

PREFERRED ALTERNATIVE SUMMARY

Following the initial alternative screening, two basic concepts emerged for further refinement: a traffic signal, and single-lane roundabout. Several sketch design concepts were developed for each of these two alternatives to try to balance impacts to the surrounding properties while maintaining acceptable traffic operations and safety performance.

- Traffic Signal Concepts
 - Alignment centered on Braddock Road/Pleasant Valley Road intersection
 - Offset alignment shifting Braddock Road north
- Roundabout Concepts
 - Centered on Braddock Road/Pleasant Valley Road intersection
 - Center shifted west along Braddock Road
 - Center shifted to the southwest

During this time, additional information regarding possible environmentally sensitive areas came to light, prompting additional adjustments to the sketch concepts. As has been documented previously, there are several constraining factors with regard to any improvements at the Braddock Road/Pleasant Valley Road intersection, including:

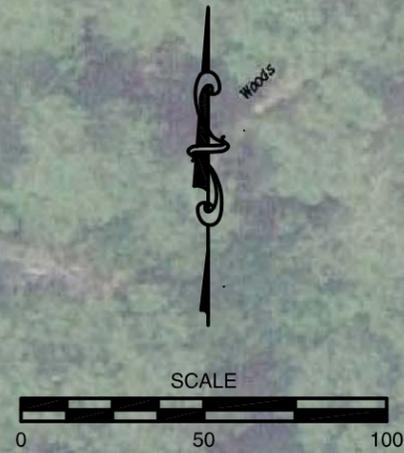
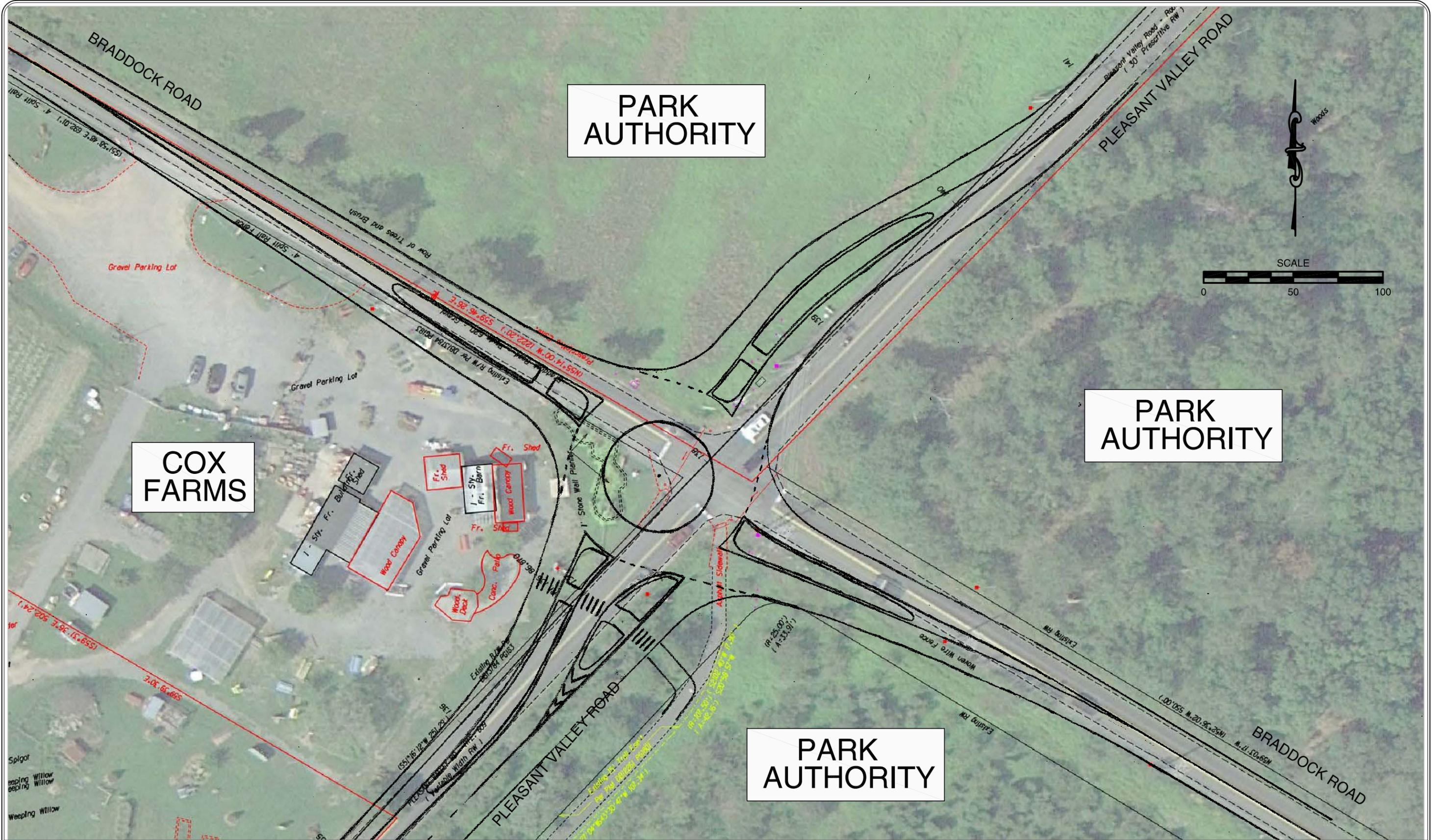
- Parkland (4f property designations) in the northeast, northwest, and southeast quadrants of the intersection
- Environmentally sensitive species and high quality forested wetland areas in the northeast quadrant
- Agricultural land (Cox Farms) in southwest quadrant of the intersection
- Significant wetland areas in multiple quadrants
- Limited right of way availability
- Large multi-circuit utility poles

A wide range of criteria were considered in the evaluation of each concept, including traffic operations, safety performance, right of way impacts, environmental impacts, utilities, drainage, maintenance/operation costs, design/construction cost, access management, constructability, and ability for future expansion. After careful consideration of these criteria, the roundabout option with the center shifted southwest was selected as the preferred alternative to be carried forward to an RFP design level. This roundabout concept provides an optimum balance between competing criteria with the following outcomes:

- Acceptable operational performance during peak time periods through design year 2020
 - Weekday AM: Level of Service C / Delay = 20.4 sec / Volume-to-capacity 0.94
 - Weekday PM: Level of Service D / Delay = 21.5 sec / Volume-to-capacity 0.91
- Better safety performance than traffic signal
- Reduced “footprint”
- Lesser right-of-way, environmental, and utility impacts
- Better off-peak performance
- Lower life-cycle (maintenance/operations) costs
- Lower design/construction cost
- Ability to expand capacity

The attached figure illustrates and sketch-level design of the preferred alternative.

H:\profile\11764 - Central Region VDOT On-Call\Task Orders\Task 14 (12-057) - Braddock Rd & Pleasant Valley Rd\dwg\design\figs\11764_14_Sketches.dwg Apr 04, 2013 - 9:51am - ctesier Layout Tab: Concept #2 April 4 2013



COX FARMS

PARK AUTHORITY

PARK AUTHORITY

PARK AUTHORITY

CONCEPT #2: OFFSET 100' INSCRIBED CIRCLE DIAMETER ROUNDABOUT BRADDOCK RD/PLEASANT VALLEY RD INTERSECTION IMPROVEMENT STATE PROJECT NO. 0620-029-017, P101 - UPC 103318

CONCEPT 2