

ARTICLE VI

DESIGN STANDARDS

SECTION 600 APPLICATION

The standards of design in This Article shall be used to judge the adequacy of development proposals. Where, in the opinion of the Council, the literal application of these standards in certain cases would work undue hardship or would be plainly unreasonable, the Council may recommend such reasonable exceptions as will not be contrary to the public interest.

SECTION 601 GENERAL STANDARDS

- A. **Land** - No land shall be subdivided or developed for any purposes unless all hazards to life, health, or property from flood, fire and disease, shall have been eliminated or unless the plans for the project shall provide adequate safeguard against such hazards.
- B. **Development** - Proposed projects shall be coordinated with existing nearby neighborhoods so that the community as a whole may develop harmoniously.

SECTION 602 BLOCKS AND LOTS

- A. **Block Length** - Residential and commercial blocks shall be not less than five-hundred feet (500') long nor more than sixteen-hundred feet (1,600') long.
- B. **Block Width** - Blocks shall be wide enough for two (2) tiers of lots.
- C. **Through Lots** - Double frontage lots are to be avoided and generally will not be permitted unless the lots are a minimum of two-hundred feet (200') deep.
- D. **Grading** - Block and lots shall be graded to sufficient elevation to secure drainage away from buildings and to prevent the collection of storm water in pools. Drainage shall be provided for according to recommendations of the Engineer or such other official as may be designated by the Borough Council. Topsoil shall be preserved and redistributed as ground cover, consistent with the Erosion and Sedimentation Control Plan Requirements of the Department of Environmental Protection.
- E. **Lot Size** - The minimum lot size, lot width, and building setback line shall be in accordance with the Mont Alto Borough Zoning Ordinance.
- F. **Off-Street Parking** - Off-street parking and traffic circulation plans shall be in accordance with the Mont Alto Borough Zoning Ordinance.

SECTION 603 STREETS, ALLEYS AND SIDEWALKS

- A. **Street Pattern** - The proposed street pattern shall be integrated with existing and/or officially planned streets and it shall be so related to topography as to produce usable lots and reasonable street grades.

- B. **Design and Purpose** - Streets shall be designed according to their function and laid out to preserve the integrity of their design in accordance with the following functional classification:
 - 1. **Major Arterials** - Limited access highways that are important in the interregional transportation system, with a major portion of the vehicular movements being through traffic.
 - 2. **Minor Arterials** - Highways that are important in the regional transportation systems, and while carrying mostly regional traffic, serve some local or Borough origins and destinations.
 - 3. **Collectors** - Roadways serving primarily local traffic and provide the connection between the residential, commercial and industrial developments and the minor arterial system.
 - 4. **Local Roads** - Roadways serving local traffic and connect to collectors or minor arterials.
 - 5. **Alley and Service Drive** - A minor street which provides a secondary means of access to the back or side of properties otherwise abutting a street. Standard assumes infrequent use by heavy vehicles at low speed.

The functional classification of roadways traversing the Borough shall be determined by Borough Council upon recommendation by the Planning Commission.

- C. **Street Widths** - Streets shall be laid out according to the following minimum schedule; however, additional street width may be required as determined by the Borough.

| <u>CLASS OF STREETS</u> | <u>RIGHT-OF-WAY WIDTH</u> | <u>CARTWAY WIDTH PAVED STREET/SHOULDERS</u> |
|--------------------------------|----------------------------------|--|
| Major Arterial | PA DOT Standards | PA DOT Standards |
| Minor Arterial | PA DOT Standards | PA DOT Standards |
| Collectors Street | 50 Feet | 32 Feet / 12 Feet |
| Local Street | 50 Feet | 24 Feet / 12 Feet |
| Alley and Service Drive | 20 Feet | 16 Feet / * |

* Not Applicable.

- D. **Street Pavement** - The roadway shall be improved in accordance with Borough Specifications of Section 706.
- E. **Continuations** - Where reasonable and practicable, new streets shall be laid out to continue existing streets at no reduction in width. Greater widths may be required.
- F. **Street Names** - Continuations of existing streets shall be known by the same name; but names for other streets shall not duplicate or closely resemble names for existing streets in the Borough.
- G. **Access** - Streets shall be laid out to make provision for access to all lots and to adjacent undeveloped areas, and the subdivider or developer shall improve these access streets to the limits of the subdivision or land development.
- H. **Reserve Strips** - Reserve Strips controlling access to the subdivision or adjacent areas are prohibited.
- I. **Dead-End Streets** - Dead-End Street are prohibited unless constructed as cul-de-sacs not exceeding eight-hundred feet (800') in length, with a turn-around having a minimum of one-hundred feet (100') diameter right-of-way and a minimum radius of forty feet (40') of paving. The length of the cul-de-sac shall be at least three hundred feet (300') measured from the last intersection.
- J. **Clear Sight Distance** - Clear sight distance along the centerline of local streets shall be maintained at not less than one-hundred and fifty feet (150') and along collector streets at not less than two-hundred and fifty five feet (250').
- K. **Directional Changes** - Changes in street direction shall be made by horizontal curves with a minimum radius of five-hundred feet (500') for arterial streets, three-hundred feet (300') for collector street, and two-hundred feet (200') for local streets. These radii are to be measured at the centerline. Shorter radii may be permitted on recommendation by the Borough Engineer.
- L. **Grades** - There shall be a minimum centerline grade of five-tenths of one percent (1%) on all streets. Grades shall not exceed six percent (6%) on all arterial streets and ten percent (10%) on local and collector streets and alleys. Steeper grades may be permitted on local streets for short distances if no gentler slope is possible.
- M. **Vertical Curves** - Changes in grade shall be joined by Vertical Curves, and the maximum rate of change of grade shall be five percent (5%) per hundred feet of road, provided that the clear sight distances specified above are maintained at all points.
- N. **Crown** - The slope of the crown on all streets shall be one-quarter inch (1/4") per foot or as directed by the Engineer.

- O. **Side Slopes** - Street cuts and fills shall be provided with Side Slopes no steeper than one (1) vertical to three (3) horizontal. Such Slopes shall be suitably planted with perennial grasses or other vegetation to prevent gulleying and erosion.
- P. **Intersections** - Street Intersections shall be designed according to the following standards:
1. No more than two (2) streets shall cross at the same point. Street Intersections shall be at right angles wherever possible, and Intersections of less than sixty (60) degrees (measured at the centerline of the streets) will not be permitted.
 2. Intersecting Streets shall not enter into the same side of Collector Streets or Arterial Streets at intervals of less than eight-hundred feet (800'). Local Streets entering another street from opposite sides should be directly opposite each other; or if necessary, they may be separated by at least two-hundred feet (200') between centerline measured along the centerline of the Cross Street. Greater off-set may be required by the Planning Commission, if applicable, depending on the importance of the Cross Street.
 3. Maximum grade within any Intersection shall not exceed five percent (5%) in any direction, and approaches to any Intersection shall follow a straight course within one-hundred feet (100') of the Intersection. Grades within one-hundred feet (100') of an Intersection shall not exceed ten percent (10%).
 4. Except where buildings are permitted to front on property lines, a seventy-five foot (75') clear sight triangle shall be provided, in which no building or structure, wall, fence, hedge, tree, shrub or other growth shall be placed except for utility poles, light standards, street signs and fire hydrants.
- Q. The following standards shall apply to the design and location of alleys and service drives:
1. No part of any dwelling, garage, or other structure may be located within sixteen feet (16') of the centerline of an alley.
 2. Alleys or secondary service drives for commercial and industrial establishments are required unless other provisions for service are provided.

SECTION 604 **PUBLIC FACILITIES**

- A. **Fire Hydrants** - Fire hydrants shall be located so that the distance from the nearest corner of any building to a fire hydrant is not more than six-hundred feet (600') measured along the most direct path accessible by fire fighting equipment.

- B. Easements - Where common utility lines are installed in or over undedicated land, a public easement granted in favor of the Borough, six feet (6') on each side of the Line shall be required. Suitable easements may also be required along the course of streams for the future installation of sewers. Where feasible, telephone and electric lines shall be installed below ground.

- C. Underground Installations: In all new land developments, electric, telephone and all other utility facilities may be installed underground. The developer may be required prior to Final Plan approval, to obtain a letter from the appropriate utility company confirming that the developer has entered into an agreement to provide for an underground electric, cable and telephone system in accordance with the Pennsylvania Public Utility Commissions' rules and regulations, as amended.

SECTION 605. STORM WATER MANAGEMENT AND DESIGN CRITERIA

- A. **Scope**: A Stormwater Management Plan (SWMP) shall be required for each subdivision or land development plan at both the Preliminary and Final Plan submittal stage. Erosion and Sedimentation Control measures shall be included as an integral part of the SWMP. The plan shall show existing wetlands as defined by U.S. Army Corps of Engineers, US Fish and Wildlife Service and Pennsylvania Department of Environmental Protection.

- B. **Content**: The SWMP shall contain the following:
 - 1. A general description of the proposed project.
 - 2. Project location on a 7.5 minute USGS map or equivalent.
 - 3. Topographic features of the site and adjacent lands that are considered to impact upon the stormwater management design.
 - 4. Runoff calculations and related design computations of the total drainage basin necessary to substantiate the proposed temporary and permanent stormwater management facilities.
 - 5. Design and Specifications of temporary and permanent stormwater management facilities.
 - 6. Staging or Implementation Schedule for constructing the proposed stormwater control system.
 - 7. Maintenance and Ownership provisions.

C. **Design Standard:** Computations for determining stormwater runoff and for the design of stormwater management facilities shall be based upon the Soil-Cover-Complex method described in either TR-55, Urban Hydrology for Small Watersheds; the United States Department of Agriculture, Soil Conservation Service Engineering Field Manual; or the Soil Conservation Service National Engineering Handbook, Section 4 and based upon the following standards:

1. All predevelopment calculations shall be based upon existing land use features, excepting however that agricultural uses shall be categorized by the following descriptions:
 - Cultivated Land with Conservation Treatment
 - Pasture, Good Condition
 - Meadow, Good Condition
 - Farmstead
 - Predevelopment stormwater runoff shall be calculated for a two-year storm event.
2. Release rates from structures shall be based on the runoff from the two-year predevelopment storm event.
3. Storage structures shall be designed such that the post development two-year peak discharge will not exceed the predevelopment five-year peak discharge for the primary outlet structure.
4. All storage structures or facilities will be designed with emergency spillways sufficient to handle the 25-year post development storm event.
5. Culverts, pipes, and other water carrying structures shall be designed to handle the peak discharge from the ten-year post development storm event.
6. The SWMP shall include calculations indicating velocities of flow, grades, sizes, and capacities of water carrying structures, debris or sediment basins, and retention and detention ponds and sufficient design information to construct such facilities.
7. Stormwater runoff shall be based on the following 24-hour storm events:

STORM FREQUENCY

INCHES OF RAINFALL

| | |
|-----------|------------|
| 2 years | 2.9 inches |
| 5 years | 3.8 inches |
| 10 years | 4.8 inches |
| 25 years | 5.1 inches |
| 50 years | 5.9 inches |
| 100 years | 6.4 inches |

8. Maximum permitted velocities are as follows:
 - a. Three (3) feet per second where only sparse vegetation can be established.
 - b. Four (4) feet per second under normal conditions where vegetation can be established by seeding.
 - c. Five (5) feet per second where a dense vigorous sod can be quickly established or where water can be temporarily diverted during establishment of vegetation.
 - d. Six (6) feet per second where well established sod is in existence.
 - e. For lined water carrying channels, the following velocities are required:

| | |
|----------------------|-------------------------|
| 6-inch rock rip-rap | up to 4 ft. per second |
| 9-inch rock rip-rap | up to 8 ft. per second |
| Asphalt | up to 7 ft. per second |
| Durable Bedrock | up to 8 ft. per second |
| 12-inch rock rip-rap | up to 9 ft. per second |
| Concrete or steel | up to 12 ft. per second |

The normal maximum velocity of open channel flows shall not exceed 10 feet per second.

9. Energy dissipaters shall be placed at the outlets of all pipes where flow velocities exceed maximum permitted channel velocities.
 10. Vertical pipes, inlets and other surface water receiving structures shall be installed with trash racks.
 11. Stormwater runoff channels shall be designed and installed to avoid trapping excess sediment.
 12. Where required stormwater piping crosses proposed roads, PennDOT type M Stormwater inlet boxes shall be provided at both ends.
- D. **Erosion And Sedimentation:** Control measures shall be in accordance with the applicable standards and specifications set forth in the Soil Erosion and Sedimentation Control Handbook as prepared by the Franklin County Soil Conservation District.

E. **Ownership And Maintenance Program:** Each SWMP shall contain provisions which clearly set forth the ownership and maintenance responsibility of all permanent stormwater management facilities, including:

1. Description of Maintenance Requirements.
2. Establishment of suitable easements for access to all facilities.
3. Identification of the responsible party or entity for ownership and maintenance of both temporary and permanent stormwater management erosion control facilities. In meeting this requirement, the following priority is herein established.
 - a. As a first priority, the facilities should be incorporated within individual lots so that the respective lot owners will own and be responsible for maintenance in accordance with recorded deed restrictions.
 - b. As a second priority, in the event the first priority cannot be achieved, ownership and maintenance should be the responsibility of a Home Owners Association. The stated responsibilities of the Home Owners Association in terms of Owning and maintaining the stormwater management facilities shall be submitted with final plans for determination of their adequacy, and upon their approval shall be submitted with final plans for determination of their adequacy, and upon their approval shall be recorded with the approved subdivision plan among the deed records of Franklin County, Pennsylvania. In addition, the approved sub-division plan and any deed written from said plan for a lot or lots shown herein shall contain a condition that it shall be mandatory for the owner or owners of said lot to be members of said Home Owners Association.
 - c. The third priority, in the event the above priorities cannot be achieved, is to dedicate the facilities to the Borough in accordance with this Ordinance. As a condition of acceptance by the Borough, sufficient funds as estimated by the Borough Engineer to cover anticipated maintenance costs for ten years from the date of final plan approval must be provided by the grantee.

SECTION 606 **WATER SUPPLY**

A. The plan for the installation of the mains of a water supply system must be prepared for the development with cooperation of the appropriate water utility company and approved by the Borough Engineer.

Upon the completion of the water supply system, one copy of the plan for the system as built must be filed with the Borough.

- B. Where the connection to a public water supply system is not possible or feasible, each lot must be provided with an individual water supply system prior to issuance of a building permit for dwelling units. All such individual systems shall meet all applicable regulations of the Pennsylvania Department of Environmental Protection.