Dark Sky Initiative – Draft Terms of Reference

July 2008

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1.0 Introduction

The Dark Sky Initiative is proposed to aid the MD of Foothills in becoming more aware of the night time environment and how it can be adversely affected by human activities. The initiative will minimize the impacts of lighting yards, streets, and commercial and industrial developments. This initiative will be precedent setting in the Province of Alberta, as there are currently no rural municipal initiatives that focus explicitly on light pollution abatement and energy efficiency on such a scale.

2.0 Intent of Initiative

The MD of Foothills Council has recognized the need to maintain as natural a nocturnal environment as possible, even in areas of considerable human settlement. Science has determined the significance of preserving natural darkness of the health of plants, animals and humans. The night time environment not only sustains health, the ability to see the stars is a vital component of the rural character of the MD of Foothills. The Dark Sky Initiative is also intended to allow for continued astrophysical observation in this region.

The intent of the Dark Sky Initiative is to:

- Inform MD residents and business owners regarding light pollution and the benefits of Dark Skies through education;
- Provide MD residents and business owners with the means necessary to implement appropriate outdoor lighting on their property;
- Demonstrate the benefit of Dark Sky compliancy by retrofitting all MD owned and operated lighting over time;
- Endeavour to retain the darkness of the night skies surrounding the existing observatories in the MD;
- Implement appropriate legislation to mitigate further light pollution

3.0 Initiative Goals

The overarching objective of the Dark Sky Initiative is to address light pollution in the MD of Foothills in a proactive manner. Specific goals of the Initiative are to:

- Define and implement a policy that will mitigate further light pollution in the MD of Foothills
- Ensure that the construction of all new buildings and installation of light fixtures in the MD of Foothills are compliant with Dark Sky policies
- Ensure that all existing MD owned and operated lighting fixtures are retrofit to meet the Dark Sky policy objectives over time
- Ensure that the goals and objectives set out in this policy are reflected throughout applicable provisions, processes, and procedures within all municipal legislation

- Provide educational initiatives to community members region wide to ensure that enforcement is not a primary concern of the policy
- Outline and develop a communications plan for educational and incentives materials
- Design the policy in such a way that it is implementable elsewhere
- Work Cooperatively with all parties involved to ensure that areas requiring special consideration will be considered and accounted for in the policy
- Develop a program to address the proper disposal of spent lighting materials

4.0 Enabling Legislation

The proposed new bylaw is to be drafted In accordance with Sections 187 – 191 of the Municipal Government Act (RSA 2000 – Chapter M – 26), requiring that the passing of any newly created bylaw entail three readings and signatory benefit in accordance with Section 213 of the aforementioned legislation prior to coming into force.

5.0 Municipal Development Plan

MD of Foothills Council adopted the Municipal Development Plan (MDP) on October 1st, 1998, while amendments were passed on March 25th, 2004. The process of rewriting the MDP was approved by Council in December of 2007. The Dark Sky Initiative and any relevant documentation/information must conform to existing and future versions of the MD of Foothills Municipal Development Plan.

6.0 Land Use Bylaw

MD of Foothills Council adopted the Land Use Bylaw on September 30th, 1999, with several amendments being made thereafter. The Dark Sky Initiative and any relevant documentation/information shall be implemented with full force into all applicable sections of current and future Land Use Bylaws.

7.0 Existing Policy

Currently, the MD of Foothills enforces a Street Lighting policy that was adopted on April 19th, 2001. The policy itself outlines the requirements of developers and the MD in instances where street lighting is to be installed. While the essence of the existing policy will remain intact, amendments may be required in order to align the existing policy objectives with the Dark Sky Initiative.

8.0 Initiative Area

The intent of the Dark Sky Initiative is to have the MD of Foothills in its entirety positively benefit from the implementation of such. Specific areas identified as requiring special consideration, including the lands surrounding the Rothney Astrophysical Observatory and the Royal Astronomical Society of Canada's Calgary chapter observatory, known as the Wilson Coulee Observatory, are identified within attached Figure A, and are proposed to benefit from more stringent policy.

9.0 Initiative Preparation

Several parties will need to work together in order to make the Dark Sky Initiative a success. Specifically, representatives from the public and private sectors will provide input into the Initiative preparation process, with guidance from MD staff.

9.1 Stakeholders Working Group

At its March 4th, 2008 meeting, MD of Foothills Council was presented with an executive summary of the Dark Sky Initiative. Within the summary was a proposal for the formation of a Stakeholders Working Group as an alternative to the traditional steering committee. Overall support was shown for the contents of the executive summary. Initial meetings with identified members of the proposed stakeholders group have begun to take place, and it is recommended that the formation of this group continue. It is anticipated that the following staff, associations, organizations, institutions and corporations will be included within the stakeholders working group.

- Rothney Astrophysical Observatory (U of C)
- Royal Astronomical Society of Canada's Calgary Chapter
- Anne and Sandy Cross Conservation Area
- MD of Foothills Safety Codes Officers
- Surrounding municipalities (including but not limited to)
    - Okotoks
    - Longview
    - Turner Valley
    - Black Diamond
    - High River
    - City of Calgary
    - Vulcan County
- Fortis
- Epcor
- South Alberta REA
- Ducks Unlimited Canada
- Foothills School Division No. 38
- Christ the Redeemer School Division No. 3
- MD of Foothills residents and residents associations
- Alberta Infrastructure and Transportation
- Businesses in the Foothills region
- STARS Air Ambulance

The responsibilities of the stakeholders will be focused on providing input and specific information required by the municipality to design, implement, and maintain the Dark Sky Initiative.

I. To meet on an individual basis with municipal staff and provide point-of-view advice and support
II. To work with the municipality to prepare and distribute information to the residents
III. To maintain a relationship with the municipality on a basis that ensures ongoing success of the Dark Sky Initiative
IV. To participate, where necessary, in the public presentation of the information making up the Dark Sky Initiative

9.2 Staff

The responsibilities of the municipality's planning staff will be focused on objectives of a larger scale, including the management of the Initiative and its individual projects.

I. To make decisions regarding those parts of the Initiative that may require the benefit of a consultant, including such duties as data collection, analysis, and dissemination.
II. To provide adequate opportunities for the public to partake in the processes required to successfully implement all parts of the Dark Sky Initiative.
III. To collect and organize all of the information available in-house and prepared by the consultant, and provide both Council and the residents with a successful Initiative.
IV. To provide project updates to Council at time intervals determined to be appropriate and maintain continued support for the Initiative.
V. To request that Council adopt the legislation required to successfully implement the Dark Sky Initiative.

9.3 Consultants

Should consultants be required, their responsibilities may be to provide services to the municipality throughout the process by which the Dark Sky Initiative will be implemented. Focus will be on data collection, analysis, and dissemination.

I. To provide MD staff with data collection, analysis, and dissemination services required for the formation of an electricity/lighting audit within municipal boundaries, if achievable.
II. To provide professional guidance and technical support regarding an ongoing electricity/lighting usage monitoring plan.
III. To assist with the preparation of the education initiative.

10.0 Scheduling

The Dark Sky Initiative will require input from many parties, many of whom are included within the Stakeholders Working Group. Following is the tentative schedule for the development of the Dark Sky Initiative.

Summer 2008

- Research/Development regarding legislative framework
- Investigation of research/development opportunities available regarding baseline lighting analysis and audit
- Dark Sky Initiative information to be presented at the MDP rewrite open houses
- Dark Sky information to be provided to public as *Project Porch Light* bulbs are distributed to residents
- Terms of Reference accepted by Municipal Council
- Development of public awareness strategy
- Review of draft bylaw by Municipal Council

Fall 2008

- Public input to be compiled and utilized during bylaw drafting process
- Passing of Dark Sky bylaw by Municipal Council
- Introduction of educational initiative
- Development of disposal policy
- Introduction of retrofitting program
    - Municipal retrofit program, with demonstrative dark sky compliant lighting in/at
        - Hamlets
        - Public buildings
        - Highway lighting

Winter 2008/Spring 2009

- Implementation of disposal policy
- Ratepayers retrofit program introduced, with retrofitting grants available for
        - Homeowners
        - Retail/commercial businesses
        - Local industry

11.0 Initiative Adoption

The Dark Sky Bylaw will be considered for adoption by the Council of the MD of Foothills No. 31. Adoption of the Initiative by Council will endeavour to adhere to the schedule set out above.

12.0 Initiative Implementation

The implementation of the Dark Sky Initiative will take place in several ways.

1) The bylaw will be introduced through a Council motion
2) The education initiative will be introduced
3) The community retrofit program will be unveiled
4) The disposal policy will be introduced

A monitoring and maintenance program relevant to the Initiative will be prepared and implemented before the final adoption of the bylaw. The intent of the program will be to track the effectiveness of the Dark Sky Initiative, and make any changes to the Initiative that may be required.

To achieve ongoing success of the initiative a plan outlining the targets, indicators, and recommended review and revision timelines will be prepared prior to adoption of the bylaw.

13.0 Initiative Monitoring and Maintenance

The dynamic nature of the Foothills region will require that some aspects of the Initiative be revised to maintain an optimal level of relevance, and continue to provide dark night skies for the residents of the municipality. The Initiative will be designed to take advantage of technological innovation with respect to measuring and monitoring night time lighting levels, as well as informing the public of better lighting solutions as they become available.

Amendments to the Initiative's legislation will be required as time progresses and physical, economic, and social change takes place within the MD of Foothills. The education initiative will require little direct scrutiny from Council, and may be reviewed and revised primarily by members of staff with assistance from identified stakeholders.

APPENDIX
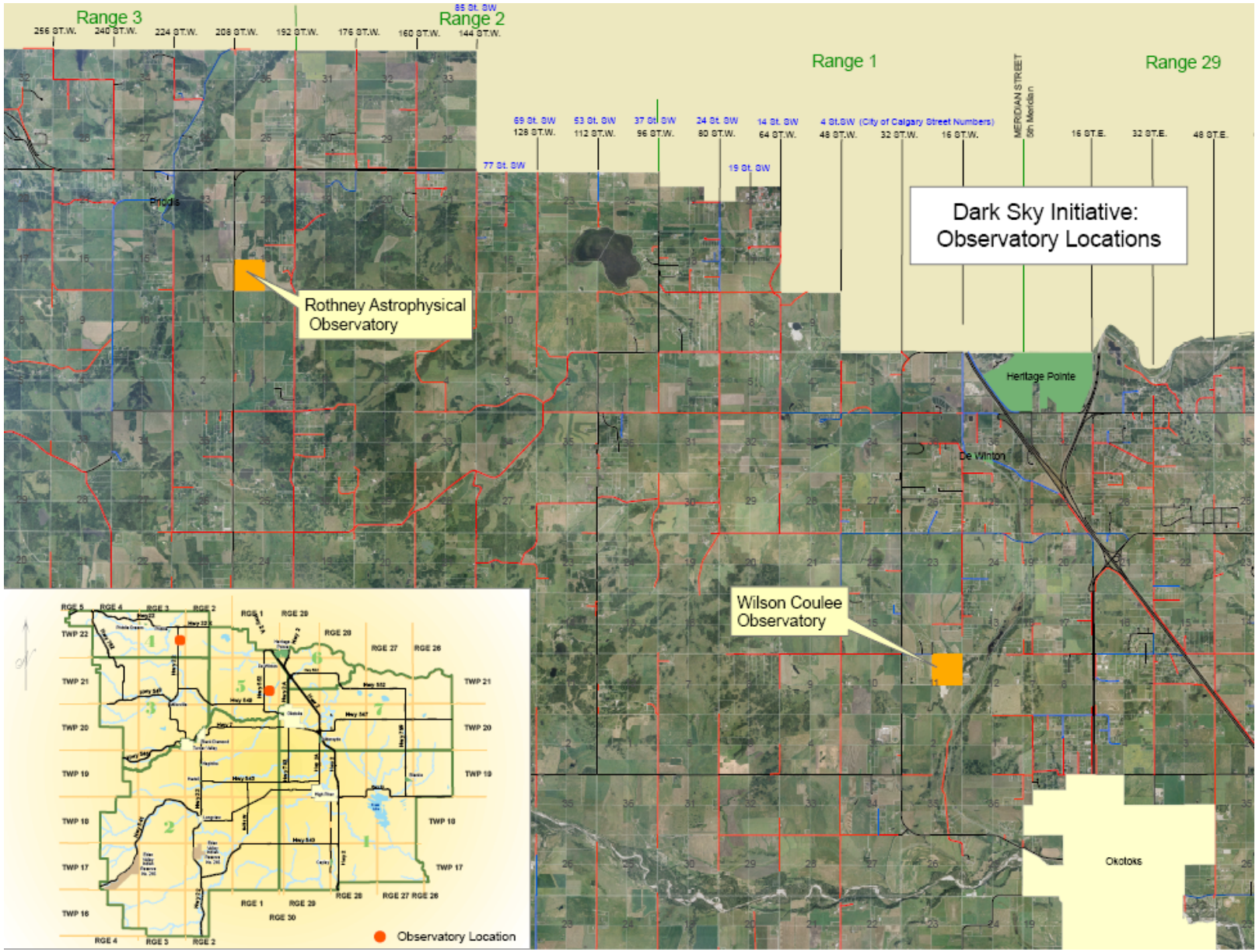
Figure A – Dark Sky Initiative, Observatory Locations