

Route Description	Public Roads; (New Rds)	Physical constraints <sup>1</sup>	Environmental/ Permitting	Other Issues	Conclusions
<b>ALTERNATIVE ROUTE 1 – Exit from I-91 at Exit 24 (NW of Lyndon)</b>					
<b>Route 1A</b> Exit 24 north → Rte 122 (east) → Shores Rd → Stevens Loop → Rte 5 > W Burke → Duck Pond Rd → Project Roads <b>(see Exhibit 1A)</b>	28 miles;  (0)	<ul style="list-style-type: none"> <li>• Turning geometry at bottom of exit ramp may require widening Route 122 and/or modification of exit ramp;</li> <li>• Curves on Stevens Loop &amp; Shores Rd;</li> <li>• Turning geometry onto Route 5,</li> <li>• Turning geometry in W Burke on Rte 5;</li> </ul>	Possible wetland/stream impacts at I-91 exit ramp to 122; <ul style="list-style-type: none"> <li>▪ Army Corps 404 -- May not meet requirement for Least Environmentally Damaging Practicable Alternative (LEDPA).</li> </ul> ANR – possible stream/wetlands ; AOT– Route 122 modifications	Potential significant slow down or traffic stoppage on exit ramp to make turn to Route 122, on turn to Route 5, and in W. Burke.	<b>Eliminated</b> given physical constraints , significantly greater non-Interstate road distance than primary route, and may fail to meet LEDPA req.
<b>Route 1B</b> Exit 24 north → Rte 122 (west) → Berry Hill Road → Hardscrabble Mountain Road → Hardscrabble Mountain Road (pvt) → new road down north of Hardscrabble → Project Roads. <b>(see Exhibit 1B)</b>	10.6 miles  (1.6 mi)	<ul style="list-style-type: none"> <li>• <b>SAME CONSTRAINT AS ROUTE 1A, (first item only) plus:</b></li> <li>• Interstate underpass is 15.1' - 15.4' -- precludes 14.5' loads (Base and mid sections and machine base;</li> <li>• Limited sight lines in many areas along Route 122 west.</li> <li>• Interstate Underpass on Berry Hill Road is 13.3' - prevents all tall loads;</li> <li>• Vertical curve which begins between the two Berry Hill Road underpasses prevents all long loads ;</li> <li>• Significant upgrades required to Hardscrabble Mountain Road.</li> </ul>	Class III Wetlands on Hardscrabble; <ul style="list-style-type: none"> <li>▪ Army Corps 404 -- Would NOT meet LEDPA</li> </ul> ANR - Possible BSB impacts. Large wetland noted for bear habitat values. AOT– Possible Rte 122 modifications Greater overall clearing and impact footprint than primary route	Potential significant slow down or stopped traffic on ramp to turn on 122;  Significantly greater non-interstate road distance than primary route  Private road requires landowner permission	<b>Eliminated</b> due to combination of physical constraints at Route 122/ I-91 underpass and Berry Hill Road underpass; also fails to meet LEDPA requirements

<sup>1</sup> Note that all vertical clearance must be approximately 1.5 feet greater than load height to accommodate trailer deck height.

Route Description	Public Roads; (New Rds)	Physical constraints <sup>1</sup>	Environmental/ Permitting	Other Issues	Conclusions
<p><b>Route 1C</b></p> <p>Exit 24 north → Rte 122 (west) → Berry Hill Rd → Hardscrabble Mountain Rd → Kivimae Rd → VELCO ROW → Project Roads.</p> <p><b>(see Exhibit 1C)</b></p>	<p>10.4 miles  (1.4 mi)</p>	<ul style="list-style-type: none"> <li>• <b>SAME CONSTRAINTS AS ROUTE 1B plus:</b></li> <li>• Significant upgrades required to Kivimae Road.</li> </ul>	<p>Class III Wetlands &amp; stream crossings along VELCO ROW;</p> <ul style="list-style-type: none"> <li>▪ Army Corps 404 -- Would NOT meet LEDPA.</li> </ul> <p>ANR (for stream crossings) AOT– Possible Rte 122 modifications</p> <p>Greater overall clearing and impact footprint than primary route.</p>	<p>Potential significant slow down or stopped traffic on ramp to make turn on Route 122;</p>	<p><b>Eliminated</b> due to combination of physical constraints at Route 122/ I-91 underpass and Berry Hill Road underpass; also fails to meet LEDPA requirements</p>
<p><b>Route 1D</b></p> <p>Exit 24 north → Rte 122 (west) → Berry Hill Rd → Blake Pond Rd → Reconstruct TH 22 → Duck Pond Road → Project Roads.</p> <p><b>(see Exhibit 1D)</b></p>	<p>11 miles  (0.8 mi)</p>	<ul style="list-style-type: none"> <li>• <b>SAME CONSTRAINTS AS ROUTE 1B plus:</b></li> <li>• Significant vertical gradient from Berry Hill to Blake Pond Road</li> <li>• TH22 -- Gradient down hill towards Duck Pond is 20%. Gradient up to Duck Pond Rd is 15%. Class II wetlands in "transition zone". Not enough room to make transitions from steep negative slope to steep positive slope in wetland area, nor to make turn and transitions onto Duck Pond Rd (vertical curve is 0.5 ft in 50 feet).</li> </ul>	<p>Class II wetland impact on approach to Duck Pond;</p> <p>Possible Class III wetland impacts along TH 24;</p> <ul style="list-style-type: none"> <li>▪ Army Corps 404 -- Would NOT meet LEDPA</li> </ul> <p>ANR - Possible BSB impacts on Grout/Frost Mountains;</p> <p>Much greater overall clearing and impact footprint than primary route</p>	<p>Potential significant slow down or stopped traffic on ramp to make turn on Route 122.</p> <p>TH22 thrown up as legal trail in the 1950s;</p>	<p><b>Eliminated</b> due to combination of physical constraints at Route 122/ I-91 underpass, Berry Hill Road underpass, and TH22; also fails to meet LEDPA requirements</p>
<p><b>Route 1E</b></p> <p>Exit 24 north → Route 122 (west) → Old Duck Pond Rd → New Duck Pd Rd → Project Roads</p> <p><b>(see Exhibit 1E)</b></p>	<p>10.4 miles  (0)</p>	<ul style="list-style-type: none"> <li>• <b>SAME CONSTRAINT AS ROUTE 1B (first 3 items), plus:</b></li> <li>• Curves on Old and New Duck Pond road; very limited turn geometry from Old Duck Pond to New Duck Pond;</li> <li>• Vertical curve in tubes under interstate and dimension of tubes -- 16.5' vertical and 16.35' horizontal - will prevent long or tall loads (all over-dimensional sections)</li> </ul>	<p>Possible class III wetlands at intersection of Old Duck Pond and New Duck Pond;</p> <ul style="list-style-type: none"> <li>▪ Army Corps 404 – May NOT meet LEDPA</li> </ul> <p>AOT/FHWA if modification of road bed under Interstate is needed;</p> <ul style="list-style-type: none"> <li>▪ Would need to demonstrate that other alternatives are not available.</li> </ul>	<p>Potential significant slow down or stopped traffic on ramp to make turn on Route 122.</p>	<p><b>Eliminated</b> due to combination of physical constraints at Route 122/ I-91 underpass, I-91/Duck Pond Rd tubes, and permitting issues.</p>

**ALTERNATIVE ROUTE 2 –**

**Exit from I-91 at Proposed Modification to Existing Emergency Ramp in Sheffield**

<p><b>Route 2A</b></p> <p>Emergency Exit → Berry Hill Road → Hardscrabble. Mountain Road → Hardscrabble Road (pvt) → new road down north of Hardscrabble → Project Roads</p> <p><b>(see Exhibit 2A)</b></p>	<p>10.6 miles (1.6 mi)</p>	<ul style="list-style-type: none"> <li>▪ Emergency exit – requires significant earthwork to accommodate necessary vertical gradients and radius of curvature to exit Interstate.</li> <li>▪ Significant upgrades required to Hardscrabble Road</li> </ul>	<p>Class III Wetlands on Hardscrabble;</p> <ul style="list-style-type: none"> <li>▪ Army Corps 404 – would NOT meet LEDPA</li> </ul> <p>ANR - Possible BSB impacts. Large wetland noted for bear habitat values.</p> <p>Much greater clearing and impact footprint than primary route</p> <p>AOT/FHWA approval for Emerg. Exit:</p> <ul style="list-style-type: none"> <li>▪ Need to demonstrate that other alternatives are not available.</li> </ul>	<p>I-91 northbound possibly reduced to one lane for several months to accommodate vehicle deceleration and turning</p> <p>Private road requires landowner permission</p>	<p><b>Eliminated</b> – permitting and physical constraints</p>
<p><b>Route 2B</b></p> <p>Emergency Exit → Berry Hill Road → Hardscrabble Mountain Road → Kivimae Road → VELCO ROW → Project Roads</p> <p><b>(see Exhibit 2B)</b></p>	<p>10.6 miles (1.6 mi)</p>	<ul style="list-style-type: none"> <li>▪ <b>SAME CONSTRAINTS AS ROUTE 2A, plus:</b></li> <li>▪ May not clear VELCO wires, depending on route of travel along ROW;</li> <li>▪ Significant upgrades to Kivimae Road</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>SAME CONSTRAINTS AS ROUTE 2A, plus:</b></li> <li>▪ stream X'gs along VELCO ROW;</li> </ul>	<p>I-91 northbound possibly reduced to one lane for several months to accommodate vehicle deceleration and turning</p>	<p><b>Eliminated</b> – permitting and physical constraints</p>
<p><b>Route 2C</b></p> <p>Emergency Exit → Berry Hill Road → Blake Pond Road → Reconstruct TH 22 → Duck Pond Road → Project Roads</p> <p><b>(see Exhibit 2C)</b></p>	<p>11 miles (0.8 mi)</p>	<ul style="list-style-type: none"> <li>▪ <b>SAME CONSTRAINT AS ROUTE 2A (first item), plus:</b></li> <li>▪ Significant vertical gradient at turn from Berry Hill to Blake Pond Road</li> <li>▪ TH22 -- Gradient down hill towards Duck Pond is 20%. Gradient up to Duck Pond Rd is 15%. Class II wetlands in "transition zone". Not enough room to make transitions from steep negative slope to steep positive slope in wetland area, nor to make turn and transitions onto Duck Pond Rd (vertical curve is 0.5 ft in 50 feet).</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>SAME CONSTRAINTS AS ROUTE 2A, plus:</b></li> <li>▪ Class II wetland impact on approach to Duck Pond and on Grout/Frost Mountains;</li> <li>▪ Class III wetland along TH 22;</li> <li>▪ possible BSB impacts on Grout/Frost Mountains ;</li> </ul>	<p>I-91 northbound possibly reduced to one lane for several months to accommodate vehicle deceleration &amp; turning;</p> <p>TH22 thrown up as legal trail in the 1950s ;</p>	<p><b>Eliminated</b> – permitting and physical constraints.</p>

**ALTERNATIVE ROUTE 3**

**Exit from I-91 at Exit 25 in Barton**

<p><b>Route 3A</b></p> <p>Exit 25 → Route 16 → Route 5 → Duck Pond Road → Project Roads</p> <p><b>(see Exhibit 3A)</b></p>	<p>7.7 miles  (0 mi)</p>	<ul style="list-style-type: none"> <li>• Turn onto Duck Pond Road from Rte 5;</li> <li>• Dead Man's Corner on Duck Pond (to be remedied by project);</li> </ul>	<ul style="list-style-type: none"> <li>▪ No new roads or associated impacts, avoids wetland impacts. Meets LEDPA test.</li> </ul>		<p><b>ONLY FEASIBLE ALTERNATIVE</b></p>
<p><b>Route 3B</b></p> <p>Exit 25 → Route 16 → Water Street → Route 5 → Duck Pond Road → Project Roads</p> <p><b>(see Exhibit 3B)</b></p>	<p>7.6 miles  (0 mi)</p>	<ul style="list-style-type: none"> <li>• Vertical geometry and horizontal curve from Water Street to Route 5 is impassible with large loads .</li> <li>• Turn onto Duck Pond Road from Rte 5;</li> <li>• Dead Man Corner on Duck Pond (to be remedied by project);</li> </ul>	<ul style="list-style-type: none"> <li>▪ No new roads or associated impacts, avoids wetland impacts. Meets LEDPA test.</li> </ul>		<p><b>Eliminated</b> due to physical constraints.</p>

**ALTERNATIVE ROUTE 4**

**Exit from I-91 at Exit 26 (SSW of Orleans)**

<p><b>Route 4A</b></p> <p>Exit 26 → Route 5 → Barton → Duck Pond → Project Roads</p> <p><b>(see Route 4A)</b></p>	<p>11.7 miles  (0 mi)</p>	<ul style="list-style-type: none"> <li>• Curve in Orleans just past exit; pair of 90 degree turns onto Route 5;</li> <li>• Turn onto Duck Pond Road from Rte 5;</li> <li>• Dead Man Corner on Duck Pond;</li> </ul>	<p>No new roads or associated impacts, wetland impacts are avoidable. Meets LEDPA test.</p>	<p>Impacts traffic in Orleans.  Reduces number of turns in Barton</p>	<p><b>Less feasible than Barton option</b> -- Adds 4 miles to travel on town roads, without appreciable benefit.</p>
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**ALTERNATIVE ROUTE 5**

**Use of Dareios Road or King George Farm Road past the King George School**

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