

# FINAL SCOPE OF WORK

**DATE:** November 11, 2016

**PROJECT:** Railyard Enterprise Project (REP) Supplemental Scoping

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## PROJECT DESCRIPTION

The City of Burlington and VTTrans would like to further evaluate the REP Phase 2 Alternative 1B (see Figure 1) and explore the feasibility of implementing this project with state and local funding. Various alignments of Alternative 1B will be investigated using detailed topographic/boundary survey, utility and other resource data to provide the City, VTTrans, and stakeholders information on risks and opportunities so that they can decide the best way to proceed with implementing the REP project.

Important goals of the revised 1B Alternative include:

- Minimize impact on railyard operations,
- Minimize impacts to structures outside of the railyard,
- Minimize permitting requirements,
- Minimize environmental impacts,
- Expedite the project development process,
- Expedite project schedule,
- Minimize construction costs, and
- Measure risk.

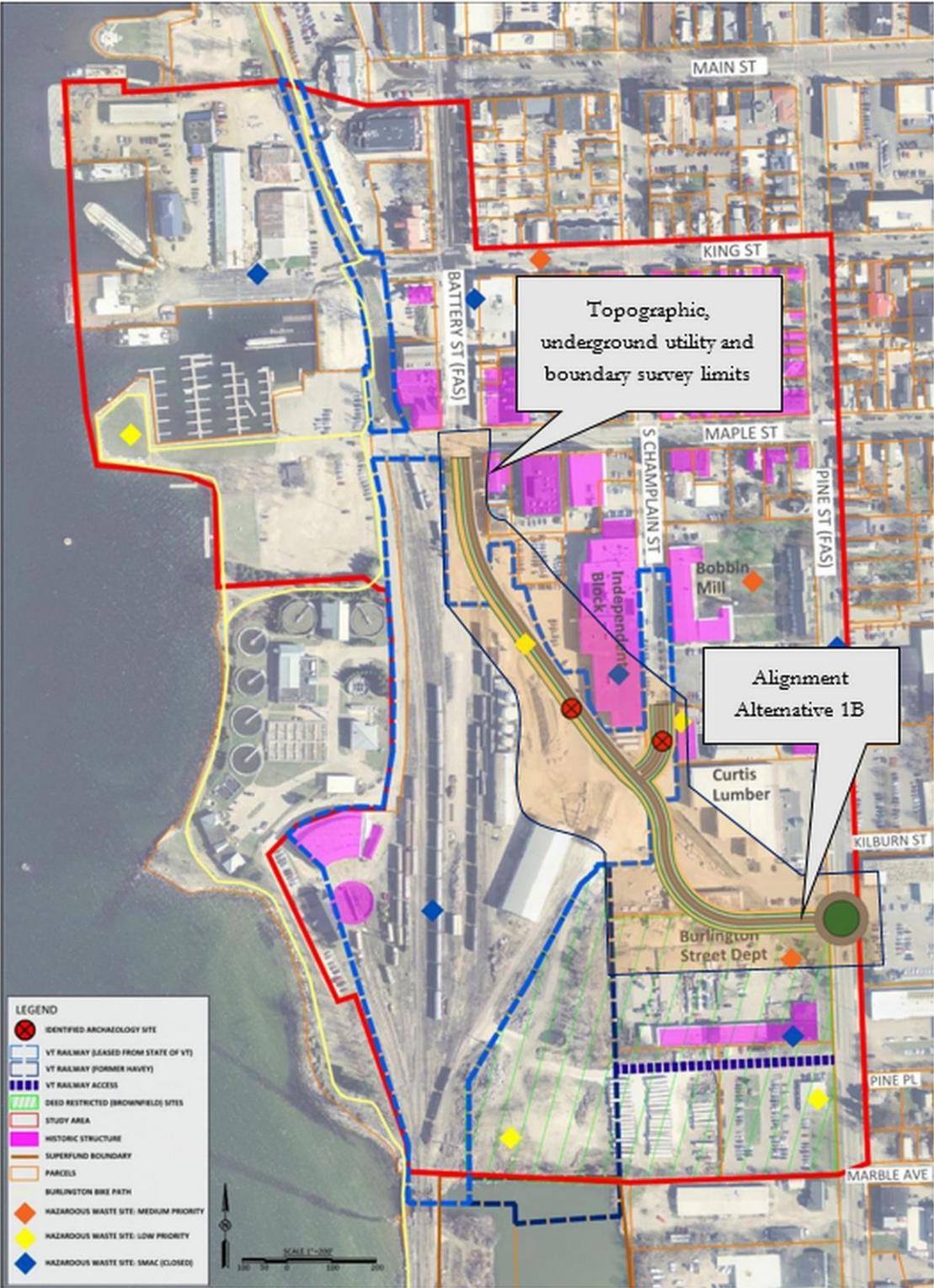
Key elements of this scope of work include:

1. New/updated topographic survey information of all properties proximate to Alternative 1B, including areas related to railyard mitigation, if any. (See Figure 1)
2. New underground utilities survey of areas under and proximate to Alternative 1B.
3. Development of Alternative 1B alignments and cross-sections that avoid or minimize substantial impacts to the horn track<sup>1</sup> or private properties.

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<sup>1</sup> For the purpose of this study a substantial impact is considered one that requires the relocation of essential railyard functions or limits the economic feasibility of existing operations.

Figure 1: REP Alternative 1B and Survey Limits



4. Site plans of any modifications to existing commercial operations in the railyard including buildings, access roads, and trackage, necessitated by the 1B alternative that impacts the horn track.
5. Location of stormwater management systems.
6. Location of other utilities, including water, wastewater, gas, electric, and telecommunications systems.
7. Itemized and quantified cost estimates for all project elements inclusive of engineering, construction, utilities, right-of-way, permitting, archaeological, soils management, and railroad mitigation costs (i.e. as necessitated by modifications to the existing railyard operational plan).
8. Development of an evaluation matrix comparing 1B alternatives along dimensions of cost, natural resource impacts, historic/archaeological impacts and permitability.
9. Public outreach includes one public informational meeting and two meetings with the City Council. Meetings with stakeholders and up to two meetings of the steering committee will be scheduled at key project milestones.

Depending on the milestone, stakeholders could include the City of Burlington, VTTrans, and the VTTrans Resource Coordination Group (RCG). Note that the Department of Environmental Conservation (DEC) and the U.S. Environmental Protection Agency (EPA) are members of the RCG, but special outreach to these stakeholders are likely to be warranted around the brownfields and superfund properties. Joint meetings with VRS/VTTrans Rail Section and/or private property owners will be scheduled at appropriate milestones.

## SCOPE OF WORK

### TASK 0: Project Kick-Off and Ongoing Project Management

This task includes time for general project management activities, project coordination, and client communication.

**Meeting:** RSG will meet with CCRPC, City, and VTtrans staff in person to finalize the scope of work and schedule.

**Deliverable:** Final scope of work.

### TASK 1: Field Data Collection

Initial gathering of detailed topographic, boundary and underground utility survey information and a comprehensive investigation of historic/archeological resources in the project area is a necessary initial phase of the REP project development process regardless of funding sources and permitting requirements.

- a. Initial topographic Survey: The project team will conduct a topographic survey using ground surveying methods to produce a topographical map showing one-foot contour intervals. The survey will produce a 3-dimensional base plan of current conditions including horizontal and vertical control points. This survey will locate the horn track and other relevant railyard structures that are reasonably within the project limits of Alternative 1B, to be established jointly with the CCRPC, City, VTtrans and the project team. The survey will also locate significant surface features such as edge of pavement, utilities, drainage features, and building footprints proximate to Alternative 1B.
- b. Initial boundary Survey: The project team will perform research, field survey, office calculations and plan preparation to identify the parcel boundaries and existing easements of the properties proximate to the 1B alignment, extending from Pine Street to Battery Street, including the VRS/State of Vermont property. Based on the data gathered, the project team will calculate and analyze existing record property line data and compare the results with the field located boundary evidence.
- c. The project team will coordinate with the City, VTtrans, and, as appropriate, with VRS staff and private property owners to discuss findings from the topographic and boundary surveys, and to seek to resolve any data discrepancies. It is anticipated that the boundary survey will need to be supplemented with a full title search to determine rail rights and easements – the scale of this search will be identified in this task as an item to consider further as this project moves forward.
- d. The project team will conduct a subsurface survey to locate underground utilities proximate to the preferred 1B alignment coming from Task 3 (i.e. within 75' of the approximate centerline of the 1B alignment). The subsurface survey information will be compared to other sources, such as data from existing GIS shapefiles, to identify any discrepancies. Existing records for underground utilities (municipal and private) will be assembled, and with the City's



cooperation, the essential missing details identified. Then the essential utility elements will be located by various methods including manhole and inlet survey, magnetic or electrical detection. Subsurface probes (“potholing”) would likely be costly given the unknown sub-soil conditions and required necessary precautions. These probes can be performed for an additional fee.

- e. Cultural resource investigation surrounding the likely presence of a historic railyard roundhouse will be undertaken in Task 1. Northeast Archaeology (NA) will be retained by VTrans to review previously conducted field investigation notes through a desktop exercise to provide a ‘best estimate’ of the location of the structure. UVM CAP will be retained by RSG to conduct limited phase 2 field investigations to refine the location (accurate to within a couple of feet) of the roundhouse based on the findings from NA. UVM CAP will also confirm the historic nature of the southern portion (cold storage) of the Independent Block building.

**Meetings:** Up to two coordination meetings as necessary to discuss/resolve findings from the surface and sub-surface surveys.

**Deliverables:**

- i. Initial Existing Conditions Topographic Survey.
- ii. Initial boundary Survey proximate to Alternative 1B.
- iii. Initial summary from NA and documentation from UVM CAP.
- iv. Task 1 Memo summarizing survey results, including findings from coordination meetings and recommendations for subsequent stages of the project.

### **TASK 2: Burlington City Council Endorsement**

Burlington DPW and CCRPC staff will present the REP supplemental scoping approach to the City Council for their approval of this alternative approach to advancing and expediting implementation of the REP with state and local funding only thus avoiding the federal environmental permitting process (EIS).

**Meetings:** Burlington City Council, Stakeholders, Steering Committee.

**Deliverables:** City Council memo and resolution.

### **TASK 3: Development of Preliminary 1B Alignments**

Following City Council’s approval of the REP supplemental scoping approach, this project will move forward to Task 3. The purpose of Task 3 is to efficiently determine whether a “minimalist” 1B alignment is feasible from a design standpoint. A key element of feasibility will be an avoidance of substantial impacts to the horn track requiring moving yard operations off-site or severely affecting the current operations occurring within the railyard. Minor curve re-alignment is to be reviewed as one possible option to provide additional roadway right-of-way. Alignments will be developed which will have varying degrees of railyard and adjacent property impacts.



It is anticipated that the development of a 2D alignment, inclusive of cross-sections, will support a decision by VTrans and the City as to the level of impact to the railyard and/or private properties. Task 3 also includes documentation of the VRS/VTrans Rail Section determination of feasibility from the standpoint of rail operations.

- a. Roadway Development Stage 1: This task will develop a range of cross-sections and possible alignments for review with the City, VTrans, property owners and VRS.
- b. Rail – Reviewing what available options may exist for new at-grade crossings of the horn track as well as how railyard operations are affected by possible minor shifts in horn track alignment will be central to this task. We will also determine whether these minor shifts will affect any adjacent properties. This project will not develop options with substantial changes to current yard operations or consider new track sections which will require off-site mitigation. Minor shifts in curvature, minor alterations to operations, and some changes to access to the railyard will be explored. VRS and VTrans Rail Section will review the initial roadway alignments developed to understand the railyard’s constraints and flexibility to accommodate the new facility.
- c. Roadway Development Stage 2:
  - i. Railyard constraints and possible impacts to adjacent properties will inform the relative bounds of the alignments and cross-sections considered in this task. A focus on delivering the original Purpose and Need from the Scoping/PEL project and on traffic congestion relief will be important to consider as cross-sections are developed.
  - ii. Three build alignments will be developed in this task, with each alignment considering a roundabout or a traffic signal at the new intersection with Pine Street.
- d. Natural resource impacts – It is the intention of the project team to avoid or minimize any known areas of significance. Task 1 investigations will inform areas which are likely sensitive and should be avoided. The project team will review records in the existing DEC databases to verify if any substantive changes have occurred since the issuance of the REP Scoping/PEL report. This review will include the brownfield assessments that were completed for the Burlington Street Department parcel and former Havey properties; comments obtained from the VTrans Resource Coordination Group at their meeting held at the end of the REP Scoping/PEL effort (12/17/2015); and information from the hydrologic evaluation/modeling in the southern end of the proposed alignment. All information in this task will be desktop only and will not involve field reconnaissance. The collective information on Natural Resources in the area will inform the development of the three alignments.
- e. Evaluation Matrix criteria from the REP Scoping/PEL will be used to rank the three alignments developed in Task 3 and the no-build alternative. These criteria will cover preliminary cost estimates, impact on natural and cultural resources, rail yard impacts, property impacts, and how well each alternative aligns with the Purpose and Need. Planning level cost estimates will be developed for managing/disposing of contaminated soils in the project area using existing data. A more thorough evaluation of the cost of managing contaminated soils will be conducted in Task 4.

- f. Input on the REP alignments and results of the evaluation will be discussed with the project stakeholders (City, VTrans and CCRPC) and any comments will be addressed prior to presenting the results to the REP Steering Committee for their input. Based on results and committee input the City and VTrans will determine if they agree that a preferred REP 1B alignment could move forward to Task 4. All three alignments, evaluation results and preferred REP 1B alignment will be presented to the City Council for approval to advance into 3D conceptual planning in Task 4.

**Meetings:** Stakeholder, Steering Committee, and City Council.

**Deliverables:** Plan drawings of the three REP 1B alignments, including any changes to railyard access. Documentation of VRS and VTrans opinion on feasibility and impact on railyard operations.

**Assumptions:**

- Three roadway alignment options, inclusive of cross-sections, will be investigated and ranked using the REP Scoping/PEL evaluation matrix.
- Each roadway alignment will consider a roundabout and a signal at Pine Street.
- No traffic analysis will be undertaken during this task.

#### **TASK 4: Conceptual 3D Plans and Environmental Investigation**

Following the City Council's and VTrans' selection of a REP 1B alignment for further refinement and evaluation, the project team will conduct the following tasks:

- a. Roadway – Develop 3D conceptual plans of the selected 1B alignment, inclusive of cross-sections, limits of work, and tie-ins to grades at Pine Street, S. Champlain Street, the Independent Block parking lot, Battery Street, and other key locations such as driveways (e.g. Curtis Lumber) and railyard access points. A roundabout and traffic signal will remain as options for the alignment throughout this process.
- b. Natural resource impacts – The project team will build on the desk evaluation of environmental impacts conducted in Task 3 with field reconnaissance to confirm no additional natural resources of concern are present. Such resources include wetlands and rare, threatened or endangered (RTE) plants (if necessary and provided timing is amenable<sup>2</sup>). If wetlands are determined to be present, they will be characterized and mapped in accordance with the technical criteria contained in the U.S. Army Corps of Engineers (USACE) Northeast Regional Delineation Supplement to the 1987 Corps Wetland Delineation Manual.
- c. Conceptual Stormwater Mitigation Plans – For scoping purposes, it is assumed that the stormwater management system for the REP alternative will connect into the City's existing combined sewer system, which flows to the wastewater treatment plant. As such, stormwater management will focus on meeting City of Burlington standards for flow rate

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<sup>2</sup> There are rare species that may be present within the project area, and best time to evaluate presence is typically July-August timeframe.

control and not on water quality. The evaluation will focus on opportunities to capture and reduce peak flows.

This scoping effort will acknowledge the existing deficiencies in the current Stormwater management system for this area of the City. Suggested solutions will focus narrowly on the discharge created within the Alternative 1B alignment area rather than trying to develop a solution for the underlying existing deficiencies in the area.

The project team is aware that the study area is an area of intense scrutiny. Through a parallel process, the City may develop a comprehensive solution to addressing the localized issues in the general REP study area. This study will tie into this parallel process as appropriate.

Stormwater effects related to the Superfund properties near the new Pine Street intersection may need additional investigation to control for future hydrology changes associated with the loadings placed on the soil by the new road. The project team is prepared to assess and provide a path forward for how to minimize the wider effects of the new road in these sensitive sites.

- d. Conceptual horizontal locational plans of utilities, including water, storm/sanitary sewer, gas, electric, and telecommunications systems. Proposed depths of new and intercepted utilities will be noted where possible and practical.
- e. Permit requirements – the project team will develop a list of permit requirements for the alignment in consultation with the City’s project attorney. The City may look to engage an attorney to investigate relevant Act 250 permits which may be affected by this work as well as review the rail-rights and easements to some of the rail facilities that may be impacted by this project.
- f. Contaminated Soils – the City of Burlington is applying for a grant through the CCRPC’s Brownfields Program to assess the risk and estimate the cost of disposing/managing contaminated soils during construction of the preferred REP 1B alignment.
- g. The preferred REP 1B alignment will be evaluated using criteria related to those developed for the original REP Scoping/PEL effort.
- h. Conceptual construction cost estimate for all roadway, bike/pedestrian connectivity, railyard mitigation, right of way, stormwater management, utilities, archaeology, and soils management. Estimates will be inclusive of all phases of planning, right-of-way, and engineering.



**Meetings:**

- i. VTrans' Resource Coordination Group, including special outreach to the VTrans Historic Preservation Officer and Archaeologist to review impacts to historic and archaeological resources.
- ii. City of Burlington stormwater engineer – up to two meetings, including a preliminary meeting to understand the site considerations and constraints, and a meeting to review the conceptual stormwater management system.
- iii. VRS/VTrans Rail Section
- iv. City and/or CCRPC will meet with private property owners
- v. CCRPC, City, VTrans to review Task 4 findings, including briefings on meetings with DEC, the RCG, and with the City stormwater engineer.
- vi. DEC & EPA – Superfund site, Brownfields, soils, wetlands

**Deliverables:**

- i. Conceptual plans of the 1B alignment, including any changes to railyard access, and stormwater system improvements.
- ii. Technical memo describing the findings of Task 4, including a description of environmental impacts, qualitative historic/archaeological review, stormwater impacts, permit requirements, an evaluation matrix, and estimated cost information.

**TASK 5: Final Reporting**

The project team will prepare a draft report inclusive of previous technical memorandums, and presentations which will be presented to the project Stakeholder group. A public presentation will be held to describe the project, the process, and a recommended approach. A draft final report will be created which incorporates comments and feedback received by the Stakeholder group and the public. The project team will present this draft final report to the City Council.

The final report will incorporate comments and feedback obtained from VTrans and the City Council.

**Meetings:** Stakeholders, Public, and City Council.

**Deliverables:** Draft scoping report, meeting materials/presentations, final scoping report.

## **PROJECT STAFF**

Jonathan Slason PE will serve as Project Manager for the project. He will provide overall guidance and review and should be contacted with any questions or concerns about quality and progress of the work. Mark Smith will serve as Deputy Project Manager, directing the technical work on the project and will be the primary contact for the client. Engineering planning expertise will be provided by Corey Mack, Robert Chamberlin, and Roxanne Meuse. Mark Smith will direct the work of all subcontractors, including VHB.

David Saladino, PE AICP, will serve as VHB's primary point of contact for Mark Smith and will ensure that VHB staff and resources are made available to the project team. Additional team members include Scott Burbank (Rail Engineering), Marla Keene (Stormwater Management and Permitting) and Brad Ketterling (Natural Resources and Permitting).

## **SCHEDULE**

The Project Schedule is attached.

## **COST ESTIMATE**

The cost estimate to complete the overall scope of work described above is \$170,377. The cost estimate by task is attached.

