January 5, 2012

David Lay
SMRT
144 Fore Street
Portland, ME 04104

Subject: **Revised Wetland Delineation and Vernal Pool Survey Report**
York Police Station, York, Maine

Dear David:

As requested, on October 20 and 21, 2011, Stantec Consulting (Stantec) completed a wetland boundary confirmation at the proposed police station site in York, Maine. The purpose of the boundary confirmation was to verify the wetland delineation completed by Stantec (then Woodlot Alternatives, Inc.)[1] in July 2007. The extent of the boundary confirmation was limited to the project area shown on Figure 1. Wetland boundaries were confirmed using the technical criteria established by the U.S. Army Corps of Engineers (Corps) and the Maine Department of Environmental Protection (MDEP). Wetland boundaries were verified using a Global Positioning System (GPS) Trimble® Pro-Series receiver. Please note that Stantec also completed a vernal pool survey within the project area during April 2008. This report includes the results of this vernal pool survey for the project area shown on Figure 1. The 2007 wetland delineation GPS data, 2008 vernal pool survey data, and additional data collected during the 2011 site visit were used to create the attached wetland delineation and vernal pool survey map (Figure 1). Copies of the original field notes and site photographs are available upon request.

Site Description

The approximately 53-acre project area is located between U.S. Route 1 and Ridge Road, south of Animal Park Road in York, Maine (Figure 1). On-site topography consists of gently sloping upland hills and wetland depressions and streams. The site has been disturbed in the past by timber harvesting and construction activities, and an existing transmission line bisects the project area. The canopy of the forested uplands is comprised of quaking aspen (*Populus tremuloides*), sweet birch (*Betula lenta*), white pine (*Pinus strobus*), eastern hemlock (*Tsuga canadensis*), sugar maple (*Acer saccharum*), red oak (*Quercus rubra*), American beech (*Fagus grandifolia*), and staghorn sumac (*Rhus hirta*). The upland shrub layer is dominated by species present in the canopy, as well as Morrow's honeysuckle (*Lonicera morrowii*), multiflora rose (*Rosa multiflora*), red raspberry (*Rubus idaeus*), and red-berried elder (*Sambucus racemosa*). Species observed in the upland herbaceous layer include bracken fern (*Pteridium aquilinum*), Canada mayflower (*Maianthemum canadense*), patridgeberry (*Mitchella repens*), lowbush blueberry (*Vaccinium angustifolium*), evergreen wood fern (*Dryopteris intermedia*), rough-stemmed goldenrod (*Solidago rugosa*), oak fern (*Gymnocarpium dryopteris*), oriental bittersweet (*Celastrus orbiculata*), Japanese barberry (*Berberis thunbergii*), broad beech fern (*Phegopteris*

[1] In October 2007, Stantec acquired Woodlot Alternatives, Inc.

hexagonoptera), starflower (*Trientalis borealis*), poison ivy (*Toxicodendron radicans*), and wild sarsaparilla (*Aralia nudicaulis*).

According to the U.S. Department of Agriculture *Soil Survey of York County*, *Maine*,[2] the project area contains four mapped soil units. Isolated portions in the northwest and southeast of the site, along with a portion of the central part of the site, are mapped as Chocorua peat, a very deep, very poorly drained soil formed in organic accumulations underlain by stratified sand and gravel on outwash plains, lake plains, and glacial till uplands. The northwestern and southeastern portions of the property are mapped as Lyman-Rock outcrop complex, a shallow, somewhat excessively drained soil formed in glacial till, often found on rocky hills. The northern portion of the property includes a small area mapped as Brayton and Westbury very stony fine sandy loams, an association of very deep, poorly, and somewhat poorly drained soils on toe slopes and depressions of glaciated uplands formed in dense till. Small areas in the southern and central portions of the property are mapped as Lyman fine sandy loam, a shallow, somewhat excessively drained soil formed in glacial till.

A review of Federal Emergency Management Agency (FEMA) flood maps indicates that there is one area of mapped floodplain located within the project area. The area, associated with Wetland 4 described below, is located in the southeastern portion of the project site and is listed as a special flood hazard area that would be inundated by a 100-year flood.

Wetland Descriptions

Stantec identified four wetland resources within the project area. The wetlands are shown on the attached Figure 1 and are further described below.

Wetland 1

Wetland 1 is a large mixed scrub-shrub and forested wetland complex located in the northeastern portion of the project area. This wetland continues off-site to both the east and west and contains two MDEP-jurisdictional streams. One stream begins off-site to the north, flows into the project area and then flows back out to the east toward Animal Park Road. The second stream is a short stream segment located in the southwestern portion of the wetland that was identified during the 2011 wetland boundary confirmation. The wetland lines delineated in 2007 were found to be accurate during the 2011 site visit. The canopy of the wetland is comprised of red maple (*Acer rubrum*), balsam fir (*Abies balsamea*), yellow birch (*Betula alleghaniensis*), green ash (*Fraxinus pennsylvanica*), and gray birch (*Betula populifolia*). Dominant shrub species include those present in the overstory, as well as winterberry (*Ilex verticillata*), highbush blueberry (*Vaccinium corymbosum*), green alder (*Alnus viridis*), pussy willow (*Salix discolor*), white willow (*Salix alba*), alder-buckthorn (*Frangula alnus*), long-beaked willow (*Salix bebbiana*), and speckled alder (*Alnus incana*). The herbaceous layer is dominated by cinnamon fern (*Osmunda cinnamomea*), sensitive fern (*Onoclea sensibilis*), meadowsweet (*Spiraea alba* var. *latifolia*), soft rush (*Juncus effusus*), sedges (*Carex* sp.), swamp candles (*Lysimachia terrestris*), water carpet (*Chrysosplenium americanum*), royal fern (*Osmunda regalis*), blackberry (*Rubus allegheniensis*), buttercup (*Ranunculus acris*), swamp dewberry (*Rubus hispidus*), northern dewberry (*Rubus flagellaris*), jewelweed (*Impatiens capensis*), false hellebore (*Veratrum viride*), steeple-bush (*Spiraea tomentosa*), goldthread (*Coptis trifolia*), Canada goldenrod (*Solidago canadensis*), bunchberry (*Cornus canadensis*), and common horsetail (*Equisetum arvense*). Soils within this wetland are fine sandy loam to silty clay loam with a gleyed matrix. At the time of the delineation, soils exhibited redoximorphic features within seven inches of the mineral soil surface. Many areas within Wetland 1 would be classified as a very poorly drained Histosol. Hydrologic indicators included water-stained leaves, soil saturation at the surface, areas of standing water, and wetland drainage patterns.

[2] U.S. Department of Agriculture, Natural Resources Conservation Service. 1982. *Soil Survey of York County, Maine.* Available at : http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

Wetland 1 also contains three vernal pools as identified during the 2008 surveys. The results of the vernal pool surveys are given in the Vernal Pool Results section below.

Wetland 2

Wetland 2 is a mixed scrub-shrub, emergent, and forested wetland complex located in the center of the project area. The wetland continues off-property to the east and southwest. This wetland contains two MDEP-jurisdictional streams that begin within the wetland and flow off-site to the east. The canopy is comprised of red maple, sparse eastern hemlock, yellow birch, and green ash. Dominant shrub species include those present in the overstory, as well winterberry, highbush blueberry, and speckled alder. The herbaceous layer is dominated by cinnamon fern, sensitive fern, sedges (*Carex* sp.), buttercup, royal fern, jewelweed, water carpet, northern dewberry, goldthread, fowl mannagrass (*Glyceria striata*), steeple-bush, and common horsetail. Soils within this wetland are sandy loam with a depleted matrix. At the time of the delineation, soils exhibited redoximorphic features within seven inches of the mineral soil surface. Hydrologic indicators included water stained leaves and wetland drainage patterns. Wetland 2 contains one man-made vernal pool, 10KW, which is further described below.

Wetland 3

Wetland 3 is a small mixed scrub-shrub and emergent wetland that is located southwest of the covered bridge on Animal Park Road. The wetland continues off-site to the east where it drains through a culvert under the road. The shrub layer, where present, is comprised of highbush blueberry, winterberry, speckled alder, and red maple. The herbaceous layer is dominated by cinnamon fern, sensitive fern, soft rush, sedges (*Carex* sp.), royal fern, common cat-tail, fowl mannagrass, meadowsweet, common arrowhead (*Sagittaria latifolia*), swamp dewberry, and wool-grass (*Scirpus cyperinus*). Soils within this wetland are fine sandy loam with a gleyed matrix. At the time of the delineation, soils exhibited redoximorphic features within seven inches of the mineral soil surface. Hydrologic indicators included saturation to soil surface and water-stained leaves.

Wetland 4

Wetland 4 is a mixed scrub-shrub, emergent, open water and forested wetland complex located at the southeastern corner of the project area. The wetland continues off-property to the southwest and southeast. Wetland 4 contains a man-made pond known as the “Ice Pond” located at the southern end of the wetland. The canopy of the forested portions of the wetland is comprised of red maple and red spruce. Dominant shrub species include those present in the overstory, as well as winterberry, highbush blueberry, mountain holly (*Ilex mucronata*), Morrow’s honeysuckle, alder-buckthorn, willow (*Salix* sp.), witherod (*Viburnum nudum*), and speckled alder. The herbaceous layer is dominated by cinnamon fern, sensitive fern, sedges (*Carex* sp.), buttercup, goldthread, bedstraw (*Galium* sp.), steeple-bush, poison ivy, red raspberry, blackberry, lesser duckweed, bittersweet nightshade, common speedwell (*Veronica officinalis*), silky dogwood, soft rush, common cat-tail, purple loosestrife, swamp candles, crested wood fern (*Dryopteris cristata*), rattlesnake mannagrass (*Glyceria canadensis*), mad-dog skullcap (*Scutellaria lateriflora*), common arrowhead, and common horsetail. Soils within this wetland are fine sandy loam with a depleted matrix. At the time of the delineation, soils exhibited redoximorphic features within seven inches of the mineral soil surface. Hydrologic indicators included standing water and wetland drainage patterns. This wetland is located within the 100-year flood zone as mapped by FEMA.

Vernal Pool Survey Methodology

Stantec conducted vernal pool surveys on April 25 and 30, 2008, to identify vernal pool habitat located within the project area. The results of these surveys were derived using standard field techniques and represent observations made during the 2008 amphibian breeding season. The presence, absence, and number of egg masses presented in this report reflect the results of these surveys. Vernal pools are dynamic habitats that vary in water level, vegetative cover, and other physical characteristics during the course of a year, as well as from year to year. In addition, the breeding activity of amphibians, particularly

the initiation of breeding, depends upon seasonal environmental parameters such as temperature and precipitation. Due to this variability, the presence and number of egg masses may differ between breeding seasons and during the course of a given breeding season.

The surveys involved searching for amphibian breeding activity, primarily the presence of egg masses and use by other vernal pool-dependent species. Information also was collected on the physical characteristics of the pool such as the likely hydro-period (i.e., how long surface water will remain in the pool) and the type of inlet and outlet. Information on the biological and physical characteristics of the pool was then used to determine if the vernal pool met the criteria of a Significant Vernal Pool as defined in Chapter 335 of the Maine Natural Resources Protection Act (NRPA). According to this rule, a vernal pool is a natural, temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanently flowing inlet or outlet and no viable populations of predatory fish. In addition, a Significant Vernal Pool contains one or any combination of the following:

- 40 or more wood frog (*Lithobates* sylvatica) egg masses;
- 20 or more spotted salamander (*Ambystoma maculatum*) egg masses;
- 10 or more blue spotted salamander (*Ambystoma laterale*) egg masses;
- Presence of fairy shrimp (*Eubranchipus* spp.); and/or
- Documented use by a state-listed rare, threatened or endangered species that commonly require a vernal pool to complete a critical portion of their life-history such as Blanding's turtle (*Emydoidea blandingii*), spotted turtle (*Clemmys guttata*), ringed boghaunter dragonfly (*Williamsonia lintneri*), wood turtles (*Clemmys insculpta*), ribbon snakes (*Thamnophis sauritus*), swamp darner dragonflies (*Epiaeschna heros*), and comet darner dragonflies (*Anax longipes*).

The characteristics of the pools were also compared to the regulatory definition of a vernal pool used by the Corps. In Maine, vernal pools are regulated by the Corps according to the Maine General Permit (GP), which provides the following definition for vernal pools.

> A vernal pool, also referred to as a seasonal forest pool, is a temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish.
>
> A vernal pool may provide the primary breeding habitat for wood frogs, spotted salamanders, blue spotted salamanders, and fairy shrimp, as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition. For the purposes of this GP, the presence of any of the following species in any life stage in any abundance level/quantity would designate the waterbody as a vernal pool: fairy shrimp, blue spotted salamanders, spotted salamanders or wood frogs.

Vernal Pool Survey Results

Stantec identified five vernal pools within the project area, one of which was determined to be a Significant Vernal Pool. Table 1 below provides a summary of the survey results. Maine State Vernal Pool Assessment Forms for the three natural vernal pools are included as an appendix to this report.

Table 1. Vernal Pool Summary: Proposed York Police Station, York, Maine. April 2008.

Vernal Pool ID	Associated Wetland	NRPA		Corps Regulated Vernal Pool	Number of Egg Masses			Presence[1]		Comments
		Vernal Pool	Significant Vernal Pool		Wood Frog	Spotted Salamander	Blue-spotted salamander	Fairy Shrimp	Other Indicator Species	
03MA	1	X		X	0	3	0	0	0	Naturally occurring pool
09KW	1			X	0	18	0	0	0	All-terrain vehicle ruts through wetland located in power line right-of-way.
04MA	1	X	X	X	0	40	0	0	0	Naturally occurring pool
10KW	2			X	0	2	0	0	0	All-terrain vehicle ruts through wetland located in power line right-of-way.
07KW	3	X		X	3	15	0	0	0	Wetland appears to be naturally occurring or naturalized.

[1]Presence indicates observation during vernal pool survey.

State and Federal Wetland Regulations

The MDEP and the Corps regulate the wetlands identified within the project area. Under the provisions of Section 404 of the Clean Water Act, the Corps regulates activities within waters of the United States, which include navigable waters and all their tributaries, adjacent wetlands, and other waters or wetlands where degradation or destruction could affect interstate or foreign commerce. The Corps has issued a General Permit (GP) for the State of Maine that merges the federal and state permit review process for many projects. In Maine, wetlands and waterbodies, as well as other protected natural resources, are regulated under M.R.S.A. 38 §§ 480A-480FF, the NRPA.

Projects that do not impact a wetland or projects that impact less than 4,300 square feet of wetland are usually exempt from the NRPA Tier permitting requirements. This exemption does not apply if the impact is: 1) in, on, or over a coastal wetland, great pond, river, stream, or brook; 2) within 25 feet of those resources, or is more than 25 feet and no erosion control is used; 3) in a shoreland zone or a wetland protected by the shoreland zone; 4) part of a wetland with more than 20,000 square feet of open water or emergent vegetation, except artificial impoundments; 5) in peatland; 6) part of a larger project; or 7) in Significant Wildlife Habitat. Typically, projects with cumulative impacts to freshwater wetlands between 4,300 and 15,000 square feet are eligible for review under the Tier 1 process. The Tier 2 review process applies to alterations that affect between 15,000 and 43,560 square feet (i.e., 1 acre) of freshwater wetlands. Cumulative freshwater wetlands impacts that exceed 1 acre typically require a Tier 3 review. Impacts to *Wetlands of Special Significance*, rivers, streams and brooks, great ponds, and Significant Wildlife Habitat typically require an Individual Permit. Based on Stantec's delineation, those portions of Wetlands 1 and 2 within 25 feet of the MDEP streams would be considered *Wetlands of Special Significance*. Wetland 1 would also be considered a *Wetland of Special Significance* because it contains a Significant Vernal Pool. The entirety of Wetland 4 would be considered a *Wetland of Special Significance* because it is located within the area that would be inundated during a 100-year flood event as shown on flood insurance maps prepared by FEMA.

Full identification of *Wetlands of Special Significance* involves contacting natural resource agencies such as the Maine Natural Areas Program (MNAP), Maine Department of Inland Fisheries and Wildlife (MDIFW), and MDEP to determine if there are any documented occurrences of rare, threatened, or endangered species and communities within or in the vicinity of the project area. According to the MNAP, there are no rare botanical features documented specifically within the project area. MDIFW responded that there are no Essential Habitats, no Significant Wildlife Habitats, and no mapped habitats for rare, threatened, or endangered species within the project area. The MDIFW fisheries biologist stated that there are no known fisheries resources within the proposed project area. However, MDIFW did state that Briley Brook, located north of the project area, supports native brook trout populations and that adequate buffers and Best Management Practices should be used for any stream crossings. Further responses are pending and will be forwarded upon receipt.

State and Federal Vernal Pool Regulations

Maine NRPA Chapter 335, Significant Wildlife Habitat, regulates Significant Vernal Pools as Significant Wildlife Habitat. Chapter 335 details specific definitions and standards regarding characterization and protection of Significant Vernal Pools in Maine. In summary, unavoidable impacts to a Significant Vernal Pool, which includes the critical terrestrial habitat within 250 feet of the high water line of the actual pool, may require an Individual Permit. The concurrent adoption of a Permit By Rule (PBR), Chapter 305 Section 19, allows some activities within 250 feet of Significant Vernal Pools or Potential Significant Vernal Pool if the standards of this PBR can be met. If impacts to the Significant Vernal Pool cannot be avoided and the standards for the PBR cannot be met, an Individual Permit may be required. Based on Stantec's surveys, vernal pool 04MA meets the criteria to be considered an SVP. The remaining pools do not meet SVP criteria because they are either man-made or they do not meet the thresholds for egg mass numbers.

Certain development projects in Maine may also be regulated under Chapter 375, Site Location of Development (i.e., Site Law). Vernal pools that are ecologically significant on a landscape level may be regulated by the MDEP under Site Law. Under some circumstances, setbacks beyond 250 feet may be required by MDEP from these high functioning vernal pools.

The GP for the State of Maine, which was re-issued by the Corps on October 12, 2010, for projects involving "minimal-impact activities", also addresses protection of vernal pools. Under the new Maine GP, the Corps has revised its definition of a vernal pool and adopted specific management standards for vernal pools and their surrounding habitat. The GP also defines a Vernal Pool Management Area (VPMA), which includes the vernal pool plus the area within 750 feet of the pool edge. Projects are required to avoid and minimize impacts within the VPMA. Projects located within the management area must meet a specific set of management practices to be permitted as a Category 1 project. Projects that cannot meet the management practices may require an Individual Permit.

The GP states that the VPMA applies to all vernal pools identified within the Project area. However, based on conversations with the regional office of the Corps, the Corps is most concerned with protecting vernal pools that meet one or more of the following criteria:

- Naturally occurring vernal pools that meet MDEP's definition of a Significant Vernal Pool;
- Man-made vernal pools that meet MDEP's Significant Vernal Pool thresholds for egg mass counts;
- Clusters of vernal pools in close proximity that together meet MDEP's Significant Vernal Pool thresholds for egg mass counts;
- Any vernal pool containing diverse species (i.e., blue-spotted salamanders, fairy shrimp);
- Any vernal pool that contains other rare species (e.g., spotted turtle, Blanding's turtle); and
- Clusters of vernal pools, regardless of origin, especially if the combined egg mass totals exceed MDEP's SVP thresholds.

Based on Stantec's field surveys, each of the five vernal pools meets the Corps' definition of a vernal pool. However, only the cluster of vernal pools 04MA, 09KW, and 03MA meet any of the criteria listed above as being pools that may be of significant concern to the Corps. If the management standards given in the GP can be met, then impacts to the vernal pool or the VPMA may be permitted as a Category 1 project.

Local Wetland Regulations

The Town of York (Town) *Zoning Ordinance*[3] provides the following definition of a Freshwater Wetland:

> **WETLAND, INLAND:** Wetlands are areas inundated or saturated by surface or groundwater for a sufficient time to support, under normal circumstances, a prevalence of vegetation adapted to wetness and which have a predominance of "hydric" soils which form in wet conditions. Wetlands shall be identified as detailed in the Corps of Engineers Wetlands Delineation Manual (1987). Wetland vegetation shall be classified as described in the National List of Plant Species that Occur in Wetlands: Northeast (Region One) (1988), or its subsequent revisions. Hydric soils shall be classified as in Field Indicators for Identifying Hydric Soils in New England (1998) or its subsequent revisions. Man-made inland waterbodies of 10 acres or less and man-made drainage facilities shall be exempted from this definition.
>
> Freshwater/Inland Wetlands may contain small stream channels or inclusions of land that do not conform to the criteria of this definition.

The Town's *Zoning Ordinance* also provides the following definitions of Stream and Tributary Stream:

> **STREAM:** A channel between defined banks. A channel is created by the action of surface water and has 2 or more of the following characteristics:
>
> A. It is depicted as a solid or broken blue line on the most recent edition of the U.S. Geological Survey 7.5-minute series topographic map.
>
> B. It contains or is known to contain flowing water continuously for a period of at least 6 months of the year in most years.
>
> C. The channel bed is primarily composed of mineral material such as sand and gravel, parent material or bedrock that has been deposited or scoured by water.
>
> D. The channel contains aquatic animals such as fish, aquatic insects or mollusks in the water or, if no surface water is present, within the stream bed.
>
> E. The channel contains aquatic vegetation and is essentially devoid of upland vegetation.
>
> "Stream" does not mean a ditch or other drainage way constructed, or constructed and maintained, solely for the purpose of draining storm water, or a grassy swale.

Based on Stantec's site visit and the definitions given in the Town *Zoning Ordinance*, each wetland within the project area meets the Town's definition of Inland Wetlands. Additionally, each stream identified within the project area meets the Town's definition of a stream. According to the Town's Shoreland Overlay District Map[4], the central portion of the project area contains a mapped Shoreland Wetland, with the area immediately surrounding the wetland mapped as Mixed Use Sub-district. The remainder of the project area is mapped as Residential (RES-7), General Development (GEN-3), or Tourism/Recreation on Route 1 (RT 1-4) on the Town's Base Zoning Districts Map[5]. Stantec recommends consultation with the Town Code Enforcement Officer to determine what restrictions would be placed on proposed development within the project area.

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[3] Town of York, Maine [Internet]. *Town of York Zoning Ordinance.* [updated 21 May 2011; cited 7 November 2011]. Available at: http://www.yorkmaine.org/Portals/0/docs/Planning/Zoning%20Ordinance%20as%20of%202011-05-21.pdf

[4] Town of York, Maine [Internet]. *York Zoning Ordinance: Shoreland Overlay District Map, Prepared November 4, 2008, Northern Section.* [updated 4 November 2008; cited 7 November 2011]. Available at: http://www.yorkmaine.org/Portals/0/docs/Planning/maps/mapgallery/shoreland%20zoning2008northsm.pdf

[5] Town of York, Maine [Internet]. *York Zoning Ordinance: Base Zoning Districts.* [updated 4 November 2008; cited 7 November 2011]. Available at: http://www.yorkmaine.org/Portals/0/docs/Planning/maps/mapgallery/base%20zoning%20map_nov2008sm.pdf

Please contact our office if you have questions related to the information presented in this report or if we can be of further assistance.

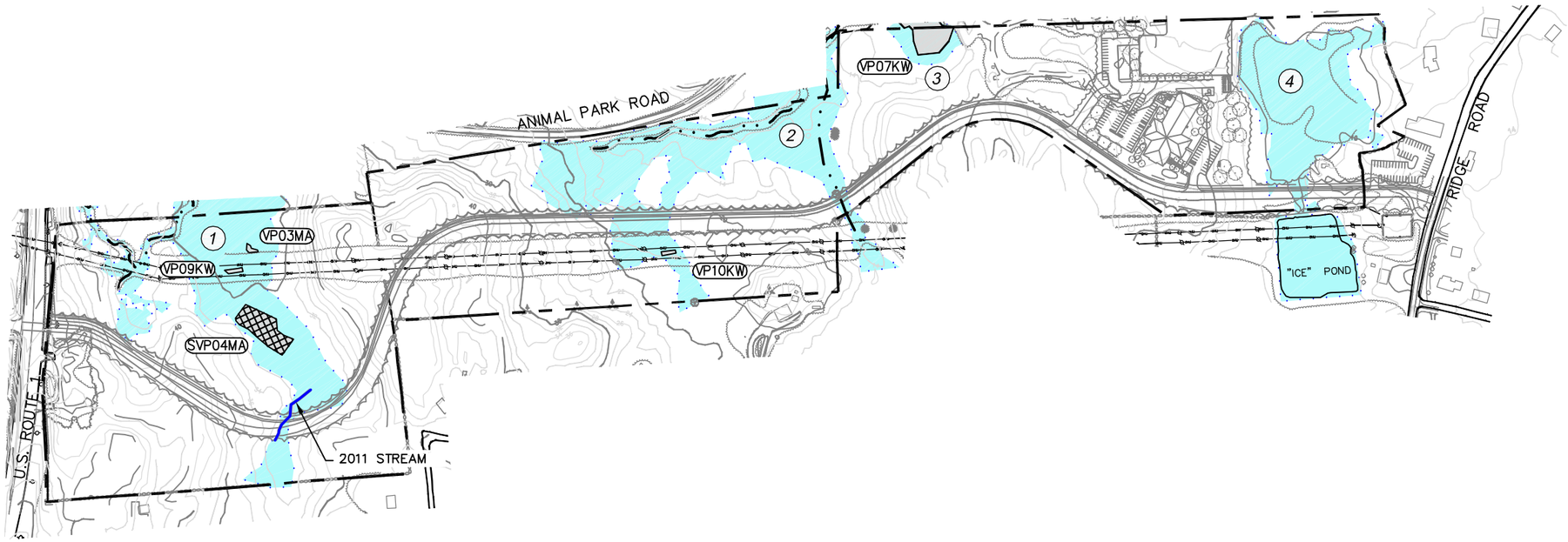
Sincerely,
Stantec Consulting

Bryan Emerson
Wetland Scientist

Enclosure: Figure 1, Wetland Delineation and Vernal Pool Survey Map
Agency correspondence
Maine State Vernal Pool Assessment Forms

File: PN 195600562

Stantec



0 400'

1"=400'

LEGEND

- WETLAND IDENTIFIED BY WOODLOT ALTERNATIVES (JULY 2007)
- VERNAL POOL IDENTIFIED BY STANTEC (APRIL 2008)
- SIGNIFICANT VERNAL POOL IDENTIFIED BY STANTEC (APRIL 2008)
- STREAM IDENTIFIED BY WOODLOT ALTERNATIVES (JULY 2007)
- 2011 STREAM IDENTIFIED BY STANTEC (OCTOBER 2011)
- OPEN WATER
- APPROXIMATE PROJECT AREA LIMITS
- VP01KW VERNAL POOL DESIGNATOR
- 1 WETLAND DESIGNATOR PER WETLAND REPORT

NOTES:

1. VERNAL POOLS IDENTIFIED BY STANTEC USING CRITERIA ESTABLISHED BY USACE AND MDEP.
2. WETLAND BOUNDARIES DELINEATED BY WOODLOT ALTERNATIVES (SEE WETLAND REPORT.) 2011 STREAM COLLECTED BY STANTEC. ALL WETLANDS AND STREAMS WERE COLLECTED IN ACCORDANCE WITH US ACOE 1987 WETLAND DELINEATION METHODOLOGY OR SUBSEQUENT VERSIONS.
3. WETLAND BOUNDARY FLAGS WERE LOCATED UTILIZING A TRIMBLE PRO-XR RECEIVER. EXPECTED ACCURACY OF GPS DATA IS WITHIN 1 TO 2 METERS OF ACTUAL POSITION.
4. BASE MAP INFORMATION PROVIDED BY SMRT.

DATE: January 5, 2012
SCALE: 1"=400'
PROJ. NO. 195600562
FIGURE: 1

SHEET TITLE:
Wetland Delineation and Vernal Pool Survey Map

PROJECT:
York Police Station
York, Maine

PREPARED BY:
Stantec
00562_001_Wetmap20120105.dwg

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0041

PAUL R. LEPAGE
GOVERNOR

CHANDLER E. WOODCOCK
COMMISSIONER

December 22, 2011

Jessica Haider
Stantec Consulting
30 Park Drive
Topsham, ME 04086

RE: Proposed York Police Station, Stantec PN 195600562, York, Maine

Dear Ms. Haider,

Per your request received November 23, we have searched current Department records for known occurrences of Rare, Threatened, and Endangered species, designated Essential and Significant Wildlife Habitats, and fisheries habitat concerns within the vicinity of the York Police Station project. Findings for each category of protected resource are specified below.

Rare, Threatened, and Endangered Species

There are currently no mapped habitats for rare, threatened, or endangered species within the indicated project area.

Essential Habitat

Currently, Essential Habitat is designated only for Piping Plovers, Least Terns, and Roseate Terns, all of which are coastal breeding species and which do not occur in this area.

Significant Wildlife Habitat

There are currently no mapped Significant Wildlife Habitats within the indicated project area.

Fisheries habitat concerns

Briley Brook supports native brook trout populations. It is difficult to offer specific guidance regarding project design given that few details were offered in your request for information. We do, however, typically recommend that a minimum 100-foot vegetated buffer be maintained between the stream and any proposed site disturbances. This buffer area should be measured from the top of the stream bank. Maintaining buffers along these cold water fisheries is critical to the protection of water temperatures, water quality, and inputs of coarse woody debris necessary to support conditions required by brook trout. If a stream crossing is proposed, we encourage you contact our Region A staff (657-2345) for crossing design recommendations that best maintain fish passage. Additionally, Best

Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts to stream habitat.

This consultation review has been conducted specifically for known MDIF&W jurisdictional features and should not be interpreted as a comprehensive review for the presence of all regulated features that may occur on site. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Steve Walker
Acting Environmental Review Coordinator

Significant Wildlife Habitat
York Police Station (proposed)

0 270 540 1,080 1,620 2,160
Feet

STATE OF MAINE
DEPARTMENT OF CONSERVATION
93 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0093

PAUL R. LEPAGE
GOVERNOR

WILLIAM H. BEARDSLEY
COMMISSIONER

November 8, 2011

Jessica Haider
Stantec Consulting
30 Park Drive
Topsham, ME 04086

Re: Rare and exemplary botanical features in proximity to: Project Number 195600562, York, Maine

Dear Ms. Haider:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request of November 7, 2011 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in York, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MAINE NATURAL AREAS PROGRAM
MOLLY DOCHERTY, DIRECTOR

PHONE: (207) 287-8044
FAX: (207) 287-8040
TTY: (207) 287-2213

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Don Cameron
Ecologist
Maine Natural Areas Program
207-287-8041
don.s.cameron@maine.gov

Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a four-mile radius of the proposed Stantec Project 195600562, York, Maine.

Feature Name	Global Rank	State Rank	State Status	EO Number	Last Seen	Habitat
Salicornia bigelovii	G5	S1	SC	6	2000-08-08	Tidal wetland (non-forested, wetland)
Clethra alnifolia	G5	S2	SC	3	2006-07-31	Forested wetland
Clethra alnifolia	G5	S2	SC	6	2006-07-31	Hardwood to mixed forest (forest, upland)
Clethra alnifolia	G5	S2	SC	14	1996-06-03	Hardwood to mixed forest (forest, upland)
Clethra alnifolia	G5	S2	SC	15	2006	Forested wetland
Clethra alnifolia	G5	S2	SC	21	1999-08-18	Hardwood to mixed forest (forest, upland)
Quercus montana	G5	S1	T	4	1990-02-15	Hardwood to mixed forest (forest, upland)
Sassafras albidum	G5	S2	SC	5	1991-08-01	Hardwood to mixed forest (forest, upland)
Sassafras albidum	G5	S2	SC	8	1991-06-02	Hardwood to mixed forest (forest, upland)
Sassafras albidum	G5	S2	SC	17	1990-02-15	Old field / roadside (non-forested, wetland or upland)
Sassafras albidum	G5	S2	SC	18	1990-02-15	Old field / roadside (non-forested, wetland or upland)
Sassafras albidum	G5	S2	SC	19	1996-06-13	Hardwood to mixed forest (forest, upland)
Hottonia inflata	G4	S1	T	4	1994-06-12	Forested wetland
Agalinis maritima	G5	S3	SC	25	2000-08-08	Tidal wetland (non-forested, wetland)
Vitis aestivalis var. bicolor	G5T5	S2	T	4	1997-08-08	Hardwood to mixed forest (forest, upland)
Ilex laevigata	G5	S3	SC	14	1933-09-13	Forested wetland

Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a four-mile radius of the proposed Stantec Project 195600562, York, Maine.

Feature Name	Global Rank	State Rank	State Status	EO Number	Last Seen	Habitat
Symphyotrichum subulatum	G5	S1	E	2	1938-09	Tidal wetland (non-forested, wetland)
Pycnanthemum muticum	G5	SH	PE	3	1916-08-09	Hardwood to mixed forest (forest, upland)
Hepatica nobilis var. acuta	G5T5	SX	PE	2	1896-08-18	Hardwood to mixed forest (forest, upland)
Ranunculus ambigens	G4	SH	PE	6	1887-09-08	Open water (non-forested, wetland)
Agalinis maritima	G5	S3	SC	4	1960	Tidal wetland (non-forested, wetland)
Hottonia inflata	G4	S1	T	5	1994-05	Forested wetland
Hottonia inflata	G4	S1	T	6	1996-06-17	Forested wetland
Platanthera flava var. herbiola	G4T4Q	S2	SC	43	2008-06-14	Open wetland, not coastal nor rivershore (non-forested, wetland)
Hottonia inflata	G4	S1	T	10	2002-06-20	Forested wetland
Platanthera flava var. herbiola	G4T4Q	S2	SC	25	1916-08-19	Non-tidal rivershore (non-forested, seasonally wet)
Rhynchospora macrostachya	G4	S1	E	1	1938-09-08	Open wetland, not coastal nor rivershore (non-forested, wetland)
Verbena urticifolia	G5	SH	PE	4	1887-08-25	Hardwood to mixed forest (forest, upland)
Polygonum tenue	G5	SH	PE	2	1896-08-26	Dry barrens (partly forested, upland)
Triosteum aurantiacum	G5	S1	E	6	1961-07-25	Hardwood to mixed forest (forest, upland)
Bidens hyperborea	G4	S3	SC	10	1936-07	Tidal wetland (non-forested, wetland)
Central hardwoods oak forest ecosystem	GNR	S3		1	2005-05-24	
Lindera benzoin	G5	S3	SC	28	2009-07-11	Forested wetland

Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a four-mile radius of the proposed Stantec Project 195600562, York, Maine.

Feature Name	Global Rank	State Rank	State Status	EO Number	Last Seen	Habitat
Clethra alnifolia	G5	S2	SC	22	2008-08-12	Forested wetland
Clethra alnifolia	G5	S2	SC	23	2008-09-24	Hardwood to mixed forest (forest, upland)
Sassafras albidum	G5	S2	SC	32	2008-09-24	Old field / roadside (non-forested, wetland or upland)
Ilex laevigata	G5	S3	SC	38	2008-08-13	Forested wetland
Clethra alnifolia	G5	S2	SC	13	2008-08-13	Hardwood to mixed forest (forest, upland)
Sassafras albidum	G5	S2	SC	33	1989-04-29	Old field / roadside (non-forested, wetland or upland)
Hottonia inflata	G4	S1	T	3	2008-06-05	Open water (non-forested, wetland)
Glyceria acutiflora	G5	S1	E	1	1996-06-04	Open wetland, not coastal nor rivershore (non-forested, wetland)
Clethra alnifolia	G5	S2	SC	24	1996-06-04	Hardwood to mixed forest (forest, upland)
Persicaria robustior	G4G5	SH	PE	1	1978-08-29	

STATE RARITY RANKS

S1 Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.

S2 Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

S3 Rare in Maine (20-100 occurrences).

S4 Apparently secure in Maine.

S5 Demonstrably secure in Maine.

SH Known historically from the state, not verified in the past 20 years.

SX Apparently extirpated from the state, loss of last known occurrence has been documented.

SU Under consideration for assigning rarity status; more information needed on threats or distribution.

S#? Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

SNR State rank not yet assessed.

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program.

GLOBAL RARITY RANKS

G1 Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.

G2 Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

G3 Globally rare (20-100 occurrences).

G4 Apparently secure globally.

G5 Demonstrably secure globally.

GNR Global rank not yet assessed.

Note: **Global Ranks** are determined by NatureServe, for more information see http://www.natureserve.org/explorer/ranking.htm.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

E ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.

T THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

SC SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.

PE Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

Visit our website for more information on rare, threatened, and endangered species!
http://www.maine.gov/doc/nrimc/mnap

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP04MA **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Matt Arsenault

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: York Police Station

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: Town of York Phone: 207-363-1000

Street Address: 186 York St. City: York State: ME Zip: 03909

c. ☐ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: York

Brief site directions to the pool (using mapped landmarks):

Pool is approximately 600' SE of U.S. Route 1, approximately 700' W of Animal Park Road, in a forested wetland just south of an existing power line.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☒ USGS topographic map with pool clearly marked.

☐ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Pool bottom is fully vegetated with terrestrial vegetation.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 75 ○ m ◉ ft Length: 200 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☒ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/30/08

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	--	--	3	--	--	n/a	--	--	N	--	--	3	--	--
Spotted Salamander	40	--	--	3	--	--	M	--	--	N	--	--	3	--	--
Blue-spotted Salamander	0	--	--	3	--	--	n/a	--	--	N	--	--	3	--	--
Fairy Shrimp[3]	0	--	--	3	--	--									

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

(•) SVP ( ) Potential SVP ( ) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Mayfly larvae also observed in pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: Significant Vernal Pool 04MA in Wetland 1.
Stantec Consulting, April 30, 2008.

Photo 2. Significant Vernal Pool 04MA in Wetland 1.
Stantec Consulting, April 30, 2008.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP03MA **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Matt Arsenault

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: York Police Station

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: Town of York Phone: 207-363-1000

Street Address: 186 York St City: York State: ME Zip: 03909

c. ☐ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: York

Brief site directions to the pool (using mapped landmarks):

Pool is approximately 600' SE of U.S. Route 1, approximately 400' W of Animal Park Road, in a forested wetland just north of an existing power line.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☒ USGS topographic map with pool clearly marked.

☐ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake/Pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow / oxbow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow water level.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 25 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☒ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/30/08

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	--	--	3	--	--	n/a	--	--	N	--	--	3	--	--
Spotted Salamander	3	--	--	3	--	--	M	--	--	N	--	--	3	--	--
Blue-spotted Salamander	0	--	--	3	--	--	n/a	--	--	N	--	--	3	--	--
Fairy Shrimp[3]	0	--	--	3	--	--									

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: Vernal Pool 03MA in Wetland 1.
Stantec Consulting, April 30, 2008.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP07KW **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Karol Worden

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: York Police Station

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: Town of York Phone: 207-363-1000

Street Address: 186 York St City: York State: ME Zip: 03909

c. ☐ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: York

Brief site directions to the pool (using mapped landmarks):

Pool is located along the south side of Animal Park Road, approximately 0.5 miles west of U.S. Route 1.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☒ USGS topographic map with pool clearly marked.

☐ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

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5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (•) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [x] Shrub swamp
- [ ] Peatland (fen or bog)
- [x] Emergent marsh
- [ ] Wet meadow
- [ ] Lake/Pond
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain overflow / oxbow
- [ ] Headwater seepage
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: (•) Natural ( ) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- (•) Semi-permanent (drying partially in all years and completely in drought years)
- ( ) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Aquatic veg (Lemna sp.) indicates center of pool holds water year round. Edge of pool is vegetated and dries up.

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) (•) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 100 ( ) m (•) ft Length: 150 ( ) m (•) ft

■ Predominate substrate in order of increasing hydroperiod:

- ( ) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- (•) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [x] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [x] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [x] Other: Adult green frog, spring peeper observed

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ( ) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- (•) Other or Unknown (explain): No outlet. Inlet from pipe from ditch

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6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/25/08

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (•) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	3	--	--	3	--	--	M	--	--	N	--	--	3	--	--
Spotted Salamander	15	--	--	3	--	--	M	--	--	N	--	--	3	--	--
Blue-spotted Salamander	0	--	--	3	--	--	n/a	--	--	N	--	--	3	--	--
Fairy Shrimp[3]	0	--	--	3	--	--									

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (looser matrix, curved embryos), H= Hatched or hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

( ) SVP ( ) Potential SVP (•) Non Significant VP ( ) Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Water striders and caddisfly larvae observed in pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Photo 1: Vernal Pool 07KW in Wetland 3.
Stantec Consulting, April 25, 2008.

Photo 2. Vernal Pool 07KW in Wetland 3.
Stantec Consulting, April 25, 2008.