

Cameron County Dark Sky Park

Purpose of today's public workshop:

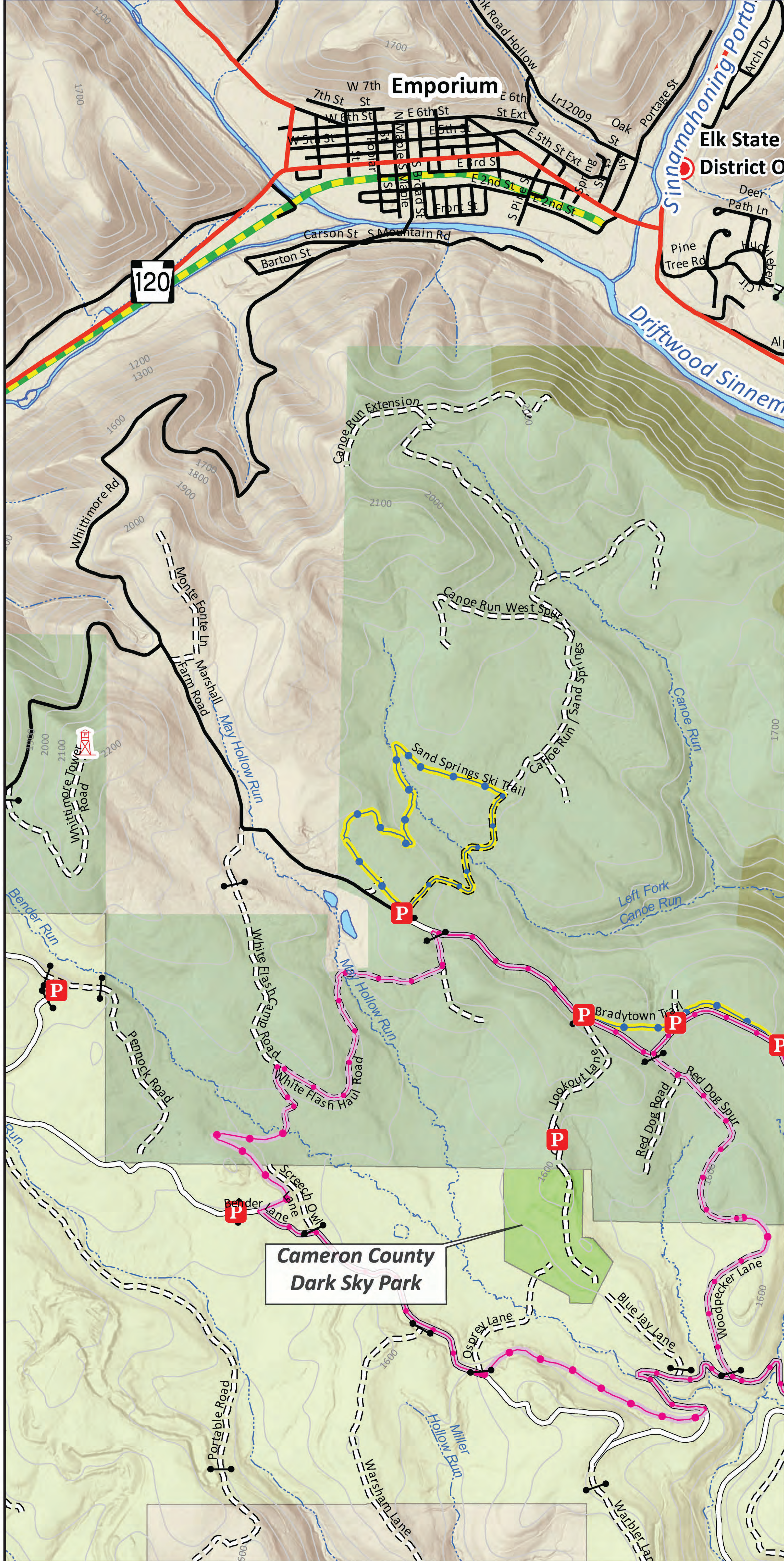
Provide an opportunity to learn about the Dark Sky Park Master Site Plan and meet with project planners and partners in the planning effort to review and discuss initial ideas early in the study process.

Review the site conditions and opportunities displays:

- | | |
|-----------------------------|-------------------------------|
| 1. Introduction | 5. Potential Program Elements |
| 2. Cameron County Context | 6. Dark Sky Park Designations |
| 3. Existing Site Conditions | |
| 4. Site Opportunities | Add your ideas to the maps! |



Location Map

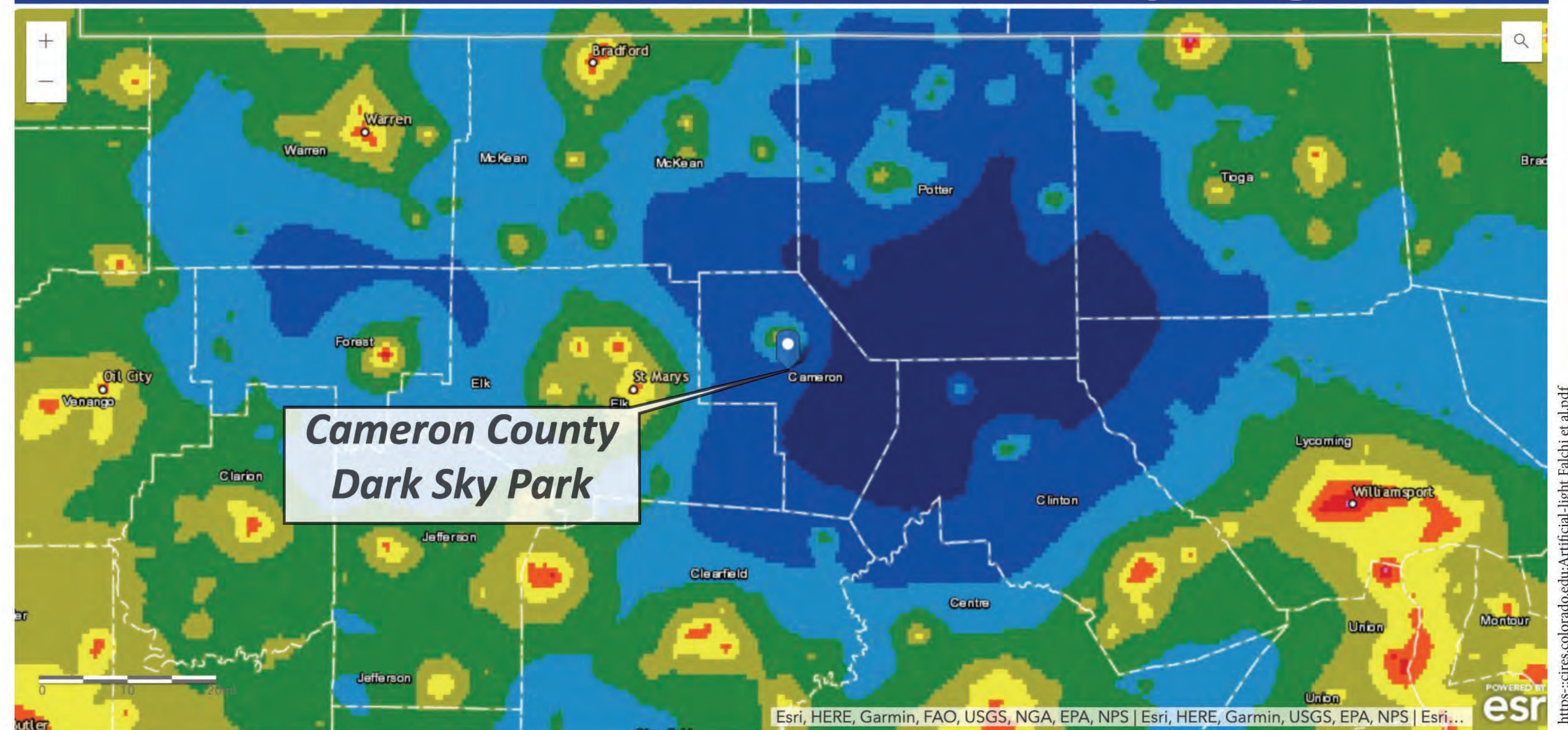


Purpose of the Master Site Plan

The Cameron County Dark Sky Park Master Site Plan represents the revitalization of a reclaimed landfill not far from Emporium, Pennsylvania. A grant for developing planning strategies for county-owned land has been awarded to the Lumber Heritage Region and Cameron County for enhancing public access to the site.

The master site planning process includes research, public input, and analysis that leads to a plan illustrating the size, type and location of physical improvements and management needs for Cameron County's Dark Sky Park. As part of this process Cameron County has formed a Dark Sky Committee to help gather public input and establish priorities for specific improvements that are needed to support the use of site for dark sky viewing and education as well as compatible daytime uses.

The New World Atlas of Artificial Sky Brightness

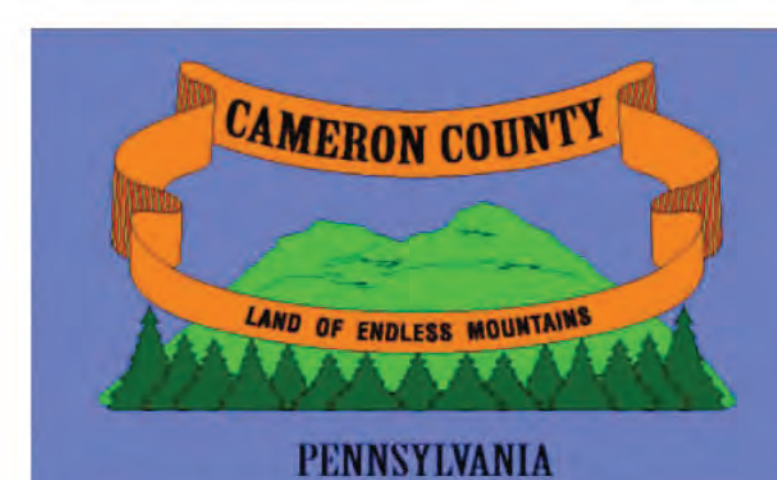


Ratio to natural brightness	Artificial brightness ($\mu\text{cd}/\text{m}^2$)	Approximate total brightness (mcd/m^2)	Color
<0.01	<1.74	<0.176	Black
0.01-0.02	1.74-3.48	0.176-0.177	Dark gray
>0.02-0.04	>3.48-6.96	>0.177-0.181	Gray
>0.04-0.08	>6.96-13.9	>0.181-0.188	Dark blue
>0.08-0.16	>13.9-27.8	>0.188-0.202	Blue
>0.16-0.32	>27.8-55.7	>0.202-0.230	Light blue
>0.32-0.64	>55.7-111	>0.230-0.285	Dark green
>0.64-1.28	>111-223	>0.285-0.397	Green
>1.28-2.56	>223-445	>0.397-0.619	Yellow
>2.56-5.12	>445-890	>0.619-1.065	Orange
>5.12-10.2	>890-1780	1.07-1.96	Red
>10.2-20.5	>1780-3560	>1.96-3.74	Magenta
>20.5-41	>3560-7130	>3.74-7.30	Pink
>41	>7130	>7.30	White

Light pollution in urban centers creates a sky glow that can blot out the stars. The brighter the area in this map, the harder it is to see stars and constellations in the night sky (2019).

Credit: Falchi et al., Sci. Adv., Jakob Grothe/NPS contractor, Matthew Price/CIRES.

This master plan process seeks to address how Cameron County's Dark Sky Park can serve Cameron County residents for nature-based recreation and education, and as a draw for eco-tourism, attracting night-sky and wildlife-viewing enthusiasts to the region.

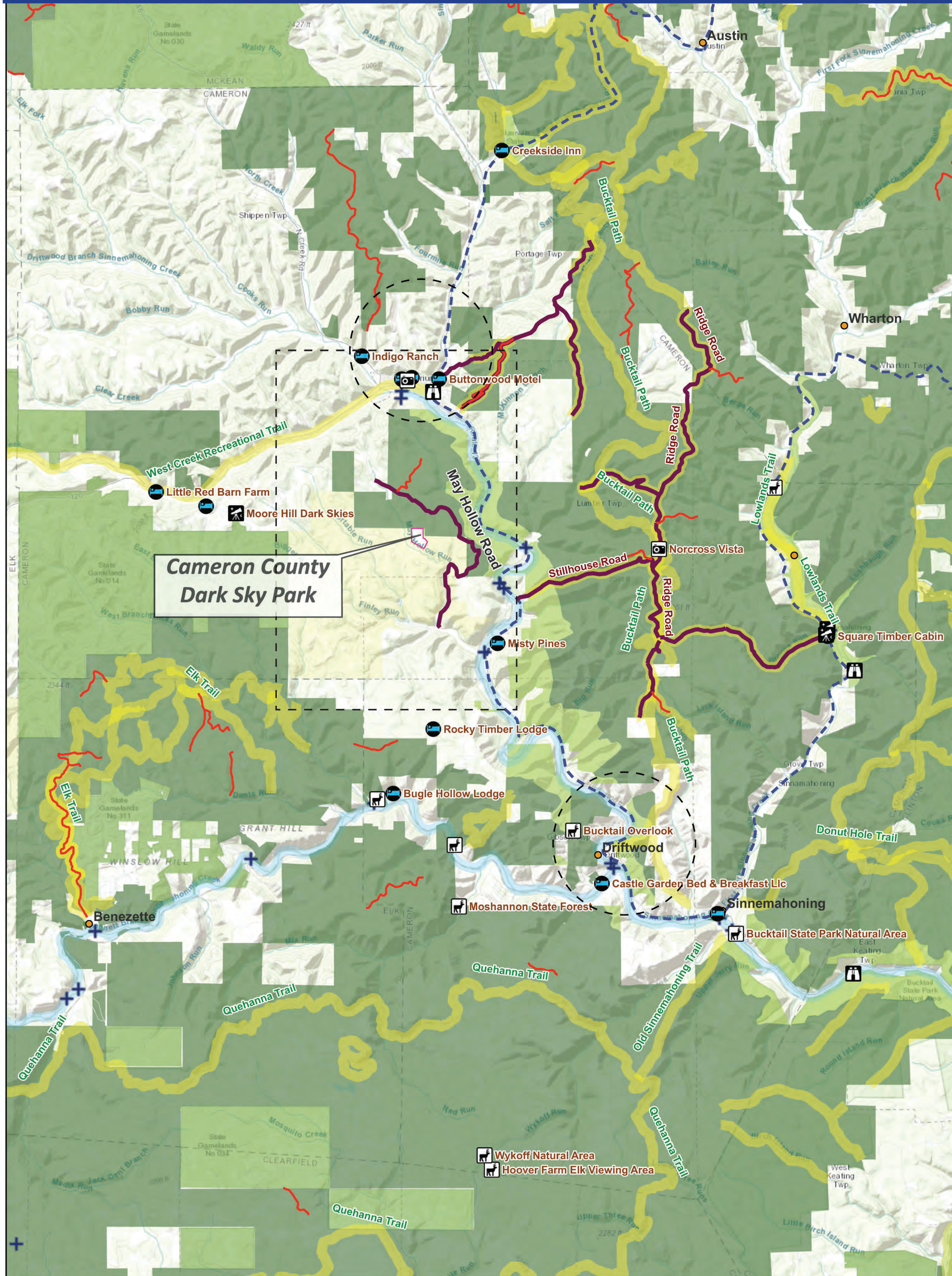


Take the Questionnaire!
Help us plan for the park by filling out the questionnaire. Follow the link below or use the QR code: <https://www.surveymonkey.com/r/CamCoDarkSkyPark>

Send an email comment or suggestion to the project team here:

darkskypark@lardnerklein.com

Cameron County and Nature/Outdoor Recreation and Lodging



5/31/2024

Cameron County Visitor Attractions

- Lodging
- wildlife
- birds
- stargazing
- photography
- Pennsylvania State Forest Gated Roads Open for Deer Season - Roads Opened for Deer Season
- NCG: TRAIL TOWNS HUBS
- Water access (NCG)
- DCNR_SNOWMOBILE (NCG)

- NCGP+CAMERON_SNOWMOBILE_TRAILS
- LUMBER_HERITAGE_BIKE_TRAIL (NCG)
- All Trails in Pennsylvania from Explore PA Trails - Trails
- CONSERVATION_EASEMENTS_CLIP (NCG)
- Local parks (NCG)
- PAFBC_WATER_TRAILS (NCG)
- State 202403
- Bureau of Forestry
- Bureau of State Parks
- PA Game Commission

Scale: 1:200,000

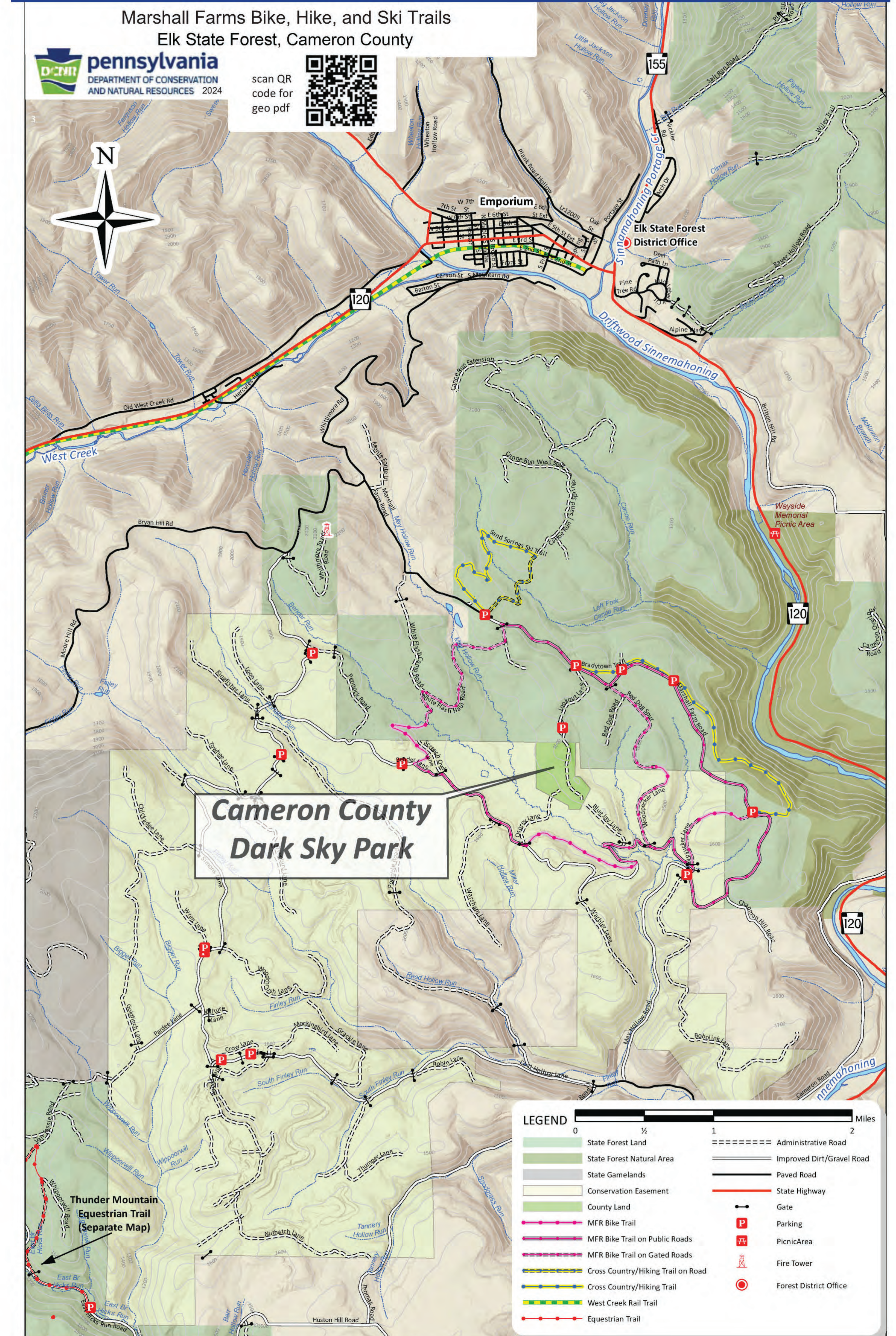
0 1.5 3 6 mi

0 2.5 5 10 km

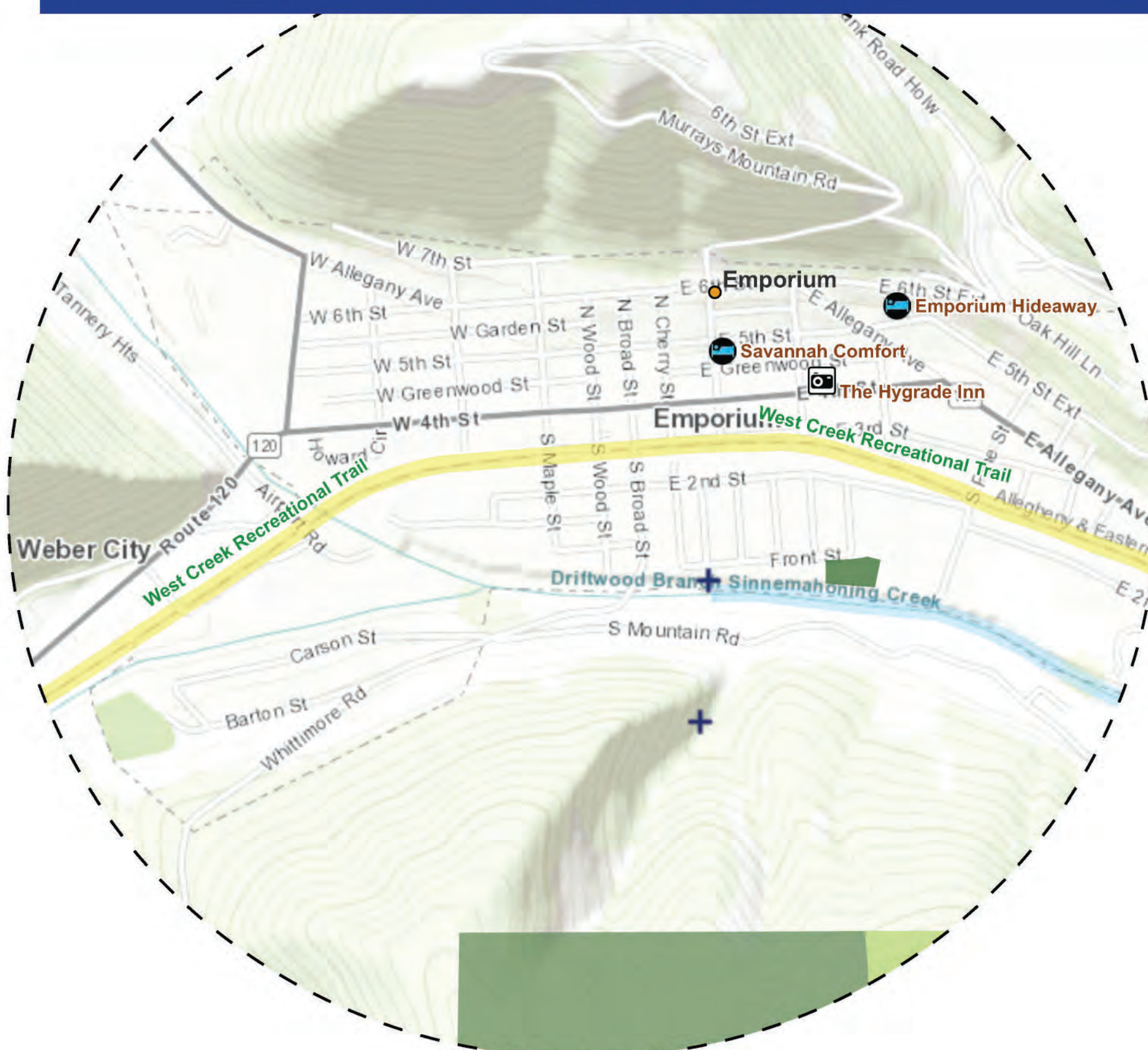
Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS



Nearby Bike, Hike & Ski Trails (DCNR)

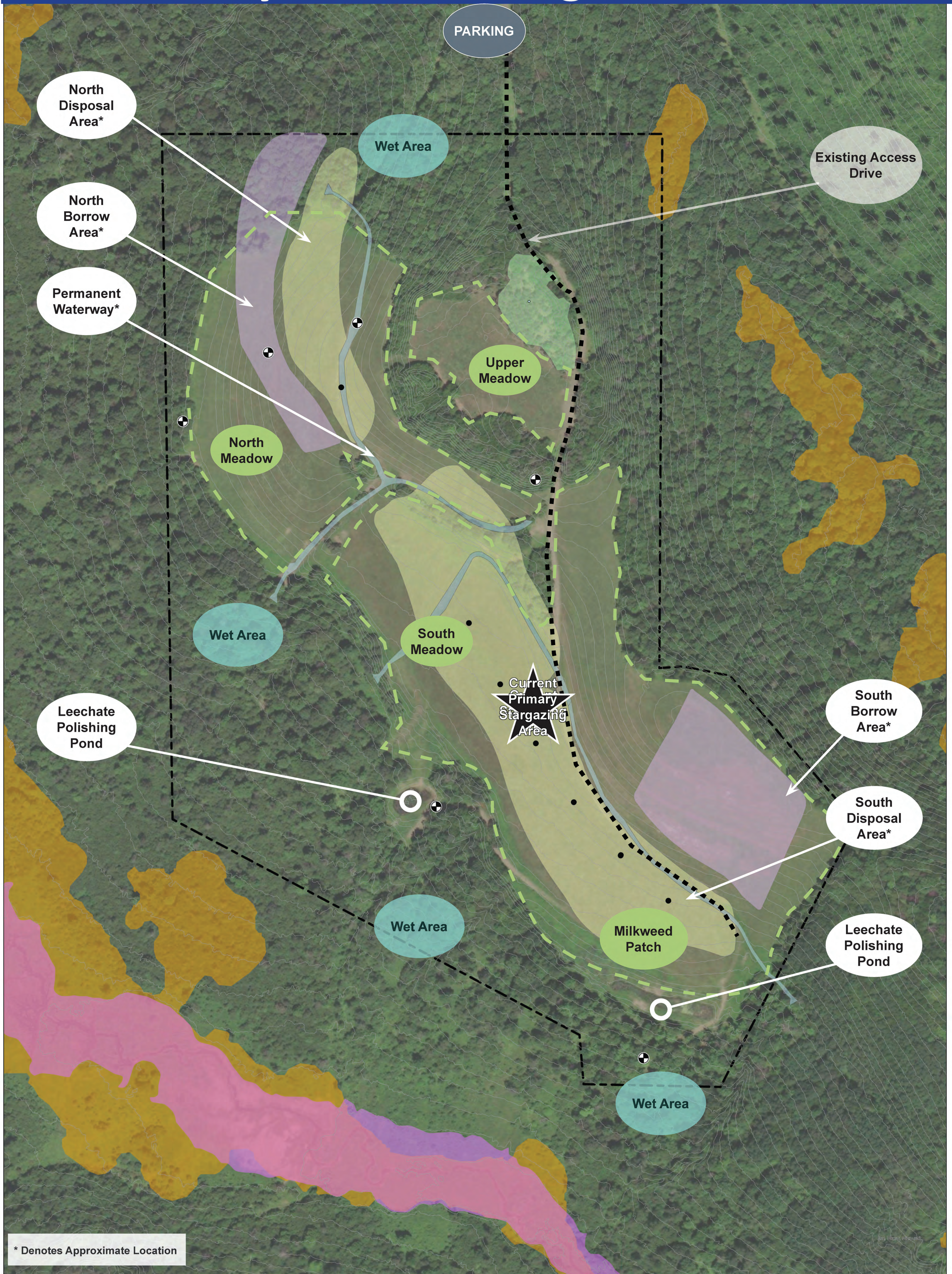


Emporium



Driftwood





* Denotes Approximate Location

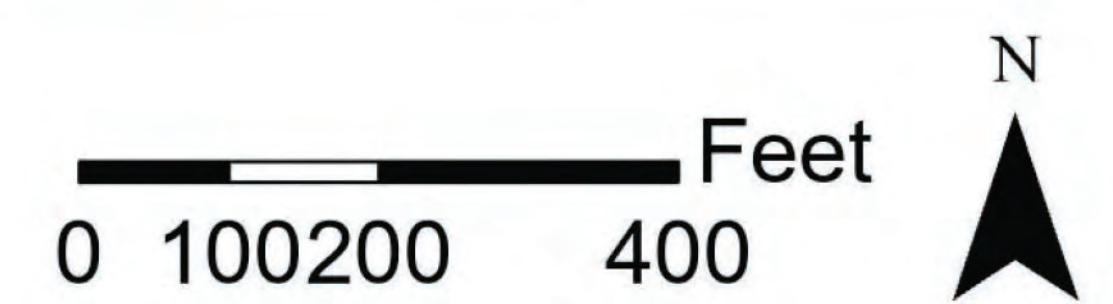
Legend

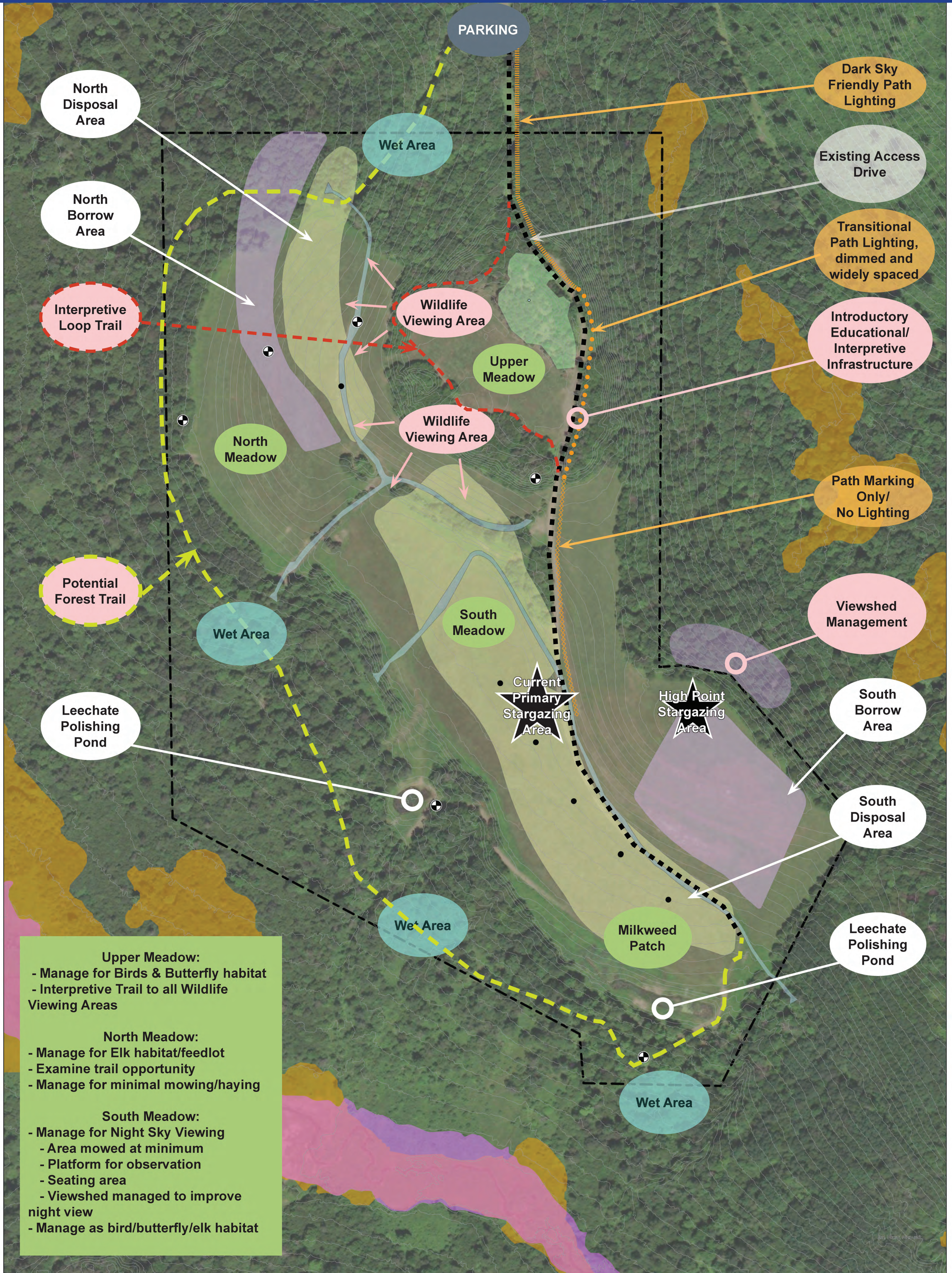
* Primary Night Sky Observation Area
 Shale/Coal Mining Overburden Piles

● Gas Vent
 ⊕ Monitoring Well
 - 5' Contours
 ■ Fill Borrow Area

■ Capped Landfill
 ■ Permanent Waterway
 □ Site Boundary
 ■ Mining Overburden

■ Flood Zone A -1% annual chance of flooding
 ■ Wetlands





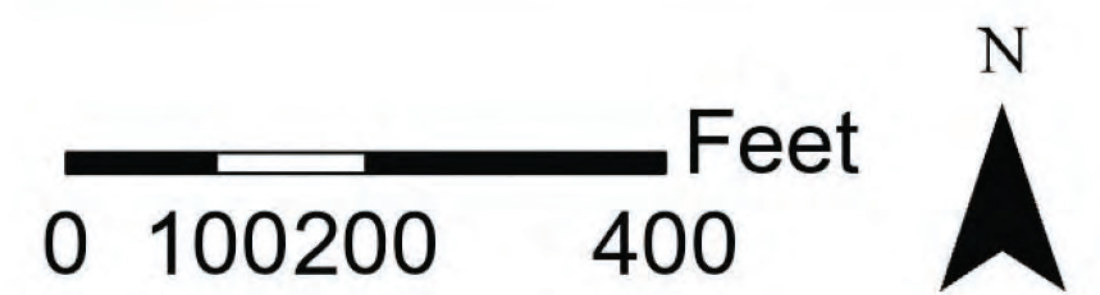
Upper Meadow:
 - Manage for Birds & Butterfly habitat
 - Interpretive Trail to all Wildlife Viewing Areas

North Meadow:
 - Manage for Elk habitat/feedlot
 - Examine trail opportunity
 - Manage for minimal mowing/haying

South Meadow:
 - Manage for Night Sky Viewing
 - Area mowed at minimum
 - Platform for observation
 - Seating area
 - Viewshed managed to improve night view
 - Manage as bird/butterfly/elk habitat

Legend

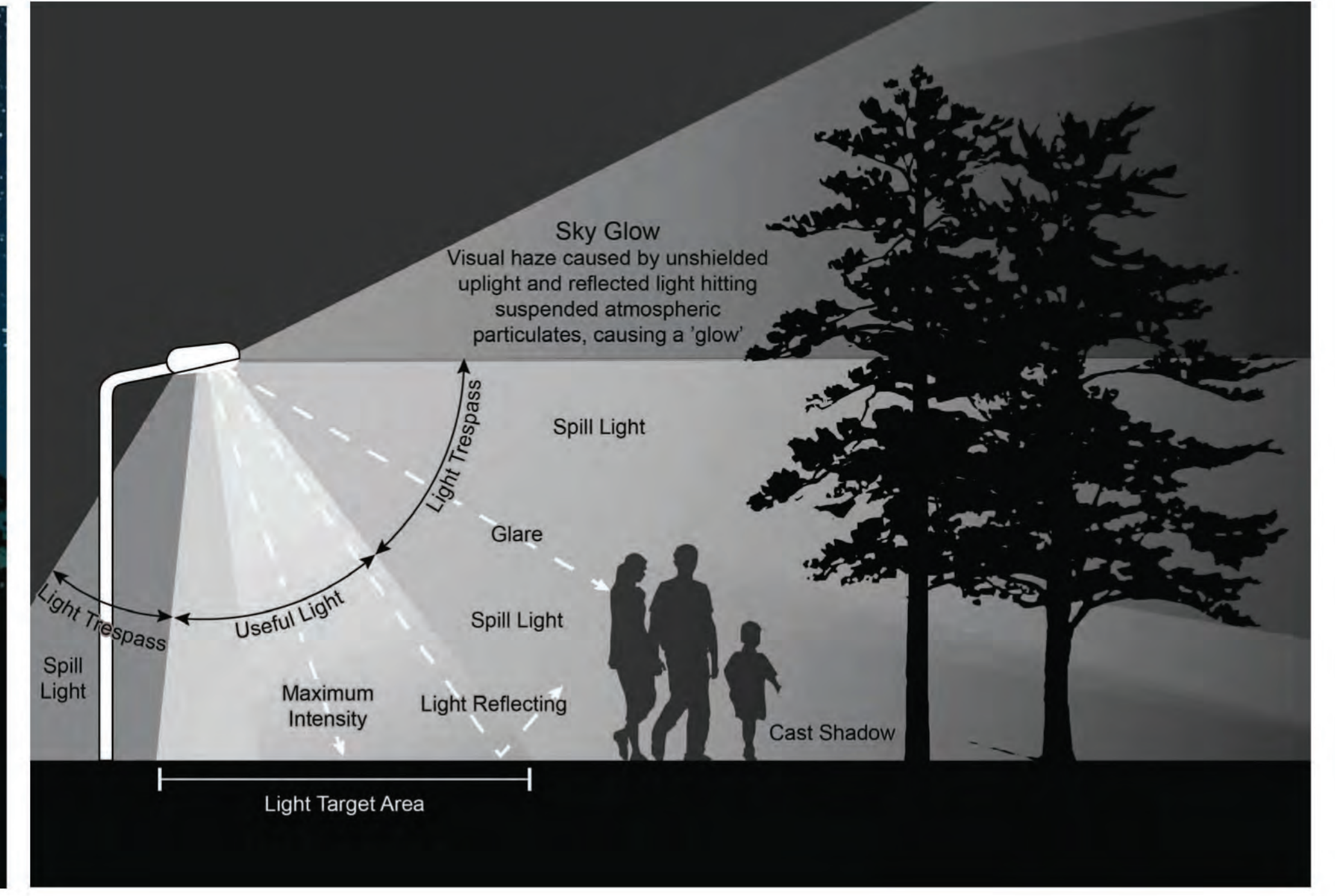
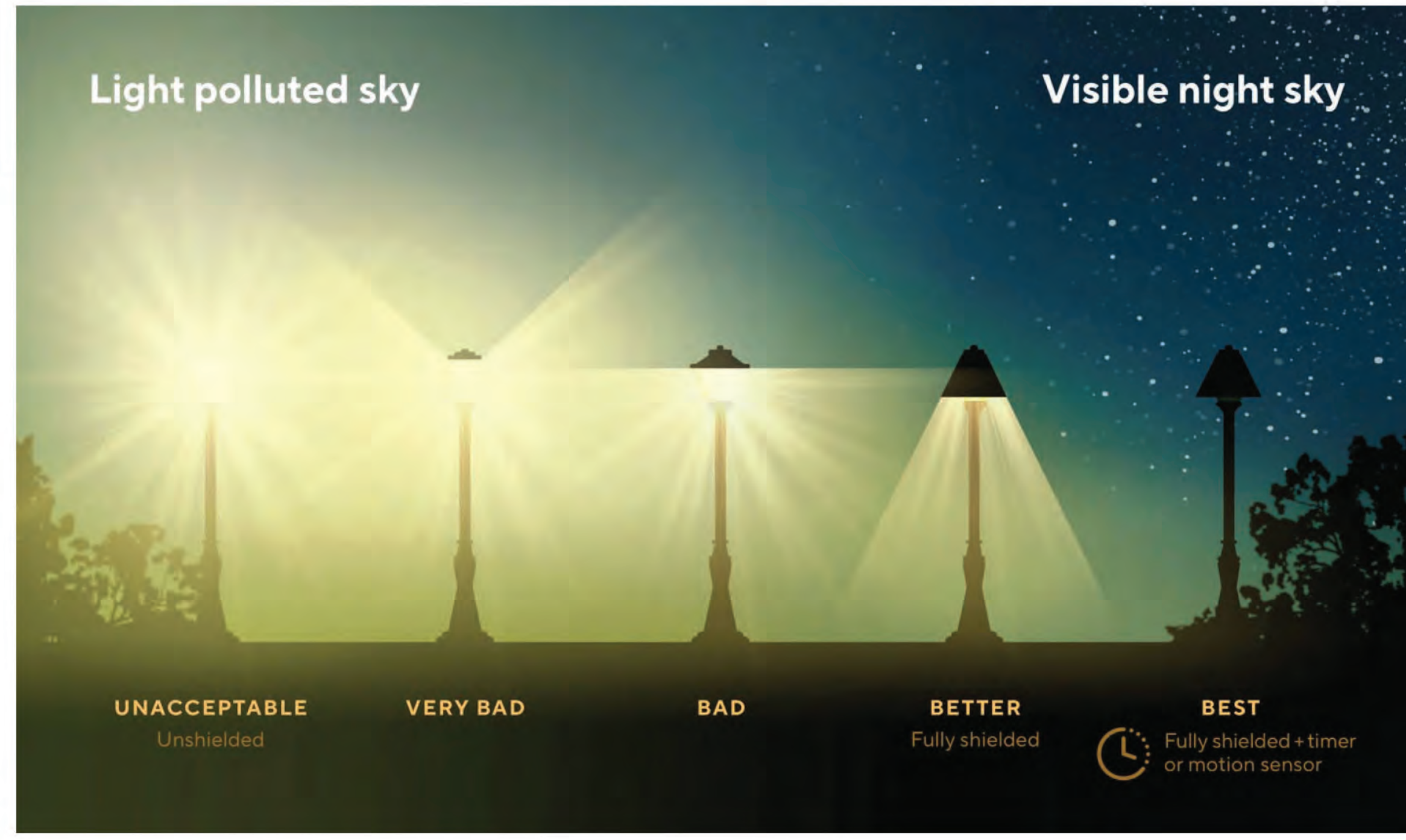
- ★ Primary Night Sky Observation Area
- Gas Vent
- ◉ Capped Landfill
- ◉ Potential Tree Thinning
- ◉ Shale/Coal Mining Overburden Piles
- ⊕ Monitoring Well
- ⊖ Permanent Waterway
- ⊖ Flood Zone A -1% annual chance of flooding
- 5' Contours
- ▣ Site Boundary
- ▣ Mining Overburden
- ▣ Fill Borrow Area
- ▣ Wetlands



Five Lighting Principles for Responsible Outdoor Lighting



- Responsible outdoor lighting is
- 1 Useful**
Use light only if it is needed
All light should have a clear purpose. Consider how the use of light will impact the area, including wildlife and their habitats.
 - 2 Targeted**
Direct light so it falls only where it is needed
Use shielding and careful aiming to target the direction of the light beam so that it points downward and does not spill beyond where it is needed.
 - 3 Low Level**
Light should be no brighter than necessary
Use the lowest light level required. Be mindful of surface conditions, as some surfaces may reflect more light into the night sky than intended.
 - 4 Controlled**
Use light only when it is needed
Use controls such as timers or motion detectors to ensure that light is available when it is needed, dimmed when possible, and turned off when not needed.
 - 5 Warm-colored**
Use warmer color lights where possible
Limit the amount of shorter wavelength (blue-violet) light to the least amount needed.

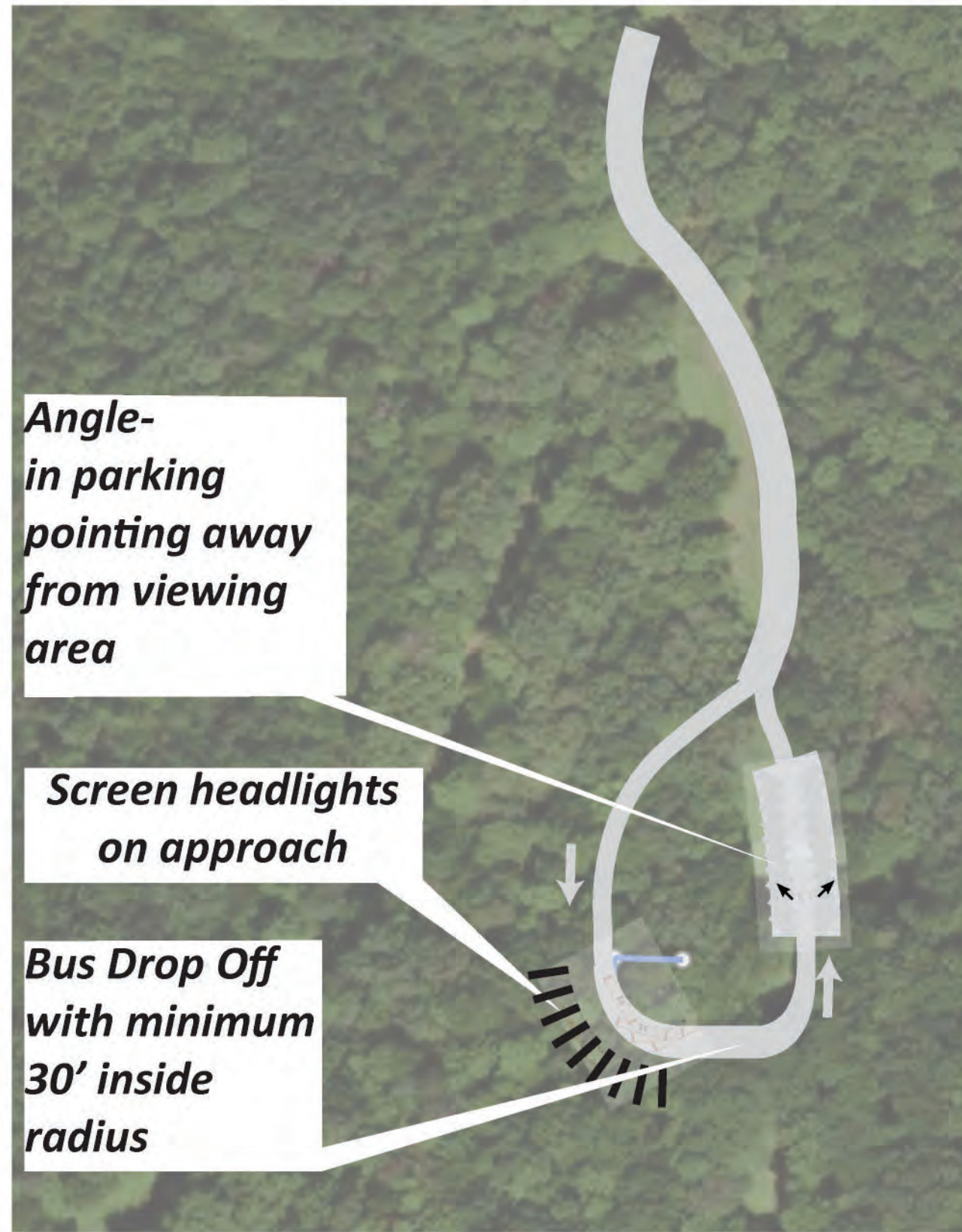


Parking and Access

Dark sky full cutoff access road lighting



<https://illumination.duke-energy.com/articles/encouraging-dark-sky-light>



Seating / Gathering Areas



<https://www.facebook.com/DarkSkyViewing/>

Pathway Marking and Lighting

Light pathway surface only and differentiate pathway edging



<https://www.darksidetrails.com/products/>



<https://www.darksidetrails.com/products/>

Guidelines for Pathway Lighting:

- pathway lighting should be restricted to only those paths near buildings, parking lots and campgrounds
- light the surface only not the area
- use full cutoff fixtures to hide the light source
- as pathways leave the parking area, fade the lighting to gradually ease into night vision
- change edge paving as light diminishes so pathway edge is recognizable in dark sky condition
- Use red LED flashlight to maintain night vision



Pavillion/Storage/Power Supply

Shelter with Photovoltaic Cells, Shielded Lighting and Storage Areas



<https://www.darksidetrails.com/products/>

Guidelines for Pavilions:

- locate away from landfill cap (no excavation for footings within cap area)
- use roof for solar energy
- no lighting within open shelter if located in open area



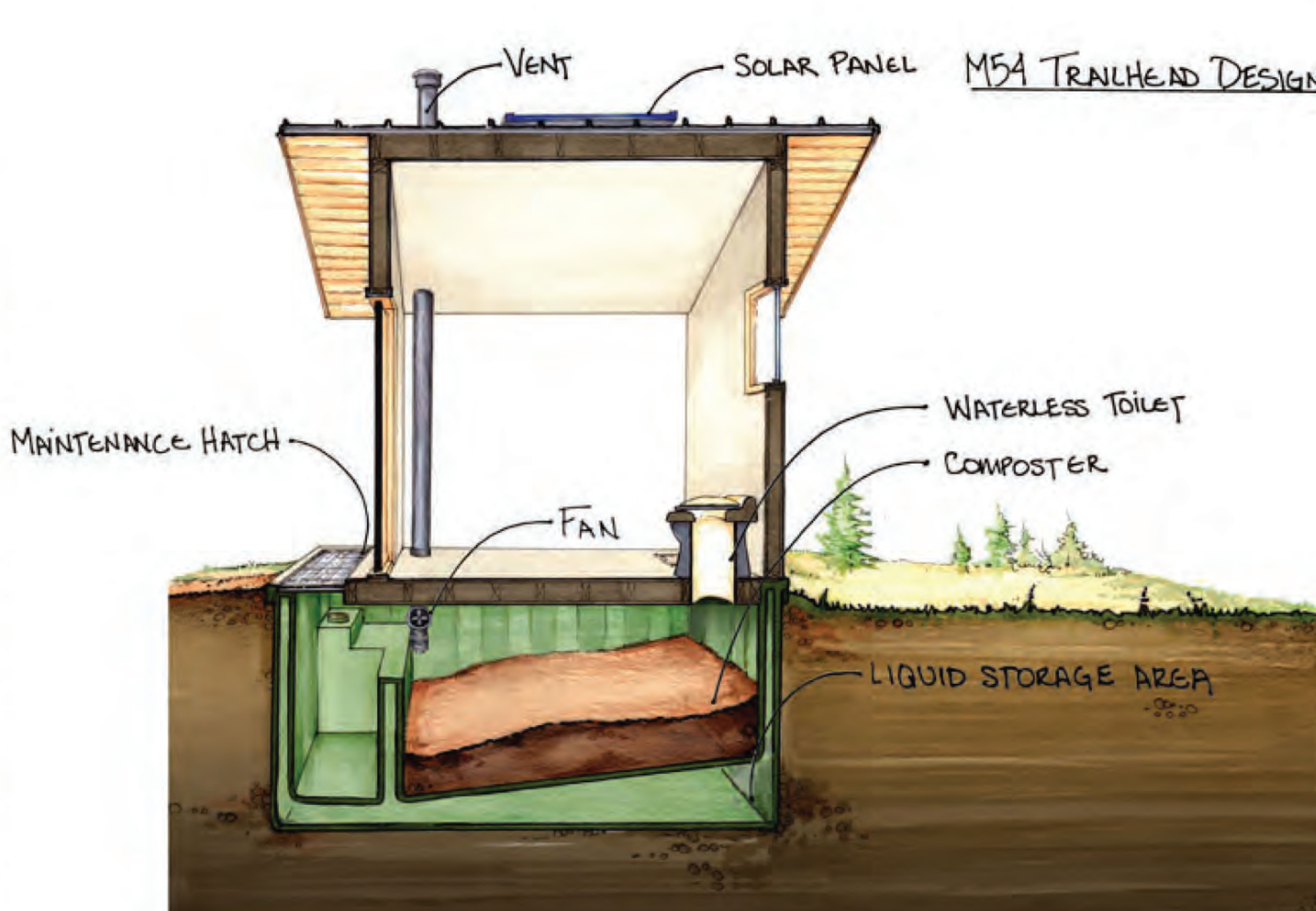
<https://appshop.org/newswe-installed-solar-one-year-ago-and-the-numbers-are-in>

Restrooms/Water

- Composting Toilets (below) or Portable Facilities are under consideration
- No potable water is available, but can be provided for events



<https://darksidetrails.com/products-services.php#M54>



<https://darksidetrails.com/products-services.php>

Observation Deck

Viewing Infrastructure - permanent paved or portable for events (graded surface)



Lanox & Addington DarkSky Viewing Area Ontario Canada <https://www.facebook.com/DarkSkyViewing/>



INTERNATIONAL DARK SKY PLACES PROGRAM CERTIFICATION

The International Dark Sky Place certificate provides commemorative recognition for communities that are demonstrating best practices for protecting night skies. Places are nominated, and go through a certification program that is reviewed by the Dark Sky Places Committee and International Dark Sky Association

