



Availability & Capacity Analysis by The Metropolitan District

The District requires that this analysis be completed prior to moving forward with a Developer's Permit Agreement or application for a permit to connect or modify connection through MDC's Utility Service Department. An owner and/or developer may be required by their lender, by the MDC, or other entity to obtain a letter from The Metropolitan District stating whether there is, or is not, water service and/or wastewater collection available (adjacent) to the proposed development/redevelopment/change-in-use (including fire suppression system alternations) site, and if such services are of sufficient capacity for the planned development. The intent of the availability and capacity analysis process is to research the capability of the existing District water distribution system and/or wastewater collection and treatment system (including any pumping stations) to meet the estimated needs for the planned additional residential dwellings or commercial/industrial buildings. Please allow a minimum of four weeks to complete the availability and capacity analysis process.

The availability and capacity analysis process is as follows:

1. *A formal written request (hard copy)* for an availability and capacity analysis is made and delivered to Michael Curley, P.E., Manager of Engineering, 555 Main Street, Hartford, Connecticut 06103. This request must include:
 - The location of the proposed development, including a street address and a location map, and a site plan, including the location of future water and sewer services.
 - A \$670.00 check, per utility (water, sewer, and/or storm sewer), payable to The Metropolitan District for administrative fees. *Please do not submit checks separately from the hard copy request.* The fees will be waived if the analysis is conducted as part of a (future) Developer's Permit-Agreement submission.
 - A detailed listing of the water uses and wastewater flow rates within the proposed development, including, but not limited to the following:

Residential

- The type of dwelling units planned for the development (single-family, townhome, multi-unit, etc.), including lot size and proposed lawn coverage, if irrigation is planned.
- The number of one-bedroom, two-bedroom, three-bedroom, etc. units planned for the development so that the population may be calculated per Department of Public Health guidelines.
- Estimated water usage and wastewater flow rates calculated per *DPH design flow guidelines*, with average volume per day (gpd) and peak flow (gpm). Flow shall not be calculated using fixture counts.

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- The emergency (fire) service flow rate for sprinklers (if applicable). Please note if the flow rate is per unit, per building, etc. Please state if there is no fire service planned.
- The number of fire hydrants proposed within the project limits, and the needed flow rate and duration as calculated by the design engineer and required by the local Fire Marshal.
- Other water uses and sources of wastewater within the planned development, such as landscape or other irrigation; community buildings (kitchen facilities, rest rooms and/or locker rooms, etc.); swimming pool or other facilities.
- Condensation and footing and/or underdrains (groundwater) shall not flow to the sanitary sewer (this includes flow from onsite separated systems that flow to a combined MDC sewer). If piped to storm, these flows shall be estimated for storm water calculations (Hartford). This is per MDC Sewer Ordinances.
- Stormwater (Hartford and portions of West Hartford) – stormwater calculations must be provided to indicate a no net increase (existing vs. proposed) of peak water runoff (flow not volume) for up to 10-year storm.
- An overall site layout drawing (24" x 36") with contours.
- The maximum elevation and mean elevation of the subject parcel

Commercial/Industrial

- The type of commercial or industrial facility (office, retail, restaurant, hotel, manufacturing, etc.), including lot size and proposed lawn coverage if irrigation is planned.
- The size of the proposed commercial or industrial facility; specifically, the number of restrooms planned (office and retail), the number of customers (restaurant), the number of rooms (hotel), the number of employees, etc.
- Estimated water usage and wastewater flow rates calculated per DPH design flow guidelines, with average volume per day (gpd) and peak flow (gpm). Flow shall not be calculated using fixture counts.
- Estimated water usage and wastewater discharges for industrial processes, including peak water usage and peak wastewater flow rates.
- The emergency (fire) service flow rate for sprinklers (if applicable). Please note if the flow rate is per unit, per building, etc. Please state if there is no fire service planned.
- The number of fire hydrants proposed within the project limits, and the needed flow rate and duration as calculated by the design engineer and required by the local Fire Marshal.
- Other water uses and sources of wastewater within the planned development, such as landscape or other irrigation; community buildings (kitchen facilities, rest rooms and/or locker rooms, etc.), swimming pool; HVAC equipment cleaning/blow down or fill cycles; intermittent but high instantaneous high flow processes (tank fill, tank draining, or other); or other facilities.
- Condensation and footing and/or underdrains shall not flow to the sanitary sewer (this includes flow from onsite separated systems that flow to a combined MDC sewer). If piped to storm, these flows shall be estimated for storm water calculations (Hartford), per MDC Sewer Ordinances.

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- Stormwater (Hartford and portions of West Hartford) – stormwater calculations must be provided to indicate a no net increase (existing vs. proposed) of peak water runoff (flow not volume) for up to a 10-year storm.
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2. Fire Flows – Special Considerations

General

Due to the particularly large demand characteristics of fire flows compared to domestic water needs, fire flow requires special attention and consideration (whether required for a renovation, a sprinkler conversion, or addition project).

When specific fire flows are required for planned installations - including sprinklers, fire pump, and/or fire hydrants on site – these flows must be provided by the developers so it may be addressed in the Availability and Capacity request.

Information Required

- a. Total Fire Flow Demand - The total fire flow demand for the property (the demand of the largest sprinkler system - new OR existing - and hose flow allowance) – as code reviewed by the Fire Marshal.
- b. Sprinklers – Area sizes, peak flow rates, and types of sprinkler systems on site. This includes both new and existing sprinkler areas (if part of a building expansion/renovation/addition) over the entire property.
 - i. Sprinkler areas
 - ii. Area demand (in gpm)
 - iii. Sprinkler system type for each area (Note – due to their large sudden flow changes and potential for water hammer, MDC encourages the use of alternate systems when an ESFR, Dry, or Deluge system are planned – for example heat tracing or heated spaces with a wet system, else surge mitigation measures may be required):
 - a) Wet
 - b) Early Suppression Fire Response (ESFR)
 1. Valve size (diameter in inches)
 - c) Dry
 1. Valve size (diameter in inches)
 - d) Deluge
 1. Valve size (diameter in inches)
- c. Hydrants - The number of fire hydrants and expected hose allowance for the site.
 - i. Inside Hose Allowance
 - ii. Outside Hose Allowance
 - iii. Hose allowance downstream of pump
- d. Fire Pump – If a fire pump is required the capacity (gpm) is required and water hammer/surge protection must be considered. Surge mitigation measures shall be required – see MDC's Fire Service Guidelines.

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3. District staff will review the submitted information to determine if the District's current infrastructure can accommodate the planned water usage and wastewater flow rates. District staff may request additional information as applicable to the particular development and design.
4. The District will provide a written response if there is, or is not, sufficient availability and capacity to provide the planned development with water service and to convey and treat wastewater from the referenced project, as detailed by the owner and/or developer.
 - a. Please note that the pressure and quantity of water service available may vary across a development due to the elevation of specific dwelling units and/or buildings, as well as concurrent water consumption within the development and the surrounding area.
 - b. Department of Public Health regulations require that The Metropolitan District provide a minimum water pressure of 25 psi (with 35 psi recommended), and a maximum water pressure of 125 psi (as measured at the water main). The owner and/or developer may request a hydrant flow test(s) in the vicinity of the subject site to measure the pressure for design purposes. Please indicate in your request if a flow test is planned or has been performed for the site.
5. Additionally, our analysis does not focus on the technical adequacy of the design; such a review is conducted during the Developer's Permit-Agreement process or connection permitting process by MDC Utility Services Department, as applicable.
 - a. Due to the age of the MDC infrastructure in some areas, additional investigation of the condition of the sanitary, combined, storm, or water mains may be required prior to finalizing AC. Service may need to be evaluated to come from another direction. This may include CCTV for sewers; structural analysis of manhole and sewers; and hydrant flow tests for water main capacity.