CHAPTER 8
Development Standards

List of Tables

8.00.00 GENERAL

Development standards are established to ensure adequate levels of light, air, and density; to maintain and promote functional compatibility of uses; to promote the safe and efficient circulation of pedestrian and vehicular traffic; to provide for orderly phasing of development; and otherwise protect the public health, safety, and general welfare.

8.01.00 PROJECT DESIGN

The natural topography and vegetation should be preserved and used, where possible, in the design of circulation ways, buildings and structures, parking areas, recreation areas, open space, and drainage facilities. The proposed location and arrangement of structures should not be detrimental to existing or planned adjacent land uses.

All development shall be in accordance with the Town of Howey in the Hills construction specifications. If any discrepancy is discovered between this LDC and the construction specifications, or any other Town policy, the most stringent and restrictive specification, condition, and/or directive shall apply at the discretion of the Town. All development must also comply with the applicable requirements established in the Americans with Disabilities Act (ADA), the Florida Building Code, and any other local, State, or Federal requirement that may apply.

This chapter addresses design standards for transportation-related facilities, utility systems, and environmental protection. For the purposes of this chapter, "utility system" shall mean all distribution, collection, and treatment facilities and appurtenances for potable water, sanitary sewer, reclaimed water, and stormwater management either operated by the Town or subject to regulation by the Town.

8.02.00 ROADS

8.02.01 General

The character, width, grade, and location of all streets and bridges shall conform to the standards in this section and shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and in their appropriate relation to the proposed uses of the land to be served by such streets.

A. Roads shall be planned in conformity with the Comprehensive Plan.
B. The street layout of proposed developments shall be coordinated with the street system of the surrounding area or with plans for streets in said area on file with the Town.
C. All streets shall be public, unless private streets are specifically approved by the Town Council. All streets shall meet all design standards as outlined in this chapter. A condominium, homeowners', or property owners' association shall be

created with all duties and powers necessary to ensure perpetual ownership and maintenance of any private roads. If a guardhouse or gate is provided, plans and specifications, including means of access for Town utility vehicles and emergency vehicles, shall be submitted for the review and approval of the Town Council through the development review process.

D. All streets shall be constructed to the exterior property lines of the development unless they are permanently terminated by cul-de-sac or an intersection with another street. Streets that may be continued in a future phase of a subject development or may be logically extended as part of a future development shall include a temporary cul-de-sac.
E. Developments with at least 50 residential units shall provide at least two (2) separate and distinct entrances/access points.
F. The Town shall facilitate and coordinate for the possible future development of adjoining property of a similar character by providing for joint access or cross access.

8.02.02 Roadway Classification and General Standards

The following table identifies four (4) categories of roadways. Design standards are generalized; the Town Council may apply greater or lesser restrictions, depending upon site-specific considerations. Flexibility in local road design is also provided in the event alleys are used or common parking areas are provided for.

Table 8.02.02 Roadway Classifications and Standards

Street Type	Min. R-O-W Width	Lane Width excl. of curbs	# of Lanes	Median Width incl. curb	Grassed Utility Strip and Curb (each side)	Drainage Structures	Sidewalk and Bike Lane (each side)
Arterials	100 feet	12 feet	4	20 feet	6 feet	Curb and Gutter	6-foot sidewalk; 4-foot bike lane
Collectors	90 feet	12 feet	4	14 feet	5 feet	Curb and Gutter	5-foot sidewalk; 4-foot bike lane
Local Roads (typical residential street)	50 feet	24 feet of pavement	2	None Required	8 feet	Curb and Gutter (Swales possible for larger lot subdivisions)	5-foot sidewalk; no bike lane required
Local Roads (with on-street parking)	50 feet	22 feet of pavement with 8-foot wide on-street parking on one side	2	None Required	5 feet	Curb and Gutter	5-foot sidewalk; no bike lane required

Right-of-way and lane widths shall be in conformance with the above listed standards, except when:

A. Lesser right-of-way or pavement width may be allowed by the Town where right-of-way conditions are physically constrained by existing structures, specimen trees, or other natural or man-made constraints.

B. A lesser standard may be considered if it is more consistent with the existing streets in the area.
C. Additional right-of-way and/or pavement width may be required by the Town to promote public safety and convenience or to ensure adequate access, circulation, and parking.
D. Where a proposed development abuts or contains an existing street of inadequate right-of-way or pavement width, additional right-of-way and pavement shall be provided by the developer in conformance with these standards.

8.02.03 Construction Standards

The following minimum road construction standards shall apply to all private or public roads:

A. Arterials and Collectors
   1. Sub-base stabilization utilizing local materials (sand-clay) shall be twelve (12) inches deep, after mixing and compaction to not less than ninety-eight (98) percent of the maximum density in accordance with FDOT specifications, extending one (1) foot beyond each side of the proposed paving width, including curb and gutter, if any. Such sub-base stabilization six (6) inches deep shall be extended an additional five (5) feet each side over the shoulder of the street for the remainder of the sub-base.
   2. Base course shall be placed on the previously prepared sub-base, be constructed of either limerock or sand-clay, and be compacted to a depth of not less than eight (8) inches to meet the density requirements of FDOT specifications, and extend six (6) inches beyond each side of the proposed paving width;
   3. Soil cement may be used as a base material as an alternate to limerock or sand-clay at the discretion of the Town.
   4. Prime coat shall be applied to the previously prepared base course utilizing cut-back Asphalt Grade RC-70 or RC-250 in accordance with FDOT specifications. Emulsified asphalt materials shall not be accepted.
   5. Surface pavement course shall be constructed on the previously primed base course utilizing Type III or Type S-1 Asphaltic Concrete to provide a minimum surface width of not less than twenty-four (24) feet and a minimum compacted depth of one and one-half (1 ½) inches of such pavement after mixing, placement, and compaction in accordance with FDOT specifications.
   6. Surface pavement shall be constructed to full-depth in a single continuous operation, regardless of number of lifts required. Asphalt pavement shall not be constructed in two or more lifts separated by time.

B. Local Roads. Local street construction shall conform to the foregoing specifications for arterial and collector streets, except that:
   1. Sub-base stabilization shall be not less than eight (8) inches deep.
   2. Base course shall not be less than six (6) inches deep.
   3. Surface pavement course shall be not less than twenty-four (24) feet in width and shall have a minimum compacted depth of not less than one (1) inch.

4. Alternate materials may only be used if approved by the Town Engineer.
5. All plans shall be subject to review and approval by the Town Engineer.
6. Surface pavement shall be constructed to full-depth in a single continuous operation, regardless of number of lifts required. Asphalt pavement shall not be constructed in two or more lifts separated by time.

8.02.04 Intersections

In general, the intersection of streets shall be laid out as follows:

A. Streets shall intersect at an angle of ninety (90) degrees, unless circumstances acceptable to the Town indicate a need for a lesser angle of intersection.
B. Property lines at street intersections shall be rounded with a minimum radius of twenty-five feet (25'). A greater radius shall be required for angles of intersection less than ninety (90) degrees.
C. The minimum radius return of pavement edge, or back of curb, at all typical intersections approximating a right angle shall be as follows:

Table 8.02.04 Intersections

Road Type	Minimum Radius (in feet)
Local to Collector	35
Local or Collector to Arterial	40
Arterial to Arterial	50

D. A taper or turn lane may be required for roads with a functional classification of collector or arterial, or a design speed of thirty-five (35) miles per hour or greater.
E. Roundabouts may also be considered, where appropriate. Standards shall be generally as outlined in the Florida Department of Transportation's *Florida Roundabout Guide*.

8.02.05 Access

Access shall be provided as follows:

A. Each new development that has at least 50 residential units shall have at least two separate and distinct access points. If the shape or location of the property prohibits this, then the single entrance to the development must incorporate a 24-foot minimum pavement width for ingress and a 24-foot minimum pavement width for egress. Length of this 24-foot section must be adequate for projected traffic.
B. In order to provide ease and convenience in ingress and egress to private property and the maximum safety with the least interference to the traffic flow on collectors and arterials, the number and location of driveways and other entrances shall be subject to approval as part of the plan review process. With non-residential development, joint access and cross access shall be promoted by the Town whenever possible.

C. Tapers, deceleration lanes, acceleration lanes, left turn lanes, bypass lanes, or other facilities shall be provided as requested by the Town Engineer or other agencies (Lake County or FDOT) to protect the safe and efficient operation of all roadways.
D. All proposed lots or developments shall have a minimum of thirty feet (30') of frontage at the right of way line.
E. Roads connecting interior development to a collector or arterial street, if not already paved, shall be improved by the developer to the standards of this chapter.
F. Vehicular circulation for all uses, except for properties in the Town Center Overlay, shall typically be contained within the property, and vehicles located within one portion of the development shall have access to all other portions without using the adjacent street system, unless there are planned street connections to adjacent properties.
G. Plans must illustrate that proper consideration has been given to the surrounding street system, also taking into consideration traffic volumes, proposed street improvements, traffic capacities, pedestrian movements, and safety.

8.02.06 Cul-De-Sacs

Permanent dead-end streets shall not exceed six hundred sixty feet (660') in length. Each cul-de-sac street shall have a minimum pavement width of 24 feet and a minimum cul-de-sac right of way radius of 50 feet. Cul-de-sacs shall be discouraged where street connections are possible.

8.02.07 Islands and Medians

A. Landscaped islands and medians shall be encouraged within the public rights-of-way.
B. Residential streets with straight expanses of pavement shall have landscaped islands every 600 feet. Those landscaped islands shall have a minimum width (back of curb to back of curb) of ten feet (10') and a minimum length of seventy-five feet (75'). Right-of-way lines shall be adjusted accordingly.
C. Cul-de-sacs shall have landscaped center islands with a minimum diameter of fifteen feet (15').
D. All landscaped islands and medians within new developments shall be maintained by the homeowners' or property owners' association. Language outlining these specific areas shall be included in the homeowners' or property owners' association documents.
E. Landscaped islands and medians may not be counted as open space.
F. All islands and medians shall be surrounded by a curb and improved with ground cover and other landscaping that does not, and will not at plant maturity, interfere with sight distance.
G. All islands and medians shall be landscaped and irrigated. Landscape and irrigation plans shall be submitted as part of the Final Plan process.

8.02.08 Street Signs

Design and placement of traffic signs shall be in conformance with the standards of the Florida Department of Transportation (FDOT) as specified in the Manual on Uniform Traffic Control Devices for Streets and Highways and the Town of Howey in the Hills specifications manual. In addition, the following standards shall apply, except when FDOT standards are more restrictive:

A. At least two (2) street name signs shall be placed at each four-way street intersection and one (1) at each "T" intersection.
B. Signs shall be installed free of visual obstruction.
C. Street name signs for Town streets shall have white letters on a blue background and include the Town logo. Street name signs for private streets shall have white letters on a black background. Colors other than black are subject to Town Council approval.
D. The surface of all signs shall have reflective material, 3M grade or better.
E. Street names shall be chosen by the developer, submitted to the Town as part of the Final Plan process, and sent to Lake County by the Town Clerk for formal approval. In proposing street names, the developer should recognize the following:
    1. Street names should be relatively easy to spell and pronounce,
    2. The street name shall not be a duplicate or near duplicate of another street located in the County,
    3. That the continuation of an existing street shall bear the name of the existing street, provided, however, that the Town Council may waive this requirement where the continuation of a street crosses a collector or arterial and the areas on both sides of the collector or arterial are intended to be developed as interior subdivisions.
    4. Any street names that Town staff believes are questionable or objectionable shall be first approved by the Town Council prior to forwarding the names to Lake County for final approval.

8.02.09 Bicycle and Pedestrian Ways

Bicycle and pedestrian ways include sidewalks, bikeways, bike lanes, pedestrian paths, and multi-use trails that may be used by pedestrians, bicyclists, skaters, and golf carts for recreation. Except as provided below, bicycle and pedestrian ways may meander between the curb and right-of-way line where necessary to preserve topographical or natural features or to provide visual interest, provided a grassed or landscaped area at least three feet (3') wide is retained to separate the pathway from the adjacent road. Bicycle and pedestrian ways construction and material standards shall comply with those set forth in the Town's standard construction detail sheets.

A. Bikeways and Bike Lanes
    1. Bike lanes shall be provided in both directions along every new arterial and collector road or during the widening of any existing arterial and collector roads.

2. A bike lane shall consist of a four (4) foot paved width between the outermost traffic lane and the curb. Where on-street parking is permitted, the bicycle lane shall be located between the parking lane and the outer edge of the vehicular traffic lane.
3. Bike lanes shall be constructed of the same materials and specifications as the vehicular travel lanes.
4. For roads under the Town's discretion, the Town Council may approve an eight (8) foot sidewalk/bikeway as a substitute for the on-street bike lane.

B. Bike Racks. Bike racks shall be required as part of all non-residential developments. The type of bike rack and number shall be determined as part of the site plan or subdivision plan review process.

C. Sidewalks
1. Sidewalks shall be provided on both sides of streets. This requirement may be waived for large lot single-family developments.
2. Sidewalks shall be separated from the adjacent roadway by a grassed or landscaped strip. Exceptions to this regulation may be allowed by the Town Council in certain areas in the Town Center where wider sidewalks are required.
3. Minimum sidewalk widths shall be as specified in Table 8.02.02.
4. All sidewalk design and construction shall meet the requirements of the Florida Accessibility Code and the American Disability Act.
5. Development shall provide pedestrian connections to adjacent properties and shall connect on-site sidewalks with those already located or approved on adjacent property.
6. Where residential development is proposed for infill parcels in areas where no sidewalk network exists, sidewalks shall not be required except where the sidewalk can connect to an existing network or the development covers 80% or more of a block face.

8.02.10 Traffic Impact Analysis

A Traffic Impact Analysis (TIA) shall be provided at the first submission of the Preliminary Site Plan or Preliminary Subdivision Plan.

A. Requirements for a TIA

The level of detail and type of TIA for each project will depend on the number of new net peak-hour trips generated, as detailed below. The amount of new net peak-hour project trips generated by the proposed development, which accounts for adjustments for internal capture and pass-by trips, if applicable, shall be based on its proposed land uses and calculated using the trip generation methodologies and guidelines contained herein. A TIA is also required for all aspects of site development and impact assessment. This includes, but is not limited to, updates to previously approved developments and Comp Plan amendments.

B. Levels of TIA
1. Tier 1 TIA: 0-25 New Net Peak-Hour Trips. If the traffic impacts of a proposed development can be clearly determined without the submittal of a

TIA, and all parties involved (the Town, MPO, FDOT, applicant, etc.) are in agreement (including on any necessary mitigation), the submittal of a full TIA may not be necessary. This would likely most often occur with smaller, less intense projects that generate negligible trips. If an applicant believes that their project meets this criterion, the applicant must submit a Request for Exemption Letter. It should be noted that, ultimately, these trip thresholds are only guidelines and Exemptions are granted at the discretion of the Town. The requirements for the Request for Exemption Letter are discussed later in this section.

2. Tier 2 TIA: 26-100 New Net Peak-Hour Trips. A project that generates between twenty-six (26) and one-hundred (100) new net peak-hour project trips shall require the preparation of a TIA unless the applicant believes their project is more in keeping with a Tier 1-type project. In such a case, the applicant may submit a Request for Exemption Letter. Approval and granting of this exemption, however, is strictly at the discretion of the Town. In addition, as an option, applicants may submit a Methodology Letter prior to the submittal of the TIA. The requirements for a Tier 2 TIA, Request for Exemption Letter and Methodology Letter are discussed later in this section. The classification of a project as a Tier 2 TIA is at the discretion of the local government.
3. Tier 3 TIA: 101 or More New Net Peak-Hour Trips. A project that generates one-hundred and one (101) or more new net peak hour project trips shall require the preparation of a more-detailed TIA than would normally be required for a Tier 2 project. This requirement for additional detail will be at the discretion of the Town and will be negotiated as part of the methodology review process which involves the submittal and review of a Methodology Letter, to be approved by the Town prior to the submittal of the TIA. In general, a project requiring a Tier 3 TIA shall be required to use the Lake Sumter MPO's currently adopted travel demand model to evaluate future traffic conditions. The requirements for a Tier 3 TIA and Methodology Letter are discussed in sections below. The classification of a project as requiring a Tier 3 TIA is at the discretion of the Town.

C. Review Process. The applicant shall submit three (3) hard copies and one (1) electronic copy (PDF) of the TIA to the Town Clerk as part of the Preliminary Plan submittal package. The Town and the MPO will review the submittal. The submittal will also be provided to and be reviewed by, any other agencies (such as FDOT and Lake County) with responsibility for roads that are impacted by the development. After review, the Town will provide the applicant with a memorandum which contains specific comments from all parties regarding the TIA. These comments must be addressed and necessary mitigation agreed upon prior to final approval of the Plan under review.

D. Request for Exemption and Methodology Letter. A Request for Exemption Letter is sometimes applicable, as discussed above. At a minimum, the Request for

Exemption Letter, based on the guidelines stated herein, shall provide the following information:

1. Purpose (also include grounds for exemption)
2. Project Description
3. Site Location/Site Plan
4. Area of Influence/Study Area
5. Trip Generation – Based on Guidelines Set Forth in this chapter
6. Trip Distribution/Assignment – Required to determine availability of capacity and to update the Lake County Transportation Concurrency Management System (TCMS)

E. Methodology Letter. A Methodology Letter shall be submitted to the Town prior to submittal of the TIA, for any project that generates one-hundred and one (101) or more new net peak hour trips. The Methodology Letter, also optional prior to submittal of a Tier 2 TIA, is required to:

1. Identify whether the project will require a Tier 2 or Tier 3 TIA.
2. Identify any critical issues such as, but not limited to, trip generation, trip distribution, the extent of the study, the area of influence, the horizon years, specific time periods to be analyzed, and data sources.
3. Ensure that all relevant issues are adequately addressed in the TIA and that no extraneous elements are included in the study.
4. Help the applicant understand the Town's expectations should further studies be required.

F. At a minimum the Methodology Letter, based on the guidelines stated herein, shall provide the following information:

1. Purpose
2. Project Description
3. Site Location/Site Plan
4. Area of Influence/Study Area *
5. TCMS Data for Study Area Roadways *
6. Intersections to be Analyzed
7. Planned and Programmed Improvements
8. Trip Generation
9. Trip Distribution
10. Trip Assignment
11. Future Traffic Volumes
12. Future Intersection Volumes

*Prior to submitting the Methodology Letter, the applicant should request the Town and MPO provide a study area report, generated by the Lake County TCMS software, based on location, and proposed land uses. This shall include a study area map and current TCMS data spreadsheet, including existing volumes, existing Level of Service (LOS), LOS standards, service volumes, and committed/reserved trips (background).

G. Report Format. In order to provide consistency and facilitate review of the TIA, the following outline shall be followed to the extent possible:

1. Table of Contents
   a. List of Figures
   b. List of Tables
2. Introduction
   a. Purpose
   b. Project Description
   c. Site Location and Site Plan
   d. Study Area/Area of Influence *
   e. Planned and Programmed Improvements
   f. Committed Development
3. Existing Roadway and Traffic Conditions
   a. Pertinent Existing Roadway Information *
   b. Existing Segment Geometry
   c. Existing Intersection Geometry
   d. Existing Traffic Volumes *
   e. Existing Level of Service *
4. Future Roadway Conditions
   a. Pertinent Future Roadway Information
   b. Future Segment Geometry
   c. Future Intersection Geometry
5. Future Traffic Conditions
   a. Background Traffic *
   b. Trip Generation
   c. Trip Distribution and Assignment
   d. Future Traffic Volumes
6. Transportation Assessment
   a. Segment Analysis
   b. Intersection Analysis
   c. Turn Lane Analysis
   d. Access Analysis
7. Mitigation Strategies
   a. Recommended Improvements
   b. Proportionate Share calculation (if applicable)
8. Summary/Conclusions
   a. A brief discussion (one or two paragraphs) shall be provided to highlight the TIA Tier classification (Tier 1, Tier 2 or Tier 3), methodology followed and general results.
   b. Action requested (e.g., approval of mitigation strategy) of the Town shall be specified.
9. Appendix
   a. Traffic Count Data
      1. Average Daily 24-Hour or Peak-Hour Traffic Counts (collected, as necessary)

2. Peak-Hour Turning Movement Counts (A.M., P.M., Midday, Weekend (collected, as necessary)

b. Capacity Analysis Summary Sheets
   1. Existing Conditions
   2. Future Conditions (per phase, if required)
   3. Future Mitigated Condition (per phase, if required)

c. Lake County TCMS Spreadsheet

d. Trip Distribution plot from the MPO Travel Demand Model (Tier 2, if necessary, and Tier 3 TIS)

   * Prior to submitting the Methodology Letter, the applicant should request the Town/MPO provide a study area report, generated by the Lake County TCMS software, based on location, and proposed land uses. This shall include a study area map and current TCMS data spreadsheet, including existing volumes, existing LOS, LOS standards, service volumes, and committed/reserved trips (background).

H. TIA Report Breakdown The following section describes the minimum content/information that shall be included in each chapter or section of the TIA based on the outline provided above.

1. Table of Contents, List of Figures and List of Tables. A Table of Contents, List of Figures and List of Tables shall be provided as part of the TIA report.
2. Introduction. This chapter, or section, shall contain pertinent information about the proposed project. The information that shall be provided is discussed below.
3. Purpose. The Tier (1, 2 or 3) of TIA and reason for the submittal of the TIA shall be stated. For example, it shall be stated if the TIA is being submitted for a development plan approval, Comp Plan amendment, or an update to a previously approved development/phase.
4. Project Description. A brief description of the proposed project shall be provided. The following information shall be provided and can be presented as a bulleted list or table:
   a. Area Type (Rural, Transitional, Urban)
   b. Type of Development (e.g., Residential, Retail, etc.)
   c. Institute of Transportation Engineers (ITE) Land Use Code(s)
   d. Size of development in standard ITE units (e.g., dwelling units for residential)
   e. Location/Description of the proposed development site access
   f. Anticipated opening/buildout year (by phase, if necessary)
   g. Analysis years (by phase, if necessary)
   h. Analysis periods (e.g., AM, PM, Mid-day, etc)
   i. Source of adopted roadway Level of Service (refer to TCMS spreadsheet)
5. Site Location and Site Plan. An area figure/map shall be provided to show the location of the project in relation to the surrounding region. This figure shall show the area of influence of the project, as discussed in the following

section. In addition, a site plan shall be included in this section to provide an overview of the project and site access.

6. Study Area/Area of Influence. The study area to be addressed by the applicant shall be regional in nature and shall include all roadways and major intersections affected by the proposed development. For those projects requiring a Methodology Letter, the study area will be defined prior to submittal of the TIA. The applicant should request the Town/MPO provide the study area based on location and proposed land use (provided by applicant). The extent of the study impact area shall be determined by the area of influence of the project. The area of influence shall be established as one half (1/2) the total trip length associated with the land use of the proposed development, based upon the Lake County Transportation Impact Fee Update Study Final Report (see table in Appendix A, column "E"). The area of influence shall be based on the "as the car drives" distance as opposed to the "as the bird flies" distance. The roadway segments and intersections within the area of influence shall be considered for further study. In cases where the proposed project involves multiple land uses, the study area shall be defined as one-half the total trip length associated with the land use having the longest total trip length.

   It should be noted that once the study area has been established based on the previously described methodology, there is the potential that not all intersections and segments within the study area will require full analysis. The intersections requiring full data collection and analysis will be determined by the anticipated effect of the proposed development at each location. The principal factors in this determination include the project trip distribution on the study area network and existing LOS and operations on the study area roadways and at the subject intersections. As the affect of the project traffic on more distant segments and intersections diminishes, specific locations may be removed from further consideration. Additionally, factors that could also influence the area of influence are the existing and future land uses in the area, and the existing and future transportation network. The study area roadways and intersections may be discussed during the methodology review process, but ultimately, it is at the discretion of the Town to reduce or expand the study area, as deemed necessary.

7. Planned and Programmed Improvements. This section shall identify and discuss all planned and programmed roadway improvements relevant to the study area. This includes all local, State and Federal projects that have been planned or funded. The section shall include a list of planned or programmed improvements, location/limits, programmed phases with years, and the name of the agency responsible for implementing the project. Only those programmed improvements contained in the first three (3) years of the relevant work program, and funded for construction, shall be considered as

capacity "in-place." If no programmed or planned improvements are relevant to the study area, the applicant shall indicate that there are no planned or programmed improvements within the project study area within the next three years. In general, the Lake County TCMS will be kept up to date with planned and programmed improvements from the first three years of the work program.

8. Committed Development. This section shall include discussion and figures pertaining to Approved/Committed Development. In general, the Lake County TCMS will be kept updated with committed/reserved trips relevant to the study area. If no information is available then an appropriate growth rate, as approved by the Town shall be used.
9. Existing Roadway and Traffic Conditions. The applicant is responsible for collecting or obtaining the existing conditions data required to effectively produce a TIA that meets the Town's requirements. The existing conditions data will include information on existing roadway geometry, existing traffic control, existing traffic volumes and existing LOS. This information shall be from field observations and the Lake County TCMS spreadsheet and may be presented collectively using tables and/or figures.
10. Pertinent Existing Roadway Information. Any information that does not fall strictly into the existing segment and intersection categories shall be documented. This may include discussion and figures pertaining to Access Management (e.g., restricted, unrestricted), Functional Classification (e.g., arterial, collector, local road), Area Type (e.g., urban, urban transitioning, or rural/undeveloped), etc.
    a. Existing Segment Geometry. Information shall be provided about the existing geometry or laneage of the study segments. Typically, this information is depicted in a figure or listed in a table.
    b. Existing Intersection Geometry. Information shall be provided about the existing geometry or laneage of the study intersections. Typically, this information is depicted in a figure or listed in a table.
    c. Existing Traffic Volumes. A discussion and appropriate tables/figures shall be provided to present existing year Average Daily Traffic (ADT) and peak-hour directional volumes on study area roadway segments, and existing year peak-hour turning movement counts (TMCs) at the study area intersections. P.M. peak-hour directional volumes are provided in the Lake County TCMS spreadsheet, provided at or before methodology. In cases where no information exists in the TCMS for a particular segment (zeroes in the TCMS), manual/tube counts shall be required. For such a situation, count data from the most recent FDOT Traffic Information DVD and/or the Lake County Annual Traffic Counts program may also be utilized to obtain segment volumes. Historical TMC data collected by others that is less than one (1) year old may also be utilized, with prior Town approval, provided that the counts are grown to present day volumes using an accepted growth rate.

d. Existing Level of Service. Existing LOS analyses shall be conducted for segments and intersections based on currently accepted traffic engineering principles. Methods that incorporate and apply appropriate techniques from the latest edition of the Highway Capacity Manual (HCM) are acceptable. These methods may include the use of the latest available versions of the Highway Capacity Software (HCS), Synchro, LOSPLAN and the FDOT Generalized Service tables. The existing LOS shall be compared to the adopted LOS standards used for concurrency determination and shall be consistent with the Transportation Element of the Town's Comprehensive Plan. The LOS standards for an intersection analysis shall be the conservative adopted roadway LOS standard of the intersecting roadways. For the majority of facilities, the Lake County TCMS will be kept up to date with the adopted LOS standards, area type, facility type, maximum service volume, etc. as they apply to the transportation network. When an applicant is utilizing the FDOT Generalized Service tables, particular attention shall be given to the appropriate selection of criteria based on Access Management (e.g., restricted, unrestricted), Functional Classification (e.g., arterial, collector, local road), Area Type (e.g., urban, urban transitioning, or rural/undeveloped), etc. Before conducting an analysis utilizing LOSPLAN, the applicant shall verify with the Lake County TCMS that an analysis on the affected segments has not already been developed, and is being applied in the TCMS, within the past year. If an approved LOSPLAN analysis, less than one (1) year old, exists within the Lake County TCMS, the applicant shall utilize these results for the applicable segments of the system within the study area.

e. Future Roadway Conditions. This section shall contain information pertaining to the future (build-out year) roadway conditions. Generally, if the future roadway conditions are not substantially different from the existing year (as would be the case when there are no pertinent planned and programmed improvements) then this section may not be necessary and a brief statement to that effect shall be provided.

f. Pertinent Future Roadway Information. Any information that does not fall strictly into the existing segment and intersection categories shall be documented. This may include discussion and figures pertaining to Access Management (e.g., restricted, unrestricted), Functional Classification (e.g., arterial, collector, local road), Area Type (e.g., urban, urban transitioning, or rural/undeveloped), etc. If the pertinent roadway information does not differ from that of the then this may be stated in lieu of tables or figures.

g. Future Segment Geometry. This section shall include information about the future geometry or laneage of the study segments. Typically, this information can be depicted in a figure or listed in a table. If the future segment geometry does not differ from the existing segment geometry, then this may be stated in lieu of tables or figures.

h. Future Intersection Geometry. This section shall include information about the future geometry or laneage of the study intersections. Typically, this information can be depicted in a figure or listed in a table. If the future intersection geometry does not differ from the existing intersection geometry, then this information may be stated in lieu of any tables or figures.

i. Future Traffic Conditions. The applicant shall provide a graphical summary or table of the future year background traffic, plus the proposed development traffic for the A.M. peak hour, P.M. peak-hour, Mid-day peak-hour or weekend peak-hour (whichever is applicable). These volumes shall include both segment and turning movements within the study area. Note that deminimis impacts are defined by Florida Statute as project impacts equating to less than 1% of the maximum service volume for the impacted roadway segment. Cumulative deminimis impacts may not exceed 110% of the maximum service volume for non-hurricane evacuation routes or 100% of the maximum service volume for designated hurricane evacuation routes.

j. Background Traffic. Background (committed/reserved) traffic from approved developments in the area shall be tracked and is maintained within the Lake County TCMS. As such, in most cases, a separate determination of background traffic will not be required.

k. Trip Generation. Trip generation involves estimating the number of trips that will be produced from or attracted to the proposed development. The latest edition of the ITE Trip Generation manual shall be used to determine proposed project trip estimates. The estimates obtained from this source must be used with good judgment as they are based on national data and may not take into account any special features that the local subject site might have. Opportunities are available for reducing the estimated trips to derive net, new, external trips and include:

    1. INTERNAL CAPTURE – Internal capture refers to the percentage of trips generated by a multiple land use development (e.g., having a combination of retail, office and/or residential uses) that take place entirely within that development. Deductions may be made to the total site-generated trip estimates of a multi-use development by estimating the amount of internal capture for individual land uses. The ITE Trip Generation Handbook contains the recommended procedure for estimating internal capture deductions.
    2. PASS-BY TRIPS – Retail land uses experience pass-by trip "capture" from the adjacent traffic stream. Pass-by trips are those already on the network making intermediate stops en-route between an origin and a primary trip destination, without route diversion. These trips shall not be included in the new trip estimates. In general, pass-by trips should not exceed 10% of the background traffic on the adjacent roadway, nor 25% of total trip generation. However, fast-food restaurants, gas

stations/convenience stores, pharmacies/drug stores and drive-in banks, due to their high pass-by nature, may exceed 25% of the total, with permission from the Town. New trip percentages, by land use, are provided in the Lake County Transportation Impact Fee Update Study Final Report (see table in Appendix A, column "F"). The use of internal capture and pass-by rates shall be approved at the discretion of the Town.

l. Trip Distribution and Assignment. Trip distribution is a process by which the trips generated in one (1) traffic analysis zone (TAZ), or by one land use, are allocated to other TAZs, or other land uses, in the study area. Trip assignment is the process of numerically assigning the distributed trips to specific transportation facilities. The term "trip distribution" is sometimes used to define both procedures of trip distribution and assignment. Trip distribution and assignment may be based on the Lake Sumter MPO's currently adopted travel demand model, market analysis, existing traffic flows, applied census data, or professional judgment (manually distributed). In general, this section shall present the forecasted trip assignment based on the development's trip generation and distribution estimates. This typically takes the form of figures providing the percentage of total proposed project trips on the individual roadways in the transportation study network. The procedures and logic for estimating the trip distributions must be well documented. The trip distribution and assignment patterns shall be presented for each phase of the development or as requested by the Town. Unless otherwise agreed at Methodology, proposed projects which are projected to generate one hundred and one (101) or more net new peak-hour project trips (Tier 3 TIA) should utilize the Lake Sumter MPO's currently adopted travel demand model to derive trip assignment percentages.

m. Future Traffic Volumes. This section shall include discussion and figures presenting future year ADT on study roadway segments and future year peak-hour TMCs at the study intersections. Typically, this information can be depicted in a figure or listed in a table. This estimate of future year traffic volumes on the study area transportation network would result from the summation of the proposed project volumes, determined after the processes of trip generation (including adjustment for internal capture and pass-by trips), trip distribution and assignment, committed/reserved trips from the Lake County TCMS, and existing traffic volumes.

n. Transportation Assessment. LOS analyses shall be conducted and use the future and projected traffic volumes, as obtained following the guidance provided. The analysis shall be based on currently accepted traffic engineering principles. Methods that incorporate and apply appropriate techniques from the latest edition of the Highway Capacity Manual are acceptable. These methods may include the use of HCS, Synchro 6 and higher, LOSPLAN and FDOT Generalized Service tables. The LOS

standards used for concurrency determination shall be consistent with the Transportation Element of the Town's Comprehensive Plan. The LOS standards for an intersection shall be the most conservative adopted roadway LOS standard of the intersecting roadways. For the majority of facilities, the Lake County TCMS will be kept up to date with the adopted LOS standards, area types, facility types, maximum service volumes, etc., as they apply to the transportation network.

o. Segment Analysis. A roadway segment analysis shall be performed on each of the study segments. If the analysis indicates that the future segment LOS will be below the adopted LOS standard, potential mitigation measures shall be developed, as well as a fair share calculation for these measures. The latest version of LOSPLAN can also be used to develop an alternative capacity/service volume based on corridor-specific data. The LOSPLAN analyses must be approved by the local government and shall be applied in the TCMS as the new capacity.

p. Intersection Analysis. A signalized or unsignalized intersection analysis shall be performed on each of the study intersections. The procedure shall utilize Highway Capacity Manual techniques, as previously mentioned. The existing LOS shall be compared to the adopted LOS standards, used for concurrency determination, and shall be consistent with the Transportation Element of Town's Comprehensive Plan. The LOS standards for an intersection shall be the most conservative adopted roadway LOS standard of the intersecting roadways. A summary of the analysis results shall be tabulated with the software output included in the Appendix section. If the analysis determines that the future intersection LOS will be below the adopted LOS standard, potential mitigation measures shall be developed as well as fair share calculation for these measures.

q. Turn Lane Analysis. For intersections with failing turning movements, the need for additional turn lanes and an analysis of turn lane storage length adequacy shall be conducted.

r. Access Analysis. The TIA shall include an assessment of on-site and off-site turn lane adequacy, required storage, potential for signalization, sight distance and other intersection safety aspects, and on-site circulation as it may affect access. Use of joint access driveways is encouraged to reduce the total number of connections to the roadway network. The following points should be considered in determining the need for turn lanes:
    1. The total traffic generated by the anticipated traffic distribution, the number of access points and the projected turning movement volumes.
    2. A traffic analysis indicates that turn lanes would be necessary to maintain capacity on fronting roads and/or at adjacent or nearby intersections.

3. Entrances are proposed at locations where grade, topography, site distance, traffic, or other unusual conditions indicate that turn lanes would be needed to improve safety.

s. Mitigation Strategies. If the transportation assessment reveals that the potential project will not result in a deficiency in the existing roadway network, then no project-related improvements are required. However, mitigation strategies must be developed if the transportation assessment determines that the proposed project will potentially result in a deficiency in the LOS of transportation facilities. This process involves addressing the extent of the mitigation strategies/solutions as well as calculation of fair share cost.

t. Recommended Improvements. Mitigation strategies must be developed if the transportation assessment determines that the proposed project will potentially result in a deficiency in the Level of Service of transportation facilities. Mitigation measures for segments, intersections, turn lanes and site access shall be developed to allow the build condition to operate above the local government's acceptable Level of Service standards. These measures may include, but are not necessarily limited to:

1. Revised striping
2. Addition of turn lanes
3. Addition of travel lanes
4. Addition of storage lanes
5. Lengthening of storage lanes
6. Installation of traffic signals
7. Installation of traffic control signs
8. Restriction of turning movements
9. Adjustment of cycle lengths
10. Introduction of additional signal phases

Improvements must be concurrent with the impacts of development. If reasonable mitigation measures cannot be implemented to assure that traffic will operate in an efficient way, a more detailed evaluation of project size, land use types, and development phasing may be required. If viable transportation improvements cannot be recommended, then steps must be taken to reduce the project's impact on the adjacent roadway network to acceptable levels.

u. Proportionate Share Calculation. The intent of the proportionate share option is to provide applicants an opportunity to proceed under certain conditions, notwithstanding the failure of transportation concurrency, by contributing their share of the cost of improving the impacted transportation facility. However, the ability of the Town to fund improvements is subject to budget constraints. Consequently, it should be noted that the determination of a project's proportionate share cost and the applicant's ability to pay that cost is not a guarantee the project will be

approved. In addition, there is no guarantee of a funding match by the Town or other agency to facilitate implementation of the proposed mitigation strategy unless it is formalized in an agreement. The formula below is provided as guidance where:

v. Increase in Service Volume. Increase in service volume is the change in peak-hour maximum service volume of the roadway that would result from the construction of the improvement necessary to maintain the adopted LOS.

w. Cost of Improvement. Cost of improvement is the cost of construction, at the time of developer payment, of an improvement necessary to maintain the adopted level of service. Construction cost includes all improvement associated costs, including engineering design, right-of-way acquisition, planning, engineering, inspection, and other associated physical development costs directly required and associated with the construction of the improvement, as determined by the governmental agency having maintenance authority over the roadway.

x. Project Trips. Project trips are the trips from the stage or phase of the project under review that are assigned to a roadway segment and have triggered a deficiency based upon comparison to the adopted LOS.

11. Summary/Conclusions. A brief discussion (one or two paragraphs) shall be provided to highlight the TIA Tier classification (Tier 1, Tier 2 or Tier 3), methodology followed and general results. In addition, the action requested (e.g., approval of mitigation strategy) of local government shall be specified.
12. Appendix
    A. Traffic Count Data
        1. Average Daily 24-Hour Traffic Volumes (as necessary)
        2. Peak-hour Turning Movement Volumes (A.M./P.M./Midday, as necessary)
    B. Capacity Analysis Summary Sheets
        1. Existing Conditions
        2. Future Conditions (per phase if required)
        3. Future Mitigated Condition (per phase if required)
        4. Lake County TCMS spreadsheet (relevant sections)
        5. Trip Distribution Plot

8.03.00 PARKING

8.03.01 General

All developments in all zoning districts shall provide a sufficient number of parking spaces to accommodate the number of vehicles that ordinarily are likely to be attracted to the development in question. Accessible parking spaces shall be provided in accordance with the Florida Building Code.

8.03.02 Dimension Requirements

A. Parking Space Size. Each parking space shall contain a rectangular area at least 20 feet long and 10 feet wide. Lines demarcating parking spaces may be drawn at various angles in relation to curbs or aisles, so long as the parking spaces so created contain within them the same effective parking area as the rectangular area required by this section.
B. Accessible (Handicap) Spaces. Accessible spaces shall be provided and sized in accordance with the Florida Building Code.

8.03.03 General Design Requirements

A. Parking lots shall be designed so that vehicles may exit such areas without backing onto a public street.
B. Parking spaces shall be designed so that vehicles can not block sidewalks.
C. Visible pedestrian crosswalks, using alternative materials such as brick or other paver materials, should be designed into parking lots to promote safety.
D. Every vehicle accommodation area that abuts a building or a fire hydrant shall be provided with a fire lane.
E. Parking lots shall be properly lit. The lighting shall be contained on site.
F. Where parking areas abut sidewalks, bollards or other materials may be required to enhance safety.

8.03.04 Parking Lot Surfaces

Parking lot areas that include lanes for drive-through windows or that are required to have more than five (5) parking spaces, shall be graded and surfaced with asphalt, concrete, or other material that will provide equivalent protection against potholes, erosion, and dust. Parking lots with five or less parking spaces and which have no drive-through window lanes may be graded and surfaced with a pervious concrete paver or other suitable material to provide a surface that is stable and will help to reduce dust, potholes, and erosion. The perimeter of such parking areas shall be defined by bricks, railroad ties, or other similar materials. In addition, whenever such an area abuts a paved street, the driveway leading from such street to the parking lot (or the direct connection to the street) shall be paved for a distance of fifteen (15) feet back from the edge of the paved street. The pavement must meet the same standards as other paved parking areas.

At the option of the developer and the approval of the Town:

A. Up to 25% of the required parking spaces for any site may be met with a pervious concrete paver or other suitable material to provide a surface that is stable and will help to reduce dust, potholes, and erosion.
B. Up to 25% of the parking required for places of worship may be provided on grass. Grassed parking areas shall be required to meet all stormwater, setback and other applicable provisions of this Code as though the area was being paved. No

grassed parking shall be established within any required open space or landscaped area, and no such area shall be credited toward required buffers and open space.

8.03.05 Stacking Area for Various Drive-Through Facilities

All uses with drive-through windows shall provide vehicle stacking area based on the following criteria. The stacking area shall be designed based on a 10 foot by 22-foot space per required vehicle. The stacking area shall be designed so as to operate independently of other required parking and circulation areas.

Each drive-through restaurant shall accommodate 6 vehicles (10'X22') per service lane, with a minimum of 3 of those being behind the order station. All other drive-through facilities shall accommodate a minimum of 3 vehicles per service lane.

8.03.06 Loading Areas

Whenever the normal operation of any development requires that goods, merchandise, or equipment be routinely delivered to or shipped from that development, sufficient off-street loading and unloading areas shall be provided to accommodate the delivery or shipment operations in a safe and efficient manner. Loading and unloading areas shall be located and designed so they are not visible from adjacent streets, nor adjacent residential areas.

Loading and unloading areas shall be located so that the vehicles intended to use them can maneuver safely to and from a public right-of-way, and complete the loading and unloading operations without obstructing or interfering with any public right-of-way or any parking space or parking lot aisle.

No area allocated to loading and unloading facilities may be used to satisfy the area requirements for off-street parking, nor shall any portion of any off-street parking area be used to satisfy the requirements for loading and unloading facilities.

8.03.07 Parking Spaces Required

Table 8.03.07 provides the parking space requirements for the Town. Applicants for development and redevelopment within the Town Center Overlay may elect to pay into a public parking fund if they can not fit the required number of parking spaces on their property.

Table 8.03.07 Parking Requirements

Use	Minimum Parking Spaces (Except Town Center)
ACLF	3 spaces for every 5 beds
Animal Services	1 space per 200 square feet of Gross Floor Area
Automobile Sales and Service	1 space per 250 square feet of Gross Floor Area
Automobile Repair/ Service Station	3 spaces per service bay and 1 space per employee
Bank	1 space per 300 square feet of Gross Floor Area
Bar or Nightclub	1 space per 75 square feet of Gross Leasable Area.

Barber or Beauty Salon	1 space per 200 square feet of Gross Leasable Area
Bed and Breakfast Inn	1 space for each guest unit
Bowling Alley	5 spaces per lane
Business Office	1 space per 200 square feet of Gross Floor Area
Churches/Places of Worship	1 space for each 4 seats, plus 1 space/residential unit, plus 1 space/200 sq. ft. of floor area not used for services or residential purposes
Convenience Stores with gasoline sales	2 spaces for every 4 pumps plus one space per employee
Convenience Stores without gasoline sales	1 space per 150 square feet of Gross Floor Area
Day Care Center	5 spaces for transient use plus one per employee
Family care; Groups Care; Institutional Care	1 space per 4 beds plus one per employee
Funeral Home	1 space per 100 square feet of Gross Floor Area
Furniture Store	1 space per 500 square feet of Gross Floor Area
Use	**Minimum Parking Spaces (Except Town Center)**
Golf Course	6 spaces per hole; reference other categories for other uses (i.e., restaurant, meeting space)
Hospital	1 space for each bed plus 1 per employee
Hotel/Motel	1 space for each room plus 1 space/employee. If the hotel has a restaurant, 1 space/100 sq.ft. of Gross Floor Area for the restaurant. If the hotel has meeting space, 1 space/100 sq.ft. of Gross Floor area for that space.
Library/Club	1 space per 300 square feet of Gross Floor Area
Medical Clinic	1 space per 200 square feet of Gross Floor Area
Nursing Home	1 space per 4 beds plus 1 space per employee
Office or Office Park	1 space per 300 square feet of Gross Floor Area
Personal Services not identified elsewhere	1 space per 250 square feet of Gross Floor Area
Personal Storage Facility/Mini Warehouse	1 space/10 units (min. 6 spaces), equally distributed. If manager housed on-site, add two spaces.
Private Recreation Facility	1 space per 200 sq. ft. within enclosed buildings; add. spaces will be required for outdoor facilities to be determined with site plan review or at time of permitting
Residential	2 per unit, not including garage
Restaurant (fast food; carry out)	7 spaces per 1,000 sq. ft. of Gross Floor Area
Restaurant (sit down)	1 space per 100 square feet of Gross Floor Area
Retail Sales	1 space per 250 square feet of Gross Floor Area
Schools (private); Public buildings	1 space for each 4 seats in the main assembly area or 1 space for each 250 sq. ft. of Gross Floor Area if no assembly area.
Shopping Center	1 space per 250 square feet of Gross Floor Area
Theaters	1 space per 3 seats, plus one space for each employee on the largest shift
Wholesale/Manufacturing	1 space per 400 sq. ft. for sales and 1 space for every 2 employees on the maximum shift for manufacturing

Table 8.03.07 above, the number of accessible spaces must comply with the minimum requirements of the Florida Building Code.

The Town Council recognizes that the Table of Parking Requirements set forth above cannot and does not cover every possible situation that may arise. In cases not specifically mentioned in the above table, the Town will determine the parking requirements using this table, and whatever additional information it deems reasonable.

8.04.00 UTILITIES

8.04.01 Utility Ownership and Easement Rights

In any case in which a developer installs or causes the installation of potable water, landscape irrigation facilities, wastewater, electrical power, traffic signals, street lighting, telephone, or cable facilities, and intends that such facilities shall be owned,

operated, or maintained by a public utility or any entity other than the developer, the developer shall transfer to such utility or entity the necessary ownership or easement rights to enable the utility or entity to operate and maintain such facilities.

8.04.02 Potable Water System

A. Potable water system construction and material standards shall comply with those set forth in the Town's potable water utility specifications. Every principal use in the Town and every lot in a subdivision shall be served by the Town's potable water supply system, unless granted a specific waiver to these regulations.
B. All applicable potable water system improvements required for new development shall be donated to the Town of Howey in the Hills.
C. Trunk lines shall have a minimum diameter of twelve inches (12") and shall be located within an arterial street right-of-way or within a corridor approved by the Town and adequate for that purpose and conducive to the development of a Town-wide water supply system.
D. Distribution lines within residential subdivisions shall have a minimum diameter of six (6) inches. Distribution lines within multi-family developments and non-residential developments shall have a minimum diameter of eight (8) inches.
E. To the maximum extent feasible, distribution lines shall be located parallel to and behind the back of curb or edge of pavement. The water main shall be located to minimize conflicts with other utilities and existing or proposed structures. As a standard practice, water mains shall be installed four feet (4') off the back of curb or as approved by the Town. A minimum of five feet (5') shall be maintained between underground power, gas mains, and the water mains.
F. System looping is required wherever practicable to increase overall capacity and service.
G. Every development shall include a system of fire hydrants sufficient to provide adequate fire protection for the buildings located or intended to be located within such development.
H. The Town Engineer shall determine the precise location of all fire hydrants subject to the other provisions of this section. In general, fire hydrants shall be placed six feet behind the curb line of publicly dedicated streets that have curb and gutter and at property lines of non-curbed public dedicated streets.
I. The Town Engineer shall determine the design standards of all hydrants based on fire flow needs. Unless otherwise specified by the Town Engineer, all hydrants shall be two (2) two and one half (2 ½) inch hose connections and one (1) four and one half (4 ½) inch hose connection. The two and one half (2 ½) inch hose connections shall be located at least twenty-one and one half (21 ½) inches from the ground level. All hydrant threads shall be national standard threads. The minimum fire flow must be 500 gallons per minute with no less than 20 pounds per square inch (psi) residual pressure in single family residential areas and 1,250 gallons per minute with no less than 20 psi residual pressure for other development. The Town may require greater flow rates depending on the size of the building and/or its property use.

J. Potable water lines that serve hydrants shall be at least 8-inch lines, or a 6-inch loop that provides the minimum flow requirements, and, unless no other practicable alternative is available, no such lines shall be dead end lines.
K. Final development orders shall not be issued without certification that adequate potable water service is available.

8.04.03 Sanitary Sewer System

A. A sanitary sewer collection system shall be designed, permitted and constructed by the developer, in such a manner as to provide the ability for each lot or parcel to be connected to the collection system, whether concurrent with development of the subdivision or at a future date, such design, permitting and construction to be performed at the sole cost and expense of the developer. The sanitary sewer collection system shall include all necessary gravity sewer lines, manholes, lateral lines, lift stations, force mains, and all other normally associated components of any of these facilities, all in accordance with the Town's wastewater utility specifications and all requirements of State and Federal regulatory agencies having jurisdiction over such matters. In the event that the Town does not have available an operational sanitary sewer treatment facility at the time of submittal of the Florida Department of Environmental Protection (FDEP) sanitary sewer system extension permit application, the application shall be submitted to FDEP as a "dry-line" application and all of the above mentioned shall apply.
B. Every principal use in the Town and every lot within a subdivision shall be served by a wastewater treatment and disposal system that is adequate to accommodate the reasonable needs of such use or subdivision lot and that complies with all applicable Town plans and health regulations. Service requirements and construction standards shall comply with the Town of Howey in the Hills regulations and specifications and the Lake County Health Department regulations.
C. New development shall fund the cost of required capacity expansions, and/or extension of central wastewater lines. All new development shall design, permit, and install dry sewer lines in accordance with an approved development order if wastewater service is not currently available and the order approving authority approves a temporary treatment option. New development will be required to provide Bills of Sale to the Town for all applicable new wastewater collection, pumping, transmission, treatment, and disposal facilities.
D. A central wastewater system shall be provided for all new development. The development of new wastewater facilities and mains, and the expansion of existing wastewater systems, shall be designed by the project engineer in accordance with all applicable State and local regulations. The Town Engineer shall review and approve all Town of Howey in the Hills wastewater systems.
E. Individual wastewater disposal systems, if allowed by the Town, are subject to the approval of the Lake County Health Department and other regulatory agencies. Individual wastewater systems which serve only one lot may be permitted when the requirements for a central wastewater system are waived.

F. Final development orders shall not be issued without certification that adequate wastewater service is available. In service areas with pre-purchase capacity requirements, proof of purchase shall be required to constitute certification. In cases where dry lines are being installed for future connection to the wastewater collection system, a developer's agreement or other legal instrument shall be approved as part of the Final development order in order to ensure that the developer funds the future ERU connection fee and all associated costs to connect to the wastewater collection system.

8.04.04 Reclaimed Water Systems

A. New development may be required to install and donate to the Town a reclaimed water system, including distribution mains and services for irrigation in accordance with the Town's specifications.
B. If a reclaimed water system is required, new development shall extend distribution lines along the entire property frontage, to accommodate service to adjacent properties.
C. If an existing reclaimed water system is within 1,000 feet of a new development, the development will be required to connect to the existing reclaimed water system.
D. System looping is required wherever practicable to increase overall capacity and service.
E. New development shall use non-potable water sources for irrigation, if possible, until reclaimed service is available. The use of potable water for irrigation is permitted if no other source is available.

8.04.05 Stormwater Management

A. General requirements for stormwater management
    1. Protection of water resources is critical to the public health, safety, and welfare. Innovative approaches to stormwater management shall be encouraged and the concurrent control of erosion, sedimentation, and flooding are essential and mandatory.
    2. No drainage system, natural or manmade, shall be altered, designed, constructed, abandoned, restricted or removed without prior approval of the Town and all appropriate State and Federal agencies.
    3. No site alteration shall adversely affect the existing surface water flow pattern, impact drainage of any other landowner, cause siltation of wetlands, pollution of downstream wetlands, or reduce the natural retention or filtering capabilities of wetlands.
    4. Stormwater management applies to all project categories articulated in the land development code.
    5. No person may subdivide or make any changes in the use of land or construct or reconstruct a structure or change the size of a structure or introduce illicit discharges to the Town's stormwater management system nor shall construction commence for any development until the drainage design for

such project has been approved by the Town and appropriate State and Federal agencies. The drainage design plans and calculations for the development shall be prepared, signed and sealed by a Florida registered professional engineer. The design shall equal or exceed design standards set forth hereinafter and shall also meet or exceed the design criteria, policies and procedures established by the St. Johns Water Management District, the Florida Department of Environmental Protection, the Florida Department of Transportation and any other local, State or Federal agency with appropriate jurisdiction.

6. Approval by the Town of the stormwater management plan for any development shall be contingent on receipt of written proof of approval of any required stormwater management permit from the St. Johns River Water Management District and any other applicable permitting agency. However, receipt by the Town of such written proof of approval will not result in automatic approval of the stormwater management plan by the Town.

B. Control of dust, dirt, erosion and construction site runoff
   1. The property owner or his agent shall acquire the necessary permits, if applicable, from the Florida Department of Environmental Protection (FDEP), the St. Johns River Water Management District (SJRWMD), the U.S. Army Corps of Engineers (ACOE), and the Florida Department of Natural Resources (FDNR).
   2. The property owner or his agent must implement and operate all erosion and sediment control measures required to retain sediment on-site and to prevent violations of applicable water quality standards. If construction is scheduled to occur within open water areas, turbidity curtains must be correctly placed to control sedimentation and turbidity within the water body.
   3. Erosion and sediment control best management practices shall be used during construction to retain sediment on site. Land which has been cleared for development and upon which construction will not begin within 30 days shall be protected from erosion and sedimentation by adequate methods acceptable to the Town. Wetlands and other water bodies shall not be used as sediment traps during or after development.
   4. As a general requirement, all areas under development shall have temporary erosion and sediment control devices in place at all times during the construction phase. Said devices shall provide the necessary treatment of runoff such that Federal and State surface water quality standards are not violated at any time. These devices shall be removed at the end of the project only after approval by the Town Engineer.
   5. Any construction project, regardless of location, shall be required to control construction site runoff to meet Federal and State surface water quality standards. Nothing herein shall prevent or preclude any State or Federal water quality enforcement agency from imposing penalties for violations of State or Federal law.

6. Any unauthorized or illicit discharges will be subject to enforcement pursuant to Town Code and as otherwise provided by law.
7. All projects shall have an approved erosion control plan on file with the Town. This plan shall be prepared by the appropriate design professional for the project or, as an alternative, by the licensed contractor whose name the building permit is under. As with all other site improvement or building permit documents, an approved copy of this plan shall be maintained at the jobsite for the duration of the project.
8. No work on the site shall commence prior to approval of the erosion control plan by the Town.
9. The erosion control plan shall include the placement and use of silt fences, swales, retention areas, hay bales, temporary grassing, turbidity barriers or other such devices as needed to prevent the transport of sediment from the site and into storm drains and waterbodies. Fill or runoff will not be allowed to encroach onto adjacent properties without the necessary easements.
10. The owner and contractor shall be responsible for adhering to these requirements and shall also be responsible for correcting any damage caused by the lack or improper use thereof. This shall include cleaning of storm inlets and pipes that become blocked, partially or fully, by debris, trash or sediment from a construction site.

C. Design Criteria
1. All development projects, unless specifically exempted, must provide for retention and/or detention of stormwater runoff.
2. The post-development peak rate of discharge must not exceed the pre-development peak rate of discharge for the 25-year, 24-hour storm.
3. Pollution abatement volume shall be in accordance with St. Johns River Water Management District criteria.
4. Approval of Final Plans for any development shall not be granted until the Town is in receipt of a copy of the St. Johns River Water Management District permit.
5. Projects shall be designed so that stormwater discharges meet, at a minimum, the water quality criteria set forth by the St. Johns River Water Management District in order to achieve the State water quality standards.
6. The stormwater management system shall not create an adverse impact to upstream or downstream areas. Off-site areas which discharge to or across a site proposed for development shall be accommodated in the stormwater management plans for the development. No stormwater management permit application shall be approved until the applicant demonstrates that the runoff from the project shall not overload or otherwise adversely impact any downstream areas.
7. The stormwater management system shall not cause adverse environmental impacts to wetlands, fish, wildlife, or other natural resources.
8. The minimum twenty-four-hour level of service standards for design storms by facility type shall be as follows:

a. Principal arterial bridges: 100 yr, 24 hr
b. Other bridges: 50 yr, 24 hr
c. Cross drains: 25 yr, 24 hr
d. Storm sewers: 10 yr, 24 hr
e. Detention/retention structures: 25 yr, 24 hr
f. Ditches, swales or culverts for stormwater external to developments: 25 yr, 24 hr
g. Ditches, swales, or culverts for stormwater internal to developments: 10 yr, 24 hr

9. The design storm frequency to be used for the design of pavement drainage shall be as follows:
   a. Arterial streets: Ten-year, hydraulic gradient line, 1.0 feet below gutter line.
   b. Collector and local streets: Ten-year, hydraulic gradient line, 0.5 feet below gutter line.
10. Design criteria for pollution abatement using retention or detention with filtration.
   a. The bottom of a required retention or detention-with-filtration pond shall be a minimum of three feet above the estimated seasonal high water table. Where this is not possible due to a high water table, underdrains will be installed with a minimum invert elevation of one foot below the pond bottom, along the entire perimeter of the pond unless a geotechnical engineer can show to the satisfaction of the Town Engineer that a lesser amount of underdrain can adequately control the high water table.
   b. Final design seepage rates will be determined by a geotechnical engineer. All necessary calculations to support the above shall be submitted to, and are subject to, the approval of the Town Engineer.

D. Design criteria of detention facilities to reduce peak rate of flow
   1. The detention pond will be sized to limit the peak rate of discharge from the developed site to that discharge generated prior to development. Supporting calculations shall be submitted and will contain, as a minimum, runoff hydrographs for the pre-developed site and the post-developed site, and a discharge hydrograph after routing through the proposed detention facility.
   2. All routing calculations to be submitted must consider the tailwater of the receiving facility. If the receiving facility is an existing storm sewer, the hydraulic gradient line elevation (HGL) of this receiving facility can be assumed at one-half foot below its gutter in elevation unless a detailed study of the existing system indicates otherwise.
   3. Credit for seepage to further reduce the peak rate of discharge will not be allowed unless accompanied by supporting documentation prepared by a geotechnical engineer. All detention ponds shall be dry within 72 hours following the storm event.

E. Design criteria where a positive outfall is not available

1. When a positive outfall is not available for stormwater discharge the on-site pond shall be designed to retain the 100-year storm event. The pond shall be designed to evacuate a daily volume equivalent to one inch of runoff from the total area contributing to the pond. The pond shall be dry within 11 days following the storm event. If geotechnical data certified by a geotechnical engineer is submitted showing that an 11-day drawdown is impossible to achieve, a specific Town Council waiver of this requirement will be required.
2. When the project discharges to landlocked lakes that have no positive outfall which are adjacent to properties of one ownership, on-site detention ponds shall be designed to accommodate the pollution abatement volume as required by the St. Johns River Water Management District from the developed site prior to discharge. The design engineer shall demonstrate to the satisfaction of the Town Engineer the magnitude and nature of any impact of runoff from the developed site upon the landlocked lake(s).
3. When the project discharges to landlocked lakes that have no positive outfall, which are adjacent to properties of more than one ownership, on-site detention ponds shall be designed to accommodate the 25-year, 96-hour storm. Post-development runoff rate and runoff volume shall not exceed pre-development runoff rate and volume. The design engineer shall demonstrate to the satisfaction of the Town Engineer the magnitude and nature of any impact of runoff from the developed site upon the landlocked lake(s).

F. Soil reports
   1. Soil reports indicating estimated seasonal high water table, permeability rate, and the classification of soils existing on the site and referenced in the stormwater calculations shall be submitted to the Town Engineer. Soils reports shall be prepared, signed and sealed by a geotechnical engineer registered in the State of Florida.

G. Stormwater discharges
   1. Storm drainage into natural water bodies shall be avoided except to convey runoff from an event exceeding the design storm, or as permitted by the St. Johns River Water Management District. Outfalls shall be designed to prevent bottom scour. Acceptable methods include use of an energy dissipator, or in the case of a lake, extending the outfall to discharge at a depth of ten feet or half the maximum depth of the lake, whichever is less.
   2. Should the proposed development area contain an existing natural watercourse, drainage way, channel, etc., such natural watercourse and the vegetation inherent therewith shall be maintained and the proposed development designed so as to preserve same. However, the use of such natural watercourse to carry runoff from any development may be permitted if provision for control of sediment in the excess runoff is made prior to entrance of the runoff to the natural watercourse.

H. Storm sewer design
   1. Design discharges.

a. Storm sewer system design is to be based upon a ten-year-frequency event. The system shall be designed to handle the flows from the contributory area within the proposed subdivision. Then, the system shall be analyzed a second time to ensure that any off-site flows can also be accommodated. This second analysis shall consider the relative timing of the on-site and the off-site flows in determining the adequacy of the designed system.

2. Minimum pipe diameter.
   a. The minimum diameter of pipe to be used in storm sewer systems is 15 inches. Designs shall be based upon six-inch increments in sizes above 18 inches.
3. Stormwater pipe material.
   a. Pipe of the following types, meeting the specified AASHTO and ASTM requirements are accepted by the Town for use in stormwater conveyance systems.
   b. Steel Reinforced Concrete – ASTM C76, ASTM C443
   c. High Density Polyethylene – AASHTO M294, ASTM D3350, ASTM F477STM
   d. Non-Asbestos Fiber-Cement – ASTM C1450, ASTM C443
4. Pipe grade.
   a. All storm sewers shall be designed and constructed to produce a minimum velocity of 2.5 fps when flowing full. No storm sewer system or portion thereof will be designed to produce velocities in excess of 20 fps, providing that the outlet ends have sufficient erosion protection and/or energy dissipaters.
5. Maximum lengths of pipe.

Table 8.04.05 (H) (5) The following maximum runs of pipe shall be used when spacing access structures of any type:

Pipe Size	Maximum length of pipe run
15 inches	200 feet
18 inches	300 feet
24 to 36 inches	400 feet
42 inches and larger	500 feet

6. Inlets, manholes, and junction boxes.
   a. All pipe access structures constructed to provide access to sanitary sewers, storm drains or similar facilities shall be constructed of Portland cement concrete, either poured-in-place or precast. No masonry structures will be

permitted except as necessary to connect to existing facilities and where prior approval of the Town Engineer has been obtained in writing.

b. All pipes shall extend through walls and be flush with inside wall. Paved inverts are required.

c. For all concrete structures, all fins and irregular projections shall be chipped off flush with the surface immediately following the removal of forms. All projecting wires and nails shall be cut off at least one-half inch under the surface. All construction and expansion joints in the completed work shall be left carefully tooled and free of mortar and concrete. Joint filler shall be left exposed for its full length, with clean edges. Mortar topping for upper horizontal surfaces shall not be used.

d. Masonry, when allowed, shall be constructed neatly. All surfaces shall be plastered with half-inch thick cement mortar composed of one part of Type I Portland cement and two parts sand, so as to prevent leakage. Plastered areas should not crack and should be properly prepared to bond to old surfaces.

Table 8.04.05 (H) (6) (d) Minimum manhole diameters for intersecting pipe sizes shall be as follows

Nominal Pipe Inside Diameter (inches)	Structure Inside Diameter (feet)
up to 30	4.00
30 to 48	6.00
Larger	Special design

e. Arterial and collector street inlets shall be spaced to prevent the spread of stormwater runoff from exceeding half of a travel lane width. Local and subdivision street inlets shall be spaced to prevent the spread of stormwater runoff from exceeding one inch above the crown of the road.

f. The maximum allowable gutter run will be 1,200 feet on streets with standard curb and gutter, and 600 feet on streets where Miami curbs and gutters are used.

7. Design tailwater.

a. All storm sewer systems shall be designed taking into consideration the tailwater of the receiving facility. In the case where the detention pond is the receiving facility, the design tailwater level can be estimated from the information generated by routing through the pond the hydrograph resulting from ten-year frequency storm of duration equal to that used in designing the pond.

b. The design tailwater level can be assumed to be the ten-year pond level corresponding to the time at which peak inflow occurs from the storm sewer into the pond. In lieu of the above detailed analysis, however, a simpler design tailwater estimate can be obtained by averaging the established 25-year design high-water elevation for the pond and the pond bottom elevation for "dry bottom" ponds or the normal water elevation for "wet bottom" ponds.

8. Hydraulic gradient line computations.
   a. The hydraulic gradient line for the storm sewer system shall be computed taking into consideration the design tailwater on the system and the energy losses associated with entrance into and exit from the system, friction through the system, and turbulence in the individual manholes/catch basins/junctions within the system.
   b. Hydraulic grade line computations shall take into account entrance and exit losses; friction losses; and the minor losses associated with inlets and manholes. The tailwater of the receiving water body shall be taken into consideration.
9. Stormwater conveyance.
   a. Sites shall be developed to maximize the amount of overland runoff that is percolated into the soil and to minimize direct runoff into adjoining streets and water courses.
   b. Stormwater runoff from roofs and other impervious surfaces shall be diverted into swales or similarly controlled. Storm sewers shall be designed to convey the runoff generated during a 10-year storm event.
10. Unstabilized earthen open channels and outfall ditches are not permitted.
    a. Whenever land within 200 feet of the mean high water line (as established by the USGS) of a lake is developed, terraces sloping away from the lake, a tree line, or alternatives approved by the Town Engineer shall be provided to minimize stormwater runoff into the lake and to maximize groundwater recharge.

I. Treatment of stormwater runoff
   1. Stormwater management systems shall include best management practices used in the industry to minimize pollution and remove oil, suspended solids, and other objectionable material in stormwater runoff within acceptable limits.
   2. Treatment facilities shall be designed by a Florida registered engineer to the stricter applicable design and performance criteria established by this Code or the St. Johns River Water Management District. Additionally, the Florida Department of Environmental Protection Manual, and the Florida Development Manual, A Guide to Sound Land and Water Management, including the requirements of Chapter 6 thereof, shall be used as best management practices.
   3. All percolation areas shall be grassed or planted with suitable vegetation to absorb excess nutrients.

4. Diversion structures are preferred for positive outfall systems. Other innovative designs features or materials may be appropriately incorporated into the design of primary and secondary systems with supporting documentation and the approval of the Town Engineer.
5. All stormwater management systems shall be of low maintenance design. It is the property owner's responsibility to maintain all primary and secondary drainage facilities on site.
   a. Stormwater ponds:
      1. All stormwater retention/detention ponds shall be fenced unless they can meet one of the following conditions:

Table 8.04.05 (I) (5) (a) (1) Minimum manhole diameters for intersecting pipe sizes shall be as follows

Maximum Side Slopes	Maximum Excavation Depth
2H : 1V	2’
3H : 1V	3’
5H : 1V	5’
6H : 1V	6’ or greater

      2. Ponds graded at 5H:1V or 6H:1V may be deeper than shown above and remain unfenced ONLY if the 5H:1V or 6H:1V slope is carried not less than two (2) feet below the lower of the control elevation or the normal water elevation.
      3. All required fencing shall be of a decorative type and shall be in keeping with the required buffer treatments, character, and/or architecture of the project.
      4. Ponds shall be configured in a curvilinear manner to create more of a natural looking feature. Ponds constructed on slopes will be evaluated on a case-by-case basis.
      5. The minimum bottom width and/or length of any pond shall be four feet.
      6. All ponds shall have a minimum one foot of freeboard to the design high water resulting from the design storm.
   b. The minimum requirements for maintenance berms are as follows:
      1. Ponds with fencing: Ten feet around pond perimeter inside the fence. Maximum side slope no greater than 10H:1V.
      2. Ponds without fencing: Five feet around pond perimeter.
      3. Maximum side slope no greater than 5H:1V.
6. Road underdrains
   a. In cases where there is a prevalence of soils that exhibit adverse water table characteristics, underdrains and/or fill or other acceptable alternatives that will provide necessary measures to maintain the structural

integrity of the road will be required. The determination of need shall be made by reference to certified geotechnical investigations prepared as part of the project design data submitted to the Town.

b. Wherever road construction or lot development is planned in areas of the proposed subdivision having soil types with unacceptable water table characteristics, underdrains and/or fill shall be provided and shown on the engineering plans. Underdrains must be designed with free gravity outlet at carefully selected discharge points. Erosion control measures shall be provided as needed at all discharge points.

c. Wherever road cuts in otherwise suitable soils indicate that the finish grade will result in a road-surface-to-water-table relationship that is unacceptable to the Town Engineer, underdrains or other acceptable alternatives approved by the Town Engineer to provide measures to maintain the structural integrity of the road will be required.

d. Wherever roadway construction reveals unexpected water bearing strata that could cause deterioration of the pavement, underdrains or other acceptable alternatives approved by the Town Engineer to provide measures to maintain the structural integrity of the road will be required even though not shown on the plans.

e. Filtering media shall conform to the appropriate Florida Department of Transportation standard and consist of stone, gravel, or slag and shall contain no friable materials.

f. Underdrain pipe shall be HDPE perforated pipe fully encased in a tubular filter fabric "sock", with both the pipe and the filter fabric "sock" meeting applicable AASHTO and ASTM standards for pipe intended for subsurface drainage applications.

J. Development within special flood hazard area (100-year flood)

1. All development within areas of special flood hazard as delineated on the official flood insurance rate maps (FIRM) shall comply with the following requirements:

a. Establish, to the satisfaction of the Town Engineer, the elevation of the 100-year flood.

b. Finished floor slab elevations of all habitable structures shall be constructed at an elevation no less than 20 inches above the 100-year storm elevation, unless approved by the building division; in no instance, however, may the finished floor slab elevation be less than one foot above the 100-year storm elevation.

c. Development shall not result in an increase in the 100-year flood elevation. No fill shall be allowed to be placed in the 100-year floodplain without an equivalent volume of soil removed to compensate for the loss of flood storage. Compensating storage is to be determined by the volume of material removed above the ordinary high water table and below the 100-year flood elevation established for that area. Fill placed in the 100-year floodplain shall not reduce the flow rate.

d. Any proposed alteration of floodways or floodplains must be approved by all agencies which have jurisdiction over such activities.

K. Stormwater quality

1. Every use shall be so operated as to prevent the discharge into any storm sewer, stream, canal, lake, waterbody or the ground of any sewage, waste or unapproved substance which will be considered dangerous or discomforting to persons or animals or which will damage plants or crops beyond the lot line of the property on which the use is located.
2. Allowed discharges: The following is a list of substances allowed to discharge into the Town's storm sewer system provided they are not identified as a source of pollutants to any receiving waterbody:
   a. Water line flushing.
   b. Rising ground waters.
   c. Uncontaminated pumped ground water.
   d. Discharges from potable water sources.
   e. Air conditioning condensate.
   f. Irrigation water.
   g. Water from crawl space pumps.
   h. Footing drains.
   i. Individual residential car washing.
   j. Dechlorinated swimming pool discharges.
   k. Street wash waters.
   l. Discharges or flows from emergency firefighting activities.
   m. Reclaimed water line flushing authorized pursuant to a permit issued by the Town.
   n. Flows from uncontaminated roof drains.
   o. All other non-storm substances discharged into the Town's storm sewer system are to be considered illicit discharges that would pose a threat to the health, safety and welfare of the public and are hereby prohibited. Any unauthorized or illicit discharges will be subject to enforcement as set forth in the Town's Charter, Code of Ordinances or as otherwise specified by law.

L. Inspections

Subsequent to development approval, including necessary permits, the developer or permittee shall, during construction, arrange and schedule the following inspections by the Town Engineer or designee:

1. During clearing operation and excavation to assure that effective control practices relative to erosion and sedimentation are being followed.
2. All underground conveyance and control structures prior to backfilling.
3. Final inspection when all systems required by the permittee's approved stormwater management plan have been installed.
4. The professional engineer for the project shall submit to the Town a signed and sealed set of as-built plans on paper and on electronic media in AutoCad drawing file (PDF format), to certify the system has been constructed as

designed and satisfies all conditions of the stormwater management permit. Where changes have been made to the stormwater management system which deviates from the approved construction plans, the professional engineer shall submit supporting documentation with the as-built plans which proves that the stormwater systems shall be in compliance with this section.

5. Maintenance and compliance inspections of stormwater management systems shall be conducted on a routine, periodic basis, as deemed appropriate by the Town, or as complaints arise concerning the system. By seeking and obtaining a permit under this section, the operator and owner shall be deemed to have consented to inspections by the Town and other appropriate regulatory agencies or Town Engineer or designees upon presentation of proper identification by the representative(s) of the agency(s) conducting the inspection.

M. Maintenance

Prior to the acceptance of the stormwater management system, a written stormwater management system maintenance plan shall be submitted to the Town which shall contain documentation sufficient to demonstrate that the operation and maintenance agency is the legal entity empowered and obligated to perpetually maintain the stormwater management facilities.

1. The Town considers the following entities acceptable to operate and maintain stormwater management facilities:
   a. Governmental agencies including the Town, County, and State.
   b. Active water control districts or drainage districts, or Community Development Districts, or Special Assessment Districts.
   c. Nonprofit corporations including homeowners' associations, property owners' associations, condominium associations, or master associations under certain conditions which ensure that the corporation has the financial, legal, and administrative capability to provide for the long-term operation and maintenance of the facilities.
2. The property owner or developer as permittee is normally not acceptable as a responsible entity, especially when the property is to be sold to various third parties. However, the property owner or developer may be acceptable under one of the following circumstances:
   a. The property is wholly owned by permittee and the ownership is intended to be retained. This would apply to a farm, corporate office, or single industrial facility, for example.
   b. The ownership of the property is retained by the permittee and is either leased or rented to third parties (such as in some shopping centers), for example.
3. The stormwater management system to be maintained by the legal entity shall have adequate easements to permit the Town to inspect and, if necessary, to take corrective action should the legal entity fail to maintain the system properly. The owner shall be liable to the Town for any costs or expenses

incurred by the Town in taking the necessary corrective action plus ten percent (10%) for an administrative fee.

4. Maintenance of stormwater facilities shall allow the stormwater management system to perform as originally designed and permitted by the Town and other appropriate governmental agencies.
5. Maintenance shall include compliance with Town building and construction codes, and all other applicable Town codes. No owner or successor shall remove, destroy, modify, subvert or render inoperable, through act or omission, any part of a stormwater system unless approved by the Town Engineer and appropriate governmental agencies in writing in advance of any alteration.
6. The legal entity shall execute and record a document acceptable to the Town attorney which defines its authority and responsibility for maintenance of the stormwater management system, defines how the maintenance is to be performed, defines the funding mechanisms for the required maintenance, and provides a legal mechanism assuring the perpetuation of the maintenance.
7. In order to assure maintenance during a two-year maintenance period, security shall be submitted before acceptance of the constructed facilities. The security shall be in the form of an approved financial instrument which may include, but not be limited to, cash or performance bonds and letters of credit. The amount of security shall be as required by the Town. The security shall be released at the end of the two-year period upon inspection which confirms that the system has been properly maintained and is operating in accordance with the approved construction plans.
8. If inspection reveals that the legal entity is not maintaining the system in accordance with this section, the Town shall give the legal entity written notice of the corrective actions required to be taken. If the legal entity fails to complete such corrective action within 30 days after notification, the Town may enter upon the property and take the necessary corrective action.

N. Enforcement

If the Town Engineer determines that the project is not being carried out in accordance with the approved plan or if any project subject to this chapter is being carried out without a permit or if illicit discharges are being introduced to the Town's stormwater management system, he is authorized to:

1. Issue written notice to the applicant/owner specifying the nature and location of the alleged noncompliance, with a description of the remedial actions necessary to bring the project into compliance by a date as determined by the Town Engineer, but in no event more than seven (7) days.
2. Issue a stop work order directing the applicant/owner or person in possession to cease and desist all or any portion of the work which violates this chapter. If the remedial work is not completed within the specified time, the applicant/owner shall then bring the project into compliance.

8.05.00 OTHER UTILITIES

8.05.01 Exterior Lighting

Exterior lighting shall provide adequate illumination to safely guide vehicles and pedestrians into, out of, and within a site. Exterior lighting shall also serve to deter certain crimes. Exterior lighting shall be arranged to eliminate glare on site and spillover onto adjacent properties and public streets.

A. Street Lighting

1. Street lighting on both public and private streets shall be installed by the developer in coordination with the appropriate provider and in accordance with the requirements of this Code. All such street lighting must be installed at the developer's expense contemporaneous with the construction of site improvements and prior to issuance of a Certificate of Completion. All such street lighting shall become operational no later than the request for issuance of a Certificate of Completion. All utilities shall be installed underground. The street lighting plan shall comply with all applicable Code requirements and shall be subject to the approval of the Town Engineer prior to installation.
2. All developments shall provide for installation of streetlights in conjunction with the construction of new roadways or reconstruction or widening or initial paving of existing roads in accordance with the following standards. For roads under Lake County or State jurisdiction, alternate lighting plans may be required.
3. Proposed street lighting along these rights-of-way must be submitted as part of the Final Plan set and reviewed and approved by the utility provider and the Town or agency with jurisdiction of the roadway. All electrical wiring for streetlights shall be underground. The developer will need to check with the Town to obtain information on the approved street lighting fixtures.
4. Each lighting plan submitted to the Town shall, at a minimum, depict the following:
    a. Location of lighting fixtures
    b. Height of light poles
    c. Type of lighting fixtures
    d. Levels of illumination
    e. Color of light
    f. Deflector and beam direction
    g. Area to be lighted by each lighting fixture
5. The following provisions are applicable to street lighting installed on local streets within new residential subdivisions:
    a. The developer shall be responsible for the installation, maintenance, repair, replacement and operational costs of street lighting installed on public streets until the end of the calendar year in which the Town receives written notice from the developer that certificates of occupancy have been issued for buildings constructed on seventy-five percent (75%)

of the lots in the subdivision which is the subject of the Certificate of Completion which includes such street lighting.

b. Beginning with the calendar year following such notice, the Town shall be responsible for the maintenance, repair, replacement and operational costs of such street lighting, except for specialized street lighting which is subject to a separate agreement with the Town. The Town shall assume responsibility as aforesaid only for standard street lighting costs on public streets. The written notice from the developer regarding issuance of certificates of occupancy is subject to verification by the Town for accuracy.

c. At the time of the pre-construction conference, the developer shall (1) advise the Town regarding the type of street lighting to be installed, and (2) based upon the billing estimate received by the Town from the power company with respect to the proposed street lighting, pre-pay to the Town the street lighting costs (including charges related to specialized street lighting, if applicable) for the first year (i.e., 12 months) for all such street lighting installed on public streets and the Town shall use such funds for the payment of street lighting invoices received from the power company. Thereafter, the Town shall annually invoice the developer in advance for said street lighting costs until such time as the Town receives written notice from the developer that certificates of occupancy have been issued for seventy-five percent (75%) of the lots in the subdivision as set forth above. If such invoice is not paid when due, then the Town shall discontinue the issuance of further building permits for such subdivision until payment is made. The Town will forward any such future invoices to a homeowners' association upon receipt of written notice from the developer that the responsibilities for the payment of such invoice (including charges related to specialized street lighting, if applicable) has been transferred to such association and satisfactory evidence, in recordable form, indicating the homeowners' association has agreed to assume such costs. Currently, the Town does not receive itemized invoices from the power company for street lighting installed on public streets and, therefore invoices to the developer or association are based on estimated costs. The developer/association shall not be entitled to a refund for prepaid street lighting costs incurred during the calendar year in which the Town receives written notice from the developer that certificates of occupancy are issued for seventy-five percent (75%) of the lots in the subdivision.

d. If a developer has installed specialized street lighting on a public street, then in such event the developer, the applicable homeowners' association and the Town shall, prior to or at the time of approval of the first plat, enter into an agreement acceptable to the Town which provides that commencing at the time the Town becomes responsible for the standard street lighting costs on such public street the developer and/or the

association shall reimburse (and shall continue to reimburse) the Town for the additional costs above the standard street lighting costs thereafter incurred by the Town in connection therewith plus an administrative charge equal to ten percent (10%) of the additional costs. Nothing contained herein shall be construed to prevent the homeowner association from entering into such agreement during the time it is controlled by the developer.

e. Any annual invoices for payment of public street lighting shall be due and payable thirty (30) days from the date of such invoice. Should payment not be received within said time frame, then such invoices shall bear interest at the rate of eighteen percent (18%) per annum until paid. If any such invoice remains unpaid for a period of sixty (60) days, then the Town may take any action deemed necessary in order to collect such unpaid invoice, including but not limited to, the retaining of the services of a collection agency or attorney, and initiating legal proceedings for collection thereof. In such event, the Town shall be entitled to receive its reasonable attorney's fees, paralegal fees and other costs and expenses, whether incurred prior to, during, or subsequent to court proceedings or on appeal.

f. The developer shall be responsible for the installation, maintenance, repair, replacement and operational costs of street lighting installed on private streets. The developer shall directly contract with the power company regarding such street lighting. The obligations of the developer under this subsection may be transferred to and assumed by the applicable homeowners' association. The Town shall have no responsibility for the installation, maintenance, repair, replacement and operational costs of street lighting installed on private streets.

B. Lighting of Parking Lots and Vehicular Use Areas

1. Lighting of parking lots and other vehicular use areas shall be at the minimum necessary to provide adequate lighting for safety, while ensuring that the fixtures do not permit lighting to spill over onto adjoining properties.
2. All developers shall submit lighting plans in conjunction with the Final Plan submittal. Each lighting plan for parking lots and vehicular submitted to the Town shall, at a minimum, depict the following:
   a. Location of lighting fixtures
   b. Height of light poles
   c. Type of lighting fixtures
   d. Levels of illumination
   e. Color of light
   f. Deflector and beam direction
   g. Area to be lighted by each lighting fixture
3. Lighting plans are subject to review and approval by the Town. All costs associated with lighting of these areas are the responsibility of the property owner.

C. Other Exterior Lighting
It is the policy of the Town to permit adequate exterior lighting for safety and use purposes, while ensuring that exterior lighting does not spill over onto adjacent properties. For developments that require exterior lighting for outdoor recreation or other purposes, the lighting plans shall be included as part of the Final Plan submittal package. No exterior lighting shall be installed without prior approval of the Town. All such exterior lighting shall be the responsibility of the property owner.

8.05.02 Underground Utilities

A. Utility lines of all kinds, including but not limited to those of franchised utilities, electrical power, telephone, cable television, and gas, shall be constructed and installed beneath the ground in the street right-of-way and/or a front yard utility easement within new developments.
B. The underground installation of appurtenances such as transformer boxes, pedestal-mounted service or terminal lines for electricity, telephone, cable television, or gas service, or similar service hardware necessary for the provision of electric, telephone, cable television, and gas service, shall not be required; provided, however, such appurtenances may be installed underground at no cost to the Town.
C. It shall be the developer's responsibility at the developer's expense, to make the necessary arrangements with each utility in accordance with the utility's established policies.

8.06.00 ENVIRONMENTAL PRESERVATION AND PROTECTION

8.06.01 Vegetation and Soil Protection

A. Purpose and Intent. The purpose of this section is to prohibit the destruction of natural vegetation and the changing of natural grades and drainage problems until a development order or development permit has been approved. Additionally, this section provides for protective measures for both vegetation and soils to be implemented prior to construction.
B. Required Vegetation Preservation. The following preservation measures shall be implemented on all construction sites as applicable:
    1. Clearing Procedures. The applicant shall be responsible for insuring that all possible measures are taken during the clearing process to avoid damage to trees and vegetation designated to remain after construction. This shall include use of hand labor rather than large machinery where necessary to protect trees to be preserved. All felled material shall be promptly and carefully removed from the site in order to avoid potential damage to remaining trees and vegetation and the harboring of insects, snakes, and rodents.
    2. Protective Barricades. Protective barricades shall be constructed (prior to clearing) around all trees and vegetation designated to remain. These

barricades shall be located at the dripline of the trees or vegetation and shall specifically be comprised of orange netting together with four foot (4'), 2-by-2 posts. Where this cannot reasonably be accomplished, the applicant will locate the barricade as close to one (1) foot away from the tree trunk for every diameter at breast height (DBH) inch as is practical or reasonable, when approved by the Town Engineer or his or her designee. The barricade should be rigid and sturdy enough to survive the construction period, however, any suitable new or scrap material may be used in its construction. With the approval of the Town Engineer or his or her designee, large wooded areas may be tagged or similarly designated instead of barricaded.

a. Absolutely no fill, building materials, trash, or other objects shall be placed inside these barriers. If fill is deposited adjacent to these areas, a suitable temporary or permanent retaining structure shall be constructed to prevent siltation of the barricaded area.
b. Barricades are to be adequately maintained and shall remain in place until their removal or modification is approved in writing. Failure of the applicant to properly locate and/or maintain the barricade may result in the issuance of a Stop Work order, and the requirement that the applicant provide a restoration plan to the Town Engineer or his or her designee.

3. Excavations. Swales and minor negative grade changes should always be designed around the dripline area as much as possible. Any exposed roots shall be trimmed. Piping should be used where deep swales or ditches would require significant grade change adjacent to trees.
4. Trenching. Trenching of any type should be avoided in the dripline area. Where underground installations are required adjacent to the trunks of specimen trees, tunneling should be used. When trenching or tunneling near trees to remain, protective measures should be taken.

C. Required Soil Conservation. The following soil conservation measures shall be taken on all construction sites as required.
1. During Construction. The contractor shall follow standard practices or details specifically included in his environmental permit to prevent erosion and the depositing of soils off the construction site. These practices shall include the protection of bare soils from wind forces and stormwater.
2. After Construction. All disturbed areas shall be mulched, seeded, or sodded to restore the original vegetation as required by the permit-issuing authority, and shall be maintained as such. The removal or lack of maintenance of vegetation resulting in on-site and/or off-site erosion (sedimentation or siltation or both) or wind-blown loss of soils shall be deemed a violation of this section.

8.06.02 Disposal of Debris

The burying of rubbish, logs, lumber, building materials, underbrush, trash or other matter which would decompose or allow the land to thereafter settle is hereby prohibited.

8.07.00 OPEN SPACE

8.07.01 General

A. Open space is required of all new development. Open space may consist of buffers, stormwater ponds, public and private park areas, wetlands, and other pervious area that is set aside for conservation or is to be left undeveloped.
B. For stormwater ponds to be counted as open space, they must be designed as an amenity in addition to their primary function as a stormwater facility. The features that are required for stormwater park amenities include landscaping, pedestrian paths or trails, picnic areas, and other activities of a more passive nature. For wet ponds, aeration and aquatic plants are also required.

8.08.00 SCREENING STANDARDS

A. Service areas visible from a public right-of-way or abutting properties shall be screened by a combination of landscape and hardscape. This may include berming or walls in combination with landscaping.
B. Solid waste refuse facilities shall be screened by a six-foot wall with a decorative face (brick, stucco, or stone). Such walls shall screen the refuse receptacle on three sides with the access side oriented towards the interior of the site and away from areas visible to abutting properties. The access side of the storage area shall be equipped with opaque doors or gates.
C. Utility fixtures, ventilation equipment, and mechanical equipment, when outside a structure, shall be screened with walls, fences, dense plant material, or a combination thereof.

8.09.00 APPEALS PROCEDURE

Any applicant may appeal a decision of any Town consultant or employee in the enforcement or interpretation of this Chapter or LDC. The appeal shall be filed within 60 days from the date of a DRC report or other consultant or employee decision. Upon filing the appropriate application and payment of an appeal fee set by resolution of the Town Council, the Town Clerk shall process such appeal. The Board of Adjustment, by a majority vote, may affirm, reverse, or modify the decision.