NOTICE AND AGENDA
Apple Valley Utah
Work Meeting

Public notice is given that the Planning Commission of the Town of Apple Valley, Washington County, Utah will hold a **Work Meeting** on **Wednesday, August 21, 2019** at the **Apple Valley Town Hall**, 1777 N. Meadowlark Dr., Apple Valley, Utah, commencing at 6:15 PM or shortly after the Regularly Scheduled Town Council Meeting. In accordance with state statute, one or more members may be connected via speakerphone.

The Agenda for the meeting is as follows:

Call to Order/ Pledge of Allegiance/ Roll Call

Workshop Items:

A. Town Code 10.26 "Outdoor Lighting"
B. Town Code 10.28.100 "Parking Requirements of Private Recreational Vehicles in Residential Zones"
C. Land Use Code 10.28.230 "Accessory Buildings and Accessory Uses General Requirements"
D. General Plan Legend and Definitions

Adjournment

CERTIFICATE OF POSTING: I, Michelle Kinney, as duly appointed Recorder for the Town of Apple Valley, hereby certify that this notice was posted on the Utah Public Meeting Notice website http://pmn.utah.gov, the Town Website www.applevalleyut.gov on the **16th day of August, 2019**.

Dated this 16th day of August, 2019
Michelle Kinney, Recorder
Town of Apple Valley

THE PUBLIC IS INVITED TO PARTICIPATE IN ALL COMMUNITY EVENTS AND MEETINGS
In compliance with the American with Disabilities Act, individuals needing special accommodations (Including auxiliary communicative aids and services) during this meeting should notify Michelle Kinney at 435-877-1190.

10.26 Outdoor Lighting

10.26.010 Purpose

Outdoor lighting at night benefits everyone. It increases safety, enhances the Town's nighttime character, and helps provide security, as well as energy efficiency. New technologies have produced lights that are extremely powerful. If installed improperly, such lights create excessive glare, light trespass and pollute the night sky, and higher energy use which in turn may cause safety problems and increased cost for everyone. There is a need for a lighting ordinance that recognizes the benefit of the outdoors lighting and provides clear guidelines for its installation to maintain and complement the Town's character. Appropriately regulated and properly installed outdoor lighting will contribute to the safety and welfare of the residents of the town.

HISTORY
Adopted by Ord. 2019-09 on 6/12/2019

10.26.020 Scope And Applicability

A. All exterior outdoor lighting installed after the effective date of this ordinance in any and all zones in the town shall conform to the requirements established by this Ordinance and other applicable ordinances unless otherwise exempted. This Ordinance does not apply to indoor lighting.

B. Law governing conflicts. Should this ordinance be found to be in conflict with any provisions of Federal, State, County, or Town statutes, codes, or other sections of the Town Ordinances, the more restrictive shall govern unless otherwise required by law.

HISTORY
Adopted by Ord. 2019-09 on 6/12/2019

10.26.030 Conformances With Applicable Codes

All outdoor electrically powered illuminating devices shall be installed in conformance with the provisions of the Apple Valley Town Ordinances, including but not limited to the Building Code, the Electrical Code and the Sign Code under appropriate permit and inspection.

HISTORY
Adopted by Ord. 2019-09 on 6/12/2019

10.26.040 Regulations

All public and private outdoor lighting installed in the Town of Apple Valley shall be in conformance with the requirements established by this Ordinance. Including Parking lots and Single Family Homes, All previous language in the Apple Valley Town Codes regarding outdoor lighting is replaced with this Ordinance.

A. Control of Glare / Design Factors

1. Any luminaries with a lamp rated at a total of MORE than 1800 lumens, and all flood or spot luminaries with a lamp or lamps rates a total if MORE than 900 lumens shall not emit any direct light above a horizontal plane through the lowest direct-light-emitting part or the luminaries.
2. Any luminaries with a lamp or lamps rate at a total MORE than 1800 lumens, and all flood or spot luminaries with a lamp or lamps rated at a total of MORE than 900 lumens, shall be mounted at a height equal to or less than the value 3 + (D/3), where D is the distance in feet to the nearest property boundary. The maximum height of the luminaries may not exceed 25 feet.

B. Exceptions to Control of Glare

1. Any luminaries with a lamp or lamps rated at a total of 1800 lumens or LESS and all flood spots luminaries with a lamp or lamps rated at 900 lumens or LESS may be used without restriction on light distribution or mounting heights, except that is any spot or flood luminaries rated 900 lumens or LESS is aimed, directed, or focused such as to cause direct light from the luminaries to be directed toward residential buildings or adjacent or nearby land, or creates glare perceptible to persons operating motor vehicles on public right of ways, the luminaries shall be redirected or its light output controlled as necessary to eliminate such conditions.
2. Luminaries used for public roadway illumination may be installed at a maximum height of 34 feet and may be positioned at that height up to the edge of any bordering property.
3. Luminaries used primarily for sign illumination and property illumination may be mounted at any height to a maximum of 25 feet, regardless of the lumen rating.

C. Outdoor Advertising

1. Lighting fixtures used to illuminate an outdoor advertising sign shall be mounted on the top of the sign structure. All such fixtures shall comply

with the shielding requirements of subsection B,1 Bottom-mounted outdoor advertising sign lighting shall not be used.

2. Outdoor advertising signs of the type constructed of translucent materials and wholly illuminated for within do not require shielding. Dark backgrounds with light lettering or symbols are preferred to maximize detrimental effects. Unless conforming to the above dark background preference, total lamp wattage per property shall be less that 41 watts.
3. Compliance Limit. Existing outdoor advertising structures shall be brought into conformance with this ordinance when it becomes necessary to make major repairs (NEW PERMIT) to the signage or within 10 years from date of this provision.

D. Recreational Facilities

1. Any light source permitted by this Ordinance may be used for lighting of outdoor recreational facilities (public or private), Such as but not limited to, football fields, soccer fields, baseball fields, softball fields, tennis courts, or show areas, provided all of the following conditions are met:
    a. All fixtures used for the event lighting shall be fully shielded as defined in subsection B,1 of this Ordinance, or be designed or provided with sharp cut-off capability so as to minimize up-light, spill-light, and glare. Pole height will not exceed 25 feet.
    b. All events shall be scheduled so as to complete all activity before or as near to 10:30 p.m. as practical, but under no circumstance shall any illumination of the playing field, court, or track be permitted after 11:00 p.m. Except to conclude a scheduled event that was in progress before 11:00 p.m. and circumstances prevented concluding before 11:00 p.m.

E. Parking Area Lighting Low pressure or high pressure sodium light sources are the only allowed light source for Parking Areas with five (5) or more spaces. Lighting fixtures affixed to buildings for the purposes of lighting Parking Areas shall be prohibited. Light levels should be designed with minimum light trespass off site by using cut off Luminaries that are Fully Shielded with no light distributed above the horizontal plane of the Luminaire.

1. Maximum Light Distribution. For uniformity in lighting and prevention of shadows, an average horizontal luminance level of two (2) Foot Candles with a 4:1 Uniformity Ratio over the Site is the Maximum allowed.
2. Pole Height / Wattage / Design. Luminaries mounting height must be measured from the Parking Lot or Driveway surface, in the range of twelve feet (12') to twenty feet (20') as determined by the Planning Commission. The maximum height shall only be allowed at the review and approval with specific findings. The determination shall be based on:

a. review of the Site plan,

b. proposed land uses,

c. surrounding land uses,

d. Parking area size,

e. Building mass,

f. Location of the site with respect to other lighting sources,

g. Impact on the adjacent properties,

h. Topography of the site, and

i. Other site features. Light poles higher than sixteen feet (16') are appropriate only for parking areas exceeding two hundred (200) stalls and not in close Proximity to residential areas.

3. Parking Area Wattage / Design Standard.

    a. Luminaries for twelve foot (12') to sixteen foot (16') poles must not exceed fifty (50) watts per fixture or 105 watts per pole.

    b. Luminaries for eighteen foot (18') and twenty foot (20') poles must not exceed seventy-five (75) watts per fixture or 150 watts per pole.

    c. All attempts shall be made to place the base of light poles within landscaped areas.

4. Underground Parking Garage entryways. Light sources within the first thirty feet (30') of an open garage entryway must be high pressure sodium light sources with partially shielded fixtures.

5. Submission Requirements. An application for Development with off street parking must contain the following.

    a. Plans indicating the location on the premises, and the type of illumination devices, fixtures, lamps, supports, reflectors, installation and electrical details.

    b. Description of illuminating devices, fixtures, lamps, supports, reflectors, and other devices, that may include, but is not limited to, manufacture catalog cuts and drawings, including section where required.

    c. Photometric data, such as that furnished by manufacturers or similar showing the angle of the cut off or light emission. A point by point light plan may be required to determine the adequacy of the lighting over the site.

6. Non-conformance. All operable outdoor light fixtures lawfully installed, that do not meet these lighting requirements, are considered to be non-conforming fixtures. The applicant must bring such fixtures into compliance with the code with any exterior building permit. On residential structures, only new exterior fixtures on remodels or new additions must comply with these requirements.

F. Prohibitions

1. Laser Source Light. The use of laser source light or any similar high intensity light for outdoor advertising or entertainment, when projected above the horizontal is prohibited.
2. Flashing, blinking, intermittent or other lights that move or give the impression of movement are prohibited.

G. Exemptions The following shall be exempt form the requirements of this Ordinance.

1. Holiday lighting SOME COMMUNITIES SET A TIME FRAME LIKE OCT 1 - MARCH 1 YOUR CHOICE
2. Traffic control signals and devices
3. Temporary emergency lighting in use by law enforcement, fire departments, government agencies, or other emergency services, including all vehicular luminaries.
4. All hazard warning luminaries required by federal regulatory agencies are exempt form the requirements of this ordinance, except that all luminaries used must be red and must be shown to be as close as possible to the federally required minimum lumen output required for the specific task.

H. Temporary Outdoor Lighting Any temporary outdoor lighting that conforms to the requirements of this Ordinance shall be allowed. The Planning Commission may permit Nonconforming temporary outdoor lighting after considering

1. The public and /or private benefits that will result from the temporary lighting.
2. Any annoyance or safety problems that result from the use of the temporary lighting

3. The duration of the temporary nonconforming lighting.

   The applicant shall submit a detailed description of the proposed temporary nonconforming lighting to the planning Commission, which shall consider the request at duly called meeting of the planning commission. Prior notice of the meeting of the planning commission shall be given to the applicant. The planning Commission shall render its decision on the temporary lighting request within two weeks of the date of the meeting.

HISTORY
Adopted by Ord. 2019-09 on 6/12/2019

10.26.050 Effective Date And Nonconforming Luminaries

A. This Ordinance shall take place effective immediately upon approval by the Town Council and shall supersede and replace all previous ordinances pertaining to outdoor lighting.

B. All Luminaries lawfully in place prior to the date of this Ordinance shall be nonconforming. However, any luminaries that replace nonconforming 159 luminaries, or any nonconforming luminaries that is moved, must meet the standard of this ordinance. Advertising signs that are nonconforming only for a period of ten years, as specified in AVLU 10.26.040 C,3

C. This ordinance does not recognizes permanent nonconforming lights. All operable outdoor light fixtures lawfully installed, that do not meet these lighting requirements, are considered to be non-conforming fixtures. The applicant must bring such fixtures into compliance with the code with any exterior building permit. On residential structures, only new exterior fixtures on remodels or new additions must comply with these requirements.

D. Nonconforming luminaries that direct light toward streets or parking lots that cause disability glare to motorist or cyclist shall be either shielded or redirected within 90 days of notification of the Property Owner, so that the luminaries do not cause a potential hazard to motorist or cyclists.

HISTORY
Adopted by Ord. 2019-09 on 6/12/2019

10.26.060 New Subdivision Constructions

A. Submission Content: The applicant for any permit required by any provision of the laws of this jurisdiction in connection with the proposed work involving outdoor lighting fixtures shall submit (as part of the application for permit) evidence that the proposed work will comply with the Ordinance. The submission shall contain but shall not necessarily be limited to the following, all or part of

which may be part or in addition to the information required elsewhere in the law of this jurisdiction upon application for the required permit.

1. Plans indicating the location on the premises and the type of illuminating devices, fixtures, lamps, supports, reflectors, and other devices.
2. Description of the illuminating devices, fixtures, lamp supports, reflectors, and other devices. Submission may include catalog cuts by manufacture and drawing.
3. Photo data, such as the furnished by manufactures, or similar data showing the angle of cut off or light emissions.

B. Additional Submission: The above required plans; descriptions and data shall be sufficiently complete to enable the plan examiner to readily determine whether compliance with the requirements of this ordinance will be secured. If such plans, descriptions and data cannot enable this ready determination by reason of the nature or configuration of the devices, fixtures, or lamps proposed, the applicant shall 160 additionally submit as evidence of compliance certified reports performed and certified by a recognized laboratory.

C. Subdivision Plat Certification: If any subdivision proposes to have installed street or other common or public area outdoor lighting, the final plat shall contain a statement certifying compliance with the applicable provisions of the Town of Apple Valley Outdoor Lighting Ordinance.

D. Lamp or Fixture Substitution: Should any outdoor light fixture or the type of light source therein be changed after the permit has been issued, a change request must be submitted to the building official for approval, together with adequate information to assure compliance with this Ordinance, which must be received prior to substitution.

HISTORY
Adopted by Ord. 2019-09 on 6/12/2019

10.26.070 Violations And Legal Action

If after investigation, the Code Enforcement Officer finds that any provision of the ordinance is being violated, the office may elect to file notice by hand delivery or by certified mail, return receipt requested, of such violation to the owner and/ or the occupant of such premises demanding the violation be abated within thirty (30) days from the date of hand delivery or date of mailing notice. If the violation is not abated within the thirty (30) day period, the Code Enforcement Officer may institute actions and proceeding, either legal or equitable, to enjoin, restrain, or abate any violations of this Ordinance and to collect the penalties for such violations.

HISTORY
Adopted by Ord. 2019-09 on 6/12/2019

10.26.080 Definitions

For the purpose of this Ordinance, terms used shall be defined as follows:

Direct Light: Light emitted directly from the lamp, off the reflector diffuser, or through the refractor or diffuser lens of the luminaries.

Direct Glare: The visual discomfort resulting from insufficiently shielded light source.

Fixture: The assembly that houses the lamp or lamps can include all or some of the following parts: housing, mounting bracket, pole socket, lamp holder, ballast, reflector, mirror, and / or a refractor lens.

Flood or spotlight: Any fixture or lamp that incorporates a reflector or a refractor to concentrate the light output into a directed beam in a particular direction.

Fully Shielded Lights: Outdoor light fixtures shielded or constructed so that no light rays are emitted by the installed fixture at angles above the horizontal plane as certified by a photometric test report.

Nonconforming Luminaire: Luminaire not conforming to this ordinance that were in place at the time this ordinance was voted into effect. When an Ordinance “grandfathers” luminaries, it means that such already-existing outdoor lighting doe no need to be changed unless a specified time period is provided for adherence to the ordinance.

Height of Luminaries: The height of a luminaire shall be the vertical distance from the ground directly below the centerline of the luminaire to the lowest direct light emitting part of the luminaire.

Indirect Light: Direct light that has been reflected or has scattered off other surfaces.

Lamp: The component of the luminaire that produces the actual light.

Light Trespass: Limit the exterior lighting originating on a property to a maximum or 0.5 horizontal foot candles (HFC) at a distance of 25 feet beyond the property lines. (This specification will allow the controlled placement of lighting poles and luminaire adjacent to the property lines).

Lumen: A unit of luminous flux. One foot-candle is one lumen per square foot. For purposes of this Ordinance the lumen-output value shall be the INITIAL lumen output rating of a lamp.

Luminaire: a complete lighting system, including a lamp or lamps and fixture.

Outdoors Electrically Powered Illuminating Devices: Illuminaires utilizing AC and / or DC power.

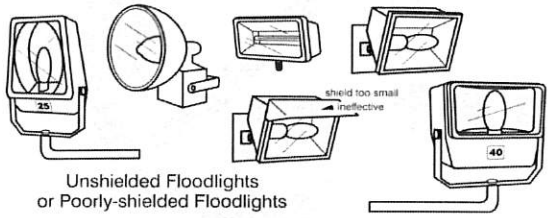
Outdoor Lighting: the nighttime illumination of a outside area or object by any handmade device located outdoors that produces light by any means for a period of less than 7 days, with at least 180 days passing before being used again.

HISTORY
Adopted by Ord. 2019-09 on 6/12/2019

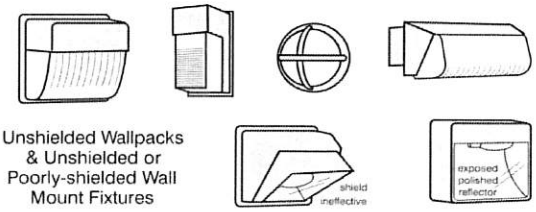
Examples of Acceptable / Unacceptable Lighting Fixtures

Unacceptable / Discouraged

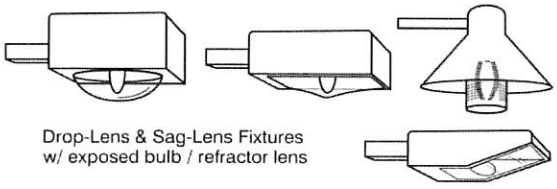
Fixtures that produce glare and light trespass



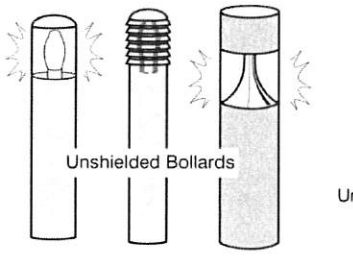
Unshielded Floodlights
or Poorly-shielded Floodlights



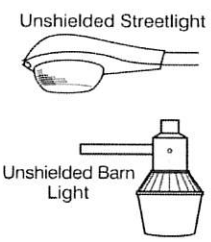
Unshielded Wallpacks
& Unshielded or
Poorly-shielded Wall
Mount Fixtures



Drop-Lens & Sag-Lens Fixtures
w/ exposed bulb / refractor lens

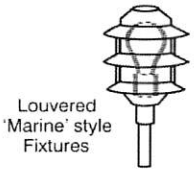


Unshielded Bollards

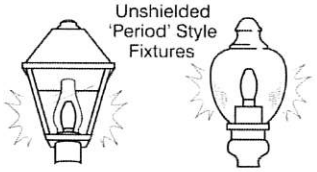


Unshielded Streetlight

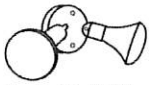
Unshielded Barn
Light



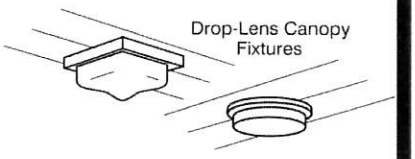
Louvered
'Marine' style
Fixtures



Unshielded
'Period' Style
Fixtures



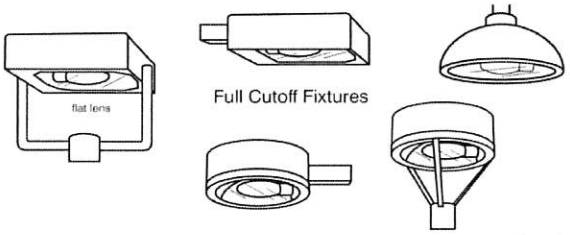
Unshielded PAR
Floodlights



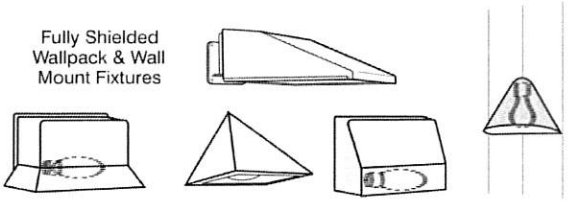
Drop-Lens Canopy
Fixtures

Acceptable

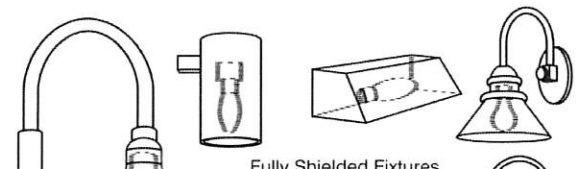
Fixtures that shield the light source to minimize glare and light trespass
and to facilitate better vision at night



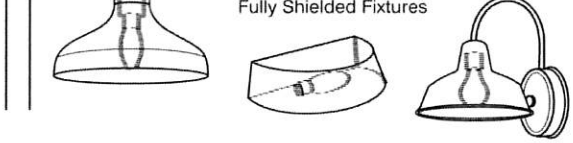
Full Cutoff Fixtures



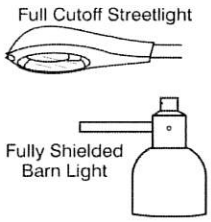
Fully Shielded
Wallpack & Wall
Mount Fixtures



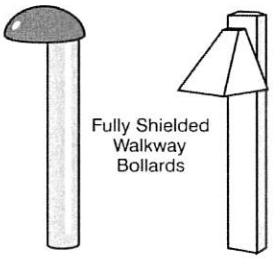
Fully Shielded Fixtures



Full Cutoff Streetlight



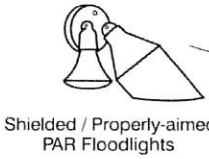
Fully Shielded
Barn Light



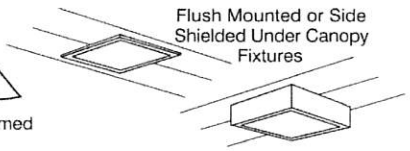
Fully Shielded
Walkway
Bollards

Fully Shielded
Decorative
Fixtures

Fully Shielded
'Period' Style
Fixtures



Shielded / Properly-aimed
PAR Floodlights



Flush Mounted or Side
Shielded Under Canopy
Fixtures

Acceptable Lighting Angles

Illuminating
ENGINEERING SOCIETY

JOINT IDA - IES

MODEL LIGHTING ORDINANCE (MLO)

with USER'S GUIDE

June 15, 2011

The User Notes

The User Notes are intended to clarify the sections of the MLO for the various audiences who will use it: lighting designers, city officials, engineers, citizen groups, and others. Every effort has been made to keep the language technically accurate and clear, but since different disciplines may use the same term in different ways, or have different interpretations, some guidance may be helpful. While these Notes can not be a full tutorial on modern lighting design, it is hoped that the Notes will help facilitate the dialogue necessary to adopt the MLO.

Background

The problems of light pollution first became an issue in the 1970s when astronomers identified the degradation of the night sky due to the increase in lighting associated with development and growth. As more impacts to the environment by lighting have been identified, an international "dark sky" movement is advocating for the precautionary approach to outdoor lighting design.

Many communities have passed anti-light-pollution laws and ordinances. However, there is little or no agreement among these laws, and they vary considerably in language, technical quality, and stringency. This is confusing for designers, engineers, and code officials. The lack of a common basis prevents the development of standards, educational programs, and other means of achieving the goal of effective lighting control.

This MLO will allow communities to drastically reduce light pollution and glare and lower excessive light levels. The recommended practices of the IES can be met using readily available, reasonably priced lighting equipment. However, many conventional lighting practices will no longer be permitted, or will require special permits.

This Model Lighting Ordinance (MLO) is the result of extensive efforts by the International Dark Sky Association (IDA) and the Illuminating

Engineering Society of North America (IES). Among its features is the use of lighting zones (LZ0-4) which allow each governing body to vary the stringency of lighting restrictions according to the sensitivity of the area as well as accommodating community intent. In this way, communities can fine-tune the impact of the MLO without having to customize the MLO. The MLO also incorporates the Backlight-Uplight-Glare (BUG) rating system for luminaires, which provides more effective control of unwanted light.

Joint IDA-IESNA Model Outdoor Lighting Ordinance (MLO)

June 15, 2011

CONTENTS

General Notes in Adopting this Model Ordinance

Adoption of this ordinance should follow the established development, review, and approval processes of the adopting authority. If no such processes are in place, this ordinance may be adopted as a new independent section of the Municipal Code.

The MLO is probably best adopted as an "overlay zoning" ordinance. This means that it overlays, but is different from, land-use zoning. It can be added to or integrated into existing ordinances or codes and cross-referenced to other applicable codes and ordinances such as the electrical code, the sign code, planning ordinances, etc.

The MLO may best be managed by assigning it to planning officials and using existing administrative structures.

Because of the diverse community and lighting needs across large areas, this MLO is not intended for adoption as a state, provincial or national ordinance. Regional coordination is encouraged. Light pollution knows no boundaries, and the effects of polluting light persist as far as 200 kilometers (about 120 miles) from the source. One large city could adopt the MLO and dramatically affect a region, but adoption in suburbs and small towns must be part of a regional effort to achieve significant improvements in the overall quality of the night sky.

Adopting agencies should also consider that the MLO, like all other modern codes, is designed to evolve over time. Lighting technology will change, and MLO changes will be needed every few years. On-going renewal cycles are strongly recommended as any part of an adopting ordinance.

MLO Development and Task Force Members

This Model Lighting Ordinance has been developed as a joint undertaking by the Illuminating Engineering Society and the International Dark-Sky Association.

The Joint Task Force responsible for developing the MLO include

IDA	IES
Co-Chair: Jim Benya	Naomi Miller
Co-Chair: Nancy Clanton	Cheryl English
Leslie Lipstein	Denis Lavoie
Leo Smith	Eric Gibson
Michael Mutmansky	

John Walter representing the electric utility industry also contributed as a member of the Joint Task Force.

I. PREAMBLE - User's Guide

In general, the preamble is part of the ordinance but is typically not part of the code. It establishes the reasons why the municipality is undertaking these regulations.

Local governments may add other purposes to the Preamble including established local government environmental or energy goals that support the model lighting ordinance. The environmental impacts of outdoor lighting fall into two categories: carbon footprint (energy used in the life of a lighting product) and obtrusive light.

CARBON FOOTPRINT	OBTRUSIVE LIGHT
Cost & Impact of Mining the Materials Used	Impact on Humans
Energy Used in Production	Impact on the Environment
Energy Used during Product Life	
Disposal/Recylcing Costs	

II. LIGHTING ZONES - User's Guide

Lighting zones reflect the base (or ambient) light levels desired by a community. The use of lighting zones (LZ) was originally developed by the International Commission on Illumination (CIE) and appeared first in the US in IES Recommended Practice for Exterior Environmental Lighting, RP-33-99.

It is recommended that lower lighting zone(s) be given preference when establishing zoning criteria. Selection of lighting zone or zones should be based not on existing conditions but rather on the type of lighting environments the jurisdiction seeks to achieve. For instance, new development on previously rural or undeveloped land may be zoned as LZ-1.Using lighting zones allows a great deal of flexibility and customization without the burden of excessive regulation. For example, a jurisdiction may choose to establish vertical lighting zones with the lighting zone at street level at a higher zone than the residential housing on upper levels.

I. PREAMBLE - Ordinance Text

The purpose of this Ordinance is to provide regulations for outdoor lighting that will:

a. Permit the use of outdoor lighting that does not exceed the minimum levels specified in IES recommended practices for night-time safety, utility, security, productivity, enjoyment, and commerce.

b. Minimize adverse offsite impacts of lighting such as light trespass, and obtrusive light.

c. Curtail light pollution, reduce skyglow and improve the nighttime environment for astronomy.

d. Help protect the natural environment from the adverse effects of night lighting from gas or electric sources.

e. Conserve energy and resources to the greatest extent possible.

II. LIGHTING ZONES - Ordinance Text

The Lighting Zone shall determine the limitations for lighting as specified in this ordinance. The Lighting Zones shall be as follows:

LZ0: No ambient lighting

Areas where the natural environment will be seriously and adversely affected by lighting. Impacts include disturbing the biological cycles of flora and fauna and/or detracting from human enjoyment and appreciation of the natural environment. Human activity is subordinate in importance to nature. The vision of human residents and users is adapted to the darkness, and they expect to see little or no lighting. When not needed, lighting should be extinguished.

II. LIGHTING ZONES (cont.) - User's Guide

However, if an adjacent use could be adversely impacted by allowable lighting, the adopting authority may require that a particular site meet the requirements for a lower lighting zone. For example, the authority could specify Lighting Zone 1 or 2 requirements if a commercial development were adjacent to a residence, hospital or open space, or to any land assigned to a lower zone.

Lighting zones are best implemented as an overlay to the established zoning especially in communities where a variety of zone districts exists within a defined area or along an arterial street. Where zone districts are cohesive, it may be possible to assign lighting zones to established land use zoning. It is recommended that the lighting zone includes churches, schools, parks, and other uses embedded within residential communities.

Zone	Recommended Uses or Areas	Zoning Considerations
LZ-0	Lighting Zone 0 should be applied to areas in which permanent lighting is not expected and when used, is limited in the amount of lighting and the period of operation. LZ-0 typically includes undeveloped areas of open space, wilderness parks and preserves, areas near astronomical observatories, or any other area where the protection of a dark environment is critical. Special review should be required for any permanent lighting in this zone. Some rural communities may choose to adopt LZ-0 for residential areas.	Recommended default zone for wilderness areas, parks and preserves, and undeveloped rural areas. Includes protected wildlife areas and corridors.
LZ-1	Lighting Zone 1 pertains to areas that desire low ambient lighting levels. These typically include single and two family residential communities, rural town centers, business parks, and other commercial or industrial/ storage areas typically with limited nighttime activity. May also include the developed areas in parks and other natural settings.	Recommended default zone for rural and low density residential areas. Includes residential single or two family; agricultural zone districts; rural residential zone districts; business parks; open space include preserves in developed areas.

II. LIGHTING ZONES (cont.) - Ordinance Text

LZ1: Low ambient lighting

Areas where lighting might adversely affect flora and fauna or disturb the character of the area. The vision of human residents and users is adapted to low light levels. Lighting may be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, most lighting should be extinguished or reduced as activity levels decline.

LZ2: Moderate ambient lighting

Areas of human activity where the vision of human residents and users is adapted to moderate light levels. Lighting may typically be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, lighting may be extinguished or reduced as activity levels decline.

LZ3: Moderately high ambient lighting

Areas of human activity where the vision of human residents and users is adapted to moderately high light levels. Lighting is generally desired for safety, security and/or convenience and it is often uniform and/or continuous. After curfew, lighting may be extinguished or reduced in most areas as activity levels decline.

LZ4: High ambient lighting

Areas of human activity where the vision of human residents and users is adapted to high light levels. Lighting is generally considered necessary for safety, security and/or convenience and it is mostly uniform and/or continuous. After curfew, lighting may be extinguished or reduced in some areas as activity levels decline.

II. LIGHTING ZONES (cont.) - User's Guide

Zone	Recommended Uses or Areas	Zoning Considerations
LZ-2	Lighting Zone 2 pertains to areas with moderate ambient lighting levels. These typically include multifamily residential uses, institutional residential uses, schools, churches, hospitals, hotels/motels, commercial and/or businesses areas with evening activities embedded in predominately residential areas, neighborhood serving recreational and playing fields and/or mixed use development with a predominance of residential uses. Can be used to accommodate a district of outdoor sales or industry in an area otherwise zoned LZ-1.	**Recommended default zone for light commercial business districts and high density or mixed use residentialdistricts.** Includes neighborhood business districts; churches, schools and neighborhood recreation facilities; and light industrial zoning with modest nighttime uses or lighting requirements.
LZ-3	Lighting Zone 3 pertains to areas with moderately high lighting levels. These typically include commercial corridors, high intensity suburban commercial areas, town centers, mixed use areas, industrial uses and shipping and rail yards with high night time activity, high use recreational and playing fields, regional shopping malls, car dealerships, gas stations, and other nighttime active exterior retail areas.	**Recommended default zone for large cities' business district.** Includes business zone districts; commercial mixed use; and heavy industrial and/or manufacturing zone districts.
LZ-4	Lighting zone 4 pertains to areas of very high ambient lighting levels. LZ-4 should only be used for special cases and is not appropriate for most cities. LZ-4 may be used for extremely unusual installations such as high density entertainment districts, and heavy industrial uses.	**Not a default zone.** Includes high intensity business or industrial zone districts.

III. GENERAL REQUIREMENTS - User's Guide

This Section sets out the requirements that apply to all lighting, both residential and non-residential.

Each adopting jurisdiction should incorporate their existing standards as to when compliance with new regulations is required, when repair or remodeling triggers compliance and if the new ordinance will be retroactive to existing development. The Applicability section of this model ordinance should serve as a guide if the adopting jurisdiction does not have standards or policies in place. Likewise, the adopting jurisdiction should use their existing policies and definitions of what constitutes public monuments, and temporary and/or emergency lighting. Community attitudes and precedents should be taken into account in deciding to regulate seasonal holiday lighting.

EXEMPTIONS - User's Guide

This is standard language intended to prevent conflict of laws and to give the community the ability to set specific lighting requirements in special plans and under use permits. It can be amended to conform to similar language in other ordinances. For example, while public monuments, statuary, and flags should be lighted, the lighting also should be limited to avoid excess.

Lighting for streets, roads, and highways is usually regulated by a street lighting ordinance, and is not covered by this model ordinance. However, since street lighting can affect nearby areas, some recognition of its effect is appropriate. (See Section XI)

SIGN LIGHTING - User's Guide

A sign lighting ordinance is strongly recommended if not already in place. It should carefully limit lighting to prevent over-lighted signs from being used to circumvent lighting ordinances.

III. GENERAL REQUIREMENTS - Ordinance Text

A. Conformance with All Applicable Codes

All outdoor lighting shall be installed in conformance with the provisions of this Ordinance, applicable Electrical and Energy Codes, and applicable sections of the Building Code.

B. Applicability

Except as described below, all outdoor lighting installed after the date of effect of this Ordinance shall comply with these requirements. This includes, but is not limited to, new lighting, replacement lighting, or any other lighting whether attached to structures, poles, the earth, or any other location, including lighting installed by any third party.

Exemptions from III.(B.) The following are not regulated by this Ordinance

a. Lighting within public right-of-way or easement for the principal purpose of illuminating streets or roads. No exemption shall apply to any lighting within the public right of way or easement when the purpose of the luminaire is to illuminate areas outside the public right of way or easement, unless regulated with a streetlighting ordinance.

Note to adopting agency: if using the street lighting ordinance (Section XI), this exemption should read as follows:

Lighting within the public right-of-way or easement for the principal purpose of illuminating roads and highways. No exemption shall apply to any street lighting and to any lighting within the public right of way or easement when the purpose of the luminaire is to illuminate areas outside of the public right of way or easement.

b. Lighting for public monuments and statuary.

c. Lighting solely for signs (lighting for signs is regulated by the Sign Ordinance).

d. Repairs to existing luminaires not exceeding 25% of total installed luminaires.

LIGHTING CONTROLS - User's Guide

This section requires all outdoor lighting to have lighting controls that prohibit operation when sufficient daylight is available, and to include the capability, either through circuiting, dimming or alternating sources, to be able to reduce lighting without necessarily turning all lighting off.

III. GENERAL REQUIREMENTS (cont.) - Ordinance Text

e. Temporary lighting for theatrical, television, performance areas and construction sites;

f. Underwater lighting in swimming pools and other water features

g. Temporary lighting and seasonal lighting provided that individual lamps are less than 10 watts and 70 lumens.

h. Lighting that is only used under emergency conditions.

i. In lighting zones 2, 3 and 4, low voltage landscape lighting controlled by an automatic device that is set to turn the lights off at one hour after the site is closed to the public or at a time established by the authority.

Exceptions to III. (B.) All lighting shall follow provisions in this ordinance; however, any special requirements for lighting listed in a) and b) below shall take precedence.

a. Lighting specified or identified in a specific use permit.

b. Lighting required by federal, state, territorial, commonwealth or provincial laws or regulations.

C. Lighting Control Requirements

1. Automatic Switching Requirements
   Controls shall be provided that automatically extinguish all outdoor lighting when sufficient daylight is available using a control device or system such as a photoelectric switch, astronomic time switch or equivalent functions from a programmable lighting controller, building automation system or lighting energy management system, all with battery or similar backup power or device.

CURFEW REQUIREMENTS - User's Guide

The intent is to reduce or eliminate lighting after a given time. Benefits include reduced environmental impact, longer hours of improved astronomy, energy savings, and improved sleeping conditions for residents. Additionally, some police departments have indicated that post-curfew light reductions make drive-by patrolling easier because it allows them to see further into and through a site.

The authority should determine the time of curfew and the amount of lighting reduction based on the character, norms and values of the community.

Typically, curfews go into effect one hour after the close of business. Restaurants, bars and major entertainment facilities such as sports stadiums, may require the curfew go into effect two hours after the close of business. The authority may elect to have no curfew for facilities with shift workers and 24 hour operations, or to extend the curfew time to meet specific needs. The MLO can be modified to address those concerns.

Areas without street lights or with very low ambient light levels should consider turning off all non-emergency lighting at curfew while commercial areas or urban areas may prefer a reduction in lighting levels. A reduction of at least 30% is recommended for most uses.

III. GENERAL REQUIREMENTS (cont.) - Ordinance Text

Exceptions to III.(C.) 1. Automatic lighting controls are not required for the following:

a. Lighting under canopies.

b. Lighting for tunnels, parking garages, garage entrances, and similar conditions.

2. Automatic Lighting Reduction Requirements
The Authority shall establish curfew time(s) after which total outdoor lighting lumens shall be reduced by at least 30% or extinguished.

Exceptions to III.(C.) 2. Lighting reductions are not required for any of the following:

a. With the exception of landscape lighting, lighting for residential properties including multiple residential properties not having common areas.

b. When the outdoor lighting consists of only one luminaire.

c. Code required lighting for steps, stairs, walkways, and building entrances.

d. When in the opinion of the Authority, lighting levels must be maintained.

e. Motion activated lighting.

f. Lighting governed by special use permit in which times of operation are specifically identified.

g. Businesses that operate on a 24 hour basis.

IV. NON-RESIDENTIAL LIGHTING - User's Guide

This section addresses non-residential lighting and multiple-family residences having common spaces, such as lobbies, interior corridors or parking. Its intent is to:

- Limit the amount of light that can be used
- Minimize glare by controlling the amount of light that tends to create glare
- Minimize sky glow by controlling the amount of uplight
- Minimize the amount of off-site impacts or light trespass

This MLO provides two methods for determining compliance. The *prescriptive method* contains precise and easily verifiable requirements for luminaire light output and fixture design that limit glare, uplight, light trespass and the amount of light that can be used. The *performance method* allows greater flexibility and creativity in meeting the intent of the ordinance. Note that both the prescriptive and the performance method limit the *amount* of light that can be used, but do not control *how* the lighting is to be used.

Most outdoor lighting projects that do not involve a lighting professional will use the prescriptive method, because it is simple and does not require engineering expertise.

For the prescriptive method, the initial luminaire lumen allowances defined in Table A (Parking Space Method) or B (Hardscape Area Method) will provide basic lighting (parking lot and lighting at doors and/or sensitive security areas) that is consistent with the selected lighting zone. The prescriptive method is intended to provide a safe lighting environment while reducing sky glow and other adverse offsite impacts. The Per Parking Space Method is applicable in small rural towns and is a simple method for small retail "mom and pop" operations without drive lane access and where the parking lot is immediately adjacent to the road. A jurisdiction may

IV. NON-RESIDENTIAL LIGHTING - Ordinance Text

For all non-residential properties, and for multiple residential properties of seven domiciles or more and having common outdoor areas, all outdoor lighting shall comply either with Part A or Part B of this section.

PRESCRIPTIVE METHOD - User's Guide

also allow a prescriptive method for classes of sites, such as car dealerships, gas stations, or other common use areas.

Note that the values are for initial luminaire lumens, not footcandles on the target (parking lot, sidewalk, etc). Variables such as the efficiency of the luminaire, dispersion, and lamp wear can affect the actual amount of light so the lumens per square foot allowance is not equal to footcandles on the site. By specifying initial luminaire lumen values, it is easier for officials to verify that the requirement is being met. Initial luminaire lumens are available from photometric data. Each initial luminaire lumens calculation should be supplied on the submittal form.

Solid state luminaires, such as LEDs, do not have initial lamp lumens, only initial luminaire lumens (absolute photometry). Other luminaires tested with relative photometry will have initial luminaire lumens which can be calculated by multiplying initial lamp lumens by the luminaire efficiency. In this example, three types of luminaires are used to light a parking area and building entry in a light commercial area. Two of these three luminaires use metal halide lamps: 70 watt wall mounted area lights and 150 watt pole mounted area lights. For these, the Initial Luminaire Lumens is equal to the initial lamp lumens multiplied by the luminaire efficiency. These values are entered into the compliance chart. The lumen value for the building mounted LED luminaires is equal to the lumens exiting the luminaire. Therefore, the value already represents the Initial Luminaire Lumens and no luminaire efficiency is needed. The total Luminaire Lumens for the site is equal to 247,840.

The allowable lumens are based on the lighting zone and the total hard-scape area. Referencing Table B, the allowed lumens are 2.5/SF for LZ2. Multiplying this by the total hardscape square footage gives a value of 250,000 lumens allowed. Because this value is greater than the value calculated for the site, the project complies. Listed below is an example on a typical compliance worksheet for the Prescriptive Method.

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

A. Prescriptive Method

An outdoor lighting installation complies with this section if it meets the requirements of subsections 1 and 2, below.

1. Total Site Lumen Limit

The total installed initial luminaire lumens of all outdoor lighting shall not exceed the total site lumen limit. The total site lumen limit shall be determined using either the Parking Space Method (Table A) or the Hardscape Area Method (Table B). Only one method shall be used per permit application, and for sites with existing lighting, existing lighting shall be included in the calculation of total installed lumens.

The total installed initial luminaire lumens is calculated as the sum of the initial luminaire lumens for all luminaires.

IV. NON-RESIDENTIAL LIGHTING (cont.) - User's Guide

In this example, three types of luminaires are used to light a parking area and building entry in a light commercial area. Two of these three luminaires use metal halide lamps: 70 watt wall mounted area lights and 150 watt pole mounted area lights. For these, the Initial Luminaire Lumens is equal to the initial lamp lumens multiplied by the luminaire efficiency. These values are entered into the compliance chart. The lumen value for the building mounted LED luminaires is equal to the lumens exiting the luminaire. Therefore, the value already represents the Initial Luminaire Lumens and no luminaire efficiency is needed. The total Luminaire Lumens for the site is equal to 247,840. The allowable lumens are based on the lighting zone and the total hardscape area. Referencing Table B, the allowed lumens are 2.5/SF for LZ2. Multiplying this by the total hardscape square footage gives a value of 250,000 lumens allowed. Because this value is greater than the value calculated for the site, the project complies.

PRESCRIPTIVE METHOD EXAMPLE - COMPLIANCE CHART			
Lamp Descriptions	*QTY*	*Initial Luminaire Lumens*	*Total*
70 W Metal Halide	8	3,920	31,360
150 W Metal Halide	20	9,600	192,000
18 W LED	24	1,020	24,480
TOTAL INITIAL LUMINAIRE LUMENS			247,840
SITE ALLOWED TOTAL INITIAL LUMENS*			250,000
PROJECT IS COMPLIANT?			YES

* Listed below is the method of determining the allowed total initial lumen for non-residential outdoor lighting using the hardscape areamethod. (Table B).

SITE ALLOWED TOTAL INITIAL LUMENS	
Site Description	Light Commercial
Lighting Zone	LZ-2
Hardscape Area (SF)	100,000
Allowed Lumens per SF of Hardscape (Table B)	2.5
Site Allowed Total Initial Lumens (lumens per SF X hardscape area)	250,000

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

PRESCRIPTIVE METHOD (cont.) - User's Guide

LIMITS TO OFFSITE IMPACTS

The prescriptive method of the MLO restricts uplighting, including upward light emitted by decorative luminaires. A jurisdiction may choose to preserve some types of lighting, including lighting of monuments or historic structures. In this case, the adopting jurisdiction should exempt or otherwise regulate these types of lighting carefully so that it does not inadvertently allow glaring or offensive lighting systems.

Offsite effects of light pollution include glare, light trespass, sky glow, and impacts on the nocturnal environment . All of these are functions of the fixture or luminaire design and installation. This document replaces the previous luminaire classification terminology of full cut-off, semi cut-off, and cut-off because those classifications were not as effective in controlling offsite impacts as with the new IESNA luminaire classification system as described in TM-15-07.

A traditional method of defining light trespass is to identify a maximum light level at or near the property line. However, this method does not address offensive light that is not directed toward the ground, or the intensity of glaring light shining into adjacent windows. The requirements defined in Table C limit the amount of light in all quadrants that is directed toward or above the property line. The Backlight/Uplight/Glare (BUG) rating will help limit both light trespass and glare. (A detailed explanation of the BUG system is provided in the section on Table C.)

The limits for light distribution established in Table C (for the BUG rating system) prevent or severely limit all direct upward light. A small amount of uplight reflected by snow, light-colored pavement or a luminaire's supporting arms is inevitable and is not limited by the prescriptive method of this ordinance.

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

PRESCRIPTIVE METHOD

2. Limits to Off Site Impacts

All luminaires shall be rated and installed according to Table C.

3. Light Shielding for Parking Lot Illumination

All parking lot lighting shall have no light emitted above 90 degrees.

Exception:

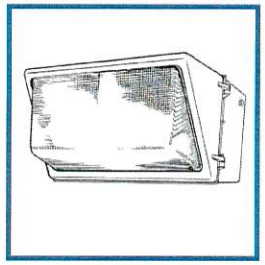
a) Ornamental parking lighting shall be permitted by special permit only, and shall meet the requirements of Table C-1 for Backlight, Table C-2 for Uplight, and Table C-3 for Glare, without the need for external field-added modifications.

PRESCRIPTIVE METHOD (cont.) - User's Guide

LIMITS TO OFFSITE IMPACTS

A seemingly non-compliant fixture, such as a post-top translucent acorn luminaire, may in certain cases meet the BUG ratings, as long as it has proper interior baffling within the acorn globe. However, the BUG ratings in Table C will limit the use of the following types of luminaires in all lighting zones:

Barn Lights



Non-Shielded Wall Packs

Floodlights or lights not aimed downward

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

PERFORMANCE METHOD - User's Guide

The performance method is best for projects with complex lighting requirements or when the applicant wants or needs more flexibility in lighting design. The performance method is also used when any lighting designer plans to aim or direct any light fixture upward (above 90 degrees). An engineer or lighting professional generally will be required to design within the performance method. An adopting jurisdiction may also wish to hire an engineer or lighting professional to review and approve projects using this method and/or incorporate review of the performance method into special review procedures.

The Performance Method is also best for projects where higher lighting levels are required compared to typical area lighting. An example might be a car sales lot where more light might be required on the new cars than would be needed for a standard parking lot. Another example is a gas station canopy requiring more light than a building entrance canopy.

The first step in the Performance Method regulates overlighting by establishing the Total Initial Site Lumens (Table D) that are allowed.

Allowances include the summation of the following (Table D):

1) Initial lumen allowance per site
2)Per area (SF) of hardscape

Table E allows additional lumens for unique site conditions.
Examples of allowances include:

1)Per building entrance/exit
2)Per length (linear feet) of Outdoor Sales Frontage Perimeter
3)Per area (SF) of Vehicle Service Station Canopy
4)Plus more ...

The Site Total Initial Site Lumens allowed are a combination of allowances from Table D and Table E.

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

B. Performance Method

1. Total Site Lumen Limit

The total installed initial luminaire lumens of all lighting systems on the site shall not exceed the allowed total initial site lumens. The allowed total initial site lumens shall be determined using Tables D and E. For sites with existing lighting, existing lighting shall be included in the calculation of total installed lumens.

The total installed initial luminaire lumens of all is calculated as the sum of the initial luminaire lumens for all luminaires.

IV. NON-RESIDENTIAL LIGHTING (cont.) - User's Guide

LIMITS TO OFFSITE IMPACTS (cont.)

The second step in the Performance Method is to determine if the proposed luminaires are producing off site impacts such as glare, sky glow and light trespass. One may either use Option A which are the Maximum Allowable BUG Ratings in Table C, or Option B through computer lighting calculations show compliance with Maximum Vertical Illuminance at any point in the plane of the property line in Table F. Option B will be required for all non-residential luminaires that

A) do not have BUG ratings, or
B) exceed the BUG ratings,
C) are not fully shielded, or
D) have adjustable mountings.

For the performance method, Option B (2) requires photometric calculations for the site perimeter, to a height of no less than 33 feet (10 meters) above the tallest luminaire. Vertical illuminances at eye height (5 feet above grade) will give values that can be used to verify compliance by comparing actual site conditions to the photometric plan submitted during review.

Note that the MLO specifies 'total initial luminaire lumens' as a measurement in addition to footcandles/lux. The footcandle (lux) is equal to one lumen per square meter. Lux is the metric unit and is equal to one lumen per square meter.

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

PERFORMANCE METHOD

2. Limits to Off Site Impacts

All luminaires shall be rated and installed using either Option A or Option B. Only one option may be used per permit application.

Option A: All luminaires shall be rated and installed according to Table C.

Option B: The entire outdoor lighting design shall be analyzed using industry standard lighting software including inter-reflections in the following manner:

1) Input data shall describe the lighting system including luminaire locations, mounting heights, aiming directions, and employing photometric data tested in accordance with IES guidelines. Buildings or other physical objects on the site within three object heights of the property line must be included in the calculations.

2) Analysis shall utilize an enclosure comprised of calculation planes with zero reflectance values around the perimeter of the site. The top of the enclosure shall be no less than 33 feet (10 meters) above the tallest luminaire. Calculations shall include total lumens upon the inside surfaces of the box top and vertical sides and maximum vertical illuminance (footcandles and/or lux) on the sides of the enclosure.

The design complies if:

a) The total lumens on the inside surfaces of the virtual enclosure are less than 15% of the total site lumen limit; and

b) The maximum vertical illuminance on any vertical surface is less than the allowed maximum illuminance per Table F.

DESIGN COMPLIANCE - User's Guide

The application form will require information about the number of luminaires, the number of lamps in each luminaire, the initial luminaire lumens for each luminaire and the initial lumen output for each lamp (based on the wattage and type of lamp selected) as well as plans showing the site area measurements. This will allow the reviewer to verify that the lumen output of all the luminaires does not exceed the allowance.

Field verification can be achieved by asking the applicant and/or owner to verify that the luminaire type, lamp type and wattages specified have been used. Also ask the applicant for photometric data for each luminaire, since the initial luminaire lumens and B-U-G ratings are stated on the photometric report.

However, if a jurisdiction requires additional on-site verification, it may also request a point-by-point photometric plan. While this will not be a true measure of compliance with the criteria of this Ordinance, comparing the actual measured levels on site to the photometric plan can be an indication whether or not the installed lighting varies from the approved design.

V. RESIDENTIAL LIGHTING - User's Guide

This section applies to single family home, duplexes, row houses, and low rise multi-family buildings of 6 dwelling units or less.

RESIDENTIAL LIGHTING EXCEPTIONS

The exceptions allow for typical lighting that might exceed the specified limits.

Landscape Lighting - While not common in residential areas, it can cause light pollution and light trespass if it is not controlled.

Lighting controlled by Vacancy (Motion) Sensor - Reduces light pollution and light trespass and should be encouraged.

RESIDENTIAL LIGHTING EXAMPLE

In this example on the following page, five different luminaires are used on a residential property. Each luminaire must comply to meet the requirements. The site plan following shows luminaire types followed by a tabulation of each uminaire, whether or not it is fully shielded, lamp type, and initial luminaire lumens. If the luminaire lumens are not known, multiply the initial lamp lumens by the luminaire efficiency. If the efficiency is not known, multiply the initial lamp lumens by 0.7 as a reasonable assumption. The maximum allowable lumen values come from Table G, based on the shielding classification and location on the site. In this case, each luminaire complies with the requirements of Table G.

Comparison of efficacy by power
(120 Volt Incandescent lamps)

Output (Lumens)	Power (Watt)		
	Incan	CFL	LED
500	40	8 - 10	9
850	60	13 - 18	12 - 15
1,200	75	18 - 22	15
1,700	100	23 - 28	18

V. RESIDENTIAL LIGHTING - Ordinance Text

A. General Requirements

For residential properties including multiple residential properties not having common areas, all outdoor luminaires shall be fully shielded and shall not exceed the allowed lumen output in Table G, row 2.

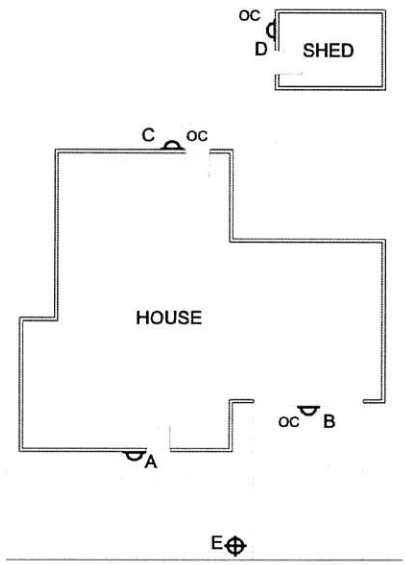
Exceptions

1. **One partly shielded or unshielded luminaire at the main entry, not exceeding the allowed lumen output in Table G row 1.**
2. **Any other partly shielded or unshielded luminaires not exceeding the allowed lumen output in Table G row 3.**
3. **Low voltage landscape lighting aimed away from adjacent properties and not exceeding the allowed lumen output in Table G row 4.**
4. **Shielded directional flood lighting aimed so that direct glare is not visible from adjacent properties and not exceeding the allowed lumen output in Table G row 5.**
5. **Open flame gas lamps.**
6. **Lighting installed with a vacancy sensor, where the sensor extinguishes the lights no more than 15 minutes after the area is vacated.**
7. **Lighting exempt per Section III (B.).**

B. Requirements for Residential Landscape Lighting

1. **Shall comply with Table G.**
2. **Shall not be aimed onto adjacent properties.**

V. RESIDENTIAL LIGHTING - User's Guide



Property Type: Residential
Lighting Zone 1

Luminaire Type	Location	Luminaire Description	Fully Shielded	Lamp Type	Initial Luminiare Lumens*	Maximum Allowed Initial Luminaire Lumens (Table G)	Controls	Compliant
A	Front Entry	Decorative wall sconce	No	9W CFL	420	420	None	Yes
B	Garage Door	Fully shielded wall pack	Yes	23W CFL	1050	1260	Occupancy Sensor	Yes
C	Back Entry	Decorative wall sconce	No	7W CFL	280	315	Occupancy Sensor	Yes
D	Shed Entry	Fully shielded wall pack	Yes	40W INC	343	1260	Occupancy Sensor	Yes
E	Driveway	Fully shielded post top	Yes	13W CFL	1260	1260	None	Yes

*Initial Luminaire Lumens are calculated by multiplying the total initial lamp lumens by the luminaire efficiency.
If the luminaire efficiency is not known, assume an efficiency of 70% and multiply the lamp lumen value by 0.7.

VI. LIGHTING BY SPECIAL PERMIT ONLY - User's Guide

This section addresses types of lighting that are intrusive or complex in their impacts and need a higher level of scrutiny and/or site sensitivity.

It should be noted that safety could be compromised if lighting conforming to this ordinance is located adjacent to excessively bright and/or glaring lighting.

It is important that the authority set clear and reasonable guidelines for applying for a special lighting use permit, and establish rules and procedures for granting or refusing them. They may differ from existing special use policies, in which case one or the other may be changed to achieve the overall goal of effective lighting without glare, sky glow, or light trespass.

SPORTS FIELD LIGHTING

For athletic and sports fields, the appropriate level of lighting will depend on the Class of Play and Facilities. Class of Play is divided into 4 categories, depending on the number of fixed spectator seats. (Competition play intended for nighttime TV broadcast may require higher lighting levels).

CLASS I: Competition play at facilities with 5,000 or more fixed spectator seats. (Professional, Colleges & Universities, some Semi-Professional & Large Sports Cubs)

CLASS II: Games at facilities with over 1,500 fixed spectator seats. (Smaller Universities and Colleges, some Semi-pro, large amateur leagues and high schools with large spectator facilities)

CLASS III: Games at facilities with over 500 fixed spectator seats. (Sports Clubs and amateur leagues, some high schools and large training professional training facilities with spectator sections)

CLASS IV: Competition or recreational play at facilities with 500 fixed spectator seats or less. Class IV Class of Play applies to games at which family and close friends of the players and staff are usually the majority of spectators. (Smaller amateur leagues, park and recreation department facilities, most Little Leagues smaller high schools, elementary and middle schools, and social events)

VI. LIGHTING BY SPECIAL PERMIT ONLY - Ordinance Text

A. High Intensity and Special Purpose Lighting

The following lighting systems are prohibited from being installed or used except by special use permit:

1. Temporary lighting in which any single luminaire exceeds 20,000 initial luminaire lumens or the total lighting load exceeds 160,000 lumens.
2. Aerial Lasers.
3. Searchlights.
4. Other very intense lighting defined as having a light source exceeding 200,000 initial luminaire lumens or an intensity in any direction of more than 2,000,000 candelas.

B. *Complex and Non-Conforming Uses*

Upon special permit issued by the Authority, lighting not complying with the technical requirements of this ordinance but consistent with its intent may be installed for complex sites or uses or special uses including, but not limited to, the following applications:

1. Sports facilities, including but not limited to unconditioned rinks, open courts, fields, and stadiums.
2. Construction lighting.
3. Lighting for industrial sites having special requirements, such as petrochemical manufacturing or storage, shipping piers, etc.
4. Parking structures.
5. Urban parks
6. Ornamental and architectural lighting of bridges, public monuments, statuary and public buildings.
7. Theme and amusement parks.
8. Correctional facilities.

To obtain such a permit, applicants shall demonstrate that the proposed lighting installation:

a. Has sustained every reasonable effort to mitigate the effects of light on the environment and surrounding properties, supported by a signed statement describing the mitigation measures. Such statement shall be accompanied by the calculations required for the Performance Method.

SPORTS FIELD LIGHTING

When Class of Play is above Class IV, a dual control should be installed to limit illumination to Class IV levels during practices where spectators are fewer than 500.

(See IES Recommended Practice for Sports and Recreational Area Lighting RP-6)

VII. EXISTING LIGHTING - User's Guide

Adoption of this section on existing lighting is strongly encouraged.

If the adopting jurisdiction has criteria in place that require a property to come into compliance with the current zoning ordinance, it is recommended that the criteria also be applied to bringing existing lighting into compliance. If there are no established criteria, this section of the MLO is recommended.

Amortization allows existing lighting to gradually and gracefully come into compliance. Substantial changes or additions to existing properties are considered the same as new construction, and must comply.

Most outdoor lighting can be fully depreciated once it is fully amortized, usually no longer than 10 years, if not sooner, from the date of initial installation. Some jurisdictions may prefer to require phase-out in a substantially shorter period. The Authority may also wish to require compliance much sooner for "easy fixes" such as re-aiming or lowering lumen output of lamps. Where lighting is judged to be a safety hazard, immediate compliance can be required.

VI. LIGHTING BY SPECIAL PERMIT ONLY (cont.) - Ordinance Text

b. Employs lighting controls to reduce lighting at a Project Specific Curfew ("Curfew") time to be established in the Permit.
c. Complies with the Performance Method after Curfew.

The Authority shall review each such application. A permit may be granted if, upon review, the Authority believes that the proposed lighting will not create unwarranted glare, sky glow, or light trespass.

VII. EXISTING LIGHTING - Ordinance Text

Lighting installed prior to the effective date of this ordinance shall comply with the following.

A. Amortization

On or before [amortization date], all outdoor lighting shall comply with this Code.

B. New Uses or Structures, or Change of Use

Whenever there is a new use of a property (zoning or variance change) or the use on the property is changed, all outdoor lighting on the property shall be brought into compliance with this Ordinance before the new or changed use commences.

C. Additions or Alterations

1. Major Additions.
   If a major addition occurs on a property, lighting for the entire property shall comply with the requirements of this Code. For purposes of this section, the following are considered to be major additions:

VIII. ENFORCEMENT AND PENALTIES - User's Guide

Enforcement and penalties will vary by jurisdiction. There are, however, certain practices that will promote compliance with lighting regulations. Education is a key tool in promoting compliance. Proactive enforcement procedures can include providing a copy of the lighting regulations to every contractor at the time they visit to obtain a building permit. Another effective tool is a requirement that the builder or developer acknowledge in writing that the he or she is familiar with the lighting requirements and will submit a lighting plan for approval.

VII. EXISTING LIGHTING (cont.) - Ordinance Text

Additions of 25 percent or more in terms of additional dwelling units, gross floor area, seating capacity, or parking spaces, either with a single addition or with cumulative additions after the effective date of this Ordinance.

Single or cumulative additions, modification or replacement of 25 percent or more of installed outdoor lighting luminaires existing as of the effective date of this Ordinance.

2. Minor Modifications, Additions, or New Lighting Fixtures for Non-residential and Multiple Dwellings
   For non-residential and multiple dwellings, all additions, modifications, or replacement of more than 25 percent of outdoor lighting fixtures existing as of the effective date of this Ordinance shall require the submission of a complete inventory and site plan detailing all existing and any proposed new outdoor lighting.

   Any new lighting shall meet the requirements of this Ordinance.

3. Resumption of Use after Abandonment
   If a property with non-conforming lighting is abandoned for a period of six months or more, then all outdoor lighting shall be brought into compliance with this Ordinance before any further use of the property occurs.

VIII. ENFORCEMENT & PENALTIES - Ordinance Text

(Reserved)

VIII. ENFORCEMENT AND PENALTIES (cont.) - User's Guide

Submission of the Lighting Plan should be required as a precondition to any approvals. The Lighting Plan should include the location and BUG rating for each luminaire, specify whether compliance is by the performance or prescriptive method, and a worksheet to show that the luminaires and their BUG ratings are compliant.

IX. TABLES - User's Guide

The tables are to be reviewed periodically by a joint committee of the IES and IDA, and adjusted as standards and technology permit. If more research on the impacts of outdoor lighting shows the effects of light pollution to be a significant concern, then the values in the tables may be modified. Such changes will have no significant impact to the balance of the language of the Ordinance or Code.

VIII. ENFORCEMENT & PENALTIES - Ordinance Text

IX. TABLES - Ordinance Text

Table A - Allowed Total Initial Luminaire Lumens per Site for Non-residential Outdoor Lighting, Per Parking Space Method
May only be applied to properties up to 10 parking spaces (including handicapped accessible spaces).

LZ-0	LZ-1	LZ-2	LZ-3	LZ-4
350 lms/space	490 lms/space	630 lms/space	840 lms/space	1,050 lms/space

Table B - Allowed Total Initial Lumens per Site for Non-residential Outdoor Lighting, Hardscape Area Method
May be used for any project. When lighting intersections of site drives and public streets or road, a total of 600 square feet for each intersection may be added to the actual site hardscape area to provide for intersection lighting.

LZ-0	LZ-1	LZ-2	LZ-3	LZ-4
Base Allowance				
0.5 lumens per SF of Hardscape	1.25 lumens per SF of Hardscape	2.5 lumens per SF of Hardscape	5.0 lumens per SF of Hardscape	7.5 lumens per SF of Hardscape

IX. TABLES - Ordinance Text

Table B - *Lumen Allowances, in Addition to Base Allowance*

	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Additional allowances for sales and service facilities. No more than two additional allowances per site, Use it or Lose it.					
Outdoor Sales Lots. This allowance is lumens per square foot of uncovered sales lots used exclusively for the display of vehicles or other merchandise for sale, and may not include driveways, parking or other non sales areas. To use this allowance, luminaires must be within 2 mounting heights of sales lot area.	**0**	**4 lumens per square foot**	**8 lumens per square foot**	**16 lumens per square foot**	**16 lumens per square foot**
Outdoor Sales Frontage. This allowance is for lineal feet of sales frontage immediately adjacent to the principal viewing location(s) and unobstructed for its viewing length. A corner sales lot may include two adjacent sides provided that a different principal viewing location exists for each side. In order to use this allowance, luminaires must be located between the principal viewing location and the frontage outdoor sales area	**0**	**0**	**1,000 per LF**	**1,500 per LF**	**2,000 per LF**
Drive Up Windows. In order to use this allowance, luminaires must be within 20 feet horizontal distance of the center of the window.	**0**	**2,000 lumens per drive-up window**	**4,000 lumens per drive-up window**	**8,000 lumens per drive-up window**	**8,000 lumens per drive-up window**
Vehicle Service Station. This allowance is lumens per installed fuel pump.	**0**	**4,000 lumens per pump (based on 5 fc horiz)**	**8,000 lumens per pump (based on 10 fc horiz)**	**16,000 lumens per pump (based on 20 fc horiz)**	**24,000 lumens per pump (based on 20 fc horiz)**

IX. TABLES - TABLE C BUG RATING - User's Guide

Work on the BUG system started in 2005 when the IES upgraded the roadway cutoff classification system. The original system, which included the ratings full cutoff, cutoff, semi-cutoff and non cutoff, had been designed as a rating system focused on brightness and glare control. However, with increasing demand for control of uplight and light trespass in addition to glare, IES realized that a more comprehensive system was needed. IES developed TM-15 *Luminaire Classification System for Outdoor Luminaires.*

As this is a relatively new rating system, and many people may not be familiar with it, more explanation of how the rating system works is provided here. For example, some people are familiar with terms such as "full cutoff" and they may expect the MLO to include those terms. It will be very important that all groups recognize that older terms and concepts are inadequate for the complex tasks of controlling light pollution. It is recommended that the new rating system adopted in TM-15, as followed herein by the MLO, be used intact and exclusively.

BUG requires downlight only with low glare (better than full cut off) in lighting zones 0, 1 and 2, but allows a minor amount of uplight in lighting zones 3 and 4. In lighting zones 3 and 4, the amount of allowed uplight is enough to permit the use of very well shielded luminaires that have a decorative drop lens or chimney so that dark sky friendly lighting can be installed in places that traditional-appearing luminaires are required. BUG typically cannot be used for residential luminaires unless they have been photometrically tested. For non-photometrically tested residential luminaires, shielding description is used instead.

The lumen limits established for each lighting zone apply to all types of lighting within that zone. This includes, but is not limited to, specialty lighting, façade lighting, security lighting and the front row lighting for auto dealerships. BUG rating limits are defined for each luminaire and

IX. TABLES (cont.) - Ordinance Text

Table C - Maximum Allowable Backlight, Uplight and Glare (BUG) Ratings

May be used for any project. A luminaire may be used if it is rated for the lighting zone of the site or lower in number for all ratings B, U and G. Luminaires equipped with adjustable mounting devices permitting alteration of luminaire aiming in the field shall not be permitted.

TABLE C-1	Lighting Zone 0	Lighting Zone 1	Lighting Zone 2	Lighting Zone 3	Lighting Zone 4
Allowed Backlight Rating*					
Greater than 2 mounting heights from property line	B1	B3	B4	B5	B5
1 to less than 2 mounting heights from property line and ideally oriented**	B1	B2	B3	B4	B4
0.5 to 1 mounting heights from property line and ideally oriented**	B0	B1	B2	B3	B3
Less than 0.5 mounting height to property line and properly oriented**	B0	B0	B0	B1	B2

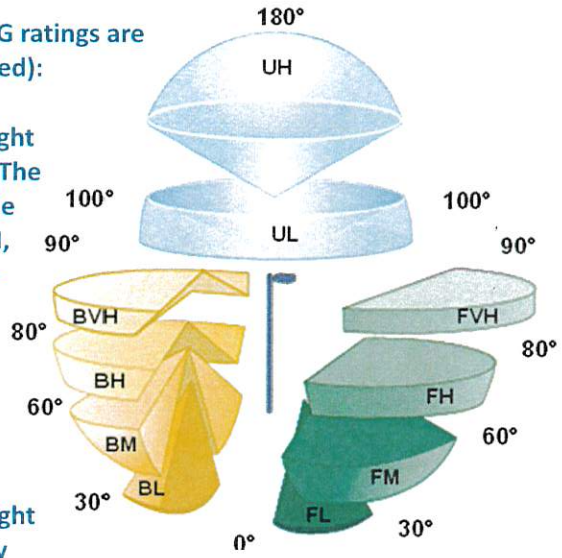
*For property lines that abut public walkways, bikeways, plazas, and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the center-line of the public roadway or public transit corridor for the purpose of determining compliance with this section. NOTE: This adjustment is relative to Table C-1 and C-3 only and shall not be used to increase the lighting area of the site.

** To be considered 'ideally oriented', the luminaire must be mounted with the backlight portion of the light output oriented perpendicular and towards the property line of concern.

IX. TABLES - TABLE C BUG RATING (cont.) - User's Guide

are based on the internal and external design of the luminaire, its aiming, and the initial luminaire lumens of the specified luminaires. The BUG rating limits also take into consideration the distance the luminaire is installed from the property line in multiples of the mounting height (See Table C).

The three components of BUG ratings are based on IES TM-15-07 (revised):



Backlight, which creates light trespass onto adjacent sites. The B rating takes into account the amount of light in the BL, BM, BH and BVH zones, which are in the direction of the luminaire OPPOSITE from the area intended to be lighted.

Uplight, which causes artificial sky glow. Lower uplight (zone UL) causes the most sky glow and negatively affects professional and academic astronomy. Upper uplight (UH) not reflected off a surface is mostly energy waste. The U rating defines the amount of light into the upper hemisphere with greater concern for the light at or near the horizontal angles (UL).

Glare, which can be annoying or visually disabling. The G rating takes into account the amount of frontlight in the FH and FVH zones as well as BH and BVH zones.

BUG ratings apply to the Lighting Zone of the property under consideration.

IX. TABLES (cont.) - Ordinance Text

IX. TABLES - TABLE C BUG RATING (cont.) - User's Guide

(Key: UH=Uplight High, UL=Uplight Low, BVH=Backlight Very High, BH=Backlight High, BM=Backlight Medium, BL=Backlight Low, FVH=Forward Light Very High, FH=Forward Light High, FM=Forward Light Medium, FL=Forward Light Low.)

In general, a higher BUG rating means more light is allowed in solid angles, and the rating increases with the lighting zone. However, a higher B (backlight) rating simply indicates that the luminaire directs a significant portion of light behind the pole, so B ratings are designated based on the location of the luminaire with respect to the property line. A high B rating luminaire maximizes the spread of light, and is effective and efficient when used far from the property line. When luminaires are located near the property line, a lower B rating will prevent unwanted light from interfering with neighboring properties.

At the 90-180 degree ranges:

- Zone 0 allows no light above 90 degrees.
- Zone 1 allows only 10 lumens in the UH and UL zones, 20 lumens total in the complete upper hemisphere. (This is roughly equivalent to a 5 W incandescent lamp).
- Zone 2 allows only 50 lumens in the UH and UL zones, 100 lumens total (less than a 25W incandescent lamp).
- Zone 3 allows only 500 lumens in the UH and UL zones, 1000 lumens total (about the output of a 75W incandescent bulb).
- Zone 4 allows only 1,000 lumens in the UH and UL zones, 2000 lumens total (about the output of a 100W incandescent bulb).

IX. TABLES (cont.) - Ordinance Text

Table C - 2 Maximum Allowable Uplight (BUG) Ratings - Continued

TABLE C-2	Lighting Zone 0	Lighting Zone 1	Lighting Zone 2	Lighting Zone 3	Lighting Zone 4
Allowed Uplight Rating	U0	U1	U2	U3	U4
Allowed % light emission above 90° for street or Area lighting	0%	0%	0%	0%	0%

Table C - 3 Maximum Allowable Glare (BUG) Ratings - Continued

TABLE C-3	Lighting Zone 0	Lighting Zone 1	Lighting Zone 2	Lighting Zone 3	Lighting Zone 4
Allowed Glare Rating	G0	G1	G2	G3	G4
Any luminaire not ideally oriented*** with 1 to less than 2 mounting heights to any property line of concern	G0	G0	G1	G1	G2
Any luminaire not ideally oriented*** with 0.5 to 1 mounting heights to any property line of concern	G0	G0	G0	G1	G1
Any luminaire not ideally oriented*** with less than 0.5 mounting heights to any property line of concern	G0	G0	G0	G0	G1

*** Any luminaire that cannot be mounted with its backlight perpendicular to any property line within 2X the mounting heights of the luminaire location shall meet the reduced Allowed Glare Rating in Table C-3.

TABLE D EXAMPLE - PERFORMANCE METHOD - User's Guide

The first step in the Performance Method is to establish the Site Total Initial Site Lumens which regulates overlighting. The performance method allows layers of light depending on the complexity of the site.

Table D establishes the basic total initial site lumens allowed. These lumen allowances are added together for a total initial site lumen allowance. Allowances include:

1) Initial lumen allowance per site

2) Per area (SF) of hardscape

IX. TABLES (cont.) - Ordinance Text

Table D Performance Method Allowed Total Initial Site Lumens

May be used on any project.

Lighting Zone	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Allowed Lumens Per SF	0.5	1.25	2.5	5.0	7.5
Allowed Base Lumens Per Site	0	3,500	7,000	14,000	21,000

Table E Performance Method Additional Initial Luminaire Lumen Allowances. All of the following are "use it or lose it" allowances.

All area and distance measurements in plan view unless otherwise noted.

Lighting Application	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Additional Lumens Allowances for All Buildings except service stations and outdoor sales facilities. A MAXIMUM OF THREE (3) ALLOWANCES ARE PERMITTED. THESE ALLOWANCES ARE "USE IT OR LOSE IT".					
Building Entrances or Exits. This allowance is per door. In order to use this allowance, luminaires must be within 20 feet of the door.	400	1,000	2,000	4,000	6,000
Building Facades. This allowance is lumens per unit area of building façade that are illuminated. To use this allowance, luminaires must be aimed at the façade and capable of illuminating it without obstruction.	0	0	8/SF	16/SF	24/SF

TABLE E PERFORMANCE METHOD - User's Guide

The allowable light levels for these uses defined in Table E may be used to set a prescriptive lighting allowance for these uses in each lighting zone. It should be noted that the lighting allowance defined in Table E is only applicable for the area defined for that use and cannot be transferred to another area of the site. For some uses, such as outdoor sales, the jurisdiction is encourages to define a percentage of the total hardscape area that is eligible for the additional lighting allowance. For example, a set percentage of a car dealership's lot may be considered a display area and receive the additional lighting allowance where the remainder of the lot would be considered storage, visitor parking, etc. and cannot exceed the base light levels defined in Table A.

TABLE E EXAMPLE - PERFORMANCE METHOD - User's Guide

IX. TABLES (cont.) - Ordinance Text

Table E - Performance Method Additional Initial Lumen Allowances (cont.)

Lighting Application	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Sales or Non-sales Canopies. This allowance is lumens per unit area for the total area within the drip line of the canopy. In order to qualify for this allowance, luminaires must be located under the canopy.	0	3/SF	6/SF	12/SF	18/SF
Guard Stations. This allowance is lumens per unit area of guardhouse plus 2000 sf per vehicle lane. In order to use this allowance, luminaires must be within 2 mounting heights of a vehicle lane or the guardhouse.	0	6/SF	12/SF	24/SF	36/SF
Outdoor Dining. This allowance is lumens per unit area for the total il-luminated hardscape of outdoor dining. In order to use this allowance, luminaires must be within 2 mounting heights of the hardscape area of outdoor dining	0	1/SF	5/SF	10/SF	15/SF
Drive Up Windows. This allowance is lumens per window. In order to use this allowance, luminaires must be within 20 feet of the center of the window.	0	2,000 lumens per drive-up window	4,000 lumens per drive-up window	8,000 lumens per drive-up window	8,000 lumens per drive-up window
Additional Lumens Allowances for Service Stations only. Service stations may not use any other additional allowances.					
Vehicle Service Station Hardscape. This allowance is lumens per unit area for the total illuminated hardscape area less area of buildings, area under canopies, area off property, or areas obstructed by signs or structures. In order to use this allowance, luminaires must be illuminating the hardscape area and must not be within a building, below a canopy, beyond property lines, or obstructed by a sign or other structure.	0	4/SF	8/SF	16/SF	24/SF

IX. TABLES (cont.) - Ordinance Text

Table E - Performance Method Additional Initial Lumen Allowances (cont.)

Lighting Application	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Vehicle Service Station Canopies. This allowance is lumens per unit area for the total area within the drip line of the canopy. In order to use this allowance, luminaires must be located under the canopy.	0	8/SF	16/SF	32/SF	32/SF
Additional Lumens Allowances for Outdoor Sales facilities only. Outdoor Sales facilities may not use any other additional allowances. **NOTICE:** lighting permitted by these allowances shall employ controls extinguishing this lighting after a curfew time to be determined by the Authority.					
Outdoor Sales Lots. This allowance is lumens per square foot of uncovered sales lots used exclusively for the display of vehicles or other merchandise for sale, and may not include driveways, parking or other non sales areas and shall not exceed 25% of the total hardscape area. To use this allowance, Luminaires must be within 2 mounting heights of the sales lot area.	0	4/SF	8/SF	12/SF	18/SF
Outdoor Sales Frontage. This allowance is for lineal feet of sales frontage immediately adjacent to the principal viewing location(s) and unobstructed for its viewing length. A corner sales lot may include two adjacent sides provided that a different principal viewing location exists for each side. In order to use this allowance, luminaires must be located between the principal viewing location and the frontage outdoor sales area.	0	0	1,000/ LF	1,500/ LF	2,000/ LF

IX. TABLES (cont.) - Ordinance Text

Table F Maximum Vertical Illuminance at any point in the plane of the property line

Lighting Zone 0	Lighting Zone 1	Lighting Zone 2	Lighting Zone 3	Lighting Zone 4
0.05 FC or 0.5 LUX	0.1 FC or 1.0 LUX	0.3 FC or 3.0 LUX	0.8 FC or 8.0 LUX	1.5 FC or 15.0 LUX

TABLE G RESIDENTIAL LIGHTING - User's Guide

Residential Light Levels

Most residential lighting has traditionally used incandescent lamps which are identified by their wattage. However, since new technologies provide more light for fewer watts, it is no longer possible to regulate residential lighting solely by providing a maximum wattage. Table G, therefore, lists maximum initial luminaire lumens only.

IX. TABLES (cont.) - Ordinance Text

Table G - Residential Lighting Limits

Lighting Application	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Row 1 Maximum Allowed Luminaire Lumens* for Unshielded Luminaires at one entry only	Not allowed	420 lumens	630 lumens	630 lumens	630 lumens
Row 2 Maximum Allowed Luminaire Lumens* for each Fully Shielded Luminaire	630 lumens	1,260 lumens	1,260 lumens	1,260 lumens	1,260 lumens
Row 3 Maximum Allowed Luminaire Lumens* for each Unshielded Luminaire excluding main entry	Not allowed	315 lumens	315 lumens	315 lumens	315 lumens
Row 4 Maximum Allowed Luminaire Lumens* for each Landscape Lighting	Not allowed	Not allowed	1,050 lumens	2,100 lumens	2,100 lumens
Row 5 Maximum Allowed Luminaire Lumens* for each Shielded Directional Flood Lighting	Not allowed	Not allowed	1,260 lumens	2,100 lumens	2,100 lumens
Row 6 Maximum Allowed Luminaire Lumens* for each Low Voltage Landscape Lighting	Not allowed	Not allowed	525 lumens	525 lumens	525 lumens

*** Luminaire lumens equals Initial Lamp Lumens for a lamp, multiplied by the number of lamps in the luminaire**

X. DEFINITIONS - User's Guide

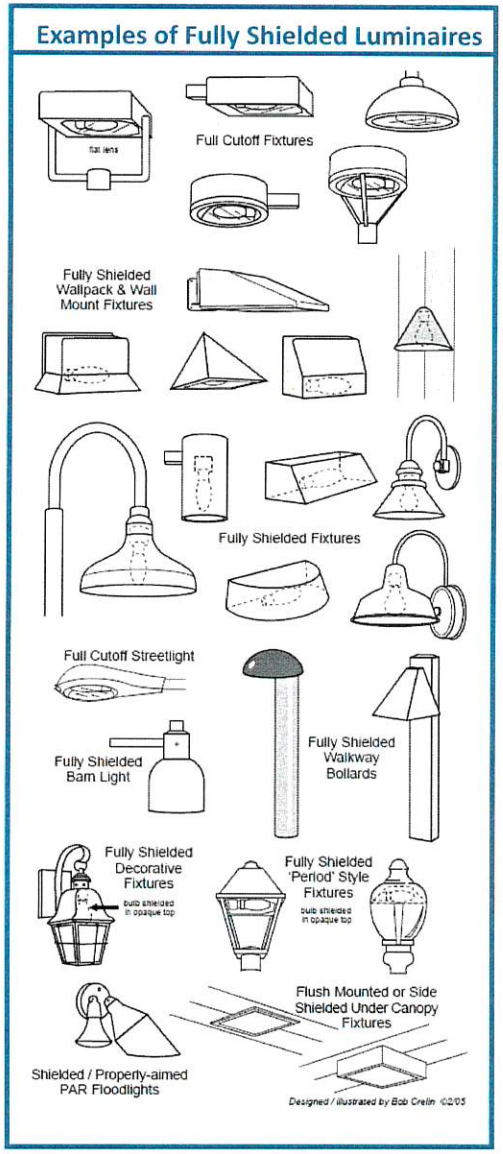
Definitions are typically generally added to any code when new code sections are added. The definitions are legally required and play a significant role in the interpretation of the ordinance and code.

Most city attorneys will not accept references to outside sources regardless of credibility, such as the IES Handbook. Thus as a general rule, a definition for an unfamiliar term (e.g. lumens) must be added by the adopting ordinance.

When adopting or integrating the MLO definitions, be sure to retire conflicting technical terminology. In particular, the latest IES Luminaire Classification System as defined in IES TM-15-07 is likely to need attention.

X. DEFINITIONS - Ordinance Text

Absolute Photometry	Photometric measurements (usually of a solid-state luminaire) that directly measures the footprint of the luminaire. Reference Standard IES LM-79
Architectural Lighting	Lighting designed to reveal architectural beauty, shape and/or form and for which lighting for any other purpose is incidental.
Authority	The adopting municipality, agency or other governing body.
Astronomic Time Switch	An automatic lighting control device that switches outdoor lighting relative to time of solar day with time of year correction.
Backlight	For an exterior luminaire, lumens emitted in the quarter sphere below horizontal and in the opposite direction of the intended orientation of the luminaire. For luminaires with symmetric distribution, backlight will be the same as front light.
BUG	A luminaire classification system that classifies backlight (B), uplight (U) and glare (G).
Canopy	A covered, unconditioned structure with at least one side open for pedestrian and/or vehicular access. (An unconditioned structure is one that may be open to the elements and has no heat or air conditioning.)
Common Outdoor Areas	One or more of the following: a parking lot; a parking structure or covered vehicular entrance; a common entrance or public space shared by all occupants of the domiciles.
Curfew	A time defined by the authority when outdoor lighting is reduced or extinguished.



X. DEFINITIONS - Ordinance Text

Emergency conditions	Generally, lighting that is only energized during an emergency; lighting fed from a backup power source; or lighting for illuminating the path of egress solely during a fire or other emergency situation; or, lighting for security purposes used solely during an alarm.
Footcandle	The unit of measure expressing the quantity oflight received on a surface. One footcandle is the illuminance produced by a candle on a surface one foot square from a distance of one foot.
Forward Light	For an exterior luminaire, lumens emitted in the quarter sphere below horizontal and in the direction of the intended orientation of the luminaire.
Fully Shielded Luminaire	A luminaire constructed and installed in such a manner that all light emitted by the luminaire, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane through the luminaire's lowest light-emitting part.
Glare	Lighting entering the eye directly from luminaires or indirectly from reflective surfaces that causes visual discomfort or reduced visibility.
Hardscape	Permanent hardscape improvements to the site including parking lots, drives, entrances, curbs, ramps, stairs, steps, medians, walkways and non-vegetated landscaping that is 10 feet or less in width. Materials may include concrete, asphalt, stone, gravel, etc.
Hardscape Area	The area measured in square feet of all hardscape. It is used to calculate the Total Site Lumen Limit in both the Prescriptive Method and Performance Methods. Refer to Hardscape definition.

X. DEFINITIONS - Ordinance Text

Hardscape Perimeter	The perimeter measured in linear feet is used to calculate the Total Site Lumen Limit in the Performance Method. Refer to Hardscape definition.
IDA	International Dark-Sky Association.
IESNA	Illuminating Engineering Society of North America.
Impervious Material	Sealed to severely restrict water entry and movement
Industry Standard Lighting Software	Lighting software that calculates point-by-point illuminance that includes reflected light using either ray-tracing or radiosity methods.
Lamp	A generic term for a source of optical radiation (i.e. "light"), often called a "bulb" or "tube". Examples include incandescent, fluorescent, high-intensity discharge (HID) lamps, and low pressure sodium (LPS) lamps, as well as light-emitting diode (LED) modules and arrays.
Landscape Lighting	Lighting of trees, shrubs, or other plant material as well as ponds and other landscape features.
LED	Light Emitting Diode.
Light Pollution	Any adverse effect of artificial light including, but not limited to, glare, light trespass, sky-glow, energy waste, compromised safety and security, and impacts on the nocturnal environment.

X. DEFINITIONS - Ordinance Text

Light Trespass	Light that falls beyond the property it is intended to illuminate.
Lighting	"Electric" or "man-made" or "artificial" lighting. See "lighting equipment".
Lighting Equipment	Equipment specifically intended to provide gas or electric illumination, including but not limited to, lamp(s), luminaire(s), ballast(s), poles, posts, lens(s), and related structures, electrical wiring, and other necessary or auxiliary components.
Lighting Zone	An overlay zoning system establishing legal limits for lighting for particular parcels, areas, or districts in a community.
Lighting Equipment	Equipment specifically intended to provide gas or electric illumination, including but not limited to, lamp(s), luminaire(s), ballast(s), poles, posts, lens(s), and related structures, electrical wiring, and other necessary or auxiliary components.
Low Voltage Landscape Lighting	Landscape lighting powered at less than 15 volts and limited to luminaires having a rated initial luminaire lumen output of 525 lumens or less.
Lumen	The unit of measure used to quantify the amount of light produced by a lamp or emitted from a luminaire (as distinct from "watt," a measure of power consumption).
Luminaire	The complete lighting unit (fixture), consisting of a lamp, or lamps and ballast(s) (when applicable), together with the parts designed to distribute the light (reflector, lens, diffuser), to position and protect the lamps, and to connect the lamps to the power supply.

***Mounting Height*: The horizontal spacing of poles is often measured in units of "mounting height". Example: "The luminaires can be spaced up to 4 mounting heights apart."**

X. DEFINITIONS - Ordinance Text

Luminaire Lumens	For luminaires with relative photometry per IES, it is calculated as the sum of the initial lamp lumens for all lamps within an individual luminaire, multiplied by the luminaire efficiency. If the efficiency is not known for a residential luminaire, assume 70%. For luminaires with absolute photometry per IES LM-79, it is the total luminaire lumens. The lumen rating of a luminaire assumes the lamp or luminaire is new and has not depreciated in light output.
Lux	The SI unit of illuminance. One lux is one lumen per square meter. 1 Lux is a unit of incident illuminance approximately equal to 1/10 footcandle.
Mounting height	The height of the photometric center of a luminaire above grade level.
New lighting	Lighting for areas not previously illuminated; newly installed lighting of any type except for replacement lighting or lighting repairs.
Object	A permanent structure located on a site. Objects may include statues or artwork, garages or canopies, outbuildings, etc.
Object Height	The highest point of an entity, but shall not include antennas or similar structures.
Ornamental lighting	Lighting that does not impact the function and safety of an area but is purely decorative, or used to illuminate architecture and/or land-scaping, and installed for aesthetic effect.

X. DEFINITIONS - Ordinance Text

Ornamental Street Lighting	A luminaire intended for illuminating streets that serves a decorative function in addition to providing optics that effectively deliver street lighting. It has a historical period appearance or decorative appearance, and has the following design characteristics: · designed to mount on a pole using an arm, pendant, or vertical tenon; · opaque or translucent top and/or sides; · an optical aperture that is either open or enclosed with a flat, sag or drop lens; · mounted in a fixed position; and · with its photometric output measured using Type C photometry per IESNA LM-75-01.
Outdoor Lighting	Lighting equipment installed within the property line and outside the building envelopes, whether attached to poles, building structures, the earth, or any other location; and any associated lighting control equipment.
Partly shielded luminaire	A luminaire with opaque top and translucent or perforated sides, designed to emit most light downward.
Pedestrian Hardscape	Stone, brick, concrete, asphalt or other similar finished surfaces intended primarily for walking, such as sidewalks and pathways.
Photoelectric Switch	A control device employing a photocell or photodiode to detect daylight and automatically switch lights off when sufficient daylight is available.
Property line	The edges of the legally-defined extent of privately owned property.

X. DEFINITIONS - Ordinance Text

Relative photometry	Photometric measurements made of the lamp plus luminaire, and adjusted to allow for light loss due to reflection or absorption within the luminaire. Reference standard: IES LM-63.
Repair(s)	The reconstruction or renewal of any part of an existing luminaire for the purpose of its on-going operation, other than relamping or replacement of components including capacitor, ballast or photocell. Note that retrofitting a luminaire with new lamp and/or ballast technology is not considered a repair and for the purposes of this ordinance the luminaire shall be treated as if new. "Repair" does **not** include normal relamping or replacement of components including capacitor, ballast or photocell.
Replacement Lighting	Lighting installed specifically to replace existing lighting that is sufficiently broken to be beyond repair.
Sales area	Uncovered area used for sales of retail goods and materials, including but not limited to automobiles, boats, tractors and other farm equipment, building supplies, and gardening and nursery products.
Seasonal lighting	Temporary lighting installed and operated in connection with holidays or traditions.
Shielded Directional Luminaire	A luminaire that includes an adjustable mounting device allowing aiming in any direction and contains a shield, louver, or baffle to reduce direct view of the lamp.
Sign	Advertising, directional or other outdoor promotional display of art, words and/or pictures.

X. DEFINITIONS - Ordinance Text

Sky Glow	The brightening of the nighttime sky that results from scattering and reflection of artificial light by moisture and dust particles in the atmosphere. Skyglow is caused by light directed or reflected upwards or sideways and reduces one's ability to view the night sky.
Temporary lighting	Lighting installed and operated for periods not to exceed 60 days, completely removed and not operated again for at least 30 days.
Third Party	A party contracted to provide lighting, such as a utility company.
Time Switch	An automatic lighting control device that switches lights according to time of day.
Translucent	Allowing light to pass through, diffusing it so that objects beyond cannot be seen clearly (not transparent or clear).
Unshielded Luminaire	A luminaire capable of emitting light in any direction including downwards.
Uplight	For an exterior luminaire, flux radiated in the hemisphere at or above the horizontal plane.
Vertical Illuminance	Illuminance measured or calculated in a plane perpendicular to the site boundary or property line.

XI. OPTIONAL STREETLIGHT ORDINANCE - User's Guide

This section was added since the first public review. It is designed to work closely with the proposed revision to ANSI/IES RP-8 Standard Practice for Roadway and Street Lighting.

Street and roadway lighting is one of the world's largest causes of artificial skyglow. Many adopting agencies will recognize that the MLO will make privately owned lighting more efficient and environmentally responsible than their street lighting systems. But because the process of designing street lighting often requires more precise lighting calculations, applying the MLO directly to street lighting is not advised. Using existing standards of street lighting is recommended, particularly IES RP-8 and AASHTO standards.

Until a new recommended practice for street lighting can be developed, this section can serve to prevent most of the uplight of street lighting systems without setting specific requirements for the amount of light, uniformity of light, or other performance factors. Adopting agencies should include these basic improvements to street lighting along with regulations to private lighting.

Lighting streets with "period" ornamental luminaires that evoke the look of a time when the light source was a gas flame can cause glare if high-lumen lamps are used. Such ornamental street lights should not exceed a BUG rating of G1. If additional illuminance and/or uniformity is desired, the ornamental fixtures should be supplemented by higher mounted fully shielded luminaires, as illustrated in RP-33-99.

Few street lighting warranting processes exist. The adopting agency needs to gauge whether a complex warranting systems is required, or if a simple one using posted speeds, presence of pedestrians, or other practical considerations is sufficient.

Examples of a current street lighting warranting system are included in the Transportation Association of Canada's Guide for the Design of Roadway Lighting 2006.

XI. OPTIONAL STREETLIGHT ORDINANCE - Ordinance Text

Note to the adopting authority: the intent of this section is that it only applies to streets and not to roadways or highways.

A. Preamble

The purpose of this Ordinance is to control the light pollution of street lighting, including all collectors, local streets, alleys, sidewalks and bike-ways, as defined by ANSI/IES RP-8 Standard Practice for Roadway and Street Lighting and in a manner consistent with the Model Lighting Ordinance.

B. Definitions

Roadway or Highway lighting is defined as lighting provided for freeways, expressways, limited access roadways, and roads on which pedestrians, cyclists, and parked vehicles are generally not present. The primary purpose of roadway or highway lighting is to help the motorist remain on the roadway and help with the detection of obstacles within and beyond the range of the vehicle's headlights.

Street lighting is defined as lighting provided for major, collector, and local roads where pedestrians and cyclists are generally present. The primary purpose of street lighting is to help the motorist identify obstacles, provide adequate visibility of pedestrians and cyclists, and assist in visual search tasks, both on and adjacent to the roadway.

Ornamental Street Lighting is defined as a luminaire intended for illuminating streets that serves a decorative function in addition to providing optics that effectively deliver street lighting. It has a historical period appearance or decorative appearance, and has the following design characteristics:

- designed to mount on a pole using an arm, pendant, or vertical tenon;
- opaque or translucent top and/or sides;
- an optical aperture that is either open or enclosed with a flat, sag or drop lens;
- mounted in a fixed position; and
- with its photometric output measured using Type C photometry per IESNA LM-75-01.

XI. OPTIONAL STREETLIGHT ORDINANCE - Ordinance Text

C. Scope

All street lighting not governed by regulations of federal, state or other superceding jurisdiction.

EXCEPTION: lighting systems mounted less than 10.5 feet above street level and having less than 1000 initial lumens each.

D. Master Lighting Plan

The Authority shall develop a Master Lighting Plan based on the American Association of State Highway and Transportation Officials (AASHTO) Roadway Lighting Design Guide GL-6, October 2005, Chapter 2. Such plan shall include, but not be limited to, the Adoption of Lighting Zones and:

1. Goals of street lighting in the jurisdiction by Lighting Zone
2. Assessment of the safety and security issues in the jurisdiction by Lighting Zone
3. Environmentally judicious use of resources by Lighting Zone
4. Energy use and efficiency by Lighting Zone
5. Curfews to reduce or extinguish lighting when no longer needed by Lighting Zone

E. Warranting

The Authority shall establish a warranting process to determine whether lighting is required. Such warranting process shall not assume the need for any lighting nor for continuous lighting unless conditions warrant the need. Lighting shall only be installed where warranted.

XI. OPTIONAL STREETLIGHT ORDINANCE - Ordinance Text

F. Light Shielding and Distribution

All street lighting shall have no light emitted above 90 degrees.

Exception: Ornamental street lighting for specific districts or projects shall be permitted by special permit only, and shall meet the requirements of Table H below without the need for external field-added modifications.

Table H - Uplight Control Requirements for Ornamental Street Lights - by Special Permit Only

Lighting Zone	Maximum Uplight Rating
LZ-0	U-0
LZ-1	U-1
LZ-2	U-2
LZ-3	U-3
LZ-4	U-4

10.28.100 Parking Requirements Of Private Recreational Vehicles In Residential Zones

The location or storage of mobile homes, travel trailers, recreational vehicles, boats, camping trailers and truck campers, and other recreational vehicles and equipment owned by the property owner, may be parked, subject to the following:

A. Recreational vehicles, including boats, travel trailers, motor homes, horse trailers and similar vehicles kept in reasonable repair and operable condition, may be located in a detached or attached garage, or other accessory building, or parked in the rear yard or side yard and screened from front yards and streets by a wall, fence, gate, landscaping or other suitable screening material.

B. A mobile home, travel trailer, recreational vehicle, boat, camping trailer or truck camper may be located in the front yard for the purposes of loading and unloading for a period not to exceed forty eight (48) hours.

C. A recreational vehicle may be occupied temporarily by family members or guests of the owner. However, no boat, trailer, motor home, travel trailer or similar recreational vehicle shall be occupied for a period greater than one hundred twenty (120) days.

HISTORY
Adopted by Ord. 2019-09 on 6/12/2019

10.28.230 Accessory Buildings And Accessory Uses General Requirements

A. Accessory buildings and accessory uses may be authorized in association with a primary building or primary use.

B. Accessory buildings and accessory uses shall only be authorized concurrently with, or following, the establishment of the primary building or primary use.

C. An accessory garage may be attached to, or detached from, the primary building.

    1. An accessory garage that is attached to a primary building shall meet all requirements for the location of the primary building.

        a. All garages and other accessory buildings located within ten feet (10') of the primary building shall be considered attached and part of the primary building and the setback requirements applicable to the primary building shall apply

        b. See also AVLU 10.28.240.

D. An accessory garage that is detached from a primary building shall meet all requirements for the location of a detached accessory building, as provided herein.

    1. All garages and other accessory buildings located ten feet (10') or more away from the primary building may be located no less than three feet (3') from the side or rear property line, and no portion of any garage or accessory building, including any roof overhangs, shall be allowed within one foot (1') of any property line.

    2. No storm water runoff from any accessory building shall be allowed to run onto adjacent property.

    3. See also AVLU 10.28.240.

E. Accessory buildings, located on corner lots, shall meet the required corner side yard setback, applicable in the zoning district in which the accessory building is located.

F. Accessory buildings, except for agricultural use accessory buildings, shall be constructed of similar materials and colors and be an architectural style designed to blend with the primary building.

G. Agricultural use accessory buildings, including barns and stables, shall be constructed of serviceable building materials.

H. Accessory buildings shall comply with the requirements of the adopted building code, as applicable.

I. No mobile home, travel trailer, boat or similar recreational vehicle shall be used as an accessory building.

J. No shipping container, cargo container, shipping crate, box, trailer or similar piece of equipment or object shall be used as an accessory building, unless said container meets the requirements of this section.

K. No utility connections or meters, separate from the primary building, shall be allowed for accessory buildings. Unless required by code.

L. No accessory buildings shall be rented, leased or sold separately from the rental, lease or sale of the primary building.

M. No accessory building shall be used as a permanent dwelling unit.

N. No accessory building shall be located closer than three feet (3') to any side or rear property line, and no portion of any garage or accessory building, including any roof overhangs, shall be allowed within one foot (1') of any property line.

O. No storm water runoff from any accessory building shall be allowed to run onto adjacent property.

P. Accessory buildings used for the housing of domestic livestock or fowl shall comply with the requirements of AVLU 10.10.050 B.

HISTORY
Adopted by Ord. 2019-09 on 6/12/2019

APPLE VALLEY GENERAL PLAN

INTRODUCTION

The town of Apple Valley became incorporated in December, 2004. In compliance with the requirements of the State of Utah, this General Plan represents the efforts of the Apple Valley Planning Commission and the Apple Valley Town Council to comply with the requirements of the Utah Code to prepare a General Plan. The purpose is to provide guidance for the future growth and development of the valley. Included in this planning effort was a community survey sent to all property owners in the town to gain input as to the things that are important to those that live here. This plan then, becomes the first comprehensive look at the new town of Apple Valley.

BASIS AND PURPOSE FOR PLANNING

The authority for a General Plan comes from enabling legislation passed by the State of Utah and found in the Utah Code, Article 10, which outlines the methods to be followed, and charges the Town Planning Commission with the responsibility of developing a General Plan for the Town.

Many other public agencies are also involved in planning for areas for which they are responsible. These other agencies include the Bureau of Land Management and Utah Institutional and Trust Lands, both of whom control property within the town limits. In addition, Washington County unincorporated area surrounds the town boundary and the incorporated towns of Rockville and Hildale are located in close proximity to Apple Valley.

THE PURPOSE OF THE PLAN

The purpose of the General Plan is to serve as a guide for orderly development of the town. It sets the pattern for growth and change. It expresses the goals as to what the area should look like in the future and it establishes policies or guidelines for achieving these goals. Under the enabling legislation of the State of Utah, the town has the choice of either adopting the plan as a non-binding guide to development, or the town may adopt the plan by ordinance. Should the plan be adopted by ordinance the plan must be amended prior to approving any development that might be contrary to the principles identified by the plan.

A general plan comes about because of the efforts of many people, and should be used as a guide to future development. When questions arise regarding the change of a zoning classification, the approval of a subdivision development, or the creation of public services or recreation facilities, along with other activities of the town, the General Plan provides a measuring device to determine the benefit of the proposal to the residents. Such planning, by conscientious officials, with the support of a concerned citizenry, will insure that Apple Valley remains a desirable community into the future.

THE GENERAL PLAN AND ACTION

Effectuating the plan is the responsibility of both public and private groups. The plan alone does not cause things to happen, nor does it give precise recommendations for development of various projects. The plan provides a "road map" to follow. The implementation of the plan is brought about by the adoption of adoption of implementing ordinances which may include the Land Use Ordinance (Zoning Ordinance), the Subdivision Ordinance, a Capital Improvement Plan, a Road and

Circulation plan, or other plans and ordinances that may be adopted by the town.

THE LAND USE ORDINANCE (Previously called the zoning ordinance)

The General plan is not a zoning plan. The General Plan map projects future development whereas the land use map reflects existing conditions. All future land use actions taken by the town should bear a relationship to the General Plan, or that the Plan should first have been amended. Periodically, the Plan should be studied and updated in order to keep it in harmony with current development trends.

Some of the recommendations of the Plan indicate development as it should occur over a long period of time. These recommendations should be recognized as not being feasible at this point in time. Some development proposed by the Plan may never take place. Therefore, it would not be wise for the land use map to immediately reflect, as nearly as possible, present day conditions and should be amended and changed as future development takes place, which over time, bring it into harmony with the General Plan Map. Land use changes may be initiated by an individual person relative to their own property, a group of people acting together relative to their property, by the planning commission as a body, or by the town council, acting as the legislative body of the town.

THE SUBDIVISION ORDINANCE

The subdivision ordinance is the vehicle for bringing about the quality of development that is anticipated by the General Plan and the Land Use Ordinance. This ordinance should be revised and amended as necessary to provide proper guidance to development in all parts of the town. Utah law places the responsibility of guiding subdivision development upon local officials. Developers need to know beforehand the things that will be required of them when they develop land in the town. Requirements must be consistent with all developers and the subdivision ordinance is the vehicle for providing this consistency. The ordinance may be amended from time to time upon recommendation of the planning commission to the town board upon recommendation of the planning commission to the town board as development of technology and conditions change.

The town does not participate nor enforce home owners associations (HOA)/, codes, covenants and restrictions (CC and R's). Developments may, however, establish a home owner's association; the rules of which cannot be less than established town ordinances. The HOA/CC and R's rules can be "stricter" than town ordinances.

CITY IMPROVEMENTS

A plan for future improvements is another form of planning implementation. Needed public improvements may be identified in the General Plan. This ordinance should be revised and amended as necessary to provide property guidance to development in all parts of the town. The town cannot afford to construct every improvement that is needed, or that residents would like to see developed, all at the same time. This Plan recommends many changes that cannot be financed at once. Some things will need to be implemented soon, others may be put off for several years, or until sufficient funds can be budgeted. The town has moved forward with improvements in the past ten years to include recreation facilities, water infrastructure and service district, fire department, and building renovations.

IMPACT FEES

Impact fees to offset the cost of adding infrastructure to the town should, for the most part, be borne by those requiring the additional service. A system of impact fees for needed services should be implemented as necessary to assist in expanding these services.

COMMUNITY INVOLVEMENT

Involved citizens are usually much more interested and concerned with upholding good planning principles than are citizens who rarely, if ever, make their thoughts and ideas known to the public officials who represent them. The town should make sure that agendas for public meetings are properly advertised, and before making decisions that affect the future of the citizens, it is well to hold public meetings, at which time ideas can be discussed openly before decisions are made.

Many meetings are lightly attended by residents unless they individually have something on the agenda. As citizens get involved in town government by volunteering their time for various communities, boards, or regular meetings, they will begin to understand how the town functions and why decisions were made as they were. Citizens should feel free to offer their talents, services, and ideas for the overall good of the Town.

UNDERSTANDING THE PLAN

The General Plan identifies various land use categories and considers the use and location of each of these classifications. Many of these types of land use are considered in terms of Goals and Policies that are adopted as a part of the Plan. Goals and Policies are described as follows:

A GOAL represents an objective relative to some aspect of development that the town has determined to achieve.

A POLICY is an action, or series of actions, that will allow, or help, the town to achieve the desired goal.

As a part of the General Plan it is necessary to determine what the town would like to achieve whether it is economic development or maintenance of open space, or something else. Secondary to identifying these goals, is the determination of how to achieve the desired goal. A policy may be something the town needs to do; it may require the cooperation of some outside entity with the town; it may require action on the part of individuals, property owners, or others who can assist in bringing about the desired objective. The development of goals and policies constitutes an important plan, and an area that must be reviewed on a regular basis to determine whether or not these things are being met.

ELEMENTS OF THE PLAN

The town of Apple Valley is a beautiful area with many unique characteristics. There are many qualities about the area that set it apart from other areas of the County. Therefore, as the town continues to grow and develop, it is necessary that the things that make Apple Valley what it is, are preserved. There may be some limitations on the future of the town such as a limited amount of culinary water, ability to improve and maintain roads, stated desires as to how a specific property owner would like to see their property developed. The elements that make up a community include a variety of land use categories including residential development of various types and densities, commercial development, industrial development, public facilities, roadways, parks, schools, etc.

It is the intent of the plan to guide development in a manner that will maintain and protect the values that have caused people to come to this area. The goals and policies of the Town to accomplish this purpose are identified in the various elements of the plan.

BACKGROUND AND HISTORY

When the early pioneer settlers came to Washington County under the direction of their religious leader, Brigham Young, in the 1850's, they found a harsh, dry desert country to try to settle. Some Indians roamed the area, notably the Paiutes, who had been here for many generations prior to the arrival of the pioneer settlers. The area was hot, dry, and a harsh environment in which to live. Settlements were generally found along streams or springs where water was more readily available. Very little settlement took place in the drier, arid locations of the region.

As agreements were forged with the Indians, it became practical for the settlers to branch out into livestock raising, and to graze livestock in areas that were not suitable for farming. The Pipe Springs Ranch, developed by the James Whitmore family, was one of the earliest efforts at livestock raising on a large scale. In 1871 a Navajo Chief promised no more raids on the people of the county after which the livestock industry spread out in all directions. The Maxwell and Canaan Livestock Company utilized the land known as the "Big Plains" area for livestock raising, and were among the earliest settlers to use that area of the county.

Between 1888 and 1901, David Flanigan built a cable system for the purpose of bringing timber from the upper Canaan Mesa to the lower valley. In 1930, Zion National Park undertook to build a tunnel through the Park to connect the Zion Canyon area with Kane County and Highway 89 east of the park. This action in turn, brought more tourists to the area. To accommodate increased tourism the Park Service constructed a bridge across the Virgin River at Rockville, which brought tourist traffic to the Big Plains area of the County.

Dry farming, that is farming in areas without water and depending upon nature to provide enough water for crops, came into being in the early 1900's. In 1912 the Big Plains area was opened up to homesteading and was taken up mostly by residents of Rockville and Springdale. Crops grown on the land consisted primarily of wheat which was harvested every other year with the land being left fallow or unplanted, on alternate years. Dry farming reached its peak after World War II and Emil J. Graf purchased most of the big plains. He employed as many as fifty men in his farming operations.

The earliest settlers moved into the Big Plains area came during the late 1930's through the 1950's. In 1962 the town of Hildale was incorporated on the Utah side of the Utah - Arizona border. Some scattered ranch dwellings also took place during that time. In 1985 Ted Gubler undertook to develop a water system and an accompanying-subdivision development on the Little Plains bench, calling the area Apple Valley, and giving apple names to the streets. The first phase of the development was on the south side of State Highway 59, with later phases being developed north of the Highway. His first subdivision plat was recorded in May of 1986. Later subdivision developments took place elsewhere in the Big Plains area, including the Canaan Mountain Estates subdivision recorded in December of 1995 by Merlin Webb, and a more recent subdivision called the South Zion Estates developed by Jerry Eves, the first phase of which was recorded in November 2002. Additional homes have developed on other properties throughout the area as the Big Plains continues to be a desirable place to live. As a part of his subdivision development, Merlin Webb opened a small store adjacent to his subdivision, and more recently a service station and store has opened at the entrance to the Apple Valley Ranch subdivision. In the summer of 2004, the residents of the Apple Valley area petitioned Washington County for incorporation of the valley into a town. The name selected by the residents was Apple Valley. This effort culminated in the incorporation of the town on the 14th Day of October, 2004.

In 1998, Washington County created the Southeastern SSD. This new Fire District filled the need of fire protection for the growing area. This was an existing group of volunteer Firefighters that housed their equipment in a large metal shed on Rome Way. They started with about 10 Firefighters, an old Fire

Engine, a Brush Truck and Brush Gear. Turnout gear was acquired later. In 2005 Washington County Commissioners dissolved the Southeastern SSD Fire District and turned the responsibility of financing the Fire Department over to the Town of Apple Valley.

In 2011 the Town of Apple Valley created the Big Plains Water & Sewer Special Service District (SSD).

In 2013 the Town's Park was created and playground equipment was installed along with sod and trees. The park was expanded in 2014 with the addition of more sod, more trees and a 40ft x 60ft Park pavilion.

In 2015 Big Plains Water & Sewer SSD replaced the entire water distribution system serving the Apple Valley Ranch & Gooseberry subdivisions.

GEOLOGY, GEOGRAPHY AND TOPOGRAPHY

Washington County, in general, sits at the north-easterly edge of the Mojave Desert and at the foot of the Colorado Plateau. Therefore the geology of the area contains formations from many types of land and land forms. The Canaan Mountain at the easterly end of the valley is a part of the Colorado Plateau, while the big plain area itself is in a transitional zone between the Colorado Plateau to the east and the Mojave Desert extending westward from the Hurricane area. Climate-wise, residents of the Town find that their summers are several degrees cooler than temperatures in the lower valleys of Washington County. Conversely, they are also several degrees cooler in the winter months while still maintaining a very pleasant winter climate, the town is subject to small amounts of snowfall from time to time.

Apple Valley is served by a State Highway, Highway 59, running between Interstate 15 at Hurricane and Fredonia, along State Highway 89. This has become a major highway carrying traffic from northern Arizona, and states eastward to the freeway at Interstate 15, and then on to either Salt Lake City, or to Los Angeles. It will likely become more and more heavily traveled as the years go by. Zion National Park lies to the north-east of Apple Valley and many of the over 2,000,000 annual visitors to the Park travel the roadway connecting S. R. 59 with S.R. 9 at Rockville. The Rockville - Apple Valley road connecting with S.R. 59 intersects within the town boundaries. Apple Valley contains a total of over 33 sections of land, or a little over 21,120 acres. Of this total, 8980 acres are federal land under the jurisdiction of the Bureau of Land Management. A portion of the BLM land, approximately 800 acres, is presently included in the Washington County BLM wilderness study area and is proposed for wilderness designation. The actual study area, as identified by the BLM may be slightly larger than the county proposal, but the two plans are very close in terms of the total amount of land proposed for wilderness. An additional 460 acres of land belongs to the State of Utah Institutional Trust Lands. This leaves approximately 11,680 acres of privately owned land within the town borders.

Of the 11,680 acres of privately held land, there are approximately 400 acres that exist within presently platted and recorded subdivisions. These subdivisions include Apple Valley, Canaan Mountain Ranch, and South Zion Estates. The balance of the land is primarily used for livestock grazing or fanning. Approximately five acres are presently used for commercial development, and another eighty acres is presently designated as industrial land.

POPULATION

At the mid-census period, it becomes somewhat difficult to project such things as current and, or, future population. The Governor's office of Management and Budget, has prepared a long range population projection for all of the cities and towns in Washington County. These projections are shown below in Table 1.

Table 1

Apple Valley Population Projections
(Governor's Office of Management and Budget)

2010	701
2020	999
2030	1,424
2040	1,887
2050	2,399
2060	2,953

Calculations from the Governor's office of Planning and Budget have historically been low when compared to actual growth in Washington County, until we entered a recession beginning in 2007. These figures may be benchmarked again at the 2020 census, and depending upon the growth patterns established by this General Plan, guidance may be given to the location, lot sizes, and density of future development in the valley.

CURRENT LAND USE ANALYSIS

There is a lot of room for growth in Apple Valley. The entire town covers some 33 to 34 sections *of* land, or approximately 21,600 acres. A breakdown of land by use is contained in the following table:

Table 2.
Apple Valley Land Use Summary

Residential Land	810 acres	3.75% of total land area
Commercial Land	30 acres	.14% of total land area
Industrial Land	60 acres	.28% of total land area
Agricultural Land	350 acres	1.62% of total land area
School property	70 acres	.32% of total land area
Roads	198 acres	.92% of total land area
Open Space Land	10,432 acres	48.30% of total land area
State Land (Vacant)	455 acres	2.11% of total land area
BLM Land (Vacant)	9,195 acres	42.57% of total land area
Total Land Area	21,600 acres	100.00% of total land area

Residential land is made up of both platted and recorded subdivision lots and large lots that have been sold off over the years by a metes & bounds sale without having been subdivided. Commercial development is cur[r]ently limited to just two sites within the town and industrial development is limited to just one site within the town.

The agricultural land shown in the table is irrigated agricultural land. There may be additional farm land that is farmed by "dry-fanning" methods, but it not accounted for in the land use summary. Existing roads account for less than one percent of the total land area.

State Trust Land is found in a small amount within the town. It can be assumed that this land will become private land at some future time as the demand for development makes it practical for the State to disposal of the land. Much of the land under the direction of the Bureau of Land Management is located in wilderness study areas, much of which will likely receive a wilderness designation by Congress in the near future. Some BLM land is outside of the wilderness study areas. This land will also be disposed of for development at some future date. Some of the BLM land that may have recreational potential of one kind or another could be acquired by the town through the Recreation and Public Purpose clause in federal law. This land could be developed into various types of recreational land under the direction of the town. When such development is completed, the town may acquire the title to the land from the BLM. After acquisition, the land may only be used for the purpose for which it was acquired without further approval from the BLM.

The largest single category of land in the town is in the open space category. This land is privately owned and much of it is likely used for livestock grazing purposes inasmuch as livestock grazing was the reason for which most of the land in the town was originally acquired. This open space land is the area where the town should give the most careful direction in order to have the town grow and progress in such a manner as the residents would like to see it develop.

THE ENVIRONMENT

The open space in Apple Valley accounts for almost 50% of the total land area in the town. This category of land includes such land uses as designated wilderness area, washes and streams, as well as the large, mostly undeveloped areas of the town lying through the valley area.

The areas proposed for wilderness designation are located on Bureau of Land Management land. It is the responsibility of the United States Congress to officially designate land for wilderness throughout the United States. Such a bill is now being prepared to submit to congress for approval which could result in land along the eastern edge of the town, including the Smithsonian Butte, as wilderness in the very near future. When so designated, this limits the use of any motorized vehicle in a wilderness area. Other uses such as hiking, walking, horseback riding, and livestock grazing may still be permitted.

There are a number of washes and stream beds throughout the town. It will be necessary to identify these areas so that as development takes place, it can be guided away from areas that may have flood potential. Gould's wash is probably the most prominent of these washes and drainage areas, but long range planning should provide for the protection of washes even though they are most often dry because in time of heavy rain, they can carry a large amount of water. The town should do all that it can to avoid approving developments in areas where flooding is a possibility such that it could result in loss of live or property.

Most of the other privately owned undeveloped properties have potential for some type of more intensified development over a long period of time. The property owner will be the best person to determine when requests for development will take place, and what type of development it might be. It is important for the town to make sure than when requests for such change come that provision is made to all the change to take place and that the needs of future residents in terms of water, waste disposal, access, and other elements needed to change undeveloped land to

development are provided as a condition of re-classification of the land use category.

OTHER USES OF LAND

Other categories of land use in the town in addition to open space include such uses as agricultural development, residential development, commercial development, industrial development a circulation plan for streets and highways, Each of these land use categories will discussed individually in the plan and the goals for the future of each use will be identified along with policy decisions as to how best to achieve the goals that are stated.

OPEN SPACE

Open space is intended primarily for those areas of the town where it is desirable and necessary to provide permanent open spaces when such are necessary to safeguard the public health, safety, and general welfare. Reserved open space shall provide for the preservation of: the Smithsonian Butte, Gooseberry Mesa, Canaan Gap, natural vegetation, wildlife habitat, scenic values, and the location of recreations areas for the general public, and shall secure access to such areas for recreational purposes within the town. Open space areas of the town may include such things as Public Land, drainage channels and washes, unstable soils, reservoirs, livestock grazing lands, steep slopes, a lack of irrigation water, or a lack of culinary water. Land classified in open space should remain in this classification until any of the above conditions have been altered. At that time, the most appropriate land use classification should be determined. Following are goal and policies relative to the open space classification and use of land in the town of Apple Valley.

GOAL: Identify the open space land in the valley and determine whether it should be preserved for future development or retained in a permanent open space classification.

POLICIES:

- Maintain an open space designation along all of the streams and washes running through the town. Identify the 100 year flood plain along these streams and washes. In order to protect the health, safety, and welfare of the residents, do not issue building permits, or approve subdivisions in these areas.

- Encourage public agencies to maintain their lands in an open space category, and identify public lands in the town that could be considered for transfer to town or private ownership. Do not exchange public lands in the town for private lands elsewhere in the County.

- Establish land use classifications that will preserve the public lands and access to them, and will also preserve other types of land uses identified herein as open space areas.

- Encourage uses in open space areas that will allow them to remain as open space. This might include livestock grazing, recreation uses, water courses, reservoirs, and other similar uses.

- Consider the possibility of riding or hiking trails along streams or washes that

need to be maintained as open space.

AGRICULTURAL DEVELOPMENT

Agricultural areas are established to provide areas in which agricultural or agricultural business pursuits can be encouraged and supported within the town. This area is designed and intended to preserve existing large parcels of land currently in agricultural or agricultural business use intermixed with low density residential uses to protect an important part of the village atmosphere of the town.

GOAL: Identify agricultural areas within the town and provide protection from development in the areas identified. To maintain the quality of life that is realized from having agricultural land around the town.

POLICIES:

- Encourage green belt classification of all a[g]ricultural land.
- Encourage the establishment of agricultural protection areas for all areas presently devoted to agricultural uses.
- Encourage the continued use of pressurized sprinkling systems in agricultural areas to conserve water.
- Educate new residents as to the importance of agriculture to the town and solicit their support for the agricultural use of land in order to avoid citizen complaints about agricultural uses of land as other types of land uses move into the town.
- Encourage the Bureau of Land Management to not exchange land in the town for private land located elsewhere in the County.

RESIDENTIAL DEVELOPMENT

The residential area is established to provide areas in the town where residential uses may be harmoniously integrated with incidental agricultural pursuits. The area is intended to allow the keeping of farm animals and fowl in conjunction with single-family dwelling units to an extent consistent with town ordinances. It is also intended to retain land in parcels large enough to provide efficient and attractive residential development which preserves the historic and open agricultural and farm-type impression of the area. The town and its views of Zion National Park, Smithsonian Butte, and Canaan Gap have a national and international reputation for their natural beauty. The town relies on that scenic beauty to attract residents, travelers and tourists. Because of the unique topography, the area that comprises the town is an integral part of that scenic beauty and therefore must be protected.

GOAL: To provide for open space and low density, low profile, single-family dwellings which protect the indigenous characteristics and views of the area, and to make provisions for erosion, and other potential geologic hazards.

POLICIES:

- Maintain high standards of development for new residential development in the

town concerning the size of homes, and encourage the landscaping of Yard areas around homes. Use natural landscaping where practical.

- Encourage homeowners to use earth tones" on exterior and roof treatments when constructing new homes in order to create a community that harmonizes without calling undue attention to particular dwellings because of bright color tones.
- Continue to use the same standards for modular or manufactured homes as for other types of residential construction.

- The land use ordinance should be used to determine housing densities in different areas of the town. The overall density recommendations of the ground water protection study should be followed.

- Care must be given in residential areas to follow the transportation plan of the town to make sure that vehicular traffic can circulate easily throughout the residential areas of the town.

- Allow the transfer of densities within the overall density requirement, thus providing portions of land being allowed to remain in agricultural or open spaces uses.

- Establish minimum lot sizes for cluster housing, or for transfer[r]ed densities that will protect the health, safety, and welfare of the residents from sanitation problems, but which will maximize the amount of open space and preser[v]ed agricultural land.

- Encourage residents to take pride in their property by keeping it clean, attractive and free from uses detrimental to quality, well-kept areas.

COMMERCIAL DEVELOPMENT

Commercial development in Apple Valley should be developed to serve the needs of the residents and to provide for the needs of the traveling public on the state highway.

GOAL: To provide for sufficient commercial development, to provide for the commercial needs of the valley residents, and to adequately serve the traveling public.

POLICIES:

- Limit highway commercial development to locations where major intersections are located in connection with the state highway.

- Do not allow strip commercial development along the state highway or the system of collector roads.

- Do not allow commercial development immediately adjacent to existing residential areas.

Identify commercial areas sufficient to serve residents' convenience needs.

INDUSTRIAL DEVELOPMENT

Presently there is very little development in Apple Valley of an industrial nature. While industrial development is beneficial to the tax base, Apple Valley should be careful in the types and locations of any industrial development to ensure there is compatibility with the rest of the town.

GOAL: Identify areas where compatible industrial development might take place for the benefit of the residents of Apple Valley.

POLICIES:

- Any requests for industrial development should be measured on their ability to fit into the character of the valley. Their ability to provide good jobs for town residents, and the benefit that they bring to the quality of life for residents.
- No industrial development should be considered that would not be in harmony with the clean air character of the town and surrounding areas
- The visual quality of any proposed industrial development should be high on the list of considerations for any requested industrial activity.

PUBLIC SERVICES ELEMENT

Currently, public facilities in Apple Valley include the town hall/fire station, the Volunteer Park, the cemetery, as well as the town's network of streets/roads.. There are two overhead power transmission lines running through Apple Valley, telephone lines, fiber optic lines, a natural gas line, and two cellular telephone towers. Some public services presently available in Apple Valley are privately owned and operated. Goals and policies relative to these services are as follows:

WATER: The majority of the water systems in Apple Valley are owned by the Big Plains Water and Sewer Special Service District. There are several sources of culinary water presently available in different parts of the town.

GOAL: Make certain that there is sufficient culinary water available at all times to serve the needs of the town for culinary use and for fire protection.

POLICIES:

- Monitor the existing water systems with operators on a regular basis to ensure that there is adequate water at all times.
- Make sure that there are adequate fire hydrants throughout the town to provide for fire protection. Coordinate firefighting needs with the fire department.
- Work with water systems to continually upgrade their systems to make sure that there is adequate water and water pressure at all times.

- Work toward a unified water system in the town with professional management and operation, whether it is a town owned system, or whether it remains privately owned.

- Make sure that development densities do not endanger ground water supplies, and be prepared to initiate plans for construction of waste treatment facilities in the town as may be necessary.

POWER: The town of Apple Valley is presently provided with electrical power from Pacific Corp. This system will likely continue for the foreseeable future.

GOAL: Provide sufficient electrical power in Apple Valley to provide for the present and future needs of the residents.

POLICIES:

- Monitor the electrical needs of the town and communicate the need for power regularly with the power company.

- Keep the power company aware of all new and proposed development to allow them sufficient lead time to provide for the electrical needs of all new development that takes place.

STREETS/ROADS: Upon incorporation, the town of Apple Valley assumed the responsibility for the maintenance of all existing subdivision roads in the town. The roads in Apple Valley fall into three general classes. These are major arterials, collector streets and local streets.

- Major Arterials -are designated and constructed for the purpose of moving traffic through the town. The width of such roadways varies, but should be designed to carry at least 4 lanes of traffic with turning lanes. The standard width is eighty feet or wider, as necessary. In Apple Valley, State Highway 59 and the Rockville road are classed as major arterials.

- Collector Streets - Provide the primary means of allowing traffic circulation within the town. Some of these streets are designated because of width, the direction in which they carry traffic, and the use made of them by local residents. Often however, the difference between a collector and a local street is the manner in which traffic signals or traffic control signs are used. Widths for such streets will vary. The desired minimum width for a collector street is sixty feet to sixty-six feet. They provide a dual purpose of carrying traffic through the town, and also providing access to neighborhood residential homes.

- Local Streets -are comprised of all other streets in the town that are not arterial or collector. These streets comprise the balance of streets in the town that front most of the homes and which provide access to each lot for driveway purposes. Traffic is generally lighter on local streets which is desirable because of their residential nature. Currently, fifty feet is the required width of local streets.

GOAL: Continue to upgrade and improve all of the presently dedicated roads in the town and to require dedication and improvement of all roads in new developments.

POLICIES:

- Continue to upgrade and improve existing subdivision roads. Create special improvement districts where such things as paving or curb and gutter are requested by residents.

- Establish standards for all new development that will establish a high standard of road improvement and which will minimize future maintenance costs to the town.

- Require that all roads in subdivisions be dedicated and improved to the town standard.

- Require that portions of collector roads be dedicated and improved wherever they abut subdivision development.

- Make sure that all newly created roads are added to the UDOT class 'C' road system to ensure that the town receives maintenance funding for existing roads.

- Adopt the general plan of reads in Apple Valley as part of the adoption of the General Plan. Update this plan as necessary as growth and development takes place.

- Continue to maintain the existing dedicated roads in the best possible condition within the budget established by the town for road maintenance.

FIRE PROTECTION: The town is presently served by a Washington County Special Service District. Since incorporation, the role of the County and that of the town need to be reviewed and the best system of providing service to the town should be established.

GOAL: To Establish the Apple Valley Fire Department under the direction of the town of Apple Valley, and to continue to provide fire protection for the residents thereof.

POLICIES:

- Work out an agreement with Washington County to transfer control of the special service district from Washington County to Apple Valley town.

- Develop an agreement with the County relative to the town providing fire protection service outside the town limits to areas previously served by the special service district.

- Continue to support the efforts of the fire department relative to training and recruitment in order to continue to maintain a strong, well trained and well organized department.

PARKS & RECREATION: In addition to our town park, we are surrounded by public land under the jurisdiction of the Bureau of Land Management, which provides many

outdoor recreation experiences to residents.

GOAL: To provide for the development of proper community recreation facilities for the town of Apple Valley.

POLICIES:

- Identify and determine the types of community recreation facilities that residents feel would be desirable to have in the town whether it is site specific recreation, paths, trails, or whatever might be desired by the residents of the town.
- Prioritize the identified desires of the residents to what type of recreation facilities to develop and to create a development schedule.
- Identify sources of funding to assist in developing recreation facilities for the residents of the town.
- Determine that the budget of the town is sufficient to not only develop, but also to maintain any recreation facilities that might be developed.
- Review BLM lands that lie within the town limits to determine possible sites that could be obtained for recreational development under the recreation and public purpose act of the BLM at little cost to the town,

SOLID WASTE: As an incorporated town, Apple Valley becomes a member of the Washington County solid waste board along with each of the other incorporated cities and towns in the county and the county itself.

GOAL: To make sure that the town of Apple Valley receives the best possible solid waste collection that is possible.

POLICIES:

- To participate fully with the solid waste board in determining policy and program for all of Washington County.
- To give a voice to the board of specific or peculiar problems that might exist in Apple Valley from time to time that may not be common the balance of the county area.
- To be able to answer questions of residents of the town relative to the policies of the solid waste board as they relate to Apple Valley.

PUBLIC SAFETY: Police protection is currently provided by the Washington County Sheriff's office along with the Utah Highway Patrol along State Highway 59. Until such time as the town determines to create its own police department, the Sheriff's office is responsible for law enforcement in Apple Valley.

GOAL: To have sufficient law enforcement presence in the town of Apple Valley to provide

for the safety of the residents of the town.

POLICIES:

- Coordinate with the Washington County Sheriff to determine the present level of service being provided to Apple Valley.
- As finances allow, contract with the Sheriff's office for additional service to meet the desired level of law enforcement that the town feels is necessary for adequate law enforcement.
- As a long range effort, look toward the day when it may be feasible to have a police department in Apple Valley.

POSTAL SERVICE: Presently the nearest post office is in Hurricane Utah. The residents of Apple Valley are served by post office box through the Hurricane post office.

GOAL: To continue to maintain quality postal service to the town and to eventually have a post office located in Apple Valley.

POLICIES:

- Continue to work with the post office to maintain a high level of service to residents of Apple Valley.
- To work with developers to locate post office boxes conveniently located to the residential areas that they serve.
- To do whatever is needed to eventually have a post office located in the town of Apple Valley.

TELEPHONE SERVICE: Telephone service is available through the South Central telephone system. Presently it is necessary to call long distance to reach most areas of southern Washington County of which Apple Valley is closely associated.

GOAL: To be able to have local telephone service to other communities in southern Washington County available to the residents of Apple Valley.

POLICIES:

- Work with the telephone company to determine what would be needed to include Apple Valley in the same calling zone as most other communities in southern Washington County.
- To take what steps might be necessary to bring about closer telephone service.
- To continue to attract cellular companies to locate cellular towers in the vicinity of the town to allow cellular telephone users to be able to use their phones while in Apple Valley.

SUMMARY AND CONCLUSIONS

Apple Valley is a newly-incorporated town. The current population is still small, but the potential for future growth, based upon the large acreage of vacant land in the town, is great. The Town of Apple Valley now has the opportunity to guide the development of the town to make it the kind of town that residents living there, and those desiring to move there, can enjoy, appreciate, and come to relate to in a closely knit relationship.

It will take effort, not only on the part of town leaders, but on the part of every resident, to be willing to work together for the common good. This means working with property owners to determine the type and style of development that they would like to see take place on their property. It will require working together to develop a high quality of development that will remain as high quality development long after the development is completed and the developer is no longer part of the town.

Part of the mission of the town will not only be to guide the creation of quality development, but to also protect the many desirable characteristics that have brought people to the area in the first place. These qualities include the rural life style of larger lots in many areas that allow for reasonable livestock maintenance, the beautiful views of Zion Park, Smithsonian Butte, the Canaan mountain area, little creek mountain, and Gooseberry mountain. These are all very important scenic areas, the value of which draws residents as well as tourists to the area.

There is no question but what the town of Apple Valley will continue to grow and develop. It will take work and cooperation to develop the necessary infrastructure to support that development in the area of traffic circulation and the provision of necessary public utilities. The decision as to whether to grow or not to grow is not a decision for the town to make. It will either grow with the direction of the town leaders and residents, or it will grow without them, leaving residents to wonder what happened. The opportunity and challenge now before the town is how to guide the growth and development that will surely take place, to ensure that Apple Valley becomes a city of which everyone therein can proudly be a part of.

APPLE VALLEY COMMUNITY SURVEY SUMMARY

- During the month of March, a Community Survey was prepared for the purpose of obtaining information from the residents of the Town on a number of different topics. These survey forms were carried to each residence in the Valley and collected up again. There: are currently just over 200 dwellings in the Town. Most of the survey forms completed and turned in were from those owning homes in the valley with a very few represented by non-resident land owners.

- There were sixty-six (66) forms returned for a percentage of about 32% of the residents and land owners responding. While that is not a particularly large number of respondents, a review of these 66 responses begins to clarify the thoughts and feelings of the residents, inasmuch as many of the 66 collected represented many of the same thoughts, ideas, and concerns relative to future development of Apple Valley. Following is a copy of the questionnaire that was submitted to the residents of Apple Valley. This is followed by a narrative summary of the results of the survey.

1. **Residency Status**: Many of the residents of Apple Valley have lived there for many years. A few have lived there less than one year, but the residents of Apple Valley appear to be generally well seasoned residents. The number of years of residency based upon the survey forms returned would indicate an average residency of approximately 7.1 years.

   Population: The population of the Valley is also reflected in this survey form. There appears to be a substantial number of 12 member families, indicating that the area is attractive to retired persons. On the other hand, there are many families with children. The size of family tends to be larger than the average family size projected by the State. However by dividing the number of children into the number of homes, the family size averages out to be about 3.09 persons per family. The survey size is large enough that it probably reflects closely the balance of the population that did not complete the survey, indicating that the population of the Town is very close to the 600 residents projected in the Incorporation study conducted in 2004.

   Salary Range: The purpose in requesting salary range information in the survey was for the purpose of determining whether or not the town would qualify as a low and moderate income community for the purpose of applying for Community Development Block Grants over the next few years to assist in building infrastructure and desired facilities within the town. The information gathered would indicate that this classification might be possible.
   However, the numbers accurately returned would not be sufficient to meet this requirement of the CDBG program. Inasmuch as future CDBG funds are unknown, this may well have been a moot question to begin with.

   Lot Sizes: Most of the residents indicate that they live on lots of 1 to 2 acres in size with a few indicating that they reside on larger parcels. Not too many acres are indicated as being farmed, and a sizeable amount of land was indicated as grazing land. The actual acreage of these land use categories if discussed further in the section dealing with a summary of land use categories.

2. This question deals with **characteristics that residents value most in deciding to live in the Town of Apple Valley**. The results of the survey indicate qualities of life that the Town should try to preserve in preparing future land use determinations for the Town. The number of residents responding to each of the elements listed in the survey are shown as follows in Table 3.

Table 3.
Reasons for Choosing to Live in Apple Valley

Born or raised in the area - family roots	10
Close to family or fiends	24
Close to the mountains and the National Park	40
Like the open space	53
The opportunity to have animals - horses, etc.	38
Quiet community	50
Recreational opportunities	24
Safe environment	30
Small town atmosphere	43

In addition to the responses shown above, many residents listed other considerations that add to the quality of life in Apple Valley. These items were often listed by a number of different residents and are listed below:

- Less regulation that in most cities or towns
- The dark night sky - being able to see the stars
- Privacy
- Able to serve neighbors
- Views
- Season climate
- Low County fees
- Being next to the BLM land
- Affordable housing
- Clean air
- Large lots

All of these characteristics lend to the reasons for people wanting to live in Apple Valley and constitute values for which efforts by the Town should be made to preserve insofar as possible as the Town continues to grow and develop.

3. **Rural Character**: The opinions of the respondents were almost unanimous (64 - 2) in their desire to preserve the rural character of Apple Valley. The only votes against maintaining the rural area were related to keeping property clean and avoiding the collection of trash and junk on rural lots.

4. **Farmland Preservation:** Again, the desire to see the agriculture in the valley

maintained was voiced by all but one or two individuals (58 - 2) responding to the survey. The final decision however, relating to whether or not farm land remains in a farming status really depends upon the property owner who does the farming. If the farmer determines that it is no longer in their interest to continue fanning, it is difficult to require that farming continues.

5. **Walking / Bicycle Trails:** Relative to developing hiking / bicycle trails through the community, there was a somewhat mixed result with 39 opinions in favor to 23 against. Some respondents felt that the trails should also include horses and 2 or 4-wheelers. Others felt that this was not something that the town should get involved in with all of the open space all around the town, and others indicated that perhaps now was not the time for this type of development, but that it could be considered at a later date after the town was better established.

6. **Traffic Concerns:** This element of the survey deals with perceived problems with the - traffic and the traffic circulation system within the town. Table 4. summarizes the opinions of the residents relative to traffic problems and identifies areas where the town will need to resolve various problems over a period of time. An item of most concern is rated with a 1, and an item of least concern is rated with a 5.

Table 4.
Traffic and Street Management

Off Highway Vehicles on streets and roads	1 = 11, 2 = 7, 3 = 9, 4 = 5, 5 = 9
Speeding Vehicles	1 = 37, 2 = 8, 3 = 12, 4 = 2, 5 = 6
Road and Street Condition	1 = 41, 2 = 10, 3 = 10, 4 = 2, 5 = 3
Unlawful / unsafe behavior by OHV riders	1 = 30, 2 = 13, 3 = 9, 4 = 4, 5 = 4
Dedication of presently undedicated streets	1 = 9, 2 = 2, 3 = 11, 4 = 6, 5 = 11

It may be noted that one resident suggested leaving roads in poor condition inasmuch as it will assist in causing motorists to slow down. As can be seen from the chart, speeding is a major concern to many people. The condition of the roads and streets is probably the single largest concern indicated based upon the 1st and 2nd rankings shown. A third concern is the unlawful use of OHV riders. The results of the survey would indicate that OI IV riding was not as much of a problem by itself as that of not complying with licensing laws and allowing under-age riders to ride through the area at high speeds. It would appear that "responsible" riding of off highway vehicles may not raise as much concern as was shown by the survey results in the 1st column.

Some additional comments submitted by residents relating to this issue are as follows:

> Legal and farming should be okay. They must meet laws for 4-wheel vehicles and bikes. The speed limits on the streets are set too high. Dogs running loose cause problems. There are too many junk cars. Many lots have trash on them. There was rain damage to many roads. There are drunks and dopers on the roads. The roads need to be paved. Signs should be better. We need animal

control. Drainage should be better. The town should enforce codes and ordinances. The roads are dusty. There is too much development taking place too fast.

7. **Commercial Business:** Comments were solicited from residents relative to their attitude toward development of commercial or industrial / manufacturing business that might fit into the Apple Valley town, as well as what areas of the town should they be located in. Most of those surveyed supported various kings of commercial or industrial development, but there were some that felt that the existing commercial was adequate and that Hurricane was not too far away to conduct additional business.

   Desired commercial facilities include: Grocery stores, restaurant, R.V. park, motel, camp ground, retail stores, Post Office, EMT services, auto repair, golf course, medical services, car wash, arts & crafts, airport, hardware, auto parts, church, cell phone tower, school, commercial center, service station, rentals, distribution center, covered storage, clean light industry, and none.

8. **Location:** By a large margin, residents felt that commercial business should be located near the highway in various locations including near the current commercial businesses, near the junction with the Rockville road, and near the southern end of the town toward Hildale. Following is a summary of the comments made. Many comments were expressed by a number of different residents. Grocery stores were the most mentioned commercial request by a rather large margin.

   Other locations were also indicated as follows:

   Along the highway, at the Rockville road, on mountains, away from residential areas, in big fields, near the current service station, by the fire department, and out of town.

9. **Local Services:** This section of the survey deals with the perception or experience of residents with various local services available to the town. A summary of these findings is included in the following table. If the service is considered to be excellent it would be rated with a 1. If it considered to be poor, it would be rated with a 5.

Table 5.
Community Services

Ambulance / emergency medical	1=23, 2=6, 3=4, 4=2, 5=4
Drinking water service & quality	1=16, 2=10, 3=22, 4=7, 5=6
Electrical power service	1=22, 2=14, 3=19, 4=2, 5=1
Garbage collection	1=38, 2=15, 3=3, 4=1, 5=2
Law enforcement	1=13, 2=14, 3=9, 4=2, 5=4
Postal service	1=34, 2=10, 3=8, 4=2, 5=8
School transportation	1=30, 2=7, 3=4, 4=2, 5=2
Telephone service	1=16, 2=13, 3=6, 4=4, 5=21
Cell phone service	1=3, 2=0, 3=3, 4=7, 5=37

Generally speaking, residents appear to generally be satisfied with the public services that they are receiving. Two areas particularly appear to be a concern to residents. One of these services is telephone service. The main complaint registered in the survey was that it is a long-distance call to call Hurricane, or any other city in the county beyond Hurricane.

Whether or not the town can influence the phone company to change this current practice is something that could be considered.

The second area of concern was related to cell phone service. Most complaints submitted with the survey indicated that it was simply a case of not being able to use their cell phone at all in the Apple Valley area, even though there are presently two cellular towers within the town limits. One additional tower is planned to be constricted, probably this year, somewhere in the little creek mountain area. This tower could help to resolve this problem.

Some residents expressed a desire to have a post office in the town, and the lack of a local post office was probably the main reason for those who rated the service less than desirable.

10. **Recreational facilities:** The question related as to whether or not the town should consider providing recreational facilities in the town. The responses were quite varied with 33 respondents indicating yes that they would support such facilities and 23 residents expressing a negative feeling.

    Many, perhaps well over half, of those saying no to recreational facilities, their comment was that now was not the time for the town to start encumbering the town for this type of facility, but at a future date, when the town was better established, that such undertakings could come as a part of long-range planning and development.

    Some of the types of recreational facilities suggested are listed as follows:

    A town park, children's play areas in a park, hiking trails, holiday activities in the town, a library, a place to fly model airplanes, a re-cycling center, ball fields, tennis courts, a community center, a cemetery, swimming pool, animal control officer, animal shelter, a skate park, target shooting, a short wave radio tower, educational opportunities, a community garden, better access to Gooseberry,

    The facility that was most desired was a park site with a children's play area. A swimming pool was probably the next most desired item, with the balance of the suggestions being listed at least one or more times by the residents.

11. **Public notices:** The last question in the survey related to the best way to keep residents of the town informed as to things that are going on that they should be aware of. The following table shows the results of the survey along with some additional suggestions that were made by the residents as a part of their response.

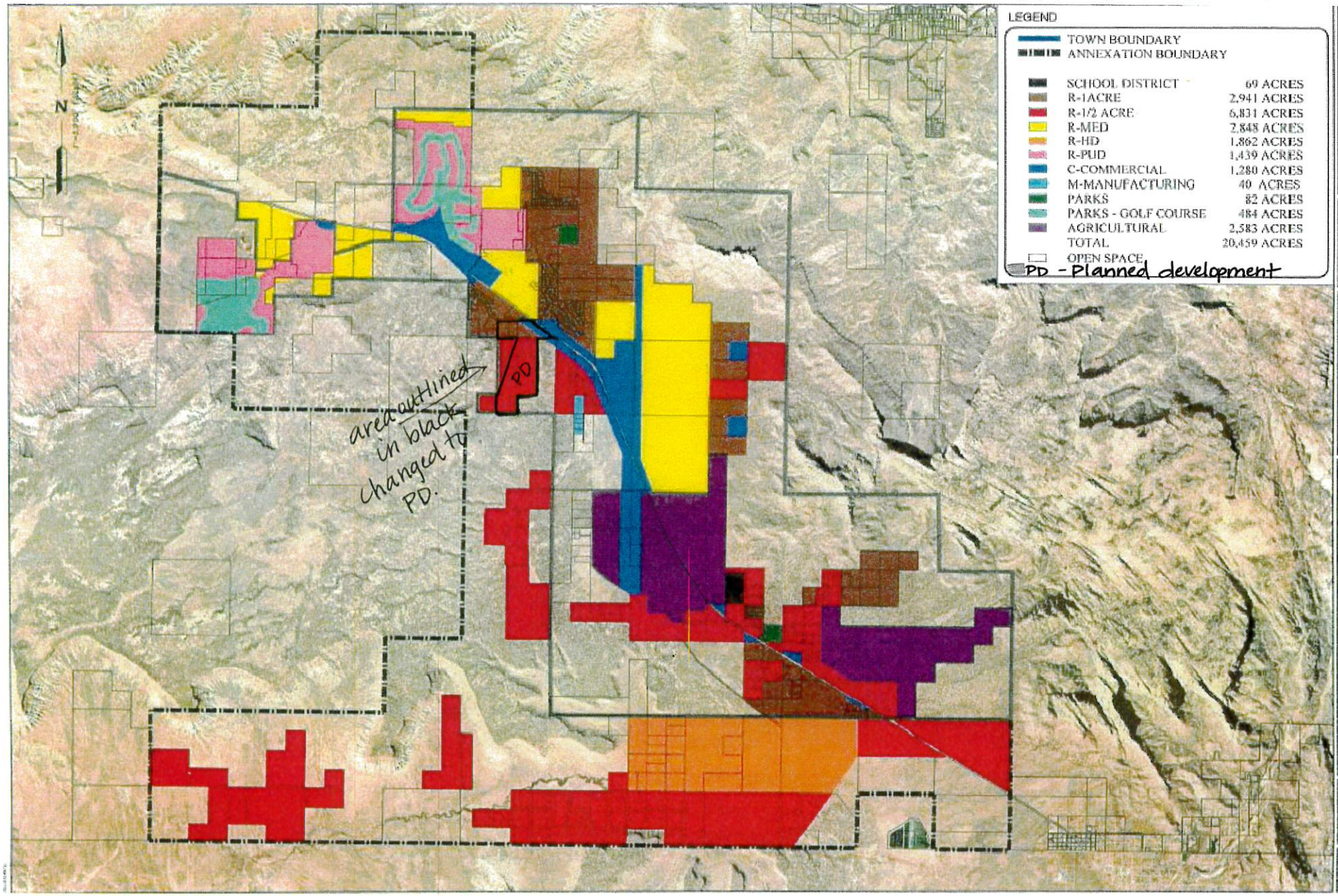
Table 6.
Public Notice and Town Involvement

Word of mouth - neighbors and friends in the town	21
Notices posted at the fire station	11
Notices posted at the store in Apple Valley	33
Notices posted at mail boxes	60

Other - List - Newspaper, phone tree, e-mail, water bill, flyer, Newsletter, mailings to residents, in mail boxes

Of the methods listed, the use method of posting at the mail boxes appears to receive the most support from residents. Some suggested the hurricane Valley paper which many appear to be subscribing to as another good alternative. Obviously, the town cannot post inside individual mail boxes because they have no access. Mailings to individuals could be good once the town has a budget to work with. The law requires that if there is no newspaper published in the town of general circulation, that the public notices be posted in at least three locations within the town. This appears to be possible with the three specific locations identified, even though most seem to prefer the mail boxes posting as the most readily accessible

Add PD - Planned development



LEGEND

TOWN BOUNDARY
ANNEXATION BOUNDARY

SCHOOL DISTRICT	69 ACRES
R-1ACRE	2,941 ACRES
R-1/2 ACRE	6,831 ACRES
R-MED	2,848 ACRES
R-HD	1,862 ACRES
R-PUD	1,439 ACRES
C-COMMERCIAL	1,280 ACRES
M-MANUFACTURING	40 ACRES
PARKS	82 ACRES
PARKS - GOLF COURSE	484 ACRES
AGRICULTURAL	2,583 ACRES
TOTAL	20,459 ACRES
OPEN SPACE	

PD - Planned development

REVISIONS

ALPHA ENGINEERING COMPANY

LAND USE PLAN

APPLE VALLEY, UTAH

744-02

JTW

FEBRUARY 2008

FIG 1