

CHAPTER SIX INFRASTRUCTURE AND PUBLIC PROPERTY

ARTICLE 6.1 DESIGN STANDARDS AND REQUIREMENTS

Section 6.1.1 General:

(A) **Rule:** The standards contained within this Article are applicable to the provision of essential services associated with development and redevelopment. These standards apply to the installation of infrastructure whether or not it is publicly or privately maintained.

(B) **Waivers Allowed:** Waivers to the Standards set forth in this Article 6.1 are allowed pursuant to Section 2.4.7(B)(1)(a) provided that the City Engineer concurs in the granting of the waiver.

Section 6.1.2 Streets and Alleys: [Amd. Ord. 12-99 3/16/99]

(A) **Improvement Obligations:** Concurrent, or prior to, construction associated with an approved development application, the development shall provide for the construction of improvements as identified in Section 5.3.1(C) and off-site improvements to the following extents. **[Amd. Ord. 12-99 3/16/99]**

(1) When the street or alley is totally contained within a subdivision or development project, all improvements necessary to accommodate the demands and impacts of the project shall be provided. **[Amd. Ord. 12-99 3/16/99]**

(2) When the street or alley is located on a boundary of the project, the project is responsible for providing one-half of the current costs (in cash funds) of such improvements along its property line unless the project requires greater participation as follows in subsections (a) or (b). **[Amd. Ord. 12-99 3/16/99]**

(a) When access to the project is provided from a local street and/or alley, then the project must provide appropriate traffic lanes meeting requirements of Section 5.3.1(C) in order to provide continuous paved access from the nearest paved street or alley to the project in addition to the improvements on its side of the center line of right-of-way. **[Amd. Ord. 12-99 3/16/99]**

(b) When additional travel lanes are required to accommodate demands made by the project, then the project needs to provide such additional traffic lanes in addition to the improvements on its side of the center line of right-of-way and those required by 6.1.2(A)(2)(a). **[Amd. Ord. 18-07 5/15/07; [Amd. Ord. 12-99 3/16/99]**

SECTION 6.1.2 (A) (3)

(3) Off-site improvements must be provided as imposed by conditions of approval on the development application. **[Amd. Ord. 12-99 3/16/99]**

(B) **Principles of Design**: The following principles of street and alley design and layout shall be followed in the platting of subdivisions and development of single lots and large tracts of land. **[Amd. Ord. 12-99 3/16/99]**

(1) The arrangement, character, extent, width, grade, and location of all streets shall conform to the Palm Beach County Thoroughfare Plan, the Florida Department of Transportation Highway Plan, and the Master Street Plan as contained in the Traffic Element of the Comprehensive Plan. Also, these factors shall be considered in their relation to existing and planned streets, to topographic conditions, to public convenience and safety, in their appropriate relationship to the proposed use of the land to be served by such streets, and the most advantageous development of the surrounding neighborhood.

(2) A proposed street or alley layout shall provide for the continuation or projection of existing streets and alleys in the surrounding area unless the Planning and Zoning Board deems such extension undesirable for specific reasons of topography or design. **[Amd. Ord. 12-99 3/16/99]**

(3) Any new street or alley that is an extension of an existing street or alley shall have the same width of right-of-way and be paved to the same widths as the existing street or alley provided that it must meet the minimum construction standards of these regulations and that such widths meet the minimum requirements of this Section. **[Amd. Ord. 12-99 3/16/99]**

(4) Residential streets, alleys and access roadways shall be laid out to discourage through traffic, but provision for street and alley connections into and from adjacent areas will generally be required. **[Amd. Ord. 12-99 3/16/99]**

(5) Where development abuts, or contains, an existing or proposed arterial street, the City may require marginal access streets, reverse frontages with screen planting contained in a non-access reservation along the rear property line, deep lots with rear service alleys, or such other treatment as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic.

(6) Where a development borders on or contains a railroad right-of-way, expressway, drainage canal, or waterway, the City may require a street approximately parallel to and on each side of the right-of-way, at a distance suitable for the appropriate land use of the intervening land. The distance shall also be determined with due regard for the requirements of approach grades for future bridges or grade separations.

SECTION 6.1.2 (B) (7)

(7) Reserve strips controlling access to streets shall be prohibited except where their control is definitely placed in the City under approved conditions. Such reserve strips shall be required, as limited access easements, along all arterial and collector streets except for approved points of ingress and egress.

(8) Curvilinear streets are recommended for residential, minor, and collector streets in order to discourage excessive vehicular speeds and to provide attractive vistas.

(9) "T" intersections of minor and collector streets are encouraged.

(C) **Design Requirements:** The following standards shall be met in the design of all streets or alleys. [Amd. Ord. 12-99 3/16/99]

(1) **Curves:**

(a) Whenever a street or alley changes direction, or connection street lines deflect from each other by more than ten degrees, there shall be a horizontal curve.

(b) A tangent shall be provided between reverse curves. The tangent shall have the minimum lengths of:

- * 100' along collector streets
- * 250' along arterial streets

(c) Center line radii for horizontal curves shall be:

- 150' along local streets
- 300' along collector streets
- 500' along minor arterials
- 750' along major arterials

(2) **Intersections:**

(a) Streets shall be laid out to intersect as nearly as possible at right angles. No street shall intersect another at an angle of less than 60 degrees except at a "Y" intersection of local streets.

(b) Intersections involving junction of more than two streets are prohibited except where found to be unavoidable by the Local Planning Agency.

SECTION 6.1.2 (C) (2) (c)

- (c) As far as possible, intersections along arterial streets shall be located not less than 800 feet apart, measured from center line to center line.
- (d) Street jogs with center line off-sets less than 125' shall be avoided.
- (e) Property line radii shall be as follows:
 - 25' along local streets
 - Greater than 25', as determined by the City Engineer, at intersections which are less than 60 degrees
 - Edge of paving shall be on a minimum radii of 40 feet excepting in cases where the width of right-of-way does not so permit.

(3) Paving Widths:

- (a) **Minimums:** The following are the minimum paving widths which are required for the category of street or alley. **[Amd. Ord. 08-10 4/20/10]; [Amd. Ord. 12-99 3/16/99]**

CATEGORY	MINIMUM PAVING WIDTHS
Arterial Street	24 Feet
Collector Street	24 Feet
Local Street	22 Feet
Marginal Access Street	24 Feet
Access Roadway	24 Feet
Alleys	20 Feet

- (b) **Additional Paving:** Additional width may be required by the City Engineer to promote public safety and welfare, and to assure adequate access, circulation, and parking in high-density residential areas, commercial areas, and industrial areas. To determine the necessity for additional pavement, the City Engineer may require the applicant to furnish a traffic impact analysis and, based upon this analysis, the City Engineer shall determine the extent to which any additional paving will be needed.

SECTION 6.1.2 (C) (3) (c)

- (c) **Reduction in Paving Width**: A reduction in the required paving widths established in Subsection (3)(a), above, may be granted by the City Engineer upon a favorable recommendation from the Development Services Management Group (DSMG). Denial by the City Engineer may be appealed to the City Commission. **[Amd. Ord. 08-10 4/20/10]**

(4) **Dead-End Streets and Cul-De-Sacs**:

- (a) **Rule**: Dead-end streets without provision of a turnaround are prohibited. Generally, a cul-de-sac shall be required; however, in unique situations where a cul-de-sac cannot reasonably be accommodated either a "T" or "hammerhead" turn around may be accepted by the Local Planning Agency if approved by the Fire Marshal.
- (b) **Temporary Dead-Ends**: If a street is to be a through street but shall terminate in a dead-end for a significant period of time, a temporary turnaround shall be provided. The temporary turnaround shall be paved unless otherwise provided for by the Planning and Zoning Board.
- (c) **Length**: A dead-end street shall not exceed 1,000 feet except upon a finding by the Planning and Zoning Board that one or more of the following would occur:
- The preservation of natural features and resources
 - Elimination of unnecessary traffic in the area
 - Preservation or increasing of open space.
- (d) **Cul-De-Sac Turnaround Design Standards**: The cul-de-sac shall be constructed to the following standards:
- Minimum diameter to the outer edge of pavement, or curb line, of ninety feet (90')
 - Minimum diameter to property line of one hundred feet (100').

(D) **Street and Alley Construction Standards**: Before any street or alley construction plans are approved by the City Engineer, he shall be satisfied that the following requirements, conditions, and standards are complied with. **[Amd. Ord. 12-99 3/16/99]**

SECTION 6.1.2 (D) (1)

(1) **Standard Reference:** The Florida Department of Transportation Specification for Road and Bridge Construction, Edition of 2007, as amended from time to time, and all Supplemental Specifications, all of which shall be hereinafter referred to as the DOT Specifications, are hereby made a part of this subsection. Where reference is made to the department in the DOT Specifications, it shall be construed to refer to the City. Any and all work not specifically mentioned hereafter shall be performed in accordance with the applicable portions of the DOT Specifications. **[Amd. Ord. 06-08 3/18/08]**

(2) **Clearing and Grubbing:** Unless specifically approved in the plans and specifications the entire width of the right-of-way shall be cleared and grubbed in accordance with Section 110 of the DOT Specifications.

(3) **Excavation and Embankment:** Excavation and fill, if called for in the approved plans and specifications, shall be in accordance with the applicable portions of Section 120 of the DOT Specifications.

(4) **Subgrade:** The subgrade shall be uniformly stabilized to a depth of twelve inches to produce a Florida bearing value of 75 psi, in accordance with Section 160 in the DOT Specifications. A compaction of 98% of the maximum density as determined by AASHTO Method T-180 shall be deemed sufficient. Unless specifically deleted in the approved plans and specifications, shoulders eight feet in width on each side of the base course shall be stabilized in accordance with Section 160 of the DOT Specification. The subgrade shall be brought to true grade and approved by the City Engineer prior to installation of the base course. **[Amd. Ord. 06-08 3/18/08]**

(5) **Base Course:**

- (a) A base course of limerock as specified in Section 911 of the DOT Specifications or crushed concrete shall have a minimum depth of eight inches after compaction, and shall be compacted in two layers to the 98% dry density, all in accordance with the provisions of Section 200 of the DOT Specifications. Ocala formation or Miami Oolite formation is acceptable; minimum percentage of carbonates (of calcium and magnesium) in limerock material shall be 95% for Ocala limerock and 70% for Miami limerock. The width of the base course shall exceed the width of pavement as called for in the approved plans and specifications by 12 inches on each side. The use of forms for this course will not be required, and the use of suitable equipment shall be approved by the City Engineer. The base course shall be inspected and approved by the City Engineer prior to installation of the prime coat. **[Amd. Ord. 06-08 3/18/08]**

SECTION 6.1.2 (D) (5) (b)

- (b) In case the above materials are not available, the City Engineer may allow deviations from the above specifications on a case by case basis. Alternate base materials must conform to DOT Specifications. **[Amd. Ord. 06-08 3/18/08]**

(6) **Priming**: After approval, the base course shall be primed and a tack coat applied all in accordance with Section 300 of the DOT Specifications.

(7) **Surface Course**: The surface course shall be S-I or S-III hot laid asphaltic concrete and shall have a minimum depth of 1-1/2 inches after compaction. Width of paving shall be as called for in the approved plans and specifications and all work shall be in accordance with the applicable portions of Sections 320, 330, 331, and 332 of the DOT Specifications. Final inspection and approval of the surface course by the City Engineer shall be required. **[Amd. Ord. 06-08 3/18/08]**

(8) **Clean Up**: The site shall be cleared of all debris, excess fill, and equipment in a good and workmanlike manner as approved by the City Engineer.

(9) **Grade, Drainage**: The City Engineer shall approve the grade and drainage facilities for all construction before a permit shall be issued therefor.

(10) **Specifications for Curbs and Gutters**: Where the road section approved by the Commission calls for curbs and gutters, they shall be constructed of Class I concrete with a minimum strength of 3,000 psi in accordance with Section 520 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Edition of 2007, as amended from time to time. **[Amd. Ord. 06-08 3/18/08]**

Section 6.1.3 **Sidewalks**:

(A) **Principles of Design**: The primary purpose of sidewalks is to provide a safe place for pedestrian travel. Generally sidewalks are required along both sides of all streets.

(B) **Sidewalk Design Requirements**:

(1) **Widths**: **[Amd. Ord. 08-10 4/20/10]**

- | | |
|---|-----------|
| (a) Low Density Residential Areas | 5' |
| (b) Medium and High Density Residential Areas | 5' to 8' |
| (c) Commercial Areas | 5' to 10' |
| (d) Atlantic Ave between I-95 and SR A1A | 10' |

SECTION 6.1.3 (B) (1) (e)

- (e) US 1 between SE 2nd St and NE 2nd St 10'
- (f) Central Business District 8'
- (g) Other Areas 5'
- (h) Areas that are on County, State or Federal maintained rights-of-way shall meet the requirements above or those of the governing agency, whichever are greater.

(2) **Location:** Sidewalks shall be constructed within the street right-of-way (or easement or tract) and shall be constructed adjacent to the right-of-way (easement or tract) line.

(3) **Separation:** A strip of grass, or landscape area, of a least two feet in width shall separate sidewalks from the street pavement or curb section, as applicable.

(C) Sidewalk Construction Requirements:

(1) Sidewalks shall be constructed with concrete; however, when the sidewalk is to function both as a pedestrian way and a bicycle pathway it may have concrete or asphalt as its finished surface.

(2) Concrete sidewalks, which are located in driveways, shall have a minimum depth of six inches (6"), and shall be constructed of Class I concrete with a minimum strength of 3,000 p.s.i. [Amd. Ord. 30-01 5/15/01]; [Amd. Ord. 5-98 1/20/98]

(3) Sidewalks shall be constructed through asphalt driveways.

(4) Sidewalks shall be constructed prior to the issuance of a certificate of occupancy for the property upon which they abut. However, installation of sidewalks within a residential subdivision may be deferred pursuant to an agreement which provides for the installation of a majority of the sidewalks at a given point in time. The Local Planning Agency may require that all sidewalks be installed within a development either at a time certain or upon reaching a certain percentage of build-out of the development.

(D) Relief from Sidewalk Installation:

(1) Residential:

(a) **Alternative System:** Within residential developments, an alternative pedestrian way system may be provided and, if deemed acceptable by the Planning and Zoning Board, it may substitute for sidewalks along the street system.

SECTION 6.1.3 (D) (1) (b)

(b) **Waiver**: Where it is clear that the sidewalk system will not serve its intended purpose, the requirement for sidewalks on both sides of a street may be reduced to installation of a sidewalk along only one side of the street, during the site plan or plat process, as appropriate. Similarly, a complete waiver may also be granted.

(2) **Non-Residential**: Where it is clear that the sidewalk will not serve its intended purpose, the requirement for installation of a sidewalk adjacent to the property being developed may be waived during site plan or plat approval.

(3) **Payment In-lieu of Installation**: In situations where it is inappropriate to install a sidewalk concurrent with development, the sidewalk installation requirement may be met by the payment of funds sufficient to install the sidewalk. Such funds shall be escrowed and used, at a later date, for the installation of said sidewalk.

Section 6.1.4 **Driveways and Points of Access**:

(A) **Principles of Design**:

(1) **General Application**: Regulation of the configuration of driveways and limitations on the points of access from private property onto street systems are necessary to provide for safe and efficient control of vehicular movement.

(B) **Access Requirements and Restrictions**: [Amd. Ord. 12-99 3/16/99]

(1) All buildings and structures shall be on a lot that takes access from a paved street, alley, or road. All buildings and structures shall be located on lots in such a manner as to provide for safe and convenient access for servicing, fire protection, and required off-street parking. Driveways and points of access are further governed by Section 6.1.4. [Amd. Ord. 12-99 3/16/99]

(2) Where commercially zoned property is adjacent to, but separated by a street from single family zoned property, the commercially zoned property shall not use such separating street as access unless no other means of ingress and egress to the commercially zoned property exists. [Amd. Ord. 12-99 3/16/99]

(3) All improved lots shall have frontage on a paved private or public street. All access to improved lots shall be from a paved private or public street, road or alley. If paved access is not available the development must provide continuous paved access from the site to the nearest paved street, road or alley. [Amd. Ord. 12-99 3/16/99]

(4) All streets and alleys shall be defined by being a dedicated right-of-way (for public streets) or as a tract of land (private streets). [Amd. Ord. 12-99 3/16/99]

SECTION 6.1.4 (C)

(C) Design Requirements: [Amd. Ord. 12-99 3/16/99]

(1) **Minimum Width:** A two-way driveway shall normally have a width of twenty-four feet (24'). In instances where there are no points of conflict in the immediate vicinity of the driveway and the internal circulation system, the width may be approved at a minimum width of twenty feet (20'). One-way points of ingress and egress shall have a width of twelve feet (12'). These minimum provisions do not apply to detached single family development.

(2) **Maximum Width:** Exceptions to the normal 24' width may be granted for:

- (a) Points of ingress and egress to gasoline stations up to a maximum width of thirty-six feet (36');
- (b) Controlled access points into a shopping center may have a width greater than 24' when such width is necessary to handle the volume of traffic at the point of access; The need for such width shall be demonstrated through a traffic study;
- (c) Points of egress for Fire Stations and similar facilities which require ample maneuvering area.

Note: The above regulation prohibits "curb-cuts" greater than 24' and will, thus, not accommodate the practice of vehicles backing from the parking area of duplexes into adjacent streets, except from a 24' wide driveway. [Amd. Ord. 12-99 3/16/99]

(3) **Number, Location, Spacing, and Stacking:** the following spacing requirements shall be observed in the location and spacing of driveways.

(a) **Number:** There shall be no more than two points of access into a non-residential development along any street unless the need for additional access is proven by a traffic study and the additional points of access are specifically granted through the site plan review process. [Amd. Ord. 08-10 4/20/10]

(b) **Location:**

- 1. No driveway shall be located within twenty-five feet (25') of the extension of ultimate right-of-way lines at any intersection.
- 2. No driveway shall be located within five feet (5') of a property line except on the zero lot line side of a zero lot line development lot. [Amd. Ord. 08-10 4/20/10]

SECTION 6.1.4 (C) (3) (b) 3.

3. Driveways at gasoline stations or convenience food stores shall not be within fifteen feet (15') of an interior property line.
4. Access roads and driveways which access parking lot with more than 100 spaces shall be located so as to be directly across from or off-set by a minimum distance of fifty feet (50') from existing driveways located on parcels or lots across a common street, unless cross access is prohibited by a median.

(c) **Spacing**: A minimum distance of twenty-five feet (25') shall be maintained between driveways located on the same parcel or lot.

(d) **Stacking**: See Section 4.6.9(D)(3)(c). **[Amd. Ord. 22-92 6/16/92]**

(4) **Sight Distance**:

(a) Sight distance pursuant to Section 4.6.14 shall be provided at the intersection of driveways and streets.

(5) A nonpublic (private) access easement upon one Lot or Parcel which provides ingress and egress for one adjoining single family Lot (or Parcel) of Record, and similar uses, is excluded from the provisions of this Subsection (C).

(6) **Exemption of Backing Into Alleys**: The design requirements of this subsection (C) do not apply to situations where vehicles are allowed to back directly into adjacent alleys. All other subsections shall apply including A, B, and D. **[Amd. Ord. 12-99 3/16/99]**

(D) **Construction Requirements**: **[Amd. Ord. 12-99 3/16/99]**

(1) Driveways may be constructed of concrete or asphalt. In addition, the City Engineer may approve an alternative surface type including, but not limited to, stamped concrete which creates a noticeable pattern in the finished product. When the alternative surface is loose rock (i.e. Chatahoochee) and there is a sidewalk in front of the property, the loose rock shall be limited to the private property side of the sidewalk (no loose stone in the right-of-way). If the City has to perform maintenance within the rights-of-way, any displaced stamped concrete will be replaced with a smooth, non-colored, non-stamped finish. At the discretion of the City Engineer, the stamped surface may be replaced with a similar stamped surface if the additional cost (over and above smooth, non-colored, non-stamped finish) is borne by the abutting property owner. Alternative surfaces other than stamped concrete will be replaced with material at the discretion of the City Engineer. **[Amd. Ord. 5-98 1/20/98]**

(2) Driveways shall include that portion of the street located between the travelway (traffic lanes) and private property and said area shall be paved or improved with an alternative surface as approved by the City Engineer.

SECTION 6.1.4 (D) (3)

(3) If an alternative driveway surface other than concrete is selected, the subbase is to comply with standards outlined in LDR Section 6.1.2 (C). **[Amd. Ord. 5-98 1/20/98]**

(4) Maintenance of concrete, asphalt or alternative surface driveways constructed within the right-of-way is the responsibility of the abutting property owner. **[Amd. Ord. 5-98 1/20/98]**

(5) All property owners, including but not limited to, duplexes, multi-family and commercial, but, excluding single family homes, that are not in compliance with Section 6.1.4, prior to the adoption of this ordinance, shall be required to come into compliance with Section 6.1.4 within 3 years of the adoption of this Ordinance. Persons that received a variance exempting the property from this requirement or approval from the City Engineer allowing another type of surface prior to the effective date of this ordinance are not required to comply with the provisions of this ordinance. **[Amd. Ord. 29-01 5/1/01]**

Section 6.1.5 Street Lighting: The development of property along side a public or private street shall be responsible for the installation of street lights pursuant to the practice of the Florida Power and Light Company. Arrangements for the deferred installation of such lighting may be accommodated. The financial guarantee for such lighting may be a cash bond, initially retained by the City, and then delivered to FP&L at the time of installation.

Section 6.1.6 Traffic Signals: When the traffic from a proposed development, combined with projected traffic at the time of completion of the development, warrants installation of a traffic signal, the installation of such a signal shall be required prior to issuance of a specified occupancy permit. Similarly, when a traffic signal exists but traffic from a proposed development will necessitate a change in the traffic signal, the effecting of such a change shall be required.

Section 6.1.7 Bicycle Trails, Paths, and Lanes: When a development is located between improved portions of a bicycle trail system, provisions shall be made for the completion of any unimproved linkage. For the purpose of this requirement, it is not necessary that the improved portion of the trail system abut or be adjacent to the property proposed for development.

Section 6.1.8 Undergrounding of Utilities: Utility facilities serving the development including but not limited to gas, electric power, telephone, and CATV cables shall be located underground throughout the development.

Section 6.1.9 Drainage Systems:

(A) The drainage system shall be designed and constructed for long life, low maintenance cost, and ease of maintenance.

(B) An adequate drainage system including necessary open ditches, pipes, culverts, intersectional drains, inlets, bridges, and the like shall be provided for the proper drainage of all surface water. Cross drains shall be provided to accommodate all natural water flow and shall be of sufficient length to permit full width roadway and required slopes.

(C) Developers of subdivisions whose storm drainage system discharges into the Lake Worth Drainage District shall contract with the Lake Worth Drainage District for maintenance of drainage facilities prior to annexation to the City.

(D) Lots shall be laid out and graded to provide positive drainage away from all existing or proposed buildings.

(E) The drainage system shall be designed using accepted engineering principles for rainstorms of maximum intensity based on a ten-year interval for the South Florida area. The system shall provide for drainage of lots, streets, roads, and other public areas as well as handling any run-off from adjacent areas that naturally flows into the subject area. Run-off coefficients shall be based on completed projects. The following standards shall apply to all drainage projects.

(1) Storm sewers, culverts, and related installations shall be provided, where necessary, according to the City Engineer:

(a) To permit unimpeded flow of natural water courses.

(b) To insure adequate drainage of all low points along the line of streets.

(c) To intercept storm water run-off along streets at intervals reasonably related to the extent and grade of the area drained.

(F) In the design of storm sewerage installations, special consideration shall be given to avoidance of problems which may arise from concentration of storm water run-off over adjacent properties.

(G) The subdivider may be required to carry away by pipe or open ditch any spring or surface water that may exist either previous to or as a result of the subdivision. Such drainage facilities shall be located in the street right-of-way where feasible, or in perpetual unobstructed easements of appropriate width.

SECTION 6.1.9 (H)

(H) A culvert or other drainage facility shall, in each case, be large enough to accommodate potential run-off from its entire upstream drainage area, whether inside or outside the subdivision. The City Engineer shall approve the design and size of the facility based on anticipated run-off from a ten-year storm under conditions of total potential development permitted by the zoning code in the watershed.

(I) The subdivider's engineer shall also study the effect of such subdivision on the existing downstream drainage facilities outside the area of the subdivision; this study shall be reviewed by the City Engineer. Where it is anticipated that the additional run-off incident to the development of the subdivision will overload an existing downstream drainage facility during a ten-year storm, the subdivision shall not be approved until provision has been made for the improvement of the condition.

(J) The owner or responsible entity of any land development or redevelopment that discharges directly or indirectly to a Municipal Separate Storm Sewer System is required to provide for annual inspections, and operation and maintenance of its stormwater management system, to ensure that the system functions as designed and permitted. **[Amd. Ord. 2-01 1/16/01]**

Section 6.1.10 Water System:

(A) **Required:** Water mains properly connected with the City water supply system shall be provided as to adequately serve all lots and sites shown on a subdivision plat for the purpose of both domestic use and fire suppression. Pertinent specifications from the City and other regulatory bodies must be followed.

(B) **Design Standards:**

(1) **Size:** All public water mains shall have a minimum diameter of eight inches (8") unless a reduced size is specifically allowed by the City Engineer.

(2) **Fire Protection Provisions:**

(a) **Maximum Length of Dead End Mains Shall be as Follows:**

- i. Single family and duplex residential districts maximum dead end of 500 feet, provided the hydrant will deliver 1000 gallons per minute (GPM) at 20 PSI residual pressure.
- ii. Multi-family residential districts with buildings two stories or less in height - maximum 400 feet, provided the fire hydrant will deliver 1500 GPM at 20 PSI residual.

SECTION 6.1.10 (B) (2) (a) iii.

- iii. Multi-family residential districts more than two stories in height and all commercial, business, industrial and special hazard districts - maximum 300 feet, provided the fire hydrant will deliver 2000 GPM at 20 PSI residual. Dead end mains normally will only be used for fire protection purposes to supply fire hydrants, fire pumps, standpipe systems, automatic fire sprinkler systems and similar devices. Domestic supplies normally will be connected to circulating mains to minimize bacteriological issues.
- iv. All fire hydrants shall be placed in a position so as to be accessible at all times from a paved road. **[Amd. Ord. 28-01 5/15/01]**

(b) **Fire Hydrant Spacing Shall be in Accordance with the Following:**

- i. Single family and duplex residential districts: Not more than 500 feet between hydrants.
- ii. Multi-family residential districts (townhouses, garden apartments, cluster developments, and the like and similar buildings two stories or less in height): Not more than 400 feet between hydrants.
- iii. Multi-family residential districts with buildings more than two stories in height, all commercial districts, all business districts, all industrial districts, and special hazard applications: Not more than 300 feet between hydrants.
- iv. Areas with divided or multi lane road systems should have hydrant distribution on both sides of the highway, utilizing spacing criteria listed above when existing and proposed parallel mains will support this criteria.
- v. Measurement of spacing shall be by way of road travel.

DELETED (c) AND RE-LETTERED BELOW. [Amd. Ord. 15-10 7/20/10]

- (c) Fire flow shall be based on the most recent Insurance Service Office (ISO) table for determining fire flow requirements. Buildings which are protected throughout with complete automatic fire sprinkler protection in accordance with the appropriate National Fire Protection Association Standard 13 shall only be required to meet the flow requirement within that standard. The Fire Chief may modify fire flow requirements in consideration of unusual circumstances or building features and process hazards. **[Amd. Ord. 15-10 7/20/10]; [Amd. Ord. 31-93 4/13/93]**

SECTION 6.1.10 (B) (2) (c)

The Engineer of Record will submit to the Public Utilities Department with the preliminary water distribution drawings, two (2) copies of the hydraulic calculations for verifying required fire flow, signed and sealed by a registered professional engineer in the State of Florida.

The Engineer of Record will perform fire flow tests in the presence of the Public Utilities Department Inspector.

- (d) A double check valve assembly shall be the minimum requirement on all fire suppression water lines longer than twenty-five (25) feet. The double check valve assembly shall be installed within twenty-five (25) feet of the distribution line. The assembly shall be installed in accordance with the Public Utilities Department's latest specification and standard details. The double check valve assembly on the fire suppression water line shall not be required if an active water service connection with required backflow prevention device is tapped within twenty-five (25) feet of the end of the fire suppression line.

DELETED SUBSECTION 6.1.10(B)(3), "PROHIBITION OF INTERCONNECTIONS"; SUBSECTION 6.1.10(B)(4), "LIMITATION ON NUMBER OF STRUCTURES PER METER"; SUBSECTION 6.1.10(B)(5), "PROHIBITION ON USE OF CITY WATER FOR IRRIGATION"; AND SUBSECTION 6.1.10(B)(6), "WATER METER SIZING" IN THEIR ENTIRETY. [Amd. Ord. 28-01 5/15/01]

(C) **Construction Requirements and Standards:**

(1) To eliminate future street openings, all underground work shall be completed prior to paving of new streets. Where paving exists, water mains shall be installed through bore-n-jack methods.

(D) **Incorporation by Reference:** Chapter 52 of the Code of Ordinances of the City of Delray Beach, as may be amended from time to time, is incorporated herein. [Amd. Ord. 28-01 5/15/01]

Section 6.1.11 **Sewer System:**

(A) **Required:** Sanitary sewers, properly connected with the City sewerage system shall be provided. In addition to mains, laterals shall be installed to each platted lot and stubbed off at the property line for future connection. [Amd. Ord. 4-02 2/19/02]

SECTION 6.1.11 (B)

(B) **Incorporation by Reference**: Chapter 53 of the Code of Ordinances of the City of Delray Beach, as it may be amended from time to time, is incorporated herein. **[Amd. Ord. 4-02 2/19/02]**

DELETED SUBSECTION 6.1.11(B), "DISCHARGE PROHIBITIONS"; SUBSECTION 6.1.11(C), "PRIVATE SEWAGE DISPOSAL SYSTEMS, SUBSECTION 6.1.11(D), "DESIGN STANDARDS; AND SUBSECTION 6.1.11(E), "CONSTRUCTION REQUIREMENTS AND STANDARDS", IN THEIR ENTIRETY. [Amd. Ord. 4-02 2/19/02]

Section 6.1.12 **Street Signs, Furniture, and Landscaping:**

(A) **Street Furniture and Landscaping**: Street furniture such as benches, shelters, and waste baskets must be approved by the City Engineer. Grassing and mulching shall be done in the strip between curbs and sidewalks. Planting of shade trees and street lighting are required, in conformance with pertinent plans approved by the City Engineer.

(B) **Names and Numbers**: It shall be the duty of the City Planning and Zoning Board to recommend the designation of names and numbers for streets and it shall be the duty of the City Commission to finally determine the designation of names and numbers for streets and the Commission shall not be bound by the recommendation of the Planning and Zoning Board.

(C) **Street Name Signs**: Street name signs with the approved name properly affixed shall be installed at the intersection of all streets and over rights-of-way at the expense of the developer. Location design of street name signs shall be subject to the approval of the City Engineer.

(D) **Numbering of Buildings and Structures**: See Section 7.1.5.

Section 6.1.13 **Monuments and Markers:**

(A) At the intersection of the center line of all streets there shall be installed a one-inch pipe, three feet long, embedded in concrete with the top flush with the finished pavement.

(B) All other lot corners shall be marked with an iron pipe not less than 1/2 inch in diameter and 24 inches long and set so as to be flush with the finished grade.

(C) Permanent reference monuments shall be as required by Florida Plat Law.