced not greater than 4 feet on center horizontally and between 36 inches and 48 inches above the standing surface or sill.

Exception: Anchor spacing may be increased to 6 feet on center where the standing surface or sill is at least 12 inches wide and the slope is less than 5 degrees.

3114.5 Manually propelled mobile scaffolds. Where the top of the highest window is no more than 125 feet from the ground surface the use of manually propelled mobile scaffolds is permitted as a window cleaning method. Building and site elements where safe window cleaning methods employ the use of scaffolds shall comply with sections 3114.5.1 through 3114.5.2.

Exception: The top of the highest window is permitted to exceed 125 feet from the ground surface where the design of the manually propelled scaffold is certified by a licensed design professional and the building and site elements comply with this section

3114.5.1 Mobile scaffolding deployment location. The mobile scaffolding deployment location within 10 feet of the exterior wall containing windows intended to be cleaned with scaffolding shall comply with sections 3114.5.1.1 through 3114.5.1.3.

3114.5.1.1 Stability and clearance. Ground supporting mobile scaffolding deployment locations within 3 feet of the exterior walls and between 6 feet and 8 feet of exterior walls shall provide a stable base for the scaffolding to be plumb and square during use and moved over level surfaces free from obstructions. No landscaping shall be planted within 3 feet of the exterior walls or between 6 feet and 8 feet of exterior walls.

Commented [MG(5]: IWCA I14.1, Section 5.4.5.

Commented [MG(6]: IWCA I14.1, Section 5.4.5.

3114.5.1.2 Slope. The mobile scaffolding deployment location shall not have a slope or cross slope greater than 1:8.

Commented [MG(7]: IWCA I14.1, Section 5.4.10

3114.5.1.3 Base Grading. Ground surface materials shall have a coarseness not greater than Class 5 gravel, or materials with greater than 1 inch in diameter.

3114.5.2 Access. An unobstructed accessway shall be provided from the location where the mobile scaffolding is erected to the mobile scaffolding deployment location. The accessway shall be not less than 48 inches in width, with a slope not steeper than 3:12, and a surface not coarser than Class 5 gravel.

3114.6 Mobile Elevating Work Platforms (MEWP). Where the top of the highest window is not more than 150 feet above the ground working surface the use of mobile elevating work platforms is permitted as a safe window cleaning method. Building and site elements where safe window cleaning methods use vehicle mounted aerial work platforms or manually propelled aerial work platforms shall comply with this section.

3114.6.1 Platform staging locations. Platform staging locations shall be provided at each window cleaning location with a deployment pad not less than 8 feet in width and 18 feet in length with a maximum slope of 1:12 or 5 degrees.

3114.6.1.1 Horizontal distance: Windows shall be within 30 feet horizontally from the platform staging location where safe window cleaning methods include the use of vehicle mounted aerial work platforms or manually propelled aerial work platforms.

3114.6.1.2 Access to platform staging locations. An access drive lane with a minimum width of 12 feet shall be provided to all aerial work platform staging locations. The access drive lane shall be continuous and free from landscape plantings, ditches, swales, pits, or other obstructions to vehicular travel. The access drive lane shall have a slope not greater than 3:12 and a cross slope not greater than 1:12. Platform staging locations shall be not have a slope that is less than the slope and cross slope permitted for the access drive lane.

3114.7 Roof anchorage for use of manual swinging scaffolds, boatswain's chairs, and rope descent systems. Buildings where safe window cleaning methods use swinging scaffolds, boatswain's chairs, and rope descent systems shall be equipped with roof anchors that comply with this section.

3114.7.1 Roof Anchorage Points. Buildings shall be equipped with roof anchors at each location where windows will be cleaned using swinging scaffolds, boatswain's chairs, and rope descent systems. Roof anchors shall conform to ANSI/IWCA I14.1-2001 Standard for Window Cleaning Safety, section 9 and section 17. Anchor designs shall be certified by a licensed structural engineer.

3114.7.2 Working surface. Each roof anchor location shall be provided with a working surface not less than 30 inches deep and 30 inches wide, with a slope not greater than 4 units vertical in 12 units horizontal and a vertical clearance of not less than 80 inches.

3114.7.3 Access to roof anchor point working surface. (from MN 1346, 306.5.1) An accessway that is continuous from the public way to the roof anchor point working surface shall be provided that consists of one or both of the following components:

1. An accessway with solid flooring and having a slope not greater than 4 units vertical in 12 units horizontal. The passageway shall not be less than 6 feet in height and 24 inches in width for its entire length.

Exception to item 1: A portion of an accessway may be reduced to 30 inches high and 22 inches wide with a slope not greater than 1 unit vertical in 12 units horizontal for a total distance not exceeding 20 feet in length.

2. Vertical access along the accessway shall comply with the requirements for mechanical equipment and appliances on roofs or elevated structures in Minnesota Rules, chapter 1346.

3114.7.4 Fall Arrest. Fall arrest/restraint anchorage connector devices compliant with ANSI/ASSE Z 359.1 shall be installed along the accessway to each roof anchor working surface where the accessway is 10 feet or less from the roof edge or where the slope of the accessway exceeds 4 units vertical in 12 units horizontal.

3114.8 Wall Anchorage. Wall anchors shall comply with Sections 3114.8.1 through 3114.8.4

3114.8.1 Capacity. Anchorages shall be capable of sustaining a 5000 pound (2268 kg) minimum load or a minimum 4-to-1 safety factor, whichever is greater, in any direction that a load may be applied.

3114.8.2 Adhered fasteners. Anchorages using adhesive fasteners (epoxy anchors) to a structure shall have a minimum of two fasteners per anchorage.

3114.8.3 Materials or finishes. Anchorages which have a surface permanently concealed from view shall be made of austenitic steel or shall be constructed of other noncorrosive, non-metallic material that has the necessary durability to withstand equipment impact loads and physical abrasion.

3114.8.4 Positioning. Anchorages shall be unobstructed and located behind and in line with the equipment or portion of the building they are intended to service and shall be free of sharp edges that may cause damage to the appurtenances attached to them.

3114.9 Permanently installed powered platforms. Buildings where safe window cleaning methods employ the use of permanently installed powered platforms shall comply with this section. Installations shall be certified by a licensed structural engineer.

3114.9.1 Working surface. At each powered platform location, a working surface not less than 30 inches wide and not less than the service length of the powered platform, with a slope not greater than 1 unit vertical in 12 units horizontal and a vertical clearance of not less than 80 inches.

3114.9.2 Access. (from MN 1346, 306.5.1) An access passageway that is continuous from the public way to each powered platform working surface shall be provided that consists of one or both of the following components:

1. An accessway with solid flooring and having a slope not greater than 4 units vertical in 12 units horizontal. The passageway shall be not less than 6 feet high and 24 inches wide for its entire length.

Exception to item 1: A portion of an accessway may be reduced to less than 30 inches high and 22 inches wide with a slope not greater than 1 unit vertical in 12 units horizontal for a total distance not exceeding 20 feet in length.

2 Vertical access along the accessway shall comply with the requirements for mechanical equipment and appliances on roofs or elevated structures in Minnesota Rules, chapter 1346.

3114.9.3 Fall Arrest. Fall arrest/restraint anchorage connector devices compliant with ANSI/ASSE Z 359.1 shall be installed along the accessway to each powered platform working surface where the accessway is 10 feet or less from the roof edge or where the slope of the accessway exceeds 4 units vertical in 12 units horizontal.

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

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Telephone number: 651-284-5884

Code or Rule Section: 3114.1

Firm/Association affiliation, if any: DLI/CCLD

Code or rule section to be changed:

Intended for Technical Advisory Group ("TAG"): Window Cleaning Safety

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General Information	**Yes**	**No**
A. Is the proposed change unique to the State of Minnesota?	☒	☐
B. Is the proposed change required due to climatic conditions of Minnesota?	☐	☒
C. Will the proposed change encourage more uniform enforcement?	☒	☐
D. Will the proposed change remedy a problem?	☒	☐
E. Does the proposal delete a current Minnesota Rule, chapter amendment?	☐	☒
F. Would this proposed change be appropriate through the ICC code development process?	☐	☒

Proposed Language

1. The proposed code change is meant to:

   ☒ change language contained the model code book? If so, list section(s).
   3114.1 Window cleaning methods and limitations.

   ☐ change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

   ☐ delete language contained in the model code book? If so, list section(s).

   ☐ delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

   ☐ add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.
   No.

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~strikethrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

3114.1 Window cleaning methods and limitations. All buildings with windows shall be provided with a safe window cleaning method for each window in accordance with ANSI/IWCA I-14.1-2001 and be provided with building and site development features applicable to that safe cleaning method as required by sections 3114.2 through 3114.9.

Exceptions:

1. Windows with tilt or pivot functions designed so that they can be completely cleaned from the building interior. Windows shall be operated to the cleaning position and cleaned from a compliant working surface within the range of extension devices in accordance with Section 3114.2.
2. ~~Buildings without windows.~~
3. ~~Buildings where the top of the window is less than 48 inches above grade.~~ Interior windows where the highest window glazing surfaces are 20 feet or less above a compliant work surface.
4. Exterior windows where the highest window glazing surfaces are 30 feet or less above a compliant work surface.

3114.1.1 Work surface. A work surface shall be provided at each window location that does not utilize a suspended cleaning method. Each work surface shall be not less than 30 inches x 30 inches measured horizontally and shall be sized to accommodate any equipment if there are equipment manufacturer's recommendations. The slope of a work surface shall be not greater than 3:12 or 25%. The irregularity of a work surface shall be not more than class 5 gravel.

3114.1.1.1 Work surface for direct hand washing or extension devices. Work surfaces for direct hand washing or extension devices shall be located in front of the window and extend to within 36 inches of each window edge.

3114.1.1.2 Work surface for portable ladder access to windows. Work surfaces for portable ladder access to windows shall be located to the side of windows so that the ladder may be supported by wall surface. Glazing to be cleaned from the ladder position shall be located within 36 inches of the window edge.

3114.1.1.3 Work surface for other cleaning methods. Work surfaces for other non-suspended cleaning methods shall be per the equipment manufacturer's instructions.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.
   No.

Need and Reason

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

Discussion regarding interior windows at the first TAG meeting identified that interior windows within 20 feet of work surfaces are easily cleaned with extension devices. There is no reason why exterior windows within 20 feet of work surfaces could not be cleaned in the same way.

2. Why is the proposed code change a reasonable solution?

   It essentially makes all two-story buildings exempt from the requirements as long as there is a viable work surface within 20 feet vertically of the highest window.

3. What other factors should the TAG consider?
   None.

Cost/Benefit Analysis

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.
   The proposed code change will decrease costs by reducing the review and approval of window cleaning safety features.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.
   N/A

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.
   N/A

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.
   No

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed $25,000 for any one small business or small city (Minn. Stat. § 14.127)? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.
   No.

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
   Architects, engineers, building owners, developers, property maintenance personnel, window cleaning professionals.

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.
   No.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

The cost of not adopting the code change is that all window locations will need to be reviewed for window cleaning safety criteria adding unnecessary expense.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.
   No.

   Potentially OSHA

***Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can considered by the TAG.

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Greg Metz

Date: 7/21/2023

Email address: Greg.Metz@State.MN.US

Model Code: 2024 IBC

Telephone number: 651-284-5884

Code or Rule Section: 3114.3

Firm/Association affiliation, if any: DLI/CCLD

Code or rule section to be changed:

Intended for Technical Advisory Group ("TAG"): Window Cleaning Safety

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General Information	**Yes**	**No**
A. Is the proposed change unique to the State of Minnesota?	☒	☐
B. Is the proposed change required due to climatic conditions of Minnesota?	☐	☒
C. Will the proposed change encourage more uniform enforcement?	☒	☐
D. Will the proposed change remedy a problem?	☒	☐
E. Does the proposal delete a current Minnesota Rule, chapter amendment?	☐	☒
F. Would this proposed change be appropriate through the ICC code development process?	☐	☒

Proposed Language

1. The proposed code change is meant to:

   ☒ change language contained the model code book? If so, list section(s).
   3114.3 Portable Ladders

   ☐ change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

   ☐ delete language contained in the model code book? If so, list section(s).

   ☐ delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

   ☐ add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.
   No.

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~strikethrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

> **3114.3 Portable Ladders.** Where ladders are used for window cleaning, a ladder landing working surface shall be provided at each window position where a ladder is used to clean a window. Each ladder landing working surface shall be not less than 30 inches deep and 30 inches wide, free and clear of obstructions, and having a slope not greater than 3:12 or 25 percent. The leading edge of the ladder landing working surface shall be located not closer than 25% of the windowsill height ~~of the lowest window to work surface plane, nor~~ and not farther than 25% of the window head height ~~of the highest window~~ to the landing working ~~work~~ surface plane.
>
> **3114.3.1 Horizontal reach distance.** The horizontal reach distance from the center of the ladder position to the edge of the window to be cleaned shall be no more than ~~6 feet (1800 mm)~~ 3 feet (900 mm) horizontally as measured from the center of the ladder ~~landing working surface~~.
>
> **3114.3.2 Building support.** The building support for the top ladder position shall be rigid and shall have strength to support not less than 65 lbs. of lateral force. The surface shall be even to support the ladder rails perpendicular to the wall.
>
> **3114.3.3 Height limits.** Windows cleaned by ladders shall be no higher than 38 feet above the ladder landing working surface.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.
   No.

Need and Reason

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

   The window cleaning safety standard does not address the requirements for ensuring that the landing where the ladder is positioned can provide for safe use of the ladder.

   Ultimate height limits of a window to be cleaned by a ladder is set by the height of a 40 foot standard length ladder positioned at 25% slope, the optimum slope for ladders.

2. Why is the proposed code change a reasonable solution?

   To prevent over-application of the requirement, and provide for uniform code enforcement. The proposed change also eliminates confusion regarding application of an exception to family or assisted use bathing rooms which may be mis-interpreted to be an exception for family assisted use toileting facilities.

   The addition of State Park Campgrounds and State Park Visitor Centers ensures that state sponsored and funded facilities provide toileting with dignity for all citizens.

3. What other factors should the TAG consider?
   None.

Cost/Benefit Analysis

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.
   The proposed code change will decrease costs by focusing requirements on necessary facilities without expanding the scope to other types of facilities which may not be able to afford such an installation.

   The addition of requirements for State Park Campgrounds and State Park Visitor Centers will increase costs for those facilities. Those costs will be borne by the citizens of Minnesota at large and not targeted to individual groups.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.
   N/A

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.
   N/A for Items 1 and 4.

   The State of Minnesota will bear the costs for items 5 and 6.

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.
   No

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed $25,000 for any one small business or small city (Minn. Stat. § 14.127)? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.
   No.

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
   Architects, engineers, building owners, developers, the disabled public that require changing as part of toileting.

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.
   No.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?
   The cost of not adopting the code change is that changing facilities requirements will be mis-applied in non-uniform ways costing building owners the installation and long-term real-estate costs of hosting a facility that goes beyond the intent of the minimum code.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.
   No.

   N/A

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DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

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Code or Rule Section: 3114.6

Firm/Association affiliation, if any: DLI/CCLD

Code or rule section to be changed:

Intended for Technical Advisory Group ("TAG"): Window Cleaning Safety

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General Information	**Yes**	**No**
A. Is the proposed change unique to the State of Minnesota?	☒	☐
B. Is the proposed change required due to climatic conditions of Minnesota?	☐	☒
C. Will the proposed change encourage more uniform enforcement?	☒	☐
D. Will the proposed change remedy a problem?	☒	☐
E. Does the proposal delete a current Minnesota Rule, chapter amendment?	☐	☒
F. Would this proposed change be appropriate through the ICC code development process?	☐	☒

Proposed Language

1. The proposed code change is meant to:

   ☒ change language contained the model code book? If so, list section(s).
   3114.6 Mobile Elevating Work Platforms (MEWP).

   ☐ change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

   ☐ delete language contained in the model code book? If so, list section(s).

   ☐ delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

   ☐ add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.
   No.

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~strikethrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

   3114.6 Mobile Elevating Work Platforms (MEWP). ~~Where the top of the highest window is not more than 150 feet above the ground working surface the use of mobile elevating work platforms is permitted as a safe window cleaning method. Building and site elements where safe window cleaning methods use vehicle mounted aerial work platforms or manually propelled aerial work platforms shall comply with this section.~~ Height limits, work surfaces and equipment access requirements shall be per the equipment manufacturer's recommendations.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.
   No.

Need and Reason

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

   MEWP vary by manufacturer and the limitations of each unique piece of equipment cannot be addressed by code.

2. Why is the proposed code change a reasonable solution?

   It allows for changes in equipment and equipment availability over time to address reach limits for various window cleaning situations.

3. What other factors should the TAG consider?
   None.

Cost/Benefit Analysis

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.
   The proposed code change will decrease costs by allowing flexibility for designers to utilize available window cleaning equipment rather than being confined so prescriptive limits.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.
   N/A

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.
   N/A

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.
   No

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed $25,000 for any one small business or small city (Minn. Stat. § 14.127)? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.
   No.

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
   Architects, engineers, building owners, developers, property maintenance personnel, window cleaning professionals.

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.
   No.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?
   The cost of not adopting the code change is that the use of MEWP may be limited by code prescription when the equipment may be allowed to be used safely beyond the prescriptive limits.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.
   No.

   Potentially OSHA

***Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can considered by the TAG.

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

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Firm/Association affiliation, if any: City of Minneapolis

Date: 7/21/23

Model Code: 2020 MBC

Code or Rule Section: 3114

Code or rule section to be changed: 3114

Intended for Technical Advisory Group ("TAG"):

General Information	**Yes**	**No**
A. Is the proposed change unique to the State of Minnesota?	☒	☐
B. Is the proposed change required due to climatic conditions of Minnesota?	☐	☒
C. Will the proposed change encourage more uniform enforcement?	☐	☒
D. Will the proposed change remedy a problem?	☒	☐
E. Does the proposal delete a current Minnesota Rule, chapter amendment?	☐	☒
F. Would this proposed change be appropriate through the ICC code development process?	☐	☒

Proposed Language

1. The proposed code change is meant to:

   ☐ change language contained the model code book? If so, list section(s).

   X change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

   ☐ delete language contained in the model code book? If so, list section(s).

   ☐ delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

   ☐ add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.
   unknown

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~strikethrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.
   See attached file

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.
   no

Need and Reason

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)
   The proposed change is overly broad and extends the requirement to a significantly larger set of structures thus increasing the cost of construction for many structures. The currently proposed language extends building code regulation to the use individual portable equipment which is easily modified and governed by other regulatory agencies.

2. Why is the proposed code change a reasonable solution?
   This proposed language is limited to physical elements of building construction and the applicable scope is modified to more closely align with the original statutory application.

3. What other factors should the TAG consider?

Cost/Benefit Analysis

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.
   Change should not have an impact on construction costs.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.
   There should be no change in the enforcement costs.

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed $25,000 for any one small business or small city (Minn. Stat. § 14.127)? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.
   No

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
   Architects, engineers, contractors, building owners, building managers, building officials

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.
   No

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?
   Adoption of the current proposed change will dramatically increase the cost of design and construction due to the increased applicability of the standard and the application of the standard to processes that are out of the control of the designer and subject to arbitrary change.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.
   No

***Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can considered by the TAG.

Draft - SECTION 3114 WINDOW CLEANING SAFETY

3114.1 ~~Window cleaning methods and limitations~~Anchors and fall protection. All buildings shall be provided with permanent anchors and fall protection to provide ~~a~~ safe window cleaning ~~method~~ in accordance with ANSI/IWCA I-14.1 at all exterior windows where the top of the window is more than 60 feet above grade plane. ~~2001 and be provided with building and site development features applicable to that safe cleaning method as required by sections 3114.2 through 3114.9.~~

Exceptions:

1. Windows with tilt or pivot functions designed so that they can be completely cleaned from the building interior. ~~Windows shall be operated to the cleaning position and cleaned from a compliant working surface within the range of extension devices in accordance with Section 3114.2.~~

2. Buildings without windows.

3. ~~Buildings where the top of the window is less than 48 inches above grade.~~

3114.1.2. Existing Buildings. Existing buildings undergoing alterations shall be required to comply with this section where both of the following conditions are met:

(1) the existing building does not currently have safe window cleaning features; and

(2) the proposed work area being altered exposes the primary or secondary structure necessary to install the appropriate anchors ~~can include provisions for safe window cleaning.~~

~~**3114.2 Extension Devices.** Where the top of the highest window is not more than 30 feet vertically above a work surface the use of extension devices as a window cleaning method is permitted and an extension device work surface shall be provided at each window cleaning location. The work surface shall be not less than 30 inches deep and 30 inches wide, free and clear of obstructions, and having a slope not greater than 3:12 or 25 percent.~~

~~**3114.3 Portable Ladders.** Where ladders are used for window cleaning a ladder landing working surface shall be provided. Each ladder landing working surface shall be not less than 30 inches deep and 30 inches wide, free and clear of obstructions, and having a slope not greater than 3:12 or 25 percent. (from MN 1346, 306.5.1) The leading edge of the ladder landing working surface shall be located not closer than 25% the sill height of the lowest window to work surface plane, nor farther than 25% of the head height of the highest window to the work surface plane.~~

~~**3114.3.1 Horizontal distance.** The window shall be no more than 6 feet (1800 mm) horizontally~~

~~**3114.3.2 Building support.** The building support for the top ladder position shall be rigid and shall have strength to support not less than 65 lbs of lateral force. The surface shall be even to support the ladder rails perpendicular to the wall.~~

~~**3114.4 Window Cleaner's Belts.** The use of window cleaner's belts is permitted at interior locations where there is a fall hazard or exterior locations where the standing surface size is less than 30 inches~~

Commented [AS1]: Change title to anchors and fall protection. Means and methods or building construction and maintenance are not appropriate for a building code.

Commented [AS3]: Site development features are not appropriate to the building code.

Commented [AS4]: Removal of this section as it addresses means and methods of maintenance work not a building element.

Commented [AS5]: Exception is not needed. Incorporated into charging statement.

Commented [MG(1]: Per IWCA I14.1, Section 5.2.10 and OSHA 1926.1053(b)(4).

Commented [MG(2]: Derived as a safe horizontal reach range from IWCA I14.1, Section 5.7.10. And section 5.2.24

Commented [MG(3]: Derived from IWCA I14.1, Section 5.2.6. 65 lbs of lateral force is the horizontal force equivalent of a 250 lb person standing on a 35 foot tall ladder.

~~deep by 30 inches wide and the fall hazard is greater than 48 inches. Building and site elements where~~

safe window cleaning methods include the use of window cleaner's belts shall comply with sections 3114.4.1 through 3113.4.5.

3114.4.1 Windowsills or work surfaces. A continuous sill, ledge, or work surface shall be provided with at least 6 inches of standing surface in front of the mullions unless each window is not provided with a minimum sash opening size in compliance with section 3114.4.2. The sill, ledge or work surfaces shall have a slope not greater than X%.

3114.4.2 Exterior access sash. Not less than one window in each grouping of windows shall be provided with a minimum sash opening size for gaining access to the building exterior. The minimum clear opening for the sash shall be not less than 5.7 square feet with a minimum width of not less than 20 inches and a minimum height of not less than 24 inches.

3113.4.3 Window Cleaner's Belt Anchors Wall anchors shall be provided for line attachment in accordance with section 3114.8.

3113.4.4 Sill access anchors. Not fewer than two wall anchors shall be provided for sill access. The sill access anchors shall be located within 24 inches beyond the open window sash where there is access to the standing surface.

3113.4.5 Other wall anchors. Wall anchors, other than sill access anchors, at the window location shall be spaced not greater than 4 feet on center horizontally and between 36 inches and 48 inches above the standing surface or sill.

Exception: Anchor spacing may be increased to 6 feet on center where the standing surface or sill is at least 12 inches wide and the slope is less than 5 degrees.

3114.5 Manually propelled mobile scaffolds. Where the top of the highest window is no more than 125 feet from the ground surface the use of manually propelled mobile scaffolds is permitted as a window cleaning method. Building and site elements where safe window cleaning methods employ the use of scaffolds shall comply with sections 3114.5.1 through 3114.5.2.

Exception: The top of the highest window is permitted to exceed 125 feet from the ground surface where the design of the manually propelled scaffold is certified by a licensed design professional and the building and site elements comply with this section

3114.5.1 Mobile scaffolding deployment location. The mobile scaffolding deployment location within 10 feet of the exterior wall containing windows intended to be cleaned with scaffolding shall comply with sections 3114.5.1.1 through 3114.5.1.3.

3114.5.1.1 Stability and clearance. Ground supporting mobile scaffolding deployment locations within 3 feet of the exterior walls and between 6 feet and 8 feet of exterior walls shall provide a stable base for the scaffolding to be plumb and square during use and moved over level surfaces free from obstructions. No landscaping shall be planted within 3 feet of the exterior walls or between 6 feet and 8 feet of exterior walls.

Commented [MG(4]: Derived from IBC 1030.2 for Emergency Escape and Rescue Openings designed for firefighter access through an opening with equipment.

Commented [MG(5]: IWCA I14.1, Section 5.4.5.

Commented [MG(6]: IWCA I14.1, Section 5.4.5.

~~**3114.5.1.2 Slope.** The mobile scaffolding deployment location shall not have a slope or cross slope greater than 1:8.~~

~~**3114.5.1.3 Base Grading.** Ground surface materials shall have a coarseness not greater than Class 5 gravel, or materials with greater than 1 inch in diameter.~~

~~**3114.5.2 Access.** An unobstructed accessway shall be provided from the location where the mobile scaffolding is erected to the mobile scaffolding deployment location. The accessway shall be not less than 48 inches in width, with a slope not steeper than 3:12, and a surface not coarser than Class 5 gravel.~~

~~**3114.6 Mobile Elevating Work Platforms (MEWP).** Where the top of the highest window is not more than 150 feet above the ground working surface the use of mobile elevating work platforms is permitted as a safe window cleaning method. Building and site elements where safe window cleaning methods use vehicle mounted aerial work platforms or manually propelled aerial work platforms shall comply with this section.~~

~~**3114.6.1 Platform staging locations.** Platform staging locations shall be provided at each window cleaning location with a deployment pad not less than 8 feet in width and 18 feet in length with a maximum slope of 1:12 or 5 degrees.~~

~~**3114.6.1.1 Horizontal distance.** Windows shall be within 30 feet horizontally from the platform staging location where safe window cleaning methods include the use of vehicle mounted aerial work platforms or manually propelled aerial work platforms.~~

~~**3114.6.1.2 Access to platform staging locations.** An access drive lane with a minimum width of 12 feet shall be provided to all aerial work platform staging locations. The access drive lane shall be continuous and free from landscape plantings, ditches, swales, pits, or other obstructions to vehicular travel. The access drive lane shall have a slope not greater than 3:12 and a cross slope not greater than 1:12. Platform staging locations shall be not have a slope that is less than the slope and cross slope permitted for the access drive lane.~~

3114.7 Roof anchorage for use of manual swinging scaffolds, boatswain's chairs, and rope descent systems. Buildings where safe window cleaning methods use swinging scaffolds, boatswain's chairs, and rope descent systems shall be equipped with roof anchors that comply with this section.

3114.7.1 Roof Anchorage Points. Buildings shall be equipped with roof anchors at each location where windows will be cleaned using swinging scaffolds, boatswain's chairs, and rope descent systems. Roof anchors shall conform to ANSI/IWCA I14.1-2001 Standard for Window Cleaning Safety, section 9 and section 17. Anchor designs shall be certified by a licensed structural engineer.

3114.7.2 Working surface. Each roof anchor location shall be provided with a working surface not less than 30 inches deep and 30 inches wide, with a slope not greater than 4 units vertical in 12 units horizontal and a vertical clearance of not less than 80 inches.

Commented [MG(7]: IWCA I14.1, Section 5.4.10

Commented [AS6]: Delete all sections that address portable or movable equipment.

3114.7.3 Access to roof anchor point working surface. (from MN 1346, 306.5.1) An accessway that is continuous from the public way to the roof anchor point working surface shall be provided that consists of one or both of the following components:

1. An accessway with solid flooring and having a slope not greater than 4 units vertical in 12 units horizontal. The passageway shall not be less than 6 feet in height and 24 inches in width for its entire length.

Exception to item 1: A portion of an accessway may be reduced to 30 inches high and 22 inches wide with a slope not greater than 1 unit vertical in 12 units horizontal for a total distance not exceeding 20 feet in length.

2. Vertical access along the accessway shall comply with the requirements for mechanical equipment and appliances on roofs or elevated structures in Minnesota Rules, chapter 1346.

3114.7.4 Fall Arrest. Fall arrest/restraint anchorage connector devices compliant with ANSI/ASSE Z 359.1 shall be installed along the accessway to each roof anchor working surface where the accessway is 10 feet or less from the roof edge or where the slope of the accessway exceeds 4 units vertical in 12 units horizontal.

3114.8 Wall Anchorage. Wall anchors shall comply with Sections 3114.8.1 through 3114.8.4

3114.8.1 Capacity. Anchorages shall be capable of sustaining a 5000 pound (2268 kg) minimum load or a minimum 4-to-1 safety factor, whichever is greater, in any direction that a load may be applied.

3114.8.2 Adhered fasteners. Anchorages using adhesive fasteners (epoxy anchors) to a structure shall have a minimum of two fasteners per anchorage.

3114.8.3 Materials or finishes. Anchorages which have a surface permanently concealed from view shall be made of austenitic steel or shall be constructed of other noncorrosive, non-metallic material that has the necessary durability to withstand equipment impact loads and physical abrasion.

3114.8.4 Positioning. Anchorages shall be unobstructed and located behind and in line with the equipment or portion of the building they are intended to service and shall be free of sharp edges that may cause damage to the appurtenances attached to them.

3114.9 Permanently installed powered platforms. Buildings where safe window cleaning methods employ the use of permanently installed powered platforms shall comply with this section. Installations shall be certified by a licensed structural engineer.

3114.9.1 Working surface. At each powered platform location, a working surface not less than 30 inches wide and not less than the service length of the powered platform, with a slope not greater than 1 unit vertical in 12 units horizontal and a vertical clearance of not less than 80 inches.

3114.9.2 Access. (from MN 1346, 306.5.1) An access passageway that is continuous from the public way to each powered platform working surface shall be provided that consists of one or both of the following components:

1. An accessway with solid flooring and having a slope not greater than 4 units vertical in 12 units horizontal. The passageway shall be not less than 6 feet high and 24 inches wide for its entire length.

Exception to item 1: A portion of an accessway may be reduced to less than 30 inches high and 22 inches wide with a slope not greater than 1 unit vertical in 12 units horizontal for a total distance not exceeding 20 feet in length.

2 Vertical access along the accessway shall comply with the requirements for mechanical equipment and appliances on roofs or elevated structures in Minnesota Rules, chapter 1346.

3114.9.3 Fall Arrest. Fall arrest/restraint anchorage connector devices compliant with ANSI/ASSE Z 359.1 shall be installed along the accessway to each powered platform working surface where the accessway is 10 feet or less from the roof edge or where the slope of the accessway exceeds 4 units vertical in 12 units horizontal.