



EMIGRATION CANYON
METRO TOWNSHIP

Planning and Development Services

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GREATER SALT LAKE
Municipal Services
District

DARK SKY ORDINANCE | PROGRESS REPORT

Part of the UPDATE OF MUNICIPAL CODE:

19.73.110 NIGHT LIGHTING

Public Body: Emigration Canyon Planning Commission

MSD Planner: Matthew Starley, Long Range Planner

MSD Planning Staff Recommendation: Review and Comment

PROJECT DESCRIPTION

Emigration Canyon Metro Township has identified in the Community Values section of the General Plan that environmental sustainability & protection of the natural environment is important to community members, and the identity of the Metro Township. The expressed aim of the General Plan is to “*maintain or enhance environmental sustainability and stewardship now and for future generations; this includes but is not limited to features such as water quality, open space, noise management, dark skies, air quality, biodiversity, and climate resilience.*” pg. 30-31

Utah Department of Workforce Services (UDWS) has distributed a “Guidance & Best Practices: Dark Sky Planning” manual intended to introduce Elected Officials and their communities to dark sky planning and concepts. In this document, DWS established the importance of night sky planning by describing some of the issues associated with light pollution.

Light pollution is a threat because of the negative effects on humans and the environment as well as long-term consequences, such as biodiversity, economic, and cultural loss, that cannot easily be reversed. However, in contrast to other types of pollution, the negative effects of light pollution can be mitigated easily and cost-effectively.

UDWS, Guidance & Best Practices: Dark Sky Planning, pg. 6

To mitigate these potential negative effects, Emigration Canyon planning staff have engaged to develop and more robust Night Sky Ordinance that is intended to update the existing municipal code 19.73.110 Night Lighting. Regular progress reports have been made to the Planning Commission and feedback has been integrated. The draft shared in coordination with this report, Emigration Canyon MT Dark Sky Ordinance Draft Round 3, will constitute the third draft to be shared with the commission.

For this **Fourth Draft**, MSD staff have integrated the thoughtful comments made by PC members. Quick highlights to look for in this draft:

- **Violations, Enforcement, and Penalties**

- This section has been drafted utilizing language adapted from the Eagle Mountain municipal code on dark skies. Their ordinance assigns a \$75 per day penalty after a 30-day notice to comply has been delivered by the Planning Director or designee. This is the language we will

want to discuss as it may be onerous to enforce. The draft language currently assigns a \$10 per day penalty.

- **Conditions and Standards**
 - This section has been condensed and restructured to include all of the information previously found in two sections with similar titles. The intent was to reduce redundancy and improve readability and flow.
- Wording articulating whether a light source is emanating from an **interior or exterior source** has been reduced wherever it seemed possible.
- **Total Light Output**
 - Totals for commercial, residential multi-family, and residential single-family properties have been adjusted as per suggestions from our Partner sources. *Vellachi Ganesan of Clanton & Associates, Inc. | Lighting Design & Engineering*, has been kind enough to offer some suggestions and include some tables from similar ordinances that she has worked on previously. Excerpts from their comments separated by topic under the **Document Comment and Response History** section of this report.

GENERAL PLAN CONSIDERATIONS

Language about protecting and promoting the health and long-term sustainability of the natural environment in the canyon is a consistent theme throughout the General Plan document. There are also many instances in which the connection between the quality of the night sky environment and ecological and community health are identified. Updates to the dark sky ordinance existing are supported by the General Plan Work Program. The following is an excerpt from the General Plan Work Program, which outlines the creation and enactment of a Dark Sky Ordinance as an *Immediate and Ongoing* action item.

Chapter 5: Environment Work Program (*Emigration Canyon General Plan 2022 pg. 144-145*)

- **Goal 5.3:** Preserve and enhance natural areas and ensure that landscapes are functional and diverse.
 - **Objective 5.3.3:** Preserve and enhance views of the night sky and protection for nocturnal wildlife.
 - **Actions** - a. Support the adoption of a Dark Sky-compliant light-pollution control ordinance.
 - **Lead(s)** - PDS, PC, EC Metro
 - **Timeline** - Immediate and ongoing
 - **Cost** - Staff time
 - **Metric** - Ordinance enacted
 - **Resources** - See also objective 2.3.2a

LAND USE CONSIDERATIONS

Suggested updates to the zoning ordinance would apply to all land use zones within the Metro Township. However, the ordinance is being presented at this time for discussion purposes only. Staff has not initiated the process for adopting the drafted language. The intent is to control the use of night lighting between the hours of 1 hour after dusk, until 6:00 am the following morning general, with some exceptions for commercial properties and special conditions that require lighting for safety. It is the opinion of planning staff that controlling nighttime lighting use through the update of the existing Night Sky Ordinance will support the current land use expressed within the canyon by reinforcing the naturalistic and rural character of the community.

Unique standards exist for properties containing:

- Residential | Single-Family Detached Housing Units
- Residential | Multi-Family Housing Units

- Commercial Uses

ISSUES OF CONCERN/PROPOSED MITIGATION

Planning Staff is hoping the Council and Planning Commission will consider the merits of proposed updates to the Night Sky Ordinance. Issues of particular interest that the Commission might consider for topics of discussion are:

- Whether (and if so, to what extent) the Planning Commission should be the entity/person to consider and make decisions involving compliance with the requirements of the ordinance?
 - This responsibility is now on the shoulders of the Director of Planning and Development or designee
- Should Change of Ownership trigger the need to conform to the requirements of this chapter?
- What do we think about the use of figures in and example images in an ordinance?
 - There are a few general questions within the response history about this
 - Planning staff imagine that legal counsel might have some cogent opinions on the issue.
- Recreational lighting...
 - To what extent does Emigration Canyon want to articulate regulations for building types and land uses that may never, but could possibly, exist within the context of the canyon?
- Application, Review, and Violations Sections generally
 - This section has been improved significantly. Issues for discussion might be how much we are willing to penalize those who fail to bring their lighting into compliance once they have received a 30-day notice about a failure to comply.

NEIGHBORHOOD RESPONSE

At this point, staff has not received any feedback from the public regarding the Night Sky Ordinance update.

REVIEWING AGENCIES RESPONSE

A review by Emigration Canyon's attorney and the MSD's land use attorneys will be completed prior to the adoption of the comprehensive code updates.

Heidi Hoven of the Audubon Society as well as Lisa Stoner of Utah State University Extension services met with planning staff to review goals and give general direction as the project was initiated. Initial drafts of the ordinance have been shared by Heidi Hove with Nancy Clanton (Founder, Clanton and Associates), as well as Rick Utting and Vellachi Ganesan both of (Clanton and Associates). Staff has received and integrated comments made from these dark sky experts

Other agencies will review the code as needed based on the content.

PLANNING STAFF ANALYSIS

Previous draft plans have relied heavily on the similar ordinances drafted and adopted in: Moab, Torrey, Eagle Mountain and Helper City, Utah, as well as several guidelines produced by the International Dark Sky Org. Staff also received guidance and advice from Dark Sky experts with the planning community here Northern Utah. The

current version the Ordinance has been adjusted to reflect an approach to total allowable light use calculations more like that utilized Fort Collins and Boulder, Colorado municipal code. These cities were recommended by the Reviewing Agencies experts referred to previously. These changes reflect, in the opinion of staff, an improvement to the previous “net acre” calculation method employed in the first draft.

PLANNING STAFF RECOMMENDATION

The MSD Planning Staff recommends that the Emigration Canyon Metro Township Planning Commission review and provide feedback on proposed Amendments to the Night Sky Ordinance.

DOCUMENT COMMENT AND RESPONSE HISTORY

- Draft Document Color Legend -

Response from MSD Staff

Comment from Vellachi Ganesan of *Clanton & Associates, Inc.* | *Lighting Design & Engineering*

Language and/or Formatting issue that may need attention

Topics for discussion at upcoming PC meetings and working groups

Comments that have been made irrelevant by modifications from previous versions of the Ordinance Draft

- General Comments -

- **Including Structure sf in hardscape calculation...**

I would rather see a limit to the non-shielded contribution and a hardscape calculation that exclusive structure square footage. Regarding structure square footage, an example of why to exclude structure square footage is an industrial application where the structure might be 100,000 sf.

- This comment has been taken into consideration within this draft. The hardscape calculation for all properties will not include the sqft. of structures on the property as suggested.

- **Total non-shielded light**

I typically draft a 20% limit of the total site lumens coming from non-shielded sources.

- Staff have tried to draft language that would allow for 10% of total light output in this version.
 - Why more stringent? The conditions in the canyon are primarily residential. These exceptions seem to be more tailored toward commercial uses typically. Happy to adjust if this seems too onerous.

- **Total Sight Lumens**

Residential properties – Nancy and I developed the following chart and narrative for residential land use. We like it better than others we have seen. We also don't feel like it's appropriate to penalize apartment (multi-family) living with more exterior light just because of density. They need to sleep too. So, we give more light when needed for common areas and parking lots.

Light Output: The upper lumen limits listed below should not be the design goal. The design goal should be to use the minimum light levels that meet the requirements of the task. The total allowable site lumens (initial) for a residential property is limited to:

Total Site Lumens Allowed Residential		
Property Size	LZ1	LZ2
Single Family; 1 acre+ (43,560sf+)	12,000	n/a
Multi-Family; Per 1 acre (43,560sf)	12,000	20,000
Single Family; 3/4 acre (32,670sf)	9,000	n/a
Single Family; 1/2 acre (21,780sf)	6,000	n/a
Single Family; 1/5 acre (8,812sf)	3,000	5,000
Mobile Home; (5,500sf)	2,000	4,000
Single Family; 1/10 acre (4,356sf)	2,000	4,000
Single Family; 1/20 acre (2,178sf)	1,500	3,000

An additional 3,000 lumens for each Guest Houses and Accessory Dwelling Units (ADU) is allowed on properties larger than (2) acres.

An additional 300 lumens per parking lot space is allowed for Multi-Family developments.

- Staff have not adopted this table as we have preferred the sqft of hardscape approach to an acreage allowance approach, but it will serve as a nice test to see how close we are measuring with some of the properties.

- **Light Trespass at the property line**

Lux at the property line - I'm glad to hear they are considering interior spill light for their light trespass calculation. **However, 10 lux is still very high.** The following chart is used in RP-8 and the basis for our Lighting Zone analysis. The main difference is that this chart is for horizontal illuminance at the property line. I would think most Emigration Canyon applications are Lz1 and Lz2, so 1 or 3lux would be more appropriate. Having a 10 lux vertical illuminance would align with a high Lz3 or low Lz4.

Property Line Light Trespass Illuminance Limits				
	LZ0	LZ1	LZ2	LZ3
Footcandles (fc)	0.05	0.1	0.3	0.8
Lux (lx)	0.5	1	3	8

- Staff have utilized this table to adjust the allowable Footcandles at the Property line. The standard in the chart suggested for the LZ1 zone has been adopted for all zones in Emigration Canyon, as the description in this zone best fits the rural character of the canyon generally.