

ARTICLE XII - DESIGN GUIDELINES

This article is intended to provide an example of design guidelines, which if followed will result in meeting the appropriate performance standards of Article XI. Compliance with these guidelines shall be considered evidence of meeting those standards. Proposed subdivisions not in compliance with the design guidelines of this article may be considered, but the applicant shall provide clear and convincing evidence that the proposed design will meet the performance standard(s) and the statutory criteria. In all instances the burden of proof shall be upon the applicant to present adequate information to indicate all performance standards and statutory criteria for approval have been or will be met.

12.1 Sufficient Water

12.1.A Well Construction

- 12.1.A.1 Due to the increased chance of contamination from surface water, dug wells shall be prohibited on lots of smaller than one acre. On lots of one acre or smaller, the subdivider shall prohibit dug wells by deed restrictions and a note on the plan.
- 12.1.A.2 Wells shall not be constructed within 100 feet of the traveled way of any street, if located downhill from the street, or within 50 feet of the traveled way of any street, if located uphill of the street. This restriction shall be included as a note on the plan and deed restriction to the effected lots.

12.1.B Fire Protection (Amended July 14, 2017)

- 12.1.B.1 Fire hydrants connected to a public water supply system shall be located no further than 500 feet from any building or an alternative fire protection method will be required.
- 12.1.B.2 All Ssubdivisions with the exception of HUD certified Manufactured Housing as defined By Federal Regulation consisting of either eight (8) lots/units or more or between four (4) and seven (7) lots/units located more than 2,500 linear feet by established travelway from a designated and operational Fire Department water supply of at least 15,000 gallon capacity shall be subject to the following requirements:

~~a. Alternative Water Supply Required: Proposed new residential structures failing to meet the standard of 12.1.B.2 will be required to Install a residential fire sprinkler system in all residential units in conformance with the standards of NFPA 13D provide one of the following remedies:~~

- ~~1) Install a residential fire sprinkler system in all residential units in conformance with the standards of NFPA 13D;~~
- ~~2) Install an enclosed concrete or polycarbonate cistern with a minimum 15,000 gallon capacity on site or within 500 feet by established travelway of the principal structure and provide Fire Department vehicular access to the cistern;~~
- ~~3) Install a fire pond with a minimum water capacity of 60,000 gallons according to standards of the Arundel Fire Chief, or designee.~~

~~b. Fire Cisterns Standards: Fire Water Supply cisterns shall be designed as follows:~~

- ~~1) All cisterns shall be waterproofed prior to installation.~~
- ~~2) Cisterns shall be plumbed with six (6) inch drafting outlet with a threaded fitting~~

~~with long handles and a metal cap mounted on an elbow at least two (2) feet above the surface of the ground~~

- ~~3) All plumbing fixtures shall be metal in construction.~~
- ~~4) A separate vent pipe shall be installed~~
- ~~5) A separate fill pipe on an elbow mounted at least 2 feet above the ground and fitted with a threaded 2.5 inch wye.~~
- ~~6) A sight gauge showing water level in the cistern.~~
- ~~7) Cisterns shall be constructed with a cleanout manhole enabling maintenance access to the interior with a locking mechanism to prevent vandalism.~~

~~c. Fire Pond Standards:~~

- ~~1) **Fire Pond Capacity:** The water capacity of a proposed fire pond shall be determined based on the geometric volume of the pond minus that volume located from the bottom to 1 foot above the strainer elevation and minus a three (3) foot thick ice pack at the pond surface.~~
- ~~2) **Fire Pond Water Supply:** The fire pond shall be lined with clay, a synthetic liner, or any other impervious material approved by the Fire Chief or his/her designee to minimize water loss in the facility. Fire ponds should be fed by a perennial surface water source or by groundwater to reliably maintain design capacity year round.~~
- ~~3) **Dry Hydrant:** A Dry hydrant connection shall be installed consisting of a eight (8) inch strainer situated on granular material in the pond bottom, a connector line, riser pipe and elbow with a 6 inch threaded connection mounted at least two feet above the ground surface.~~
- ~~4) **Cleanout Access:** A minimum of one access point shall be provided of sufficient size to enable pond maintenance and periodic silt cleanout by excavator or similar equipment.~~

~~d. Pumping Apron:~~

- ~~1) **Apron Design:** A paved access apron at least 15 feet long shall be constructed from the cistern or fire pond's dry hydrant to the edge of the street or private way to provide easy Fire Department access to the dry hydrant and fill pipe.~~
- ~~2) **Bituminous Surface:** The apron shall consist of 2.5 inch bituminous concrete surface constructed on 18 inches of MDOT Type D gravel compacted to 95 Procter.~~
- ~~3) **Protective Bollards:** Two three inch concrete filled metal pipe bollards shall be installed at on either side and in front of the hydrant and fill pipe connections in order to protect the fittings from impact form vehicles.~~

~~e. Exemptions & Additional Requirements:~~

- ~~1) **Exemptions:** Given the proximity of adequate and established Fire Department water supplies, the Fire Chief or designee may exempt a proposed development from providing an on-site water supply.~~
- ~~2) **Additional Requirements:** Given site conditions and constraints, inaccessibility, fire loads, and /or exposures, the Fire Chief or designee may impose additional fire protection standards beyond the minimum requirements specified in Section 12.1.B in order to maintain neighborhood safety, preserve property, and protect civilian and firefighter lives.~~

~~specifications of the Fire Department. Minimum pipe size connecting dry hydrants to ponds or storage vaults shall be eight inches. (Amended July 10, 2003)~~

~~12.1.B.4 — Where the dry hydrant or other water source is not within the right of way of a proposed or existing street, an easement to municipality shall be provided to allow access. A suitable access to the hydrant or other water source shall be constructed.~~

12.2 Traffic Conditions

12.2.A Access Control

12.2.A.1 Where a subdivision abuts or contains an existing or proposed arterial street, no residential lot may have vehicular access directly onto the arterial street. This requirement shall be noted on the Plan and in the deed of any lot with frontage on the arterial street.

12.2.A.2 Where a lot has frontage on two or more streets, the access to the lot shall be provided to the lot across the frontage and to the street where there is lesser potential for traffic congestion and for hazards to traffic and pedestrians.

12.2.A.3 *Subdivision Access Design For Subdivisions Entering Onto Arterial Streets*

When the access to a subdivision is a street, the street design and construction standards of Section B below shall be met. Where there is a conflict between the standards in this section and the standards of Section B, the stricter or more stringent shall apply.

12.2.A.3.a *General*

Access design shall be based on the estimated volume using the access classification defined below. Traffic volume estimates shall be as defined in the *Trip Generation Manual*, 1987 edition, published by the Institute of Transportation Engineers.

12.2.A.3.a.1 *Low Volume Access:* An access with 50 vehicle trips per day or less.

12.2.A.3.a.2 *Medium Volume Access:* Any access with more than 50 vehicle trips per day but less than 200 peak hour vehicle trips per day.

12.2.A.3.a.3 *High Volume Access:* Peak hour volume of 200 vehicle trips or greater.

12.2.A.3.b *Sight Distances*

Accesses shall be designed in profile and grading and located to provide the required sight distance measured in each direction. Sight distances shall be measured from the driver's seat of a vehicle standing on that portion of the exit with the front of the vehicle a minimum of 10 feet behind the carbine or edge of shoulder, with the height of the eye 3-1/2 feet, to the top of an object 4-1/4 feet above the pavement. The required sight distances are listed below for various posted speed limits.

12.2.A.3.b.1 *Two Lane Roads*

A minimum sight distance of ten feet for each mile per hour of posted speed limit shall be maintained or provided.