

## Attachment C

### Solar Water-heating Systems Protection of Drinking Water Supply Options

#### Solar Water-heating Systems

##### General Information:

Where a solar thermal system heats potable water (supplied from drinking water supply) to supply a potable hot water distribution or any other type of heating system, the thermal solar system shall comply with one of three options For the three basic types of thermal water-heating systems which include “**Direct for potable use**”, “**Direct not for potable use**” and “**Indirect**”. Using the information provided below, determine which type of system has been installed in order to determine the requirements necessary to protect the drinking water supply.

##### Item #1

##### Direct Solar Heating System for Potable Water Distribution

A direct solar thermal water-heating system heats the potable water that is to be distributed for the building’s potable (drinking) hot water distribution system. All components in a direct solar thermal water-heating system must comply with the requirements for potable water distribution system piping and components; this includes the pipe, fittings, valves and other components that are in contact with the drinking water in the system, as further described below:

- Valves intended to supply drinking water shall meet the requirements of NSF 61.
- Water service pipe shall conform to NSF 61 and one of the Standards listed in Table P2906.4 of the Michigan Residential Code.
- Pipe fittings in water supply systems shall comply with NSF 61.
- Lead content of drinking water pipe and fittings utilized for purposes of drinking or cooking shall comply with NSF 372 and have a weighted average lead content of 0.25 percent lead or less.
- Other requirements may apply pursuant to the Michigan Residential code

Systems of this type, meeting all of the above bullet points do not require isolation from the drinking water supply by a backflow preventer, however verification that these requirements are met must be provided for review and approval. Refer to your system specifications manual and system labeling.

##### Item #2

##### Direct Solar Heating System not for Potable Water Distribution

Solar thermal water-heating systems can be used for purposes other than heating potable water for distribution of hot water to the building’s potable hot water distribution system. One purpose may be for space heating.

Systems of this type must be isolated from the drinking water supply by a backflow preventer with an ASSE approval of #1012 with an atmospheric vent.

Systems of this type where the solar system heats chemically treated water must be isolated from the drinking water supply by a reduced pressure zone assembly with an ASSE approval #1013.

##### Item #3

##### Indirect Solar Water-heating Systems

An indirect solar thermal water-heating system heats a transfer fluid and then passes that heated fluid through a heat exchanger that is in contact with the water, which is then distributed in the building’s potable hot water distribution system.

Systems of this type are prohibited from being connected to any type of drinking water supply.

**Note:** All forms including (attachment C) can be found at cityofnovi.org by clicking on the quick access link at the top of the home page, click cross connection, click residential.