

Flood Resistant Design TAG

Meeting Notes

Date: Tuesday, August 3, 2021

Meeting Location: WebEx Event

Call to order:

Greg Metz called the meeting to order at 9:01 AM

Attendance:

TAG Members present: Greg Metz (DLI), Andrea Crabtree Naves (City of Moorhead) Vincent DiGiorno (KOMA Architects & Engineers), Christian Faste (City of Burnsville), Dan Korf (Houston Engineering), and Ceil Strauss (MN DNR)

TAG Members Absent: Chris Rosival (DLI)

Guests attending: Amanda Spuckler (DLI), Chad Payment (DLI), Jeff Lebowski (DLI), Rich Lockrem (DLI), Steve Shold (DLI), Scott Thompson, Nick Erickson, and Barbara Conti

1. Call to order

- WebEx instructions/procedures

2. Reviewed existing Minnesota Rules, chapter 1335, 1972 edition of “Flood Proofing Regulations,” and ASCE 24-14, as discussed below.

Minnesota Rules, part 1335.2100

The TAG members’ consensus is to repeal current part 1335.2100 because ASCE 24-14 section 1.5.4 and section 2.4 address use of fill. The TAG members’ consensus is to modify ASCE 24-14 to include an exception to permit prescriptive fill as an option for foundations designed by a licensed design professional and with the approval of the flood administrator.

Minnesota Rules, part 1335.2150

The TAG members’ consensus is to repeal current part 1335.2150 for consistency with FEMA regulations for buildings protected by dikes, levees, and floodwalls.

Minnesota Rules, part 1335.2200

The TAG members' consensus is to repeal current part 1335.2200 because ASCE 24-14 contains similar requirements. The TAG members' consensus is to no longer permit new buildings to allow intentional flooding with potable water in order to counterbalance external flood loading.

Minnesota Rules, part 1335.2300

The TAG members' consensus is to repeal current part 1335.2300 because the storage contents are not regulated by the Minnesota State Building Code unless they are hazardous.

Minnesota Rules, part 1335.2400

The TAG members' consensus is to repeal current part 1335.2400 because ASCE 24-14 includes similar requirements and modify ASCE 24-14 section 7.4 to require a manually operated gate valve in fuel lines above the Design Flood Elevation.

Minnesota Rules, part 1335.2500

The TAG members' consensus is to repeal current part 1335.2500 because ASCE 24-14 section 2.7 contains similar requirements.

Minnesota Rules, part 1335.2600

The TAG members' consensus is to repeal current part 1335.2600 so that vents and air intakes are required to be above Design Flood Elevation, without an additional three feet of freeboard.

Minnesota Rules, parts 1335.2700, 1335.2800, and 1335.2900

The TAG members' consensus is to repeal current parts 1335.2700, 1335.2800, and 1335.2900 because ASCE 24-14 section 7.3.4 addresses requirements for sanitary systems. The TAG members' consensus is to modify ASCE 24-14 section 7.3.4 to refer to Minnesota Rules, chapter 7080, and MDH rules for sanitary systems.

Minnesota Rules, part 1335.3000

The TAG members' consensus is to repeal current part 1335.3000 because plumbing systems are addressed in ASCE 24-14 section 7.3.3 and to modify section 7.3.3 to require all plumbing system vents to be extended to a minimum elevation of three feet above the Design Flood Elevation.

Minnesota Rules, part 1335.3100

The TAG members' consensus is to repeal current part 1335.3100 for consistency with FEMA regulations for buildings protected by dikes, levees, and floodwalls.

ASCE Figure C1-2

The TAG members' consensus is to modify Figure C1-2 to include a description of Design Flood Elevation as higher than base flood elevation.

ASCE 24-14 Section 1.2 Definitions

- Flood hazard map. The TAG members' consensus is to modify the definition to mean the floodplain maps prepared by FEMA or higher standards prepared by local jurisdiction for areas within or beyond the FEMA maps.

ASCE 24-14 Section 2.7 Design Criteria

The TAG members' consensus is to modify section 2.7 to require that walls located below the Design Flood Elevation be designed to sustain impact loads. The section is also modified to define types of impact loads and the design criteria for each:

- Normal impact: 1000 lb. force traveling at flood water speed acting on 1 square foot of surface.
- Special impact load: Load intensity at 100 lb. per foot acting horizontally over a one-foot wide horizontal strip at the RFD or any level below it and can be ignored if there are permanent barriers in place.
- Extreme impact load: deemed impractical to design except in special cases where the loads can be anticipated and potential for damage is severe.

A definition of “permanent barriers” will be added. Permanent barriers must meet the design criteria for walls and provide equivalent protection.

ASCE 24-14 Sections 2.5 Slabs on Grade and 2.6 Foundation Walls

The TAG members’ consensus is to modify sections 2.5 and 2.6 to require foundation walls and slabs for buildings located in Wilkin, Traverse, and Big Stone counties to be designed for expansive soils unless a certified geotechnical investigation indicates that expansive soils are not present within the construction area.

ASCE 24-14 Section 2.4 Use of Fill

The TAG members’ consensus is to modify section 2.4 so that fill cannot be placed in lifts of more than 12 inches unless by modified by design.

Next Meeting:

Date: August 17, 2021

Time: 9:00 AM

Location: WebEx Event

Meeting Adjourned: 10:58 AM

Prepared by: Greg Metz