Pioneer Valley Regional School

Landscape Management Plan

Open-Air Destinations? Stewardship?

Which design will you like?

Thursday, Feb 16

6:30 - 8 PM

PVRS Library

(Snow date Thursday, March 1)

Take a Hike with Us

On Pioneer's Beautiful 90 Acres

Saturday, Feb 11

9 - 11 AM

Meet at School's Parking Lot

John Lepore, Landscape Designer, (413) 512-0644

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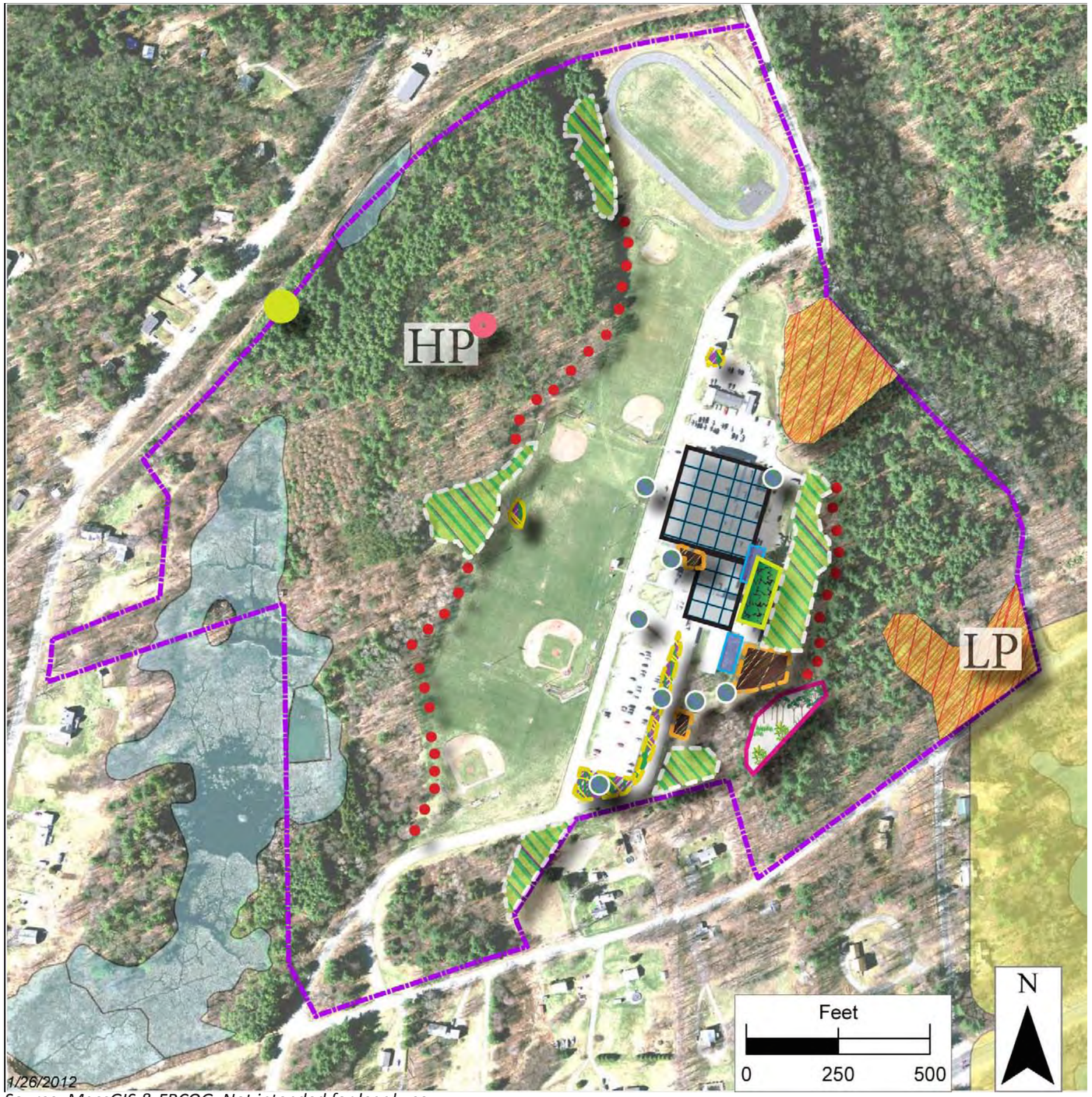
Stewardship



Source: MassGIS & FRCOG. Not intended for legal use

LEGEND

- PVRS Boundary
- Critical Landscape
- Wetlands
- Potential Vernal Pool
- HP /LP High Point / Low Point
- Landscape Protection
- Pollinator Habitat
- Rain Gardens
- Exotic Invasive Control
- Four Season Gardens
- Native Re-Plantings
- Rain Barrels
- Perennial Forest Gardens
- Living Green Roof
- PV Array on Roof

- **Landscape protection**-BioMap 2 Critical Landscape offers a place where rare species could be identified, observed and protected; other location one of the few locations without exotic invasive plants
- **Pollinator habitats**-increases ecosystems for threatened pollinator insects and encourages wildlife migration; unique places for natural sculptures
- **Rain gardens**-water tolerant native plants surround numerous water catchments to reduce run off; unique places for landscape sculptures
- **Exotic invasive plant control**-along forest edge will improve biodiversity by reduction in artificial competition
- **Four season gardens**-using low energy hoop houses methods, crops can be produced during the school year
- **Native re-planting**-replace cultivated exotic invasive plants
- **Rain barrels**-use roof runoff for irrigation of gardens
- **Perennial forest gardens** (aka permaculture) - offers new thinking on perennial food sources
- **Living green roof**-try a portion of the building for further implementation
- **PV array** - Utilizes roof space for electrical generation

Stewardship

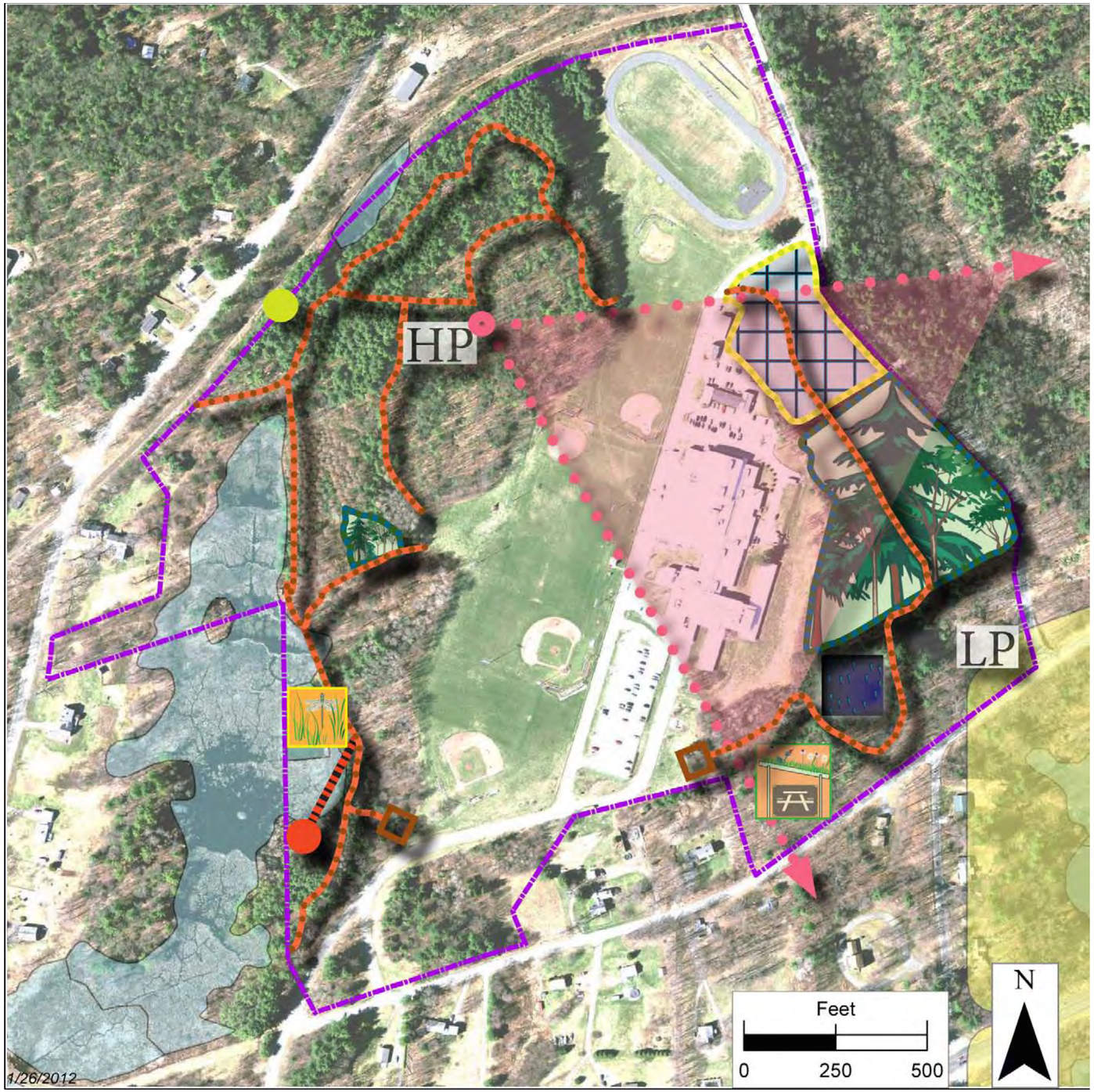
Pros

- This design addresses an important core value and student expectation on environmental stewardship in a variety of practical ways; clearly deals with climate change by improving water run off, renewable energy sources, biodiversity and local food security
- **Landscape protection areas**-brings important idea of conserving natural resource areas into the school
- **Pollinator habitats** reduce mowing area, decreases water runoff, and increase habitat; further protects zone 2 well buffer area
- **Rain gardens** reduce rapid drainage and improves aquifer recharge; provide pollinator habitat
- **Managing exotic invasive plants** along forest edge reduces further infiltration into woodlands and engages students to observe landscape changes over the long term
- **Four season gardens** would encourage healthier eating, could involve community support, and extends conventional thinking about local food production
- **Native re-planting** creates natural habitat which encourages local species; aesthetic additions could soften hard building lines of school's south driveway entrance and eliminate exotic invasive plants
- **Rain barrels** provide irrigation for gardens and improve water quality
- Productive **perennial forest gardens** can replace areas overrun with exotic invasive plants and provide valuable ecological lessons in how plant interactions support one another
- **Green roof** reduces rain water runoff, decreases building heating and cooling requirements and provides habitat
- **PV array** reduces utility bill and carbon footprint; eliminates heavy water use from commercial electrical generation

Cons

- Funding needs to come from alternative sources outside of the District's budget
- Overall plan will require new approaches to land management; support personnel may find the management time requirement challenging
- Academic disciplines outside of physical education and science may need support understanding its value and potential uses
- Implementing open air activities may require unfamiliar teaching strategies
- Finding time within the school day for use may prove too problematic
- **Pollinator habitats** would need pathways mowed to control black footed tick /Lyme disease; site requires management for invasive plants
- Training students and teachers to **manage exotic invasive plant** will require outside support
- **Exotic invasive plant control** intense startup efforts and ongoing management; may require time frames not in sync with the school calendar
- Summertime **four season gardens** will require volunteers; would need to add high hoop greenhouse to extend seasons
- Addition of **native plants** may hinder places to put snow during winters if not carefully planned
- **Perennial forest gardens** would require clearing to allow adequate light for **Four season gardens**
- **Green roof** may require structural upgrading support addional weith load
- Problems with major utilities accepting third party **PV** have recently emerged; the school would require 2.5 acres of PV panels to accommodate their full electrical demand; the roof could support about 2 acres of panels; some may find location unsightly.

Open-Air Destinations



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LEGEND

- PVRS Boundary
- Critical Landscape
- Wetlands
- Potential Vernal Pool
- HP/LP High Point/Low Point
- Wetland Research Area
- Trail System with Kiosk
- Regenerative Forests
- Wetland Platform & Walk
- Classrooms & Pavilion
- Confidence Ropes Course
- High Point "Viewscape"
- PV Array on Ground

- **Wetland research area** connects students to natural cycles in a fascinating and unique setting
- **Trails**-Welcoming kiosks and trail signs provide choices and direction
- **Regenerative forests**-Selectively harvested to improve forest health
- **Wetland viewing platform**-an elevated outlook to observe the multitude of natural events
- **Wetland boardwalk**-allows access to a vast swamp where lots of unique wildlife make their home
- **Open-air classrooms & pavilion**-easily accessed places to hold classes and large meetings; have green roofs and made from on-site sourced materials;
- **Challenge ropes course** - Focuses on team and skill building
- **High-point "view-scape"** overlooks the school and the surrounding area; provides perspective and a stronger sense of place
- **PV array**-ground mounted - Reduces utility bill and carbon footprint; eliminates heavy water use from commercial electrical generation

Open-Air Destinations

Pros

- This design opens many previously unused areas across the school's 90 acres by providing engaging destinations; adds renewable energy source
- Students would have a place to sit, observe, and create within the many unique natural forms and activities occurring in the wetland boardwalk, research area and viewing platform
- **Trail** kiosks welcome visitors and provide clear direction with engaging destinations
- An interpretive **trail** system educates the walker on landforms, forest systems and the identities of unique plants along guided pathways
- **Regenerative forests** improve forest health; provides educational tree-to-lumber processing skills and product
- The **pavilion** could function well for whole class meetings, while the **open-air classrooms** would create a structured place for lessons while outside; both have green roofs that reduce run off; allow quick access to/from the building ensures use
- Many community building activities could be possible at the **challenge ropes course**
- "**View-scape**" provide a unique cross-disciplinary opportunity for aesthetic, historic and geological uses

Cons

- This design causes disruption to native habitats; higher potential for long-term ecological disruptions that could reduce resilience during climate changes; does little to mitigate* excessive run off, biodiversity or local food security
- Plan does not address decreasing biodiversity and water management issues during climate change, thus ignores needs for resilient planning and management
- Some destinations may be too far for use within the school's regular schedule
- Routine management could prove challenging
- Construction of structures within wetland resources areas may require special permitting
- New areas will create new opportunities of **exotic invasive plant** colonization and will require extensive routine management
- **Trail** can interfere with some animal migration patterns, hindering the search for food, reducing genetic diversity by restricting breeding, etc.
- **View-scape** may require professional management
- **Regenerative forests** could benefit from a professional partnership for support and safety
- **Ropes course** and **viewing platform** may bring liability concerns
- Clearing for **PV array** would eliminate valuable habitat; would also eliminate athletic practice area.

* Mitigate: reduce the impact; in this case, the design does little to reduce the amount of water running into the wetlands below the school at Bennet Meadows which has been designates as BioMap 2 Critical Landscape area