Burlington Conservation Board
149 Church Street
Burlington, VT 05401
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Matt Moore, Chair
Will Flender, Vice Chair
Scott Mapes
Don Meals
Jeff Severson
Miles Waite
Damon Lane
Zoe Richards
Stephanie Young

Conservation Board Meeting Public Notice

June 30, 2014 at 5:30 PM
Planning and Zoning Conference Room - City Hall Lower Level
149 Church Street

Agenda

I. Minutes (5:30) – Accept minutes from June 2, 2014 meeting

II. Update & Discussion (5:40)

1. **Sustainability Tools for Assessing & Rating (STAR) Communities**
   Discussion with Josh Kendrick, Margot Halpin, & Skyler Golann

III. Board Comment (5:55)

IV. Public Comment (6:05)

V. Open Space Subcommittee (6:10)

1. **28 Archibald Street**

VI. Project Review (6:25)

1. **14-1181CA/CU: 8 College St (Bikepath) (Multiple Zones, Wards 3, 5, & 7) Parks & Recreation**
   Bike Path rehabilitation, including phase 1 from Perkins Pier to North Beach. Also, improvements to Waterfront Park, including replacement lighting, potable water improvements, boardwalk renovation, and landscaping improvements.

VII. Update & Discussion, Cont. (6:55)

1. **Continued discussion to identify potential watershed improvement projects**
   With Karen Bates
2. **South Forty Solar**
   Continued working session relative to wetlands

VIII. Annual Organizational Meeting (7:30)

IX. Adjournment (7:40)

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Conservation Board Meeting Minutes

Monday, June 2, 2014 – 5:30 pm
Planning & Zoning Conference Room – City Hall Lower Level
149 Church Street

Attendance

- **Board Members:** Zoe Richards (ZR), Jeff Severson (JS), Scott Mapes (SM), Matt Moore (MM), Miles Waite (MW), Don Meals (DM), Will Flender (WF), Stephanie Young (SY)
- **Absent:** Damon Lane (DL)
- **Public:** None
- **Staff:** Scott Gustin (Planning & Zoning), Dan Cahill, Jesse Bridges (Parks & Recreation)

MM, Chair, called the meeting to order at 5:30 p.m.

Minutes of May 5, 2014
SM noted on pg. 3, 8th paragraph, 2nd sentence should end with "data," last paragraph "geo-tech" should be replaced with "soil boring data."

A MOTION was made by MM and SECONDED by MW:

Approve as corrected.

Vote: 8-0-0

Board Comment
SM noted that last month's discussion with Karen Bates was not especially clear as to what projects would qualify for funding for watershed improvements. Board members would like her to come back to meet with them to clarify the standards for qualifying.

JS asked about online board minutes. MM suggested labeling them "draft" and also showing the corrected minutes when done.

Public Comment
None.

Open Space Subcommittee
MM said the group met earlier today. They discussed East Avenue co-housing property. Co-Housing would like to convey a strip of land to the city that they purchased from a neighboring owner. They are considering donating the land rather than seeking to sell it. DM doubted its conservation value. MM said also discussed Rock Point Property and Burlington College regarding the pedestrian trail to the bike path. He said the McKenzie ag conversion was not accepted. Dan Cahill is looking into other properties to use for the conversion.

MW asked if there is anything new relative to the potential Burlington College development. SG said that he has not seen anything since the Planning Commission's review several months ago. Dan Cahill said the College is in discussions with stakeholders as to the form their development build-out make take. The

idea of an eco-village is under consideration. MM said that the conceptual placement of the pedestrian path is unsatisfactory.

Update & Discussion
1. Bike path reconstruction
Jesse Bridges and Dan Cahill appeared.

Jesse Bridges overviewed the project and referenced the dedicated website for the bike path reconstruction. There are 16 identified components of the project that spans the 8-mile length of the bike path. Preliminary design is done. Focus is now on the sections from Perkins Pier to North Beach to construction in the fall. TIF funds are available for these sections.

MW asked about the connection between Queen City Park Road and Oakledge Park. Mr. Bridges responded that options include striping the path or reworking it as a multi-modal path. He said the path will be realigned through the Park to avoid the parking lot. DM noted that some directional signage will probably be needed to provide way finding.

MM, was there consideration of running the bike path parallel to the Park roadway? Bikers tend to move quickly down the hill on the current path. Mr. Bridges said that intentional design will improve safety of the path through this area of the Park. There is not enough room to run the path parallel to the roadway. DM asked if striping a dashed line down the center of the path had been considered.

Mr. Bridges noted the need for cantilevering through part of the Barge Canal to achieve 11' width. He pointed out several locations where pavement will be removed. He noted several areas by the treatment plant and Perkins Pier that are within the flood plain. The hard turns by Perkins Pier are to be softened. The parking hut at Perkins Pier will eventually be removed. It would be replaced by multi-space meters. The very large cottonwood tree in front of the Shanty will be removed. There is consideration of putting the path on the west side by the path by LCT. Mr. Bridges noted that road crossings will be colored. He said bids are due by the end of summer with construction this fall. Work in the Urban Reserve would take place in the spring.

Mr. Bridges said there is concerted effort to preserve the existing silver linden trees along the path through Waterfront Park. At the north end of the park, the path will be rerouted to the east along the existing gravel access road. The center path crossing will be removed. The gravel access road would be reconstructed with grass-crete. WF asked if there will be a curb between the access road and the path. Mr. Bridges said no curb would be installed, but fencing will be in place during events. The path will be realigned through the urban reserve to avoid the dirt road. The realigned path will be closer to the shoreline; about 25' from the water's edge. The dog park will be reduced in size.

MM, was there consideration to keep the primary path along the road and to have just a walking path along the water's edge? Mr. Bridges said that was a consideration. MM asked if this arrangement is a done deal. Mr. Bridges said it still needs DRB approval, but it's the selected option. MM noted the need to stabilize the shoreline here. MW said getting a multi-use bike path and a dedicated pedestrian path may be asking too much.

MM asked about permitting. SG said whether a major impact or just conditional use has not yet been determined. In any event, the work in the Urban Reserve will require Conservation Board review. Mr. Bridges asked if July is still a possibility. SG said it is.

2. South Forty Solar, LLC
MM introduced this discussion item. DM wants to know the permitting sequence path.

MW said that the Act 248 petition has not yet been submitted. The wetland permit has not yet been granted. He said that the wetlands permit application may not yet be complete. JS said he thought the wetland permit application was complete. MW said there is no indication of a wetland permit application online. SG said his last correspondence from the applicant indicated that he's not yet submitted and the

timeline is uncertain. MW said Strathmore and the applicant are involved in ongoing discussions regarding stormwater. MW said on the power purchase agreement has been okayed. He said that the applicant wants to work with Strathmore; he does not want them to oppose it.

MM, once the 248 petition has been submitted, then what? SM said that once the petition is submitted, there is a public hearing. Following that, the timeline for parties to intervene is established. He thought the BCB's charge from the CC is to advise them whether to intervene or not in the process. The city does need to petition to be an intervener. MW asked who decides. SG said the City Council will. SM said the PSB can choose to listen to the city's input or not.

MM asked if it's possible for the city to participate at the state stormwater permit level. MW said that a state stormwater permit is not needed based on square footage. SM said that if we feel there is a stormwater concern, then we should advise the CC to participate in the PSB process and we should also advise them to advise ANR that state stormwater review should be applied.

JS said it's unclear whether additional materials being discussed would be included into the wetland permit application or simply be considered as additional information. A permit may be issued any day. MW, they could deny it. DM they could request additional information. JS said the application has been deemed complete.

MM said the BCB clearly has concerns about wetlands and stormwater relative to this project. What we did was tell the CC that we have questions that have not yet been answered. We have outstanding concerns that need to be resolved.

JS, as for the wetlands, the opportunity to raise all of those concerns was during the public comment process. That has come and gone. SM said that there will be a presumption of compliance at the PSB relative to wetlands if a wetlands permit is granted. The applicant is putting forth a unique take on area of disturbance by just counting the post holes. The only way wetlands will be looked at closely at the PSB will be if someone raises that concern before them.

ZR said that we may be done with the wetlands permit piece. To SM, how does the city intervene? SM responded that the timeline is established after the petition is filed and the initial public hearing held. DM asked what review criteria are considered. SM said the criteria are Act 250 criteria plus criteria relative to energy.

MM said the BCB should advise the CC to intervene to weigh in on these items. DM said the urgency is less than what we might have once thought. DM asked if the city could inquire as to the status of the wetlands permit application. WF said there's not much for us to do until or unless the wetlands permit application is approved or denied. At that point, we need to decide whether to advise the CC to intervene in 248 relative to wetlands or otherwise.

ZR, we could generate a list of concerns. Would we get to see how or if they have been resolved? JS, you could request by way of a public records request. More likely, you could see the findings associated with the permit.

SM, there is a different path for stormwater. The burden to raise to ANR's attention that they should exercise their jurisdiction, that's not going to happen unless someone pushes that button. He said that Megan Moir has the ability to require best management practices relative to Chapter 26. WF, in that case, could we advise Megan directly? SM said she would likely welcome the Board's input.

MM, given the current plans, are there serious stormwater issues with the project that the applicant has not addressed or not provided enough information? SM, yes. He said the materials provided so far showed pre and post site conditions as identical. It claims no change in the runoff characteristics. There is no accommodation in the model for the loss of vegetation or associated evapotranspiration. Rather than debate the model, simply monitor the site to assess the validity of the stormwater analysis and make adjustments accordingly. MM recapped and suggested that we relay the concern to the CC.

DM said that requiring monitoring requires that we allow the project to be built to make the assessment. Are you asking the applicant to monitor now to validate the existing conditions assumption? SM said he's seeking a condition for post-construction monitoring. MM said this is a legitimate concern and would not unduly burden the applicant. SY, if monitoring shows the analysis was inaccurate, then what? SM said that follow up would be needed to mitigate the change. It could be "plan b." DM, if I'm the applicant, I'm going to wonder, who makes the judgment? SM said it would likely be Megan Moir.

MM said he's unaware of requiring such a condition on another project. WF said it could be handled by way of the city's stormwater approval issued by Megan Moir.

MW said the applicant took a conservative approach to the existing conditions by assuming "woods – fair" status.

MM, do we think this project is a big deal? WF, we can't make that call until we see the 248 petition. MW declined to comment beyond the process. JS said he'd defer to SM relative to stormwater. He found it a stretch as presented. SY agreed with JS. Do we have to wait? SM, he's just sharing his concerns. This is a sensitive site in the city. If we declined to let the CC know this, we'd not have done our jobs. If this Board feels that the project is not a concern, hurdles remain for the project regardless. The applicants really ought to mitigate the change between pre- and post-construction. MM, how to mitigate? Does the detention area need to be resized? SM, probably, to accommodate increase in runoff. It's not a fatal flaw. It's not been addressed, and they ought to. DM said the applicants have used the curve number technique. It's been commonly used, but it's a blunt instrument. He'd have to revisit the numbers before concluding. He has a hard time inasmuch as we've not made statements like this even with much larger impervious projects. It may be somewhat overblown. Strathmore may have problems that go beyond this site. The property was previously approved for much more intensive development with much greater impervious surface. Stormwater management was found to be acceptable. ZR said we're looking at a different project through a different process. JS, all of the ameliorative measures are in the uplands, but none are in the wetland because the applicants don't want to trigger U.S. Army Corps of Engineers jurisdiction. DM said the alternative view is that the applicant doesn't want to create additional disturbance in the wetland. JS replied that it's all about avoiding Army Corps jurisdiction. If the risk of being wrong on the stormwater model is increased downstream flows, then we should err on the side of caution and see that everything is routed through the stormwater system. It would reduce the risk if the analysis is wrong.

ZR, the wetland buffer remains a concern with unresolved issues. The wetland that's not being developed is a rare natural community and falls within a high priority for the state. It seems hard to believe that there will be no impact. The applicant seemed to be cagy in dealing with this information. More open dialogue would have been preferable. Perhaps Board members should speak with the State Botanist. JS said that the wetlands permit applicant will be reviewed by the Nongame and Natural Heritage folks at the state. He doesn't think the application could claim inaccurate statements by state staff.

DM said that we should not lose sight of the fact that a solar farm is being proposed. Not a shopping mall or Walmart. The impacts of climate change could reach far beyond impacts relative to this project. WF said that this is outside of the scope of the charge given to us by the CC. MM said it's fair to consider our charge within this context. That's the PSB's job. ZR, we need to do our jobs properly. MM, wants to wrap up the discussion.

MM proposes continued discussion relative to wetlands on our next agenda if it is uncrowded.

Adjournment

The meeting adjourned at 7:35 PM.

Hi Matt:

I just spoke with Scott Gustin who suggested emailing you directly. I wanted to let you know, as chair of the Conservation Board, that Burlington recently became (with funding and assistance from the Regional Planning Commission) a STAR Community Leader. STAR stands for *Sustainability Tools for Assessing and Rating Communities*. This basically means that we'll be tracking a breadth of sustainability-related data over time and will be able to compare progress from year-to-year. It will also allow us to be nationally ranked and compared to other communities. Info is here: http://starcommunities.org/

To help with data collection, Melanie Needle/CCRPC and I have hired several interns. (Josh Kendrick, Margot Halpin and Skyler Golann are cced here). Some of what Josh, Margot and Skyler need to collect is related to natural systems protection, and the CB's work in particular. That said (and I know how busy you are so we really appreciate the time) – can either Josh or Margot follow up with you to see about setting up a time to meet or to speak by phone about the breadth of data they need and who you feel might be the best source, whether within the CB or beyond?

Thank you in advance for your help. Email from Josh/Margot to follow.

Jen

PS I'm also arranging with Scott to have Josh and Margot do a quick 10 minute presentation to the Board on the STAR Community Index at your next meeting, June 30, 5:30. Thanks for time on the agenda.

Jennifer Green
Sustainability Coordinator
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Please note that our email domain has changed to @burlingtonvt.gov; please DELETE jgreen@ci.burlington.vt.us in your address books as it will not work. My new email address is jgreen@burlingtonvt.gov.

CITYGREEN
BURLINGTON, VERMONT

OAK CREEK
TOXICOLOGY &
RISK ASSESSMENT CONSULTING

April 11, 2014

Angela Emerson, EP
KAS, Inc.
368 Avenue D, Suite 15
P.O. Box 787
Williston, Vermont 05495

Via Electronic Mail

Re: Request for Proposal for Risk Characterization Services
28 Archibald Street
Burlington, Vermont
KAS Job #509130312

Dear Ms Emerson:

As requested, I am providing the following proposed scope of work ("SOW") and budget estimate for the subject Site. The SOW and budget estimate are based on my review of the Brownfields Phase II Environmental Site Assessment Report (dated March 10, 2014), a subsequent e-mail exchange with you and Alan Liptak (Vice president of KAS) and our phone conversation on April 10th of 2014. The proposed SOW is for a focused characterization of human health risks associated with continued use of the subject Site as a community garden which assumes certain deeded restrictions are implemented and maintained at the Site. The purpose of this characterization of human health risk is to provide you and your client, the Chittenden County Regional Planning Commission (CCRPC), with health risk information pertinent to current and potential future Site use.

Please review the SOW and budget estimate to ensure that all of you and your clients needs are addressed. I look forward to working with you on this project.

Sincerely,

James S. Smith, Jr. (electronic signature)

James S. Smith, Jr., Ph.D.
President & Toxicologist

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BUDGET ESTIMATE & SCOPE OF WORK

OAK CREEK, Inc, (OCI) is pleased to provide the following budget estimate and scope of work ("SOW") to KAS Environmental Science & Engineering, Inc. (KAS) for a focused characterization of human health risk at the property located at 28 Archibald Street in Burlington, Vermont (Site).

OCI proposes to conduct a focused characterize human health risk at the subject Site to determine whether the current and proposed future property use, as a community garden, poses risk of harm to human health to persons using the Site. Specifically, the focused characterization of human health risk will assume the implementation and maintenance of a deeded restriction or other conveyance to ensure that the subject Site will remain a community garden, that no portion of the Site will be set aside for use as a children's play area, that the planting, growth, and harvesting of produce will not occur outside of appropriately constructed raised garden beds, and that Site maintenance will not result in persons having prolonged direct contact with exposed soil. Furthermore, OCI will assume that the high soil lead concentration (880 mg/kg) located at SB-3 (0-2 feet in depth) will be removed from subject Site for off-site treatment and/or disposal.

OCI will produce a letter report describing the characterization of human health risk at the subject Site, including any and all of the assumptions inherent in the resulting risk estimates. Where appropriate or necessary, OCI will provide recommendations for the mitigation of unacceptable human health risks.

OCI makes no direct or implied guarantee as to the specific outcome of the proposed risk characterization.

BUDGET ESTIMATE

The following budget estimate is for focused characterization of human health risk of the subject Site. OCI estimates a "*not-to-exceed*" budget of $4,800 based on the SOW described below and implementation and maintenance of an appropriate deeded restriction or other conveyance limiting current and future use of the subject Site as detailed in the SOW.

This budget estimate reflects a total of 24 hours of work at a rate of $200.00 an hour

Budget Detail

Phase	**Task**	**Hours**	**Cost**
Risk Characterization			
	Development of EPC	…4	$ 800.00
	Dose Response/Toxicity Assessment	2	$ 400.00
	Risk Calculations	8	$ 1,600.00
	Report Preparation	8	$ 1,600.00
	Client Revisions	2	$ 400.00
	Total	24	$4,000.00
	Budget Total	**24**	**$4,800.00**

The actual cost associated with the completion of these tasks may be less. Changes in the SOW may significantly increase or decrease project cost. OCI will not undertake additional out-of-scope work/tasks without the prior written approval of an appropriate KAS representative.

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SCOPE OF WORK

The following SOW describes OCI's technical approach to completion of the specific tasks required in the characterization of human health risk at the subject Site.

The SOW is based on my review of the Brownfields Phase II Environmental Site Assessment Report (dated March 10, 2014), our subsequent e-mail exchanges and phone conversation in April of 2014. The SOW also assumes implementation and maintenance of a deeded restriction or other conveyance limiting current and future Site use to that of a community garden, prohibiting use of any area of the Site as a children's play area, and to prohibit the planting, growth, and harvesting of produce outside of appropriately constructed raised garden beds, and that Site maintenance will not result in persons having prolonged direct contact with exposed soil. The SOW also assumes that the high soil lead concentration (880 mg/kg), located at SB-3 (0-2 ft bgs), will be removed from subject Site for off-site treatment and/or disposal.

Purpose

The purpose of this characterization of human health risk is to determine whether persons using the subject Site as a community garden are subject to increased risk of harm to health as a result of their potential contact with residual contaminates existing in Site soils. The result of this work may direct or determine which response actions or additional deeded restrictions may be necessary for mitigating health risks at the Site. OCI will evaluate the human health risk associated with restricted use of the subject Site using U.S. Environmental Protection Agency (U.S. EPA) guidance, methodologies, and appropriate exposure and toxicity values.

Preliminary Steps in an MCP Risk Characterization:

Several preliminary steps are considered in the performance of a complete MCP Method 3 risk characterization. These include the identification of current and future site uses, the establishment of background levels, and any assumptions regarding the use of deeded restrictions of other conveyances designed to mitigate potential human exposure.

Identify Current and Reasonably Foreseeable Use of the Site

This characterization of human health considers only the current and potential future use of the subject Site as a community garden. Implementation and maintenance of a deeded restriction, or other conveyance, is required to limit potential future uses and activities at the subject Site to those considered in this risk characterization. Namely, that the subject Site will remain a community garden, that no portion of the Site will be set aside for use as a children's play area, and that the planting, growth, and harvesting of produce will not occur outside of appropriately constructed raised garden beds, and that Site maintenance will not result in persons having prolonged direct contact with exposed soil. Under such restrictions, OCI assumes that potential persons using the subject Site (i.e., receptors) will be limited to individuals visiting the subject Site to garden and that their exposure will be limited to Site surface soils between 0 and 2 feet in depth. Receptors of specific interest are young children having direct contact with Site soils while parents/guardians garden.

Establish Background

OCI will compare contaminate soil concentrations with available area background concentrations. While several contaminates in Site soils may be consistent with area background concentrations, and

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might be eliminated from consideration in risk characterization as adding to aggregate receptor health risks, OCI will not exclude these contaminates from consideration in this characterization of human health risk. The inclusion of these compounds of potential concern (CoPC) will provide KAS and CCRPC with a complete understanding of the health risk associated with planned use of the subject Site. A subsequent discussion of these health risks by OCI will include an apportionment of the total health risks posed by these CoPC that will allow for further mitigation of health risk, should that be required.

Assumptions Concerning Activity and Use of the Subject Site

In this characterization of human health risk, OCI assumes that a deeded restriction, or other conveyance, is implemented and maintained for the purpose of limiting potential future uses and activities at the subject Site to only those considered in this risk characterization. Namely, that the subject Site will remain a community garden, that no portion of the Site will be set aside for use as a children's play area, that the planting, growth, and harvesting of produce will not occur outside of appropriately constructed raised garden beds, and that Site maintenance will not result in persons having prolonged direct contact with exposed soil.

Human Health Risk Characterization

The characterization of human health risk integrates five separate components: hazard identification, dose response assessment, exposure assessment, risk characterization, and uncertainty analysis.

Hazard Identification

Hazard identification describes the nature of a substance that causes it to be of regulatory concern and identifies the effects of substances determined to cause adverse effects in humans (U.S. EPA 1989). In this section, OCI will identify the CoPC that are to be carried through risk characterization.

Identify Contaminants of Potential Concern

CoPC identified in environmental media are tentatively identified as all contaminants detected in Site soils assessed and reported in the KAS Brownfields Phase II Environmental Site Assessment Report (KAS Report).

Elimination of Contaminants of Potential Concern

OCI may eliminate CoPC from consideration in the risk characterization if they meet one of the following three criteria (US EPA 1992).

- Present at low frequency of detection and in low concentrations;
- Present at levels which are consistent with "background" concentrations for the area <u>and</u> there is no evidence that their presence is related to activities at the site (i.e., metals);
- Present as a field or laboratory contaminant.

OCI will not eliminate any contaminate using these criteria, considering all detected CoPC as within this characterization of human health risk. OCI will identify those CoPC which may be eliminated on the basis that they meet one or more of the criteria above and will determine the potential of those CoPC to contribute to the overall estimate of human health risk derived.

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Dose Response/Toxicity Assessment

Toxicity profiles for CoPC will consist solely of a tabled summary of the critical cancer and non-cancer toxicity value(s) and supporting reference(s). OCI will not present toxicity profiles for CoPC evaluated in this risk characterization as such toxicity profiles are easily obtained from the U.S. EPA (USEPA 2014a). OCI will reference the source of all toxicity information used in the risk characterization.

Compound-specific chronic oral reference dose (RfD) and cancer slope factor (CSF) toxicity values will be obtained from the U.S. EPA's Integrated Risk Information System ("IRIS")(USEPA 2014a), U.S. EPA Region III Risk-Based Concentration Table (USEPA 2014b) or the Risk Assessment Information Service (RAIS 2014). These later two sources include toxicity values reported in the U.S. EPA Health Effects Assessment Summary Tables ("HEAST") and Provisional toxicity values determined by U.S. EPA Program Offices for use at specific SuperFund sites.

Identify Applicable and Suitably Analogous Standards

There are no applicable and suitably analogous regulatory standards ("ARARS") identified for soils.

Exposure Assessment

Exposure assessment involves identifying potential routes of exposure; characterizing the populations exposed; and determining the frequency, duration, and magnitude of exposure to site-related contaminants (USEPA 1989). OCI will clearly identify exposure parameters, their source, and rationale for use in this characterization of human health risk.

Exposure Scenario/Profile

OCI will characterize the human health risk posed by current and potential future use of the Site as a community garden. Exposure scenarios consistent with this Site use include the incidental or accidental ingestion of and dermal contact with existing surface soils at the subject Site. Soils used within the raised garden beds are assumed to be clean and are not evaluated in this risk characterization.

Exposure Assumptions

Exposure factors consistent with the appropriate land use scenario will be obtained from appropriate guidance (USEPA 1989, 2008, 2011).

Exposure Point Concentrations

Exposure point concentrations ("EPC") for individual CoPC in soil and airborne particulate will be determined as the mean of CoPC concentrations described in analytical data collected from the Site. OCI will not consider the high concentration of lead identified in Site soils (880 mg/kg) at SB-3 (0-2 feet) as this soil is to be removed for treatment and/or disposal at an offsite location.

Quantitative Exposure Estimates

Quantitative exposure estimates will be determined in accordance with U.S. EPA guidance (USEPA 1989).

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Risk Characterization

Quantitative characterization of both carcinogenic and non-carcinogenic risks will be determined in accordance with US EPA guidance (USEPA 1989, 1991). OCI will briefly discuss the results of this risk characterization with respect to acceptable target risks.

Uncertainty Analysis

OCI will briefly discuss the uncertainty inherent in risk characterization (USEPA 1989).

Conclusions

OCI will succinctly state all conclusions regarding the potential risk or absence of risk in a brief letter report. OCI's discussion of the resulting human health risk estimates will include risk drivers, potential mitigating actions, and the uncertainty inherent in such a characterization.

REFERENCES

RAIS. 2014. Toxicity and Chemical Specific Factors. Available Online at: http://risk.lsd.ornl.gov/cgi-bin/tox/TOX_select?select=nrad.

USEPA. 1989. Risk Assessment Guidance for Superfund. EPA 540/1-89/002. Volume I - Human Health Evaluation Manual (Part A): Washington, DC.

USEPA. 1991. OSWER Directive 9285.6-03. Memorandum: Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors." Timothy Fields, Jr. Acting Director, Office of Emergency and Remedial Response, and Bruce Diamond, Director, Office of Waste Programs Enforcement.

USEPA. 2008. Child-Specific Exposure Factors Handbook. EPA/600/R-06/096F. Environmental Protection Agency (EPA). National Center for Environmental Assessment, Office of Research and Development. September.

USEPA. 2011. Exposure Factors Handbook: 2011 Edition. EPA/600/R-090/052F: Office of Research and Development. U.S. Environmental Protection Agency. Washington, D.C. September.

USEPA. 2014a. Integrated Risk Information System (IRIS). U.S. Environmental Protection Agency, National Center for Environmental Assessment, Cincinnati, OH. Environmental Protection Agency (EPA). Available Online at: Available Online at: http://www.epa.gov/ngispgm3/iris/indexhtml.

USEPA. 2014b. Risk-Based Concentration Table. Environmental Protection Agency (EPA). Region III. Philadelphia, PA. Available Online at: Available Online at: http://www.epa.gov/reg3hwmd/risk/riskmenu.html. January.

DELIVERABLE

OCI will provide a fully referenced and clearly written report describing all of the assumptions, values, and calculations performed in this characterization of human health risk. Where available and appropriate, OCI will reference existing and "in preparation" reports to minimize the unnecessary and redundant description of the Site, its history, and/or previous Site investigation activities.

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Deliverables will consist of one electronic draft (MS WORD 2003 file format), which OCI will provide to KAS for comment, and a final electronic deliverable incorporating KAS client revisions will be provided in an Adobe Acrobat pdf file format. A hard copy of the draft and/or final report will be made available upon request. Revisions to the final deliverable will be limited in nature by the SOW, unless agreed to in advance by the contracting parties.

SCHEDULE

OCI will make a client draft of the deliverable available to KAS within 15 business days (three weeks) following receipt of authorization to proceed under an agreed contractual arrangement. Final deliverables will be delivered within 4 business days of receipt of client revisions.

Work can begin immediately upon receipt of a contractual arrangement and authorization to proceed. Please provide written conformation of authorization to proceed by signing this proposal (Task 01) on the lines provided below and return.

CONTRACT REQUIREMENT

I have attached an OAK CREEK general consulting agreement (KAS-14) for your review. Please review the agreement and if acceptable, have an appropriate company officer sign and return the original by mail. I will return a signed copy to you.

Please also provide written confirmation of authorization to proceed in the performance of the proposed SOW (Task 01) by having an appropriate corporate officer sign this proposal page on the line below and returning to me.

This proposal will remain viable for 30 days from the date of issuance.

Confirmation of Authorization to Proceed: _____

Position: _____

Company: _____

Please call me at (207) 929-0856 with any question you have regarding the general consulting agreement, Fee Schedule, SOW, schedule, deliverable, budget or any aspect of the proposed work.

OAK CREEK, INC.
60 OAK CREEK, BUXTON, MAINE 04093-6616
PH: (207) 929-0856 E-MAIL: JSSMITH@OAK-CREEK.NET
INTERNET WEB ADDRESS: HTTP://WWW.OAK-CREEK.NET/

BURLINGTON
PARKS
RECREATION
WATERFRONT

Staff Report

To: Parks Commission, Conservation Board

From: Dan Cahill

Re: 28 Archibald St. Risk Characterization

Request for Funding

Currently, we are awaiting the commencement of the Corrective Management Plan (CMP) development for the 28 Archibald St. property. Prior to the development of the CMP, we are seeking the services of a toxicologist to perform a site specific risk characterization of the 28 Archibald site. Essentially this work would allow us to determine if there is an opportunity to do spot remediation at the 28 Archibald site.

Spot remediation, as opposed to full scale remediation would significant lower the costs of the overall remediation, as well as save much of the existing garden infrastructure present at the site (raised beds, garden fence etc…

Attached you will find a copy of the proposal.

We are looking for approval of up to $6,000 for this pre-CMP risk assessment. You will note that this is $1,200 more than has been quoted by the toxicologist. The extra $,1,200 will be used to cover cost overruns and/or additional work not defined in the current project scope.

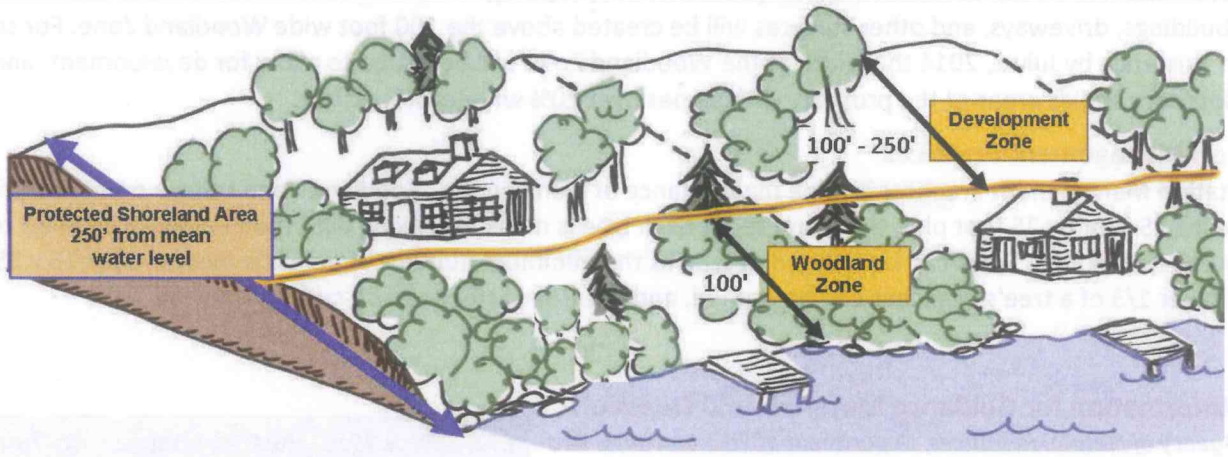
The Vermont Shoreland Protection Act

Intent

Effective July 1, 2014, the Vermont General Assembly has passed shoreland protection legislation that apply to a tivities within 250 feet of the mean water level of all lakes greater than 10 acres in size. The Shoreland Protection Ac (Chapter 49A of Title 10 §1441 *et seq*) establishes a new state regulation for guiding shoreland development. The in tent of the Act is to prevent degradation of water quality in lakes, preserve habitat and natural stability of shoreline and maintain the economic benefits of lakes and their shorelands by defining standards for the creation of buildings driveways, and cleared areas in shorelands. The Act seeks to balance good shoreland management and shoreland de velopment.

The Shoreland Protection Act recognizes that many shoreland properties in Vermont are already developed or a small lots that cannot meet the new standards. Developed properties are "grandfathered" until the owner proposes redevelopment. In the case of small lots, staff of the Agency of Natural Resources will work with homeowners so th standards are met to the extent possible. The table below summarizes the standards in the Act.

What the Act Regulates	Why
Naturally vegetated areas within 100 feet of the mean water level must be maintained according to the Vegetation Protection Standards in the act.	• A wooded shoreland is essential for a healthy lake ecosystem. Most animal and plant life in a lake spend all or some of their lif cycle in the shallow water, along a lake's shore. • A buffer of natural vegetation and duff absorbs and filters runof from uphill land uses much more effectively than lawn. • Tree roots, trunks, and branches hold the bank together, protecting against erosion as well as shade the shallow waters.
The Act establishes a maximum of 20% impervious surface coverage unless best management practices are used to mitigate impact.	Hard surfaces (roofs, driveways, decks, etc.) result in increased runo during rain storms. Increased runoff can result in erosion, and lesse absorption and filtration functions of the natural vegetation.
The Act establishes a maximum of 40% cleared area coverage unless best management practices are used to mitigate impact.	Clearing the shoreland of its natural vegetation increases stormwat runoff and reduces the lake's natural defense in protecting itself fro pollution, eroding banks, and creating degraded habitat.
Building on slopes greater than 20% requires demonstrating the development will not compromise stability.	Steeper slopes are more prone to erosion and instability, and there fore a wider Woodland Zone, and/or other Best Management Pract es may be required to help reduce these impacts.



New Development is located 100 feet from the water's edge in the Development Zone. In the Woodland Zone, a path and minimal clearing is allowed, as well as tree thinning in accordance with the Vegetation Management Practices.

Existing Development can be expanded using Best Mana ment Practices. Best Management Practices, such as revegetating stretches of the Woodland Zone or infiltrating runoff, are techniques that help prevent or reduce degra effects of increased impervious surface or cleared areas.

For a project occurring in the Protected Shoreland Area, with some exemptions, the Shoreland Protection Act requires all shoreland owners to either register or apply for a permit. Generally explained below are what activities be exempt, can be registered, or will need a permit. Full information is available from the Shoreland Permit Progran

Permit Exemptions (*These projects do not need to be registered or permitted through the Shoreland Permit Progra*

- Maintenance of existing buildings, gardens, and lawns, without enlarging them.
- Creation of a six foot wide footpath to access the lake through the Woodland Zone.
- Re-construction of existing impervious areas without increasing or changing the current footprint, such as rebuil ing a house, deck or driveway in the exact same spot.
- Removal of 250 sq feet of vegetation under three feet in height, 25 feet from the mean water level, is allowed a long as the Vegetation Management Practices are met and the duff layer is not removed.
- Tree removal and pruning within 100 feet of the mean water level using to the Vegetation Management Practice

Registrations (*Projects that require the landowner to submit a registration form.*) The limits described below are th total allowed for the lifetime of the property, regardless of ownership.

- Creation of less than or equal to 100 sq feet impervious surface, such as a gazebo or shed, located 25 feet back f mean water level.
- Less than or equal to 500 sq feet of new clearing or impervious surface at least 100 feet from the mean water le

Permits (*Projects that require a landowner to fill out a permit application and obtain a permit before proceeding.*)

Re-development of existing developed shorelands

If a property does not already meet the new standards, re-development proposals will be reviewed to ensure:

- Any existing wooded areas within 100 feet of mean water level are maintained under the Vegetation Manageme Practices;
- New buildings, decks, or driveways are not closer to the mean water level than currently located;
- Total coverage of all buildings, decks, and/or driveways (impervious surface area) does not exceed 20% of prope area or Best Management Practices (BMPs) are used to offset the effects of the new surfaces;
- Any proposed new clearing does not exceed 40% of the property area or BMPs are used to offset the impact of t new cleared areas;
- Development takes place on slopes of less than 20% unless it is demonstrated BMPs maintain slope stability and prevent erosion; and
- Standards are scaled down to fit a small lot that was already in existence as of July 1, 2014.

Development of undeveloped shorelands

Undeveloped properties, both existing small lots and lots that can meet all the standards, will be reviewed to ensure

- The 100 foot wide Woodland Zone is maintained using the Vegetation Management Practices. For existing small lots, the width will be scaled to allow development on the property;
- New buildings, driveways, and other surfaces will be created above the 100 foot wide Woodland Zone. For smal lots in existence by July 1, 2014 the width of the Woodland Zone will be scaled to allow for development; and
- Development avoids areas of the property with slopes over 20% whenever possible.

Vegetation Management Practices

The Vegetation Management Practices outline maintenance of plants in the Woodland Zone using a point and grid s tem. For each 25 foot by 25 foot plot, the diameter of each tree is measured along with the number of saplings to ca late the number of points. Trees can be thinned as long as the minimum number of points is met for each 25 x 25 fo plot. The lower 1/3 of a tree's branches can be pruned, and hazardous trees can be cut.

Contact Information for Guidance Materials and Questions

Vermont Agency of Natural Resources, Department of Environmental Conservation, Watershed Management Div., Lakes and Ponds Shoreland Permit Program, 1 National Life Dr., Main 2, Montpelier, VT 05620
Web Page: www.watershedmanagement.vt.gov/lakes.htm
Email: ANR.WSMDShoreland@state.vt.us
Phone: 802-490-6196

Guidance Materials Available - *now or so*

- Frequently Asked Questions
- The Guide to the Vermont Shoreland Protection *A Handbook for Shoreland Development*
- List of Vermont Lakes Greater Than 10 Acres
- Permit Application Instructions and Worksheets

June 4, 2014

Ref: 57634.00

Scott Gustin, AICP, CFM
Senior Planner
Department of Planning and Zoning
City Hall, 149 Church Street
Burlington, VT 05401

Re: Zoning Permit Application – Burlington Bike Path Rehabilitation
First Phase of Construction (Perkins Pier to North Beach)

Dear Scott:

On behalf of the City of Burlington ("City") Department of Parks and Recreation ("Applicant, "DPR"), Vanasse Hangen Brustlin, Inc. ("VHB") has prepared the enclosed application for a Zoning Permit for the first phase of construction for the Burlington Bike Path Rehabilitation Project ("Project"). This first phase will address a variety of deficiencies in the Bike Path within its most heavily used segment: the downtown area between Maple Street and College Street and in Waterfront Park. Furthermore, Path realignment is proposed through the Urban Reserve to Texaco Beach, and Path widening to continue north to a point just south of the entrance to North Beach Park.

This application includes the following materials, which have also been provided electronically on the enclosed flash drive:

- signed Basic Zoning Permit Application Form;
- signed Erosion Prevention and Sediment Control Plan Form;
- representative photographs of existing conditions within the Project area;
- Preliminary Design Plans for the Project, printed at full-scale and reduced to 11X17;
- Zoning District Summary and Site Location Map; and
- tabular Summary of Lot Coverage.

As this is a City project, the application fees are waived.

Vanasse Hangen Brustlin, Inc.
7056 US Route 7, Post Office Box 120
North Ferrisburgh, Vermont 05473
802.497.6100 ▪ FAX 802.425.7799
www.vhb.com

Proposed Project Phasing

The overall Project encompasses the entire length of the Bike Path; roughly 7.9 miles from Austin Drive to the Winooski River Bridge. The first phase of construction, for which the Applicant is seeking approval, includes approximately 1.70 miles commencing just south of the Maple Street near Perkins Pier and running north to a location approximately 150 feet south of the entrance to North Beach Park (see Zoning District Summary and Site Location Map).

Status of Design and Plan Updates

As you are aware, the Project is moving forward at an accelerated schedule in order to provide the citizens of Burlington with much needed enhancements to one of the City's most prized recreational resources. The Mayor has made a commitment to commencing the Bike Path rehabilitation this year. It is for this reason that we have initiated the process of Project Review through this application, though some updates to the Design Plan are anticipated based on forthcoming information. In particular, soil testing in the Urban Reserve will be used to determine the degree to which removal of impervious surfaces, remnants of the area's industrial period, can be carried out in order to comply with the lot coverage restrictions for this Zoning District and to generally minimize unnecessary impervious surfaces.

The Applicant understands that any updates to the Design Plan are to be submitted to the Department of Planning and Zoning by June 23rd, 2014.

<u>Components Not Included in this Application</u>

- the segment of the Bike Path within the Waterfront Access North ("WAN") Project area, as this is a separate project subject to a previously issued Zoning Permit (between stations 131+19 and 140+96 on attached Design Plans);
- improvements to adjoining areas funded by the Public Investment Action Plan ("PIAP"), such as in Waterfront Park;
- shoreline stabilization; and
- design for pause places, signage, and wayfinding.

Proposed Activities by Design Segment and Schedule

The proposed activities for the first phase of construction are described in detail below by design segment, including the proposed construction schedule. A suite of representative photographs for each segment are provided as a separate attachment and referenced below.

<u>Improvements Proposed for All Sections</u>

The Bike Path will be generally rehabilitated along its existing alignment but widened wherever possible to a paved width of 11' with a 2' aggregate shoulder on each side for runners/walkers.

There will be two areas of major Path realignment that are described below in the section-by-section descriptions. Other improvements that are being designed for the path include centerline striping, appropriate path paint markings and standard signage.

Perkins Pier to King Street

Work along the Bike Path through this section will consist of resurfacing and striping. The portion to be milled and resurfaced (Photo 1) is approximately 150′ in length. The striping will consist of the painting of a 4″ thick white line to better delineate the area of the path where an existing painted yellow stripe is fading (Photo 2). The crossing of Maple Street lacks appropriate crossing markings (Photo 3), this problem will be solved with the painting of a proposed green textured surface, as well as crosswalk lines. The path will be realigned and reconstructed between Maple Street and King Street to eliminate a 'kink' in the path (Photo 4) that exists to allow for a 90° angle crossing over old railroad rails (Sheet 4 – "Layout View (1 of 16)").

Proposed Construction Schedule: November, 2014

King Street to College Street

The focus through this length of the Bike Path will be intersection improvements and enhanced Bike Path delineation. The intersection of the Bike Path and King Street (Photo 5) is proposed to be painted with the above mentioned green textured surface paint that will align Path users to cross the railroad tracks at a 90° angle. This same green textured surface paint is proposed between King Street and College Street (Photo 6) to widen the delineated area and alert non-path users of traveling cyclists and other path users.

Proposed Construction Schedule: November, 2014

College Street to Penny Lane (Waterfront Park)

This stretch of the path consists of two sections; the southern, "Great Lawn" section, and the northern, "Event Grounds" section. The Great Lawn section (Photo 7) will be milled and resurfaced at the existing width in order to rehabilitate the pavement without harming the roots of the existing silver linden trees that line the Path on both sides. The diagonal section of the Bike Path that currently bisects the Event Grounds will be removed and the Bike Path re-routed to the eastern perimeter of the Park where an existing gravel access road is present (Photo 8). Access along the waterfront will remain, so that cyclists and other users will have continuous access around the perimeter of the Event Grounds during most events (Sheet 8 – "Layout View (5 of 16)").

A pervious grass pavement system will be installed along the western side of the realigned Bike Path within the Event Grounds to improve access to the area by event construction and support vehicles. The width will be sufficient to allow for both vehicle parking and unencumbered access

for emergency access during events. The use of pervious grass pavers will minimize the rutting that is a current maintenance issue and allow for stormwater generated by the Bike Path to infiltrate into the underlying soil.

Proposed Construction Schedule: October to November, 2014

<u>WAN to Texaco Beach (Urban Reserve)</u>

The Bike Path from the terminus of WAN through to the end of the Urban Reserve will see a full realignment (Sheets 11-15 – "Layout View (8 of 16)" to "Layout View (12 of 16)"). The pavement conditions through here have deteriorated and have severe drainage issues (Photo 9). The proposed realignment of the Bike Path will lead the path west (Photo 10) away from the existing, damaged paved areas and towards Lake Champlain. Once the path reaches a point approximately 25′ from the top of the shoreline revetment or break in slope, it will travel parallel to the shoreline and connect back to the existing path alignment at station 167+00.

Proposed Construction Schedule: April to July, 2015

<u>Texaco Beach to North Beach</u>

The majority of the work taking place along this length of the Bike Path will be the items listed in the above "Improvements Proposed for All Sections". A connection from the Bike Path to Lakeview Cemetery is also being proposed (Photo 11) in this section. This connection is not yet shown in the layout plans but will likely be a 5′ wide aggregate path to include a gated fence for access to the cemetery. The existing railing (Photo 12) is not safe for path users and will be replaced in all necessary locations.

Proposed Construction Schedule: August to November, 2015

Summary of Lot Coverage by Zoning District

Because of the breadth of the Project, the determination of existing lot coverage was carried out via a geographic information system ("GIS") analysis using available geospatial data provided by the City, including impervious surface coverage by parcel. Survey data for the existing Bike Path alignment collected by VHB was used to supplement this information.

Of the nine parcels intersected by the proposed alignment of the rehabilitated Bike Path, all or portions of 6 parcels are zoned as Downtown Waterfront ("DW"), or Downtown Waterfront – Public Trust ("DW-PT"). Accordingly, there is no restriction on lot coverage for these segments of the Bike Path.

Four of the nine parcels intersected by the Bike Path are zoned in whole or part as Recreation, Conservation and Open Space / Recreation-Greenspace ("RCO-RG") (see Zoning District

Summary and Site Location Map). However, because of their relatively intensive land use or because, in the case of Parcel 028-2-220-000, their relatively thinness, the current percent lot coverage for each exceeds the allowed lot coverage under the Zoning Ordinance (see enclosed Summary of Lot Coverage). These parcels include those housing the Wastewater Treatment Plant, Perkins Pier, and Waterfront Park. The proposed Bike Path improvements would result in only minor increases in the lot coverage for these parcels, as outlined in the enclosed table. Nevertheless, the Applicant understands that the proposed Bike Path improvements will require Conditional Use review and approval.

Also, portions of two of the parcels intersected by the Bike Path are zoned as Urban Reserve ("UR"). The Applicant understands that, for the proposed activities in the UR, the final design plans must indicate clearly where and how existing impervious surfaces will be removed to, at a minimum, offset the same square footage of proposed Bike Path improvements so that there is no change in lot coverage for this Zoning District.

Conditional Use Review Standards

Because the new proposed alignment of the Bike Path will intersect the Riparian and Littoral Conservation Zone, the Applicant hereby agrees to conform to the requirements listed in Section 4.5.4 (c) 4. of the Zoning Ordinance. Furthermore, because of these proposed activities within a Natural Resource Overlay District and because a number of the RCO-RG zoned lots have coverages exceeding their allowable limits, the Applicant understands that this Application is subject to review and approval pursuant to the Conditional Use review provisions of Article 3. An initial response to Section 3.5.6 (a) 1-5 is provided below.

<u>Capacity of Existing or Planned Community Facilities</u>

The Project will have no undue adverse effect on existing or planned community facilities. By its nature, the Bike Path rehabilitation will encourage community recreation and appreciation of the waterfront area and promote healthy lifestyles.

<u>Character of the Area</u>

Because the Project largely occupies the existing alignment and does not propose any new uses, it is consistent with the purposes of the Zoning Districts through which it passes. The realignment of the Bike Path in the UR represents passive use of a publically accessible open space, consistent with Section 4.4.7 of the Zoning Ordinance. The Applicant believes the proposed realignment of the Bike Path in the UR is consistent with Section 4.4.7. (c) 4), which allows for the following conditionally permitted use:

Existing public recreational paths and railroad facilities and their necessary maintenance.

Traffic on Roads and Highways

It is not anticipated that the Project will result in any increased traffic demand such that an undue adverse effect would occur. Though the improvements will likely attract more visitors to the Bike Path, this would occur gradually over time.

City Bylaws and City and State Ordinance

The Project will be constructed and operated in accordance with all applicable City Bylaws and City and State Ordinance.

The Utilization of Renewable Energy Resources

Generally speaking, the Bike Path is not a consumptive use of energy. Accordingly, there is little opportunity for employing renewable energy resources.

We appreciate your assisting in reviewing this application and look forward to the opportunity to discuss the Project before the Conservation Board (June 30th) and Development Review Board (July 1st).

Sincerely,
VANASSE HANGEN BRUSTLIN, INC.

Brad Ketterling
Senior Environmental Scientist

DBK/pwe
Enclosure

cc: Jesse Bridges, Director and Harbormaster, Department of Parks and Recreation

\\vtnfdata\projects\57634.00\docs\Permits\Zoning\2014-06-04_BP_Zoning_Permit_Application.doc

Photo 1. Bike Path around blind corner along Railway Lane. View is to south.

Photo 2. Lack of Bike Path delineation along Railway Lane. View is to south.

Photographs were taken on a variety of dates, all by VHB.

Photo 3. Bike Path crossing at Maple Street. View is to north.

Photo 4. Right angle in Bike Path alignment. Initially aligned to allow for crossing old railroad rails at right angle. View is to south.

Photographs were taken on a variety of dates, all by VHB.

Photo 5. Current Bike Path alignment encouraging crossing railroad tracks at angle. View is to the southwest.

Photo 6. Minimal Bike Path delineation (fading paint) between the high traffic area of King Street and College Street. View is to north.

Photographs were taken on a variety of dates, all by VHB.

Photo 7. View of the Bike Path within the Great Lawn section of Waterfront Park. Path will see minimal work here to avoid harming the existing vegetation. View is to south.

Photo 8. Existing gravel road where Bike Path is to be realigned through the Event Grounds section of Waterfront Park. View is to north.

Photographs were taken on a variety of dates, all by VHB.

Photo 9. Existing pavement conditions in the Urban Reserve. View is to north.

Photo 10. Location in Urban Reserve where full Bike Path realignment will begin. Path will be brought west towards the lake to eventually travel along the lakefront. View is to west.

Photographs were taken on a variety of dates, all by VHB.

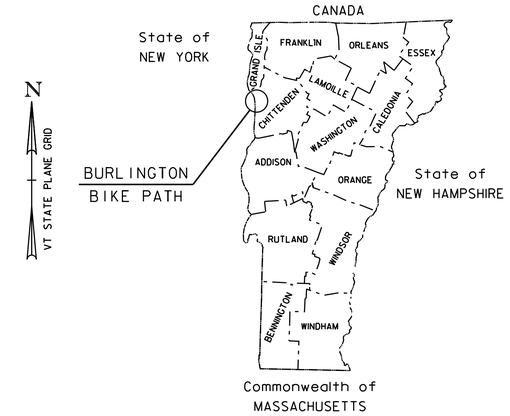
Photo 11. View of Bike Path at Lakeview Cemetery. View is to south.

Photo 12. View of non-standard bicycle railing along west side of Bike Path. View is to the southwest.

Photographs were taken on a variety of dates, all by VHB.

CITY OF BURLINGTON
DEPARTMENT OF PARKS AND RECREATION

Parks & Recreation
BURLINGTON, VERMONT



PROPOSED IMPROVEMENT

BURLINGTON BIKE PATH REHABILITATION PROJECT

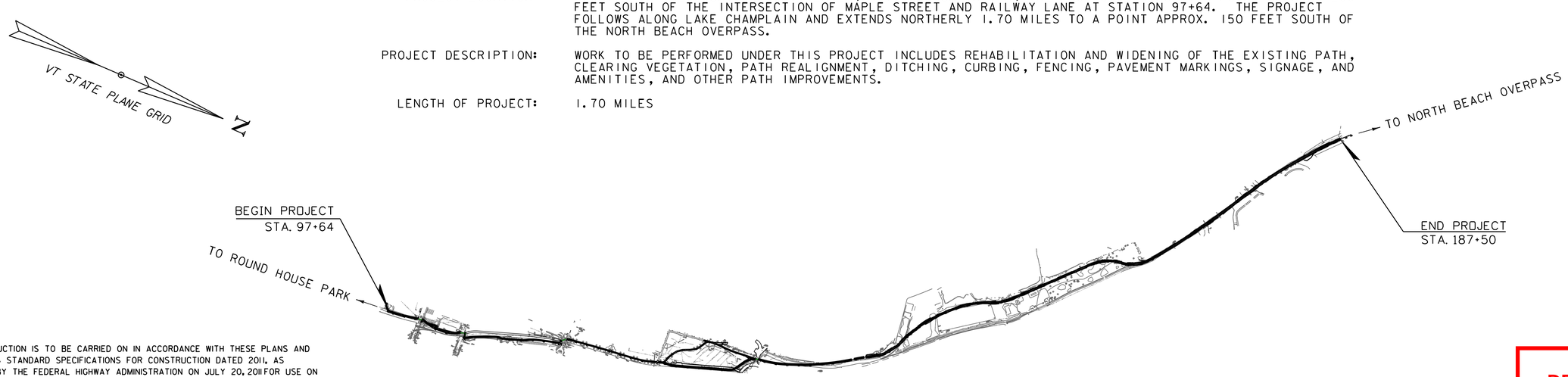
CITY OF BURLINGTON
COUNTY OF CHITTENDEN

DRAFT PLANS – WORK IN PROGRESS
JUNE 2014

PROJECT LOCATION: LOCATED IN THE COUNTY OF CHITTENDEN, CITY OF BURLINGTON, THE PROJECT BEGINS AT A POINT APPROX. 200 FEET SOUTH OF THE INTERSECTION OF MAPLE STREET AND RAILWAY LANE AT STATION 97+64. THE PROJECT FOLLOWS ALONG LAKE CHAMPLAIN AND EXTENDS NORTHERLY 1.70 MILES TO A POINT APPROX. 150 FEET SOUTH OF THE NORTH BEACH OVERPASS.

PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REHABILITATION AND WIDENING OF THE EXISTING PATH, CLEARING VEGETATION, PATH REALIGNMENT, DITCHING, CURBING, FENCING, PAVEMENT MARKINGS, SIGNAGE, AND AMENITIES, AND OTHER PATH IMPROVEMENTS.

LENGTH OF PROJECT: 1.70 MILES



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE VTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 1

SURVEYED BY : VHB
ALDRICH + ELLIOT, PC
BUTTON PROFESSIONAL LAND SURVEYORS, PC
CROSS CONSULTING ENGINEERINGS

SURVEYED DATE : AUGUST 2013

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (07)

SCALE IN FEET
1800 0 1800

DRAFT PLANS - DESIGN ONGOING

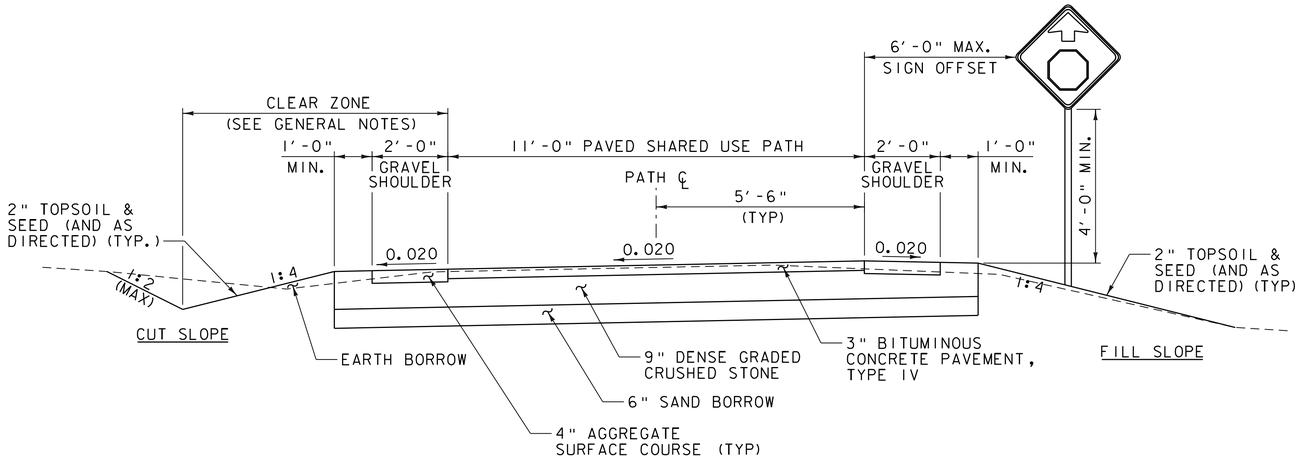
BURLINGTON PARKS AND RECREATION DIRECTOR
APPROVED _____ DATE _____

PROJECT MANAGER : JEN FRANCIS

PROJECT NAME : BURLINGTON BIKE PATH
PROJECT NUMBER : 57634.00

SHEET 1 OF 19 SHEETS

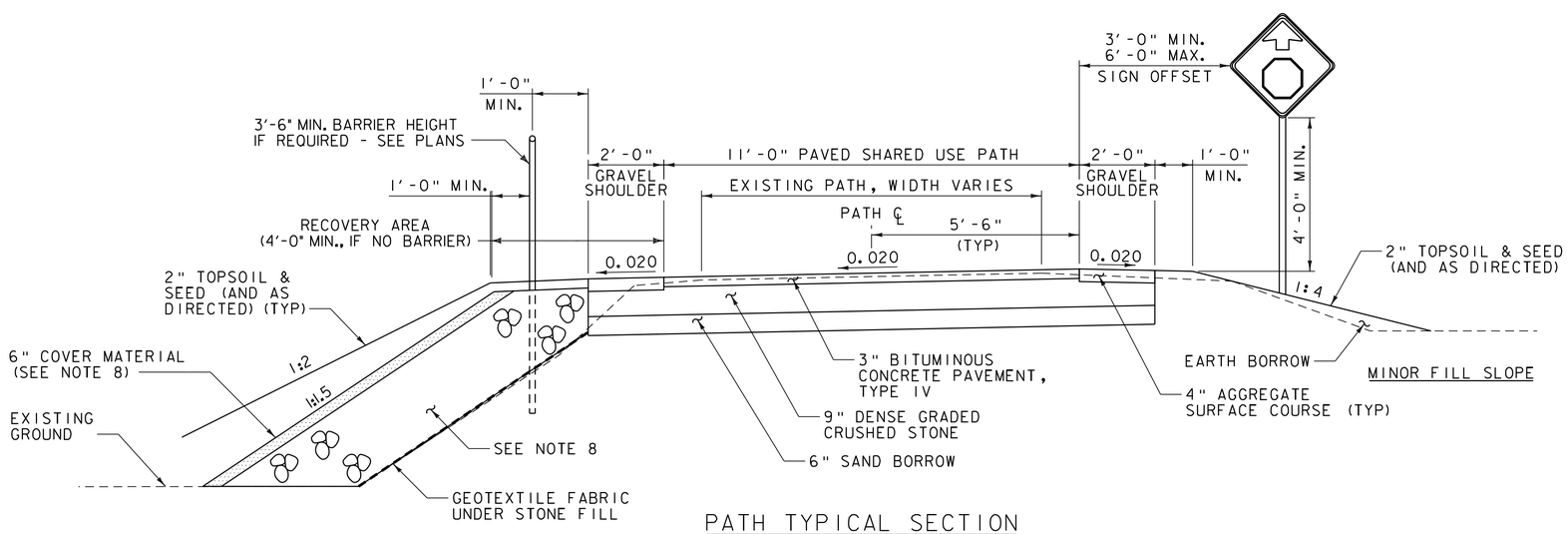
VHB Vanasse Hangen Brustlin, Inc.



PATH TYPICAL SECTION
(NORMAL CUT/FILL SLOPES)

SCALE 1" = 2'-0"

STATIONING	
BEGIN	END
122+40	123+52
129+12	130+30
140+96	187+50



PATH TYPICAL SECTION
(STEEL SIDESLOPE)

SCALE 1" = 2'-0"

GENERAL NOTES:

1. THE MINIMUM PAVED PATH WIDTH SHALL BE 11'-0" UNLESS NOTED OTHERWISE IN THE PLANS.
2. ROADBED SUBGRADE SEPARATOR FABRIC SHALL BE PLACED BETWEEN SUBGRADE AND SUBBASE AT LOCATIONS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.
3. THE USE OF UNDERDRAIN SHALL BE AS SHOWN IN THE PLANS.
4. WHEN SAND BORROW IS USED, ITS THICKNESS SHALL BE TRANSITIONED TO OR FROM FULL DEPTH AT THE RATE OF 1:25 ALONG THE LENGTH OF THE PATH TO PREVENT A BUMP FROM OCCURRING AT ITS TERMINUS.
5. THE PATH SHALL HAVE A UNIFORM TWO PERCENT SLOPE IN THE DIRECTION SHOWN IN THE PLANS, AND THE SUBBASE SHALL BE GRADED TO MATCH. ALL CURVED SECTIONS SHALL BE BANKED TOWARD THE INSIDE OF THE CURVE.
6. ALL SHARED USE PATHS SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) TO THE EXTENTS POSSIBLE GIVEN EXISTING CONDITIONS. REFER TO THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) FOR SPECIFIC DETAILS.
7. ANY TREE ROOTS ENCOUNTERED WITHIN THE EXCAVATION LIMITS SHALL BE SAWCUT AND REMOVED. PAYMENT WILL BE INCIDENTAL TO COMMON EXCAVATION.
8. STONE FILL, TYPE II THAT IS PROPOSED ON ANY SLOPE STEEPER THAN 1:2 SHALL BE 2'-0" DEEP AND SHALL RECEIVE A 6" LAYER OF COVER MATERIAL OVER THE STONE.
   - A) ANY SLOPES ADJACENT TO WETLANDS OR STREAMS SHALL USE GRUBBING MATERIAL AS A COVER FOR THE STONE FILL.
   - B) STONE COVERED SLOPES IN DRY AREAS SHALL USE EXCAVATED EARTH OR EARTH BORROW AS A COVER MATERIAL. COVER MATERIAL SHALL BE SEEDED AND MULCHED.
9. DITCHES WILL RECEIVE THE FOLLOWING TREATMENTS BASED ON THEIR SLOPE, UNLESS SHOWN OTHERWISE ON THE PLANS.
   - A) 0-1% SEED AND MULCH
   - B) 1-2.5% EROSION CONTROL MATTING AND SEED
   - C) 2.5-10% TYPE I STONE FILL - 1'-0" DEPTH
   - D) >10% TYPE II STONE FILL - 2'-0" DEPTH
10. IF THE VOLUME OF RECLAIMED MATERIAL IS NOT SUFFICIENT TO MEET THE REQUIRED LINES & GRADES SHOWN, IT SHALL BE SUPPLEMENTED WITH DENSE GRADED CRUSHED STONE.
11. DETAIL SHEETS AND TRAFFIC CONTROL PLANS WILL BE DEVELOPED AND INCORPORATED IN THE PRELIMINARY PLAN SET.

~~STATIONING NOTES:~~

~~1. THERE IS NO PROPOSED WESTERN SHOULDER FROM STA. 300+00 TO STA. 302+16.~~

~~2. THERE ARE NO PROPOSED SHOULDERS FROM STA. 400+00 TO STA. 411+95. THERE IS NO PROPOSED EASTER SHOULDER FROM STA. 422+35 TO STA. 500+10.~~

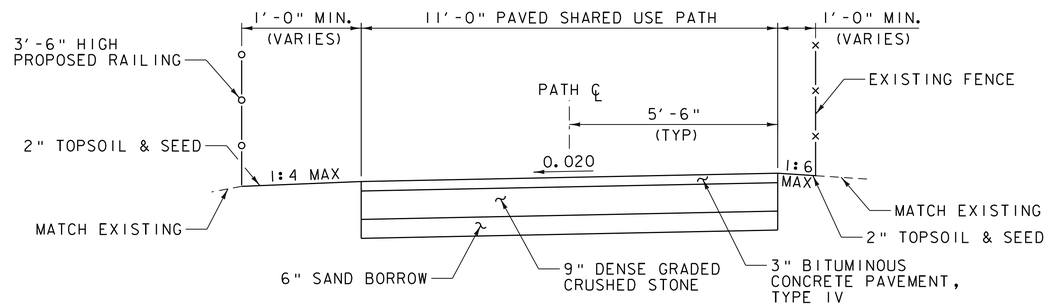
~~3. THE PAVED PORTION OF THE PATH NARROWS FROM 11'-0" TO 8'-0" FROM STA. 1131+75 TO STA. 1132+50 AND WIDENS BACK TO 11'-0" FROM STA. 1201+50 TO STA. 1202+25. A TAPER OF 25:1 IS TO BE USED.~~

~~4. THE PAVED PORTION OF THE PATH WIDENS FROM 11'-0" TO 13'-0" FROM STA. 111+50 TO STA. 112+25 AND NARROWS BACK TO 11'-0" FROM STA. 116+50 TO STA. 117+25. A TAPER OF 25:1 IS TO BE USED. THE PAVED PORTION ALSO WIDENS FROM 11'-0" TO 13'-0" FROM STA. 130+00 TO STA. 130+75 AND NARROWS BACK TO 11'-0" FROM STA. 131+75 TO STA. 132+50.~~

DRAFT PLANS - DESIGN ONGOING

VHB Vanasse Hangen Brustlin, Inc.

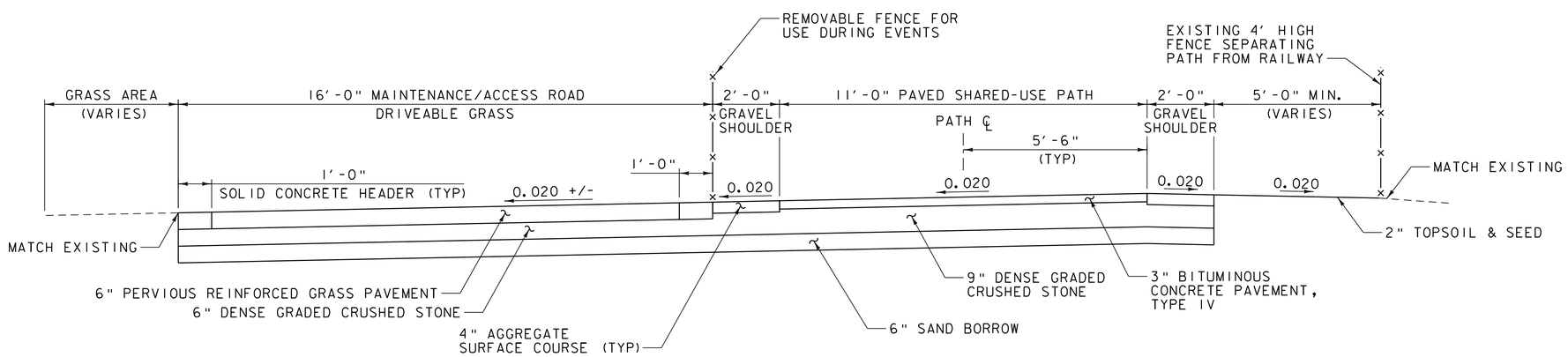
PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634typ.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: E.B. PARIZO
DESIGNED BY: E.B. PARIZO	CHECKED BY: M.J. SERVETAS
PATH TYPICAL SECTIONS (1 OF 2)	SHEET 2 OF 19



MAPLE STREET TO KING STREET PATH TYPICAL SECTION

SCALE 1" = 2'-0"

STATIONING	
BEGIN	END
100+68	104+22



PROPOSED WATERFRONT PARK PATH TYPICAL SECTION

SCALE 1" = 2'-0"

STATIONING	
BEGIN	END
123+52	129+12

DRAFT PLANS - DESIGN ONGOING

Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634typ.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: E.B. PARIZO
DESIGNED BY: E.B. PARIZO	CHECKED BY: M.J. SERVETAS
PATH TYPICAL SECTIONS (2 OF 2)	SHEET 3 OF 19

EXCAVATION OF SURFACES & PAVEMENTS
STA. 101+20 TO STA. 102+09, LT
STA. 100+62.50 TO STA. 100+68.50, LT
STA. 100+62.80 TO STA. 100+68.20, RT

REMOVE RAILING
STA. 97+77 TO STA. 98+82, RT
STA. 98+97 TO STA. 100+18, LT
STA. 100+90 TO STA. 102+75, LT

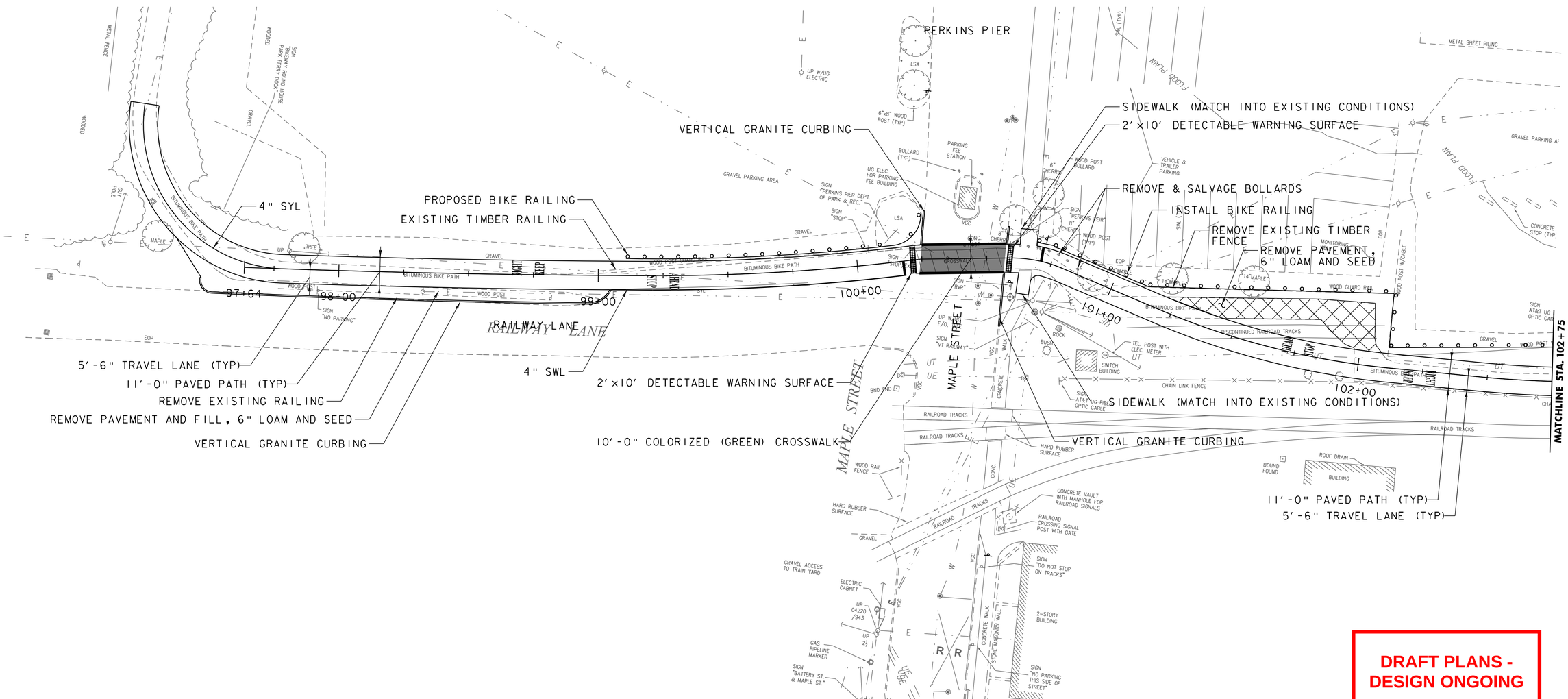
3'-6" BICYCLE RAILING
STA. 99+10 TO 100+25, LT
STA. 100+68 TO STA. 102+75, LT

2'X10' DETECTABLE WARNING SURFACE
STA. 100+25
STA. 100+59

REMOVE BOLLARDS
STA. 100+41 TO STA. 100+85, LT

PORTLAND CEMENT CONCRETE SIDEWALK (5 INCH)
STA. 100+63.50 TO STA. 100+68.50, LT
STA. 100+62.80 TO STA. 100+68.80, RT

VERTICAL GRANITE CURB
STA. 97+45 TO STA. 99+05, RT
STA. 100+25, LT
STA. 100+55, RT
STA. 100+58, LT



SCALE 1" = 20'-0"
20 0 20

DRAFT PLANS - DESIGN ONGOING

VHB Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (1 OF 16)	SHEET 4 OF 19

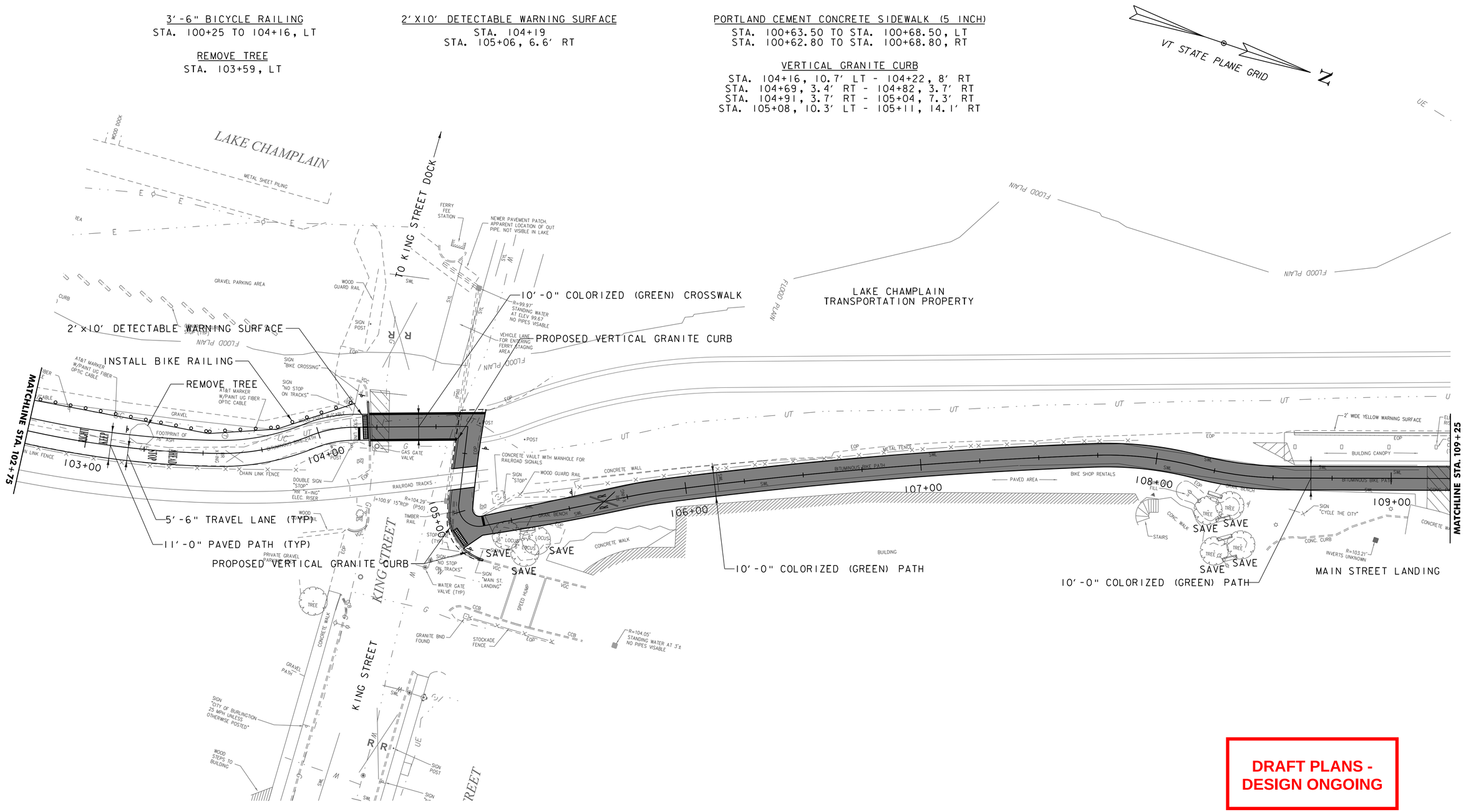
3'-6" BICYCLE RAILING
STA. 100+25 TO 104+16, LT

REMOVE TREE
STA. 103+59, LT

2'X10' DETECTABLE WARNING SURFACE
STA. 104+19
STA. 105+06, 6.6' RT

PORTLAND CEMENT CONCRETE SIDEWALK (5 INCH)
STA. 100+63.50 TO STA. 100+68.50, LT
STA. 100+62.80 TO STA. 100+68.80, RT

VERTICAL GRANITE CURB
STA. 104+16, 10.7' LT - 104+22, 8' RT
STA. 104+69, 3.4' RT - 104+82, 3.7' RT
STA. 104+91, 3.7' RT - 105+04, 7.3' RT
STA. 105+08, 10.3' LT - 105+11, 14.1' RT



SCALE 1" = 20'-0"
20 0 20

DRAFT PLANS - DESIGN ONGOING

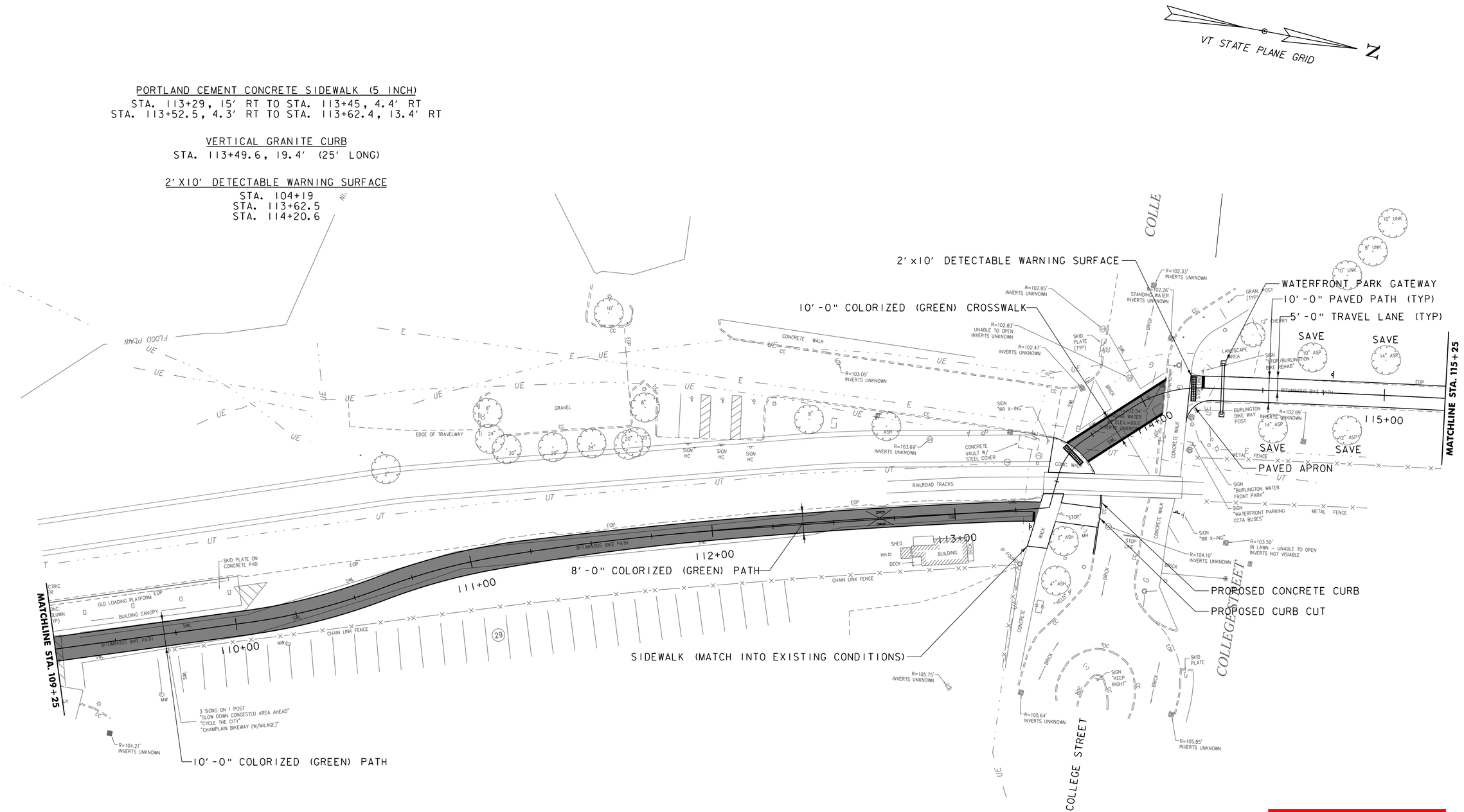
Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (2 OF 16)	SHEET 5 OF 19

PORTLAND CEMENT CONCRETE SIDEWALK (5 INCH)
STA. 113+29, 15' RT TO STA. 113+45, 4.4' RT
STA. 113+52.5, 4.3' RT TO STA. 113+62.4, 13.4' RT

VERTICAL GRANITE CURB
STA. 113+49.6, 19.4' (25' LONG)

2'X10' DETECTABLE WARNING SURFACE
STA. 104+19
STA. 113+62.5
STA. 114+20.6

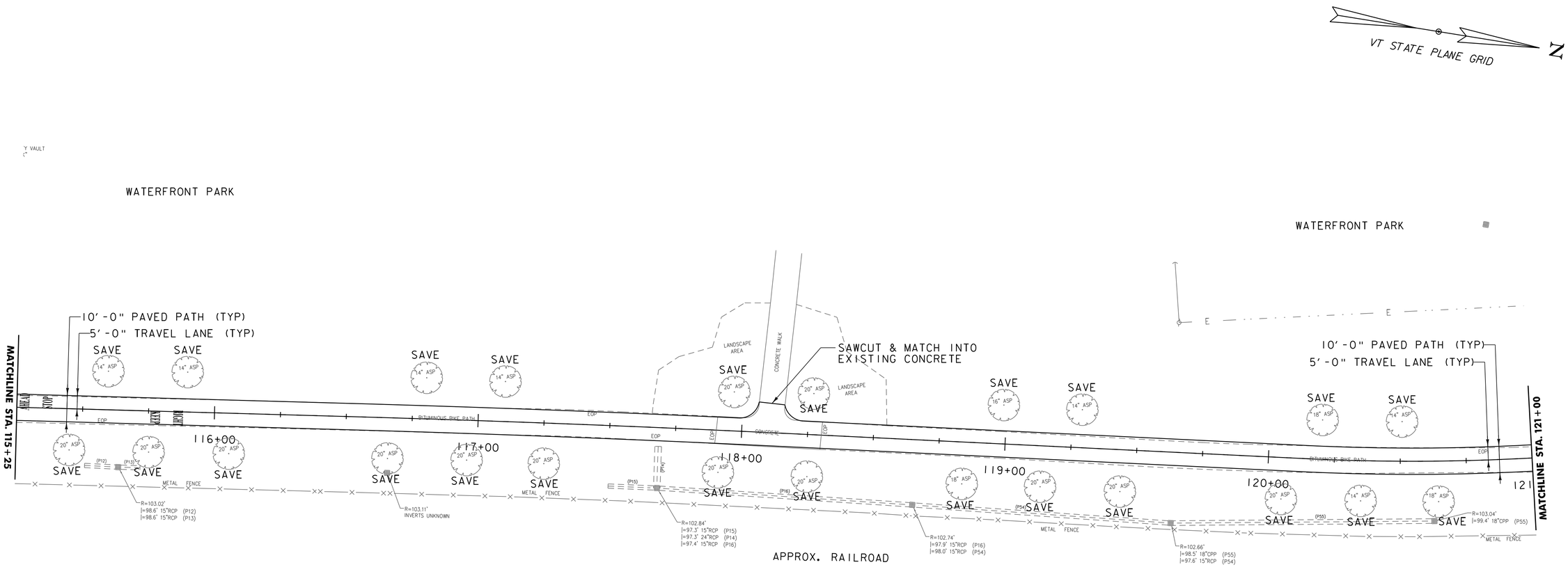


DRAFT PLANS - DESIGN ONGOING

SCALE 1" = 20'-0"
20 0 20

VHB Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (3 OF 16)	SHEET 6 OF 19



DRAFT PLANS - DESIGN ONGOING

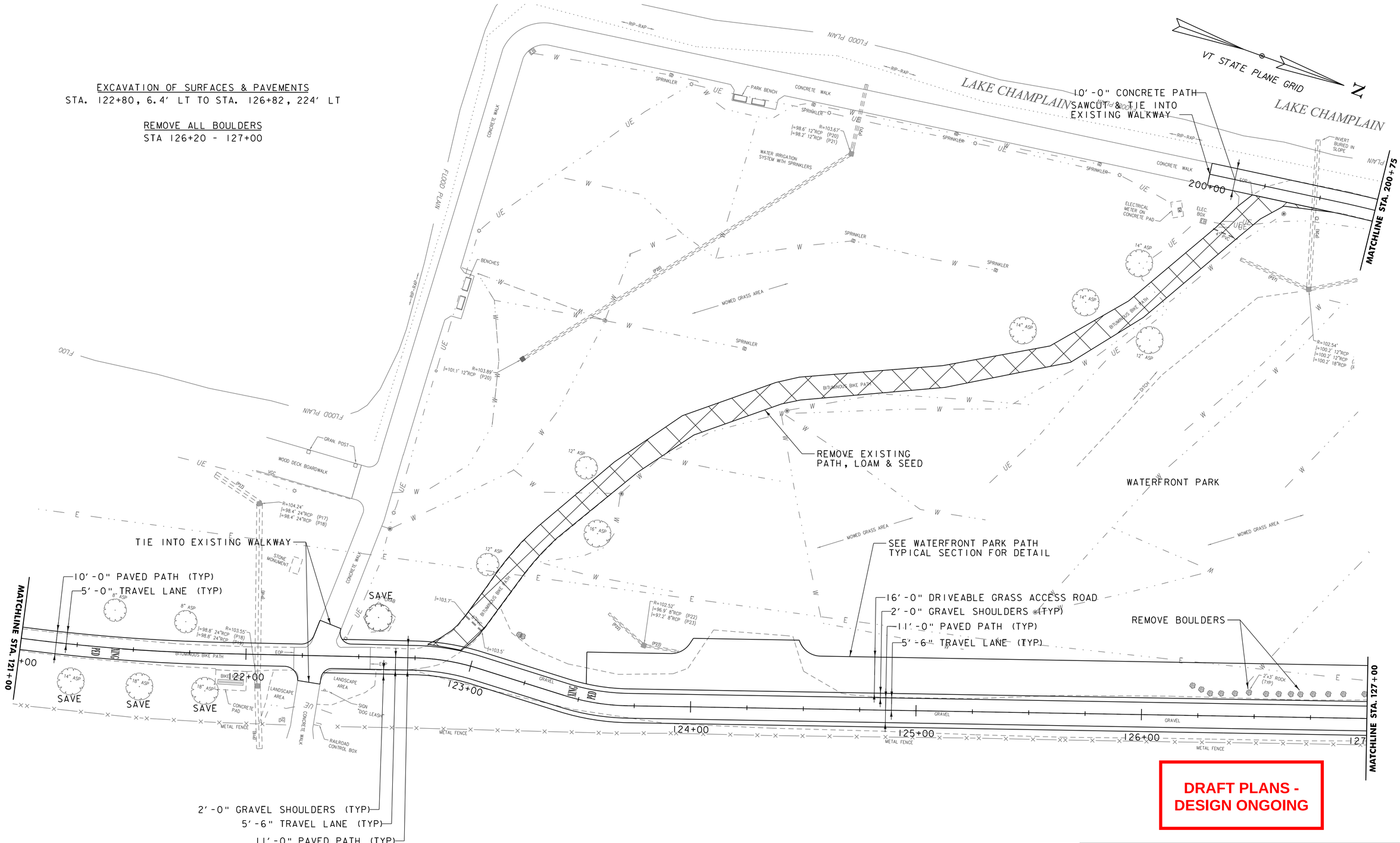
SCALE 1" = 20'-0"
20 0 20

VHB Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (4 OF 16)	SHEET 7 OF 19

EXCAVATION OF SURFACES & PAVEMENTS
STA. 122+80, 6.4' LT TO STA. 126+82, 224' LT

REMOVE ALL BOULDERS
STA 126+20 - 127+00



DRAFT PLANS - DESIGN ONGOING

SCALE 1" = 20'-0"
20 0 20

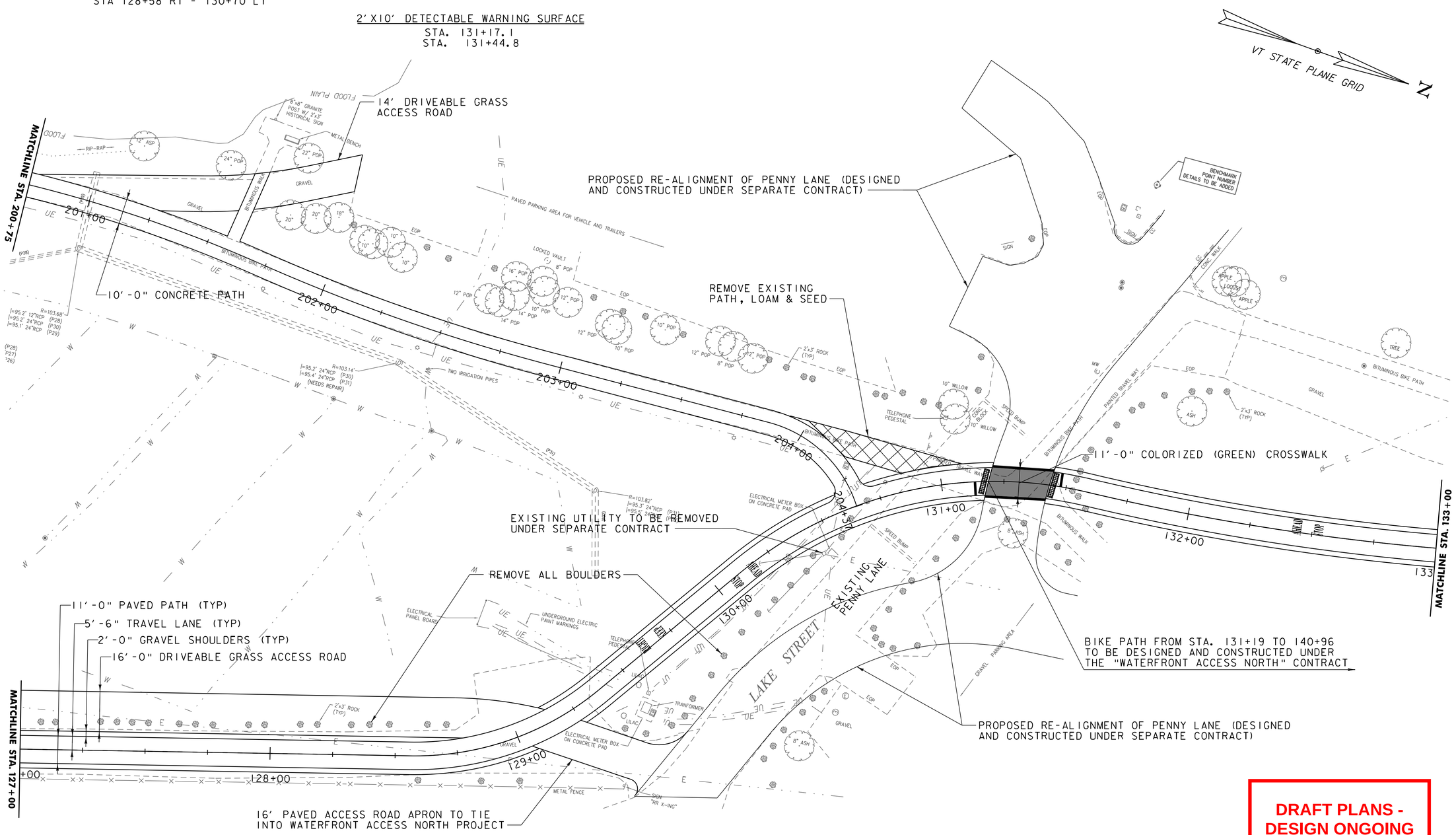
VHB Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (5 OF 16)	SHEET 8 OF 19

REMOVE ALL BOULDERS
STA 127+00 LT - 128+73 LT
STA 128+58 RT - 130+70 LT

EXCAVATION OF SURFACES & PAVEMENTS
STA. 130+55, 43.3' LT TO STA. 131+08, 7.5' LT

2'X10' DETECTABLE WARNING SURFACE
STA. 131+17.1
STA. 131+44.8

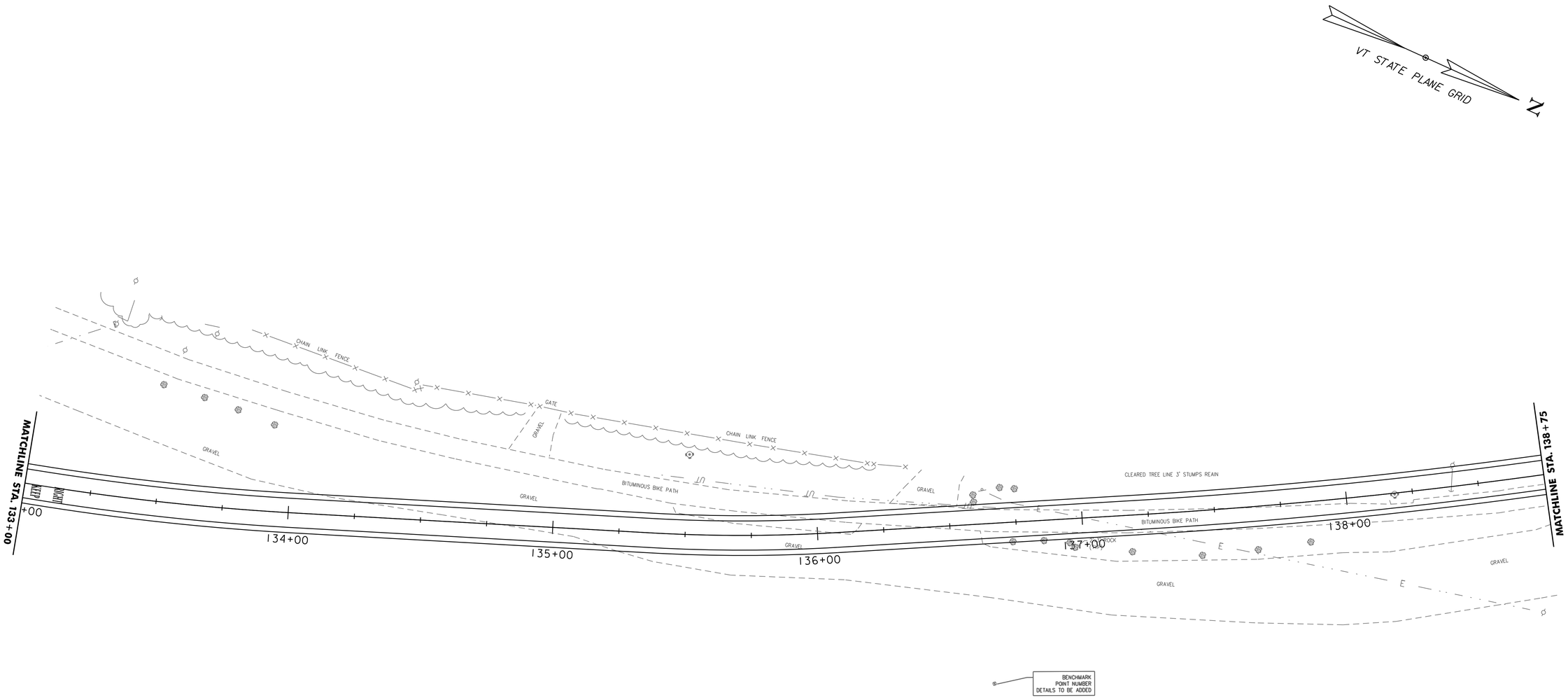


SCALE 1" = 20'-0"
20 0 20

DRAFT PLANS - DESIGN ONGOING

Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (6 OF 16)	SHEET 9 OF 19



DRAFT PLANS - DESIGN ONGOING

NOTE:

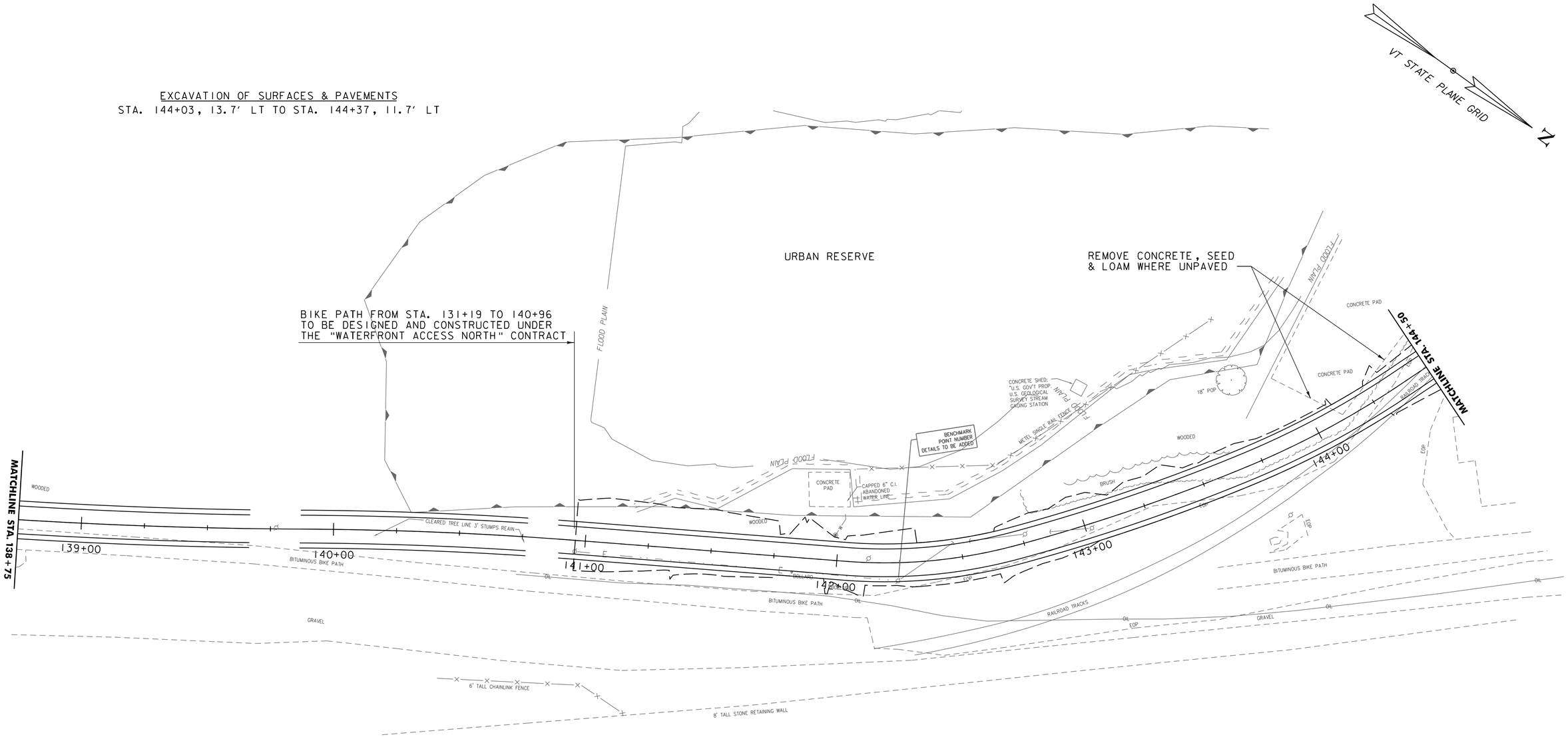
THE ENTIRETY OF THE BIKE PATH SEEN ON THIS LAYOUT SHEET IS BEING CONSTRUCTED UNDER THE "WATERFRONT ACCESS NORTH" CONTRACT. FOR THIS REASON, NO WORK IS BEING CALLED OUT ON THIS LAYOUT SHEET.

SCALE 1" = 20'-0"
20 0 20

Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (7 OF 16)	SHEET 10 OF 19

EXCAVATION OF SURFACES & PAVEMENTS
STA. 144+03, 13.7' LT TO STA. 144+37, 11.7' LT



DRAFT PLANS - DESIGN ONGOING

SCALE 1" = 20'-0"
20 0 20

Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (8 OF 16)	SHEET 11 OF 19

REMOVE FENCE
STA. 148+17 TO STA. 150+00

VT STATE PLANE GRID

N

REMOVE FENCE

URBAN RESERVE

GRANITE BOULDER PILE

WOODED

WOODED

MATCHLINE STA. 150+25

150+00

149+00

148+00

147+00

146+00

145+00

MATCHLINE STA. 144+50

2'-0" GRAVEL SHOULDERS (TYP)
5'-6" TRAVEL LANE (TYP)
11'-0" PAVED PATH (TYP)

EXISTING BURLINGTON DOG PARK

DOG PARK

DOG PARK

CHAIN LINK FENCE

CHAIN LINK FENCE

CHAIN LINK FENCE

SIGN "PICK UP YOUR DOG POOP WITH BAGS"

SIGN "DOG PARK RULES"

SIGN "DOG PARK INFO"

GATE

PATH

BENCHMARK POINT NUMBER DETAILS TO BE ADDED

BRUSH AREA

BRUSH AREA

PILE OF UTILITY POLES

BITUMINOUS BIKE PATH

BITUMINOUS BIKE PATH

GRAVEL

GRAVEL

GRAVEL

OIL

OIL

OIL

OIL

SHEET PILING

BROOK UP CONCRETE FOUNDATION

+100.7'

+101.0'

FLOOD PLAIN

FLOOD PLAIN

EDGE

EDGE

EDGE

BRUSH

RAILROAD TRACKS

CONCRETE PAD

E

DRAFT PLANS - DESIGN ONGOING

SCALE 1" = 20'-0"
20 0 20

Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (9 OF 16)	SHEET 12 OF 19

EXCAVATION OF SURFACES & PAVEMENTS
STA. 144+03, 13.7' LT TO STA. 144+37, 11.7' LT

REMOVE FENCE
STA. 152+50, RT TO STA. 153+15, RT

VT STATE PLANE GRID

MATCHLINE STA. 150+25

MATCHLINE STA. 155+50

151+00

152+00

153+00

154+00

155+00

2'-0" GRAVEL SHOULDERS (TYP)
5'-6" TRAVEL LANE (TYP)
11'-0" PAVED PATH (TYP)

REMOVE CONCRETE, SEED & LOAM WHERE UNPAVED

REMOVE FENCE

REMOVE CONCRETE, SEED & LOAM WHERE UNPAVED

2'-0" GRAVEL SHOULDERS (TYP)
5'-6" TRAVEL LANE (TYP)
11'-0" PAVED PATH (TYP)

WOODED
BRUSH
FLOOD PLAIN
CONCRETE RAMP
CONCRETE PAD
DOG PARK
SIGN "PICK UP YOUR DOG POOP WITH BAGS"
CHAIN LINK FENCE
GATE
BENCHMARK POINT NUMBER DETAILS TO BE ADDED
BITUMINOUS BIKE PATH
GRAVEL
OIL
PAVED AREA
BRUSH AREA
EOP
EOG
RAISED CONCRETE PAD
5' DIA BOULDER
WOODED AREA CLE.

DRAFT PLANS - DESIGN ONGOING

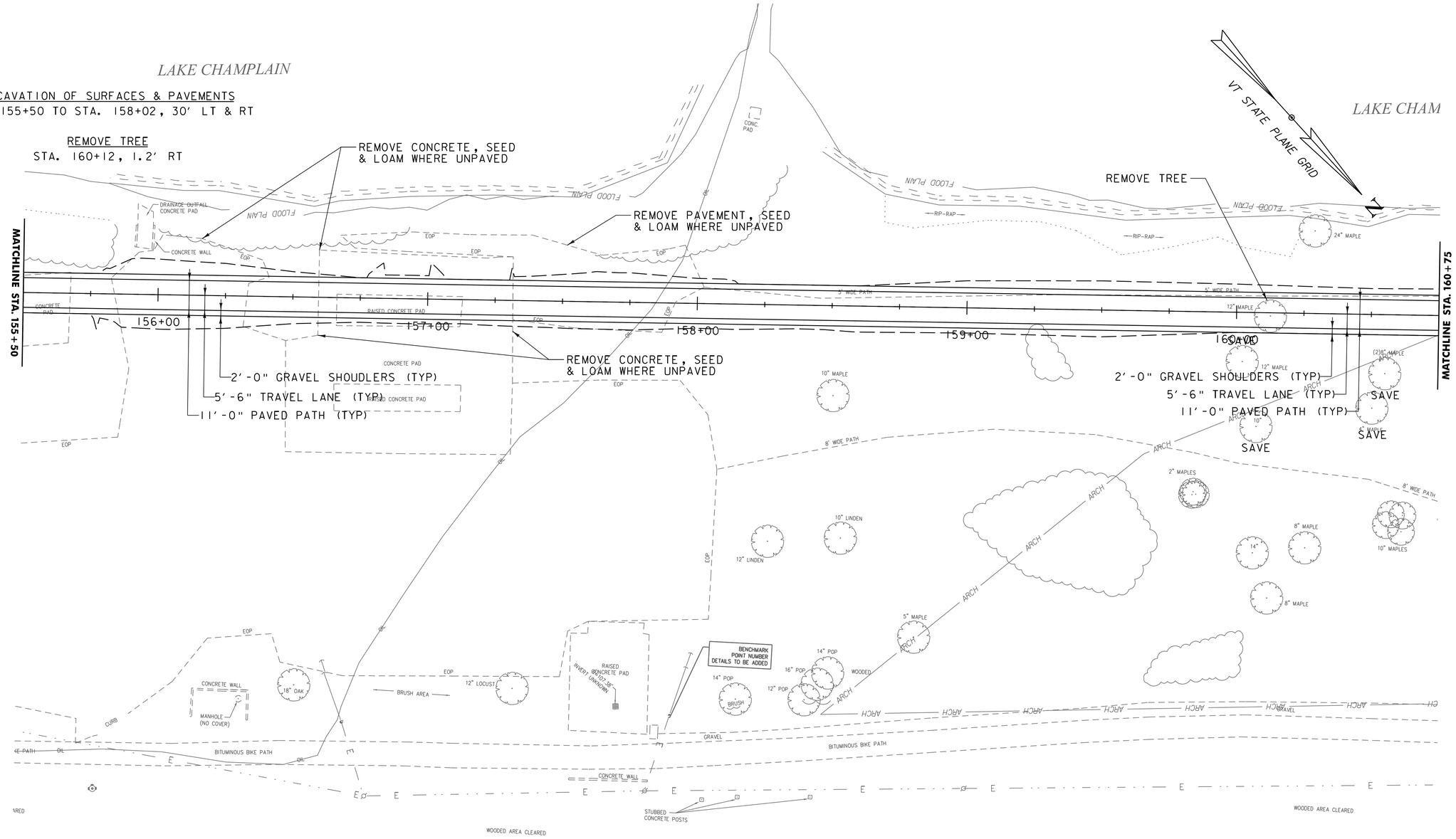
SCALE 1" = 20'-0"
20 0 20

Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (10 OF 16)	SHEET 13 OF 19

EXCAVATION OF SURFACES & PAVEMENTS
STA. 155+50 TO STA. 158+02, 30' LT & RT

REMOVE TREE
STA. 160+12, 1.2' RT

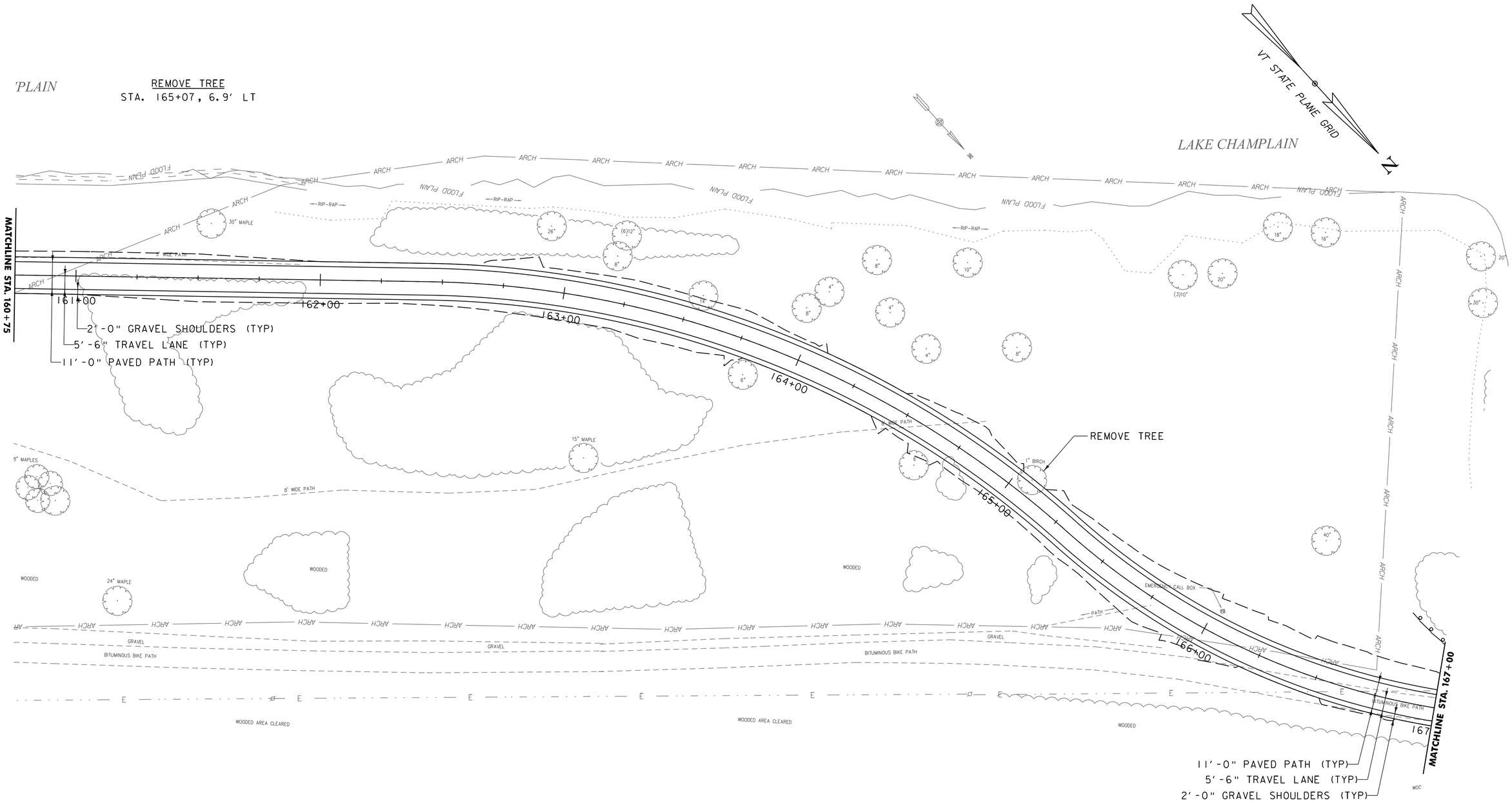


DRAFT PLANS - DESIGN ONGOING

SCALE 1" = 20'-0"
20 0 20

Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (11 OF 16)	SHEET 14 OF 19



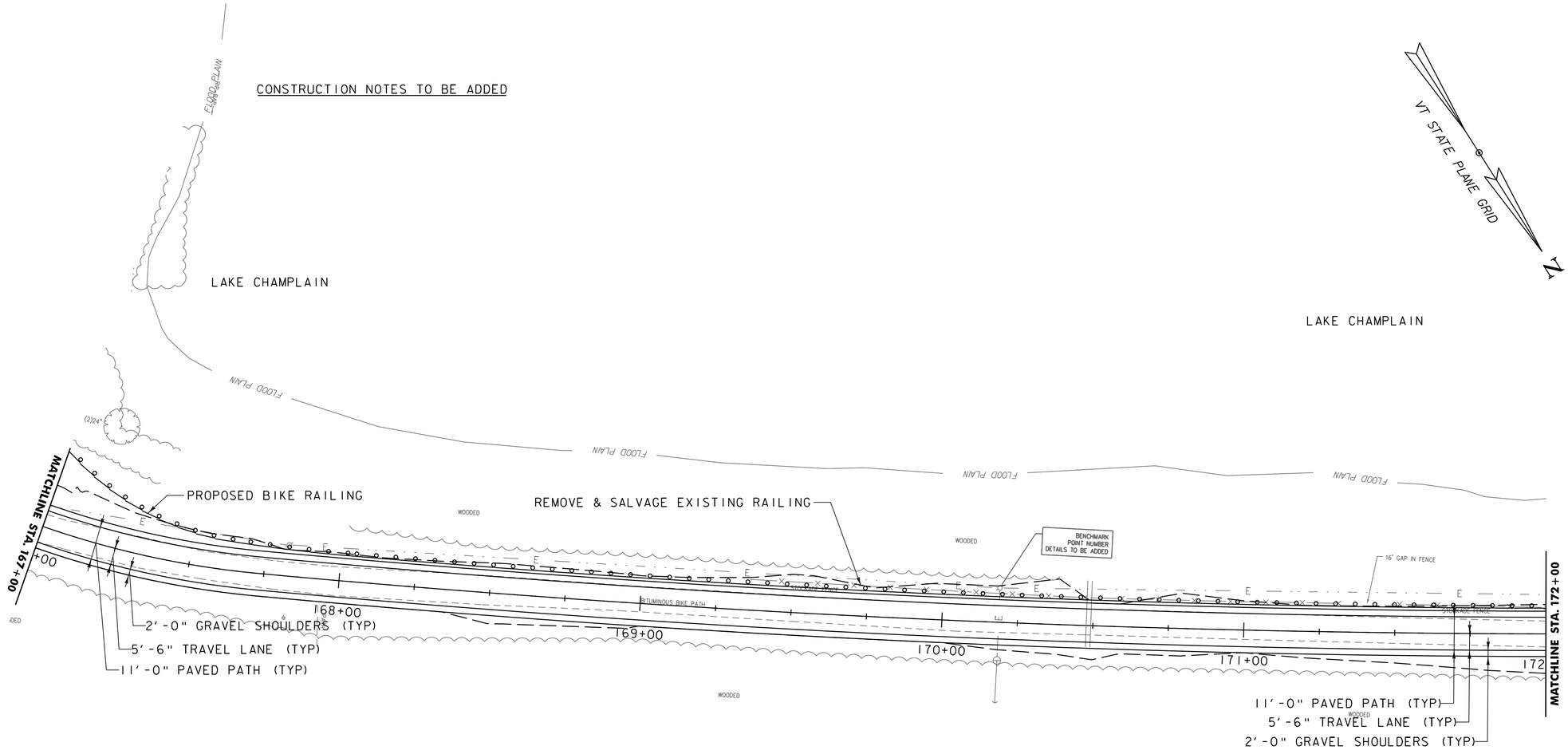
DRAFT PLANS - DESIGN ONGOING

SCALE 1" = 20'-0"
20 0 20

Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (12 OF 16)	SHEET 15 OF 19

CONSTRUCTION NOTES TO BE ADDED



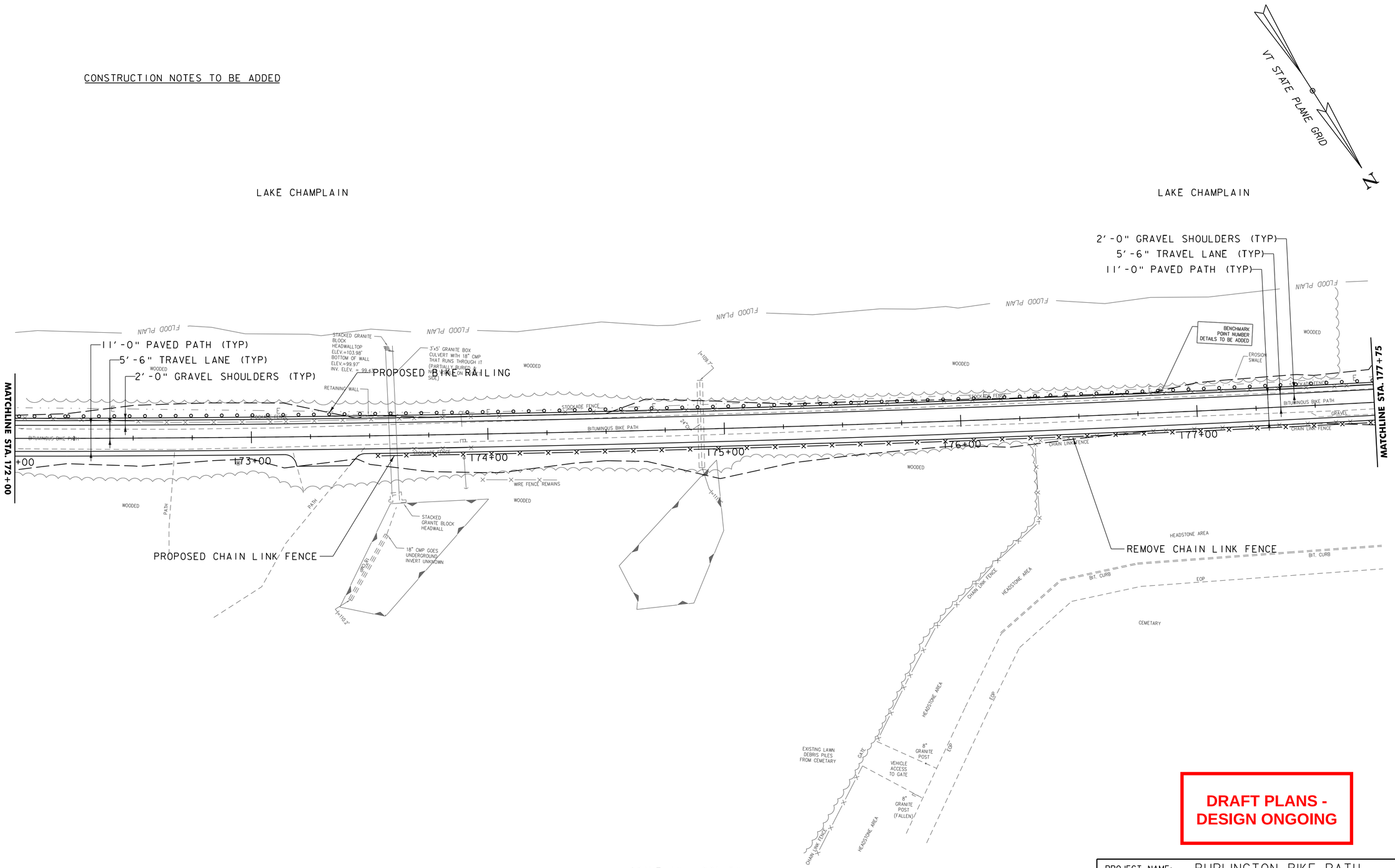
DRAFT PLANS - DESIGN ONGOING

SCALE 1" = 20'-0"
20 0 20

VHB Vanasse Hangen Brustlin, Inc.

PROJECT NAME: BURLINGTON BIKE PATH	
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (13 OF 16)	SHEET 16 OF 19

CONSTRUCTION NOTES TO BE ADDED



SCALE 1" = 20'-0"
20 0 20

DRAFT PLANS - DESIGN ONGOING

Vanasse Hangen Brustlin, Inc.

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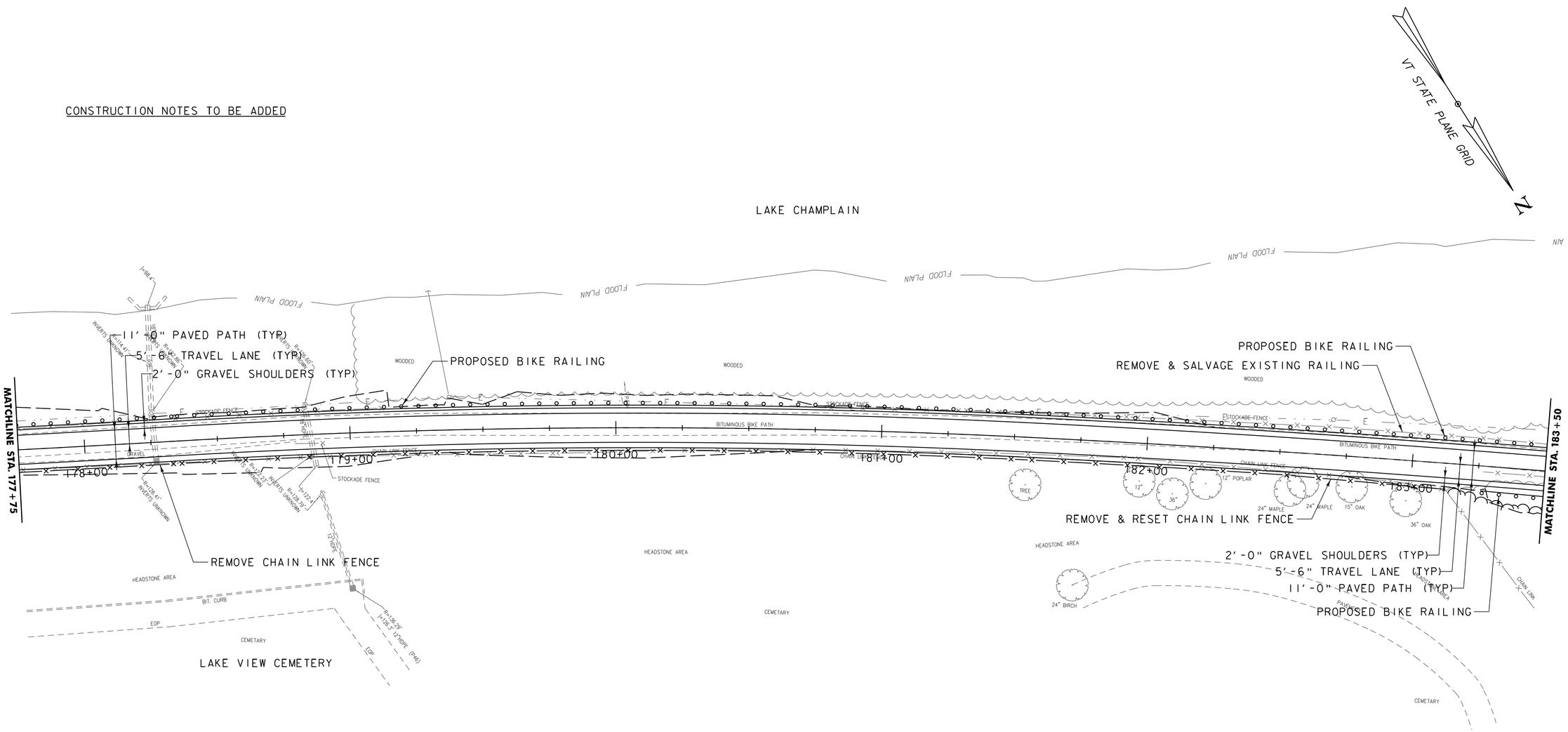
PROJECT NUMBER: 57634.00	
FILE NAME: z57634bdr_nul.dgn	PLOT DATE: 6/4/2014
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (14 OF 16)	SHEET 17 OF 19

CONSTRUCTION NOTES TO BE ADDED



DRAFT PLANS - DESIGN ONGOING

SCALE 1" = 20'-0"
20 0 20

Vanasse Hangen Brustlin, Inc.

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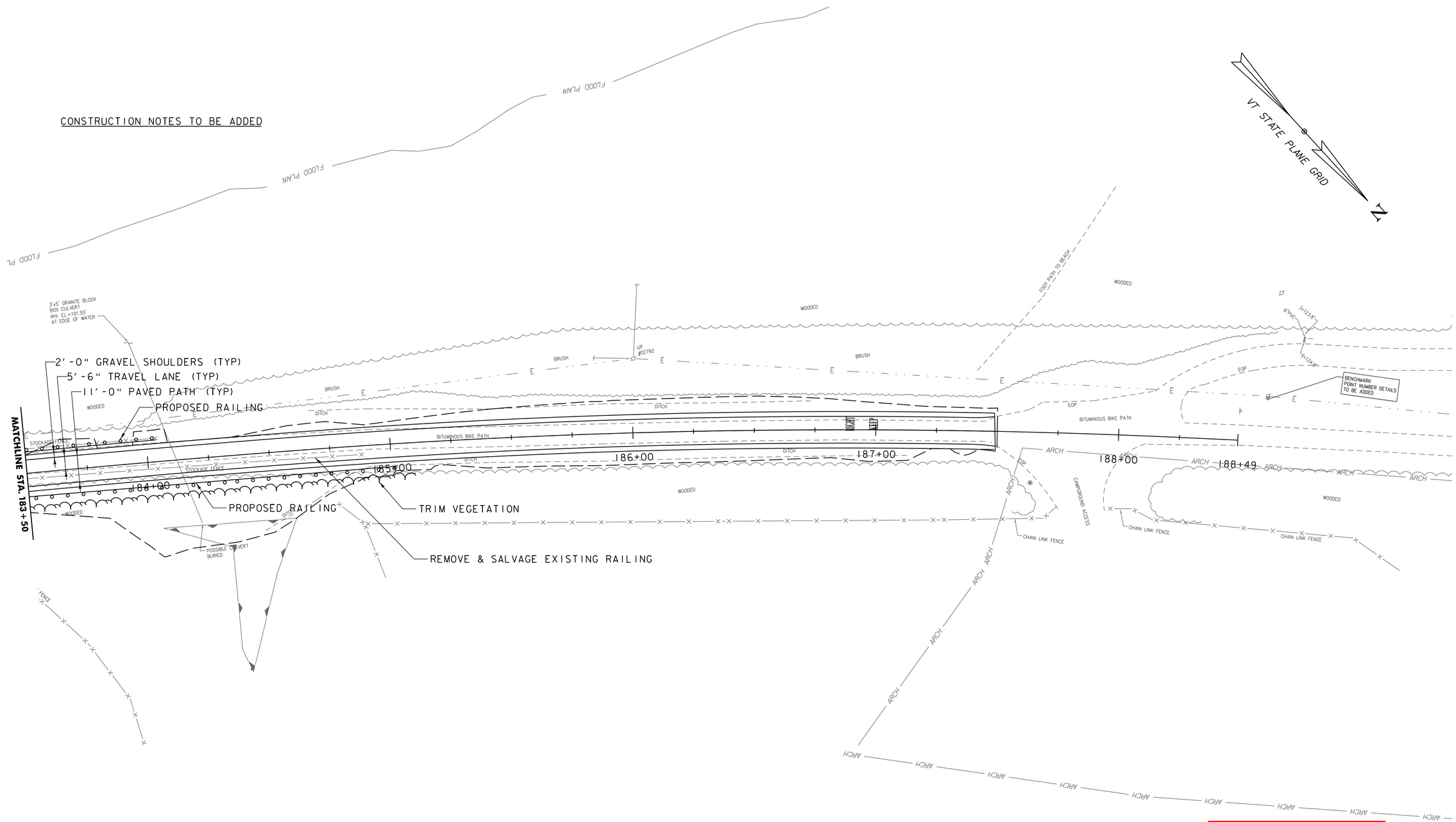
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (15 OF 16)	SHEET 18 OF 19

CONSTRUCTION NOTES TO BE ADDED



DRAFT PLANS - DESIGN ONGOING

SCALE 1" = 20'-0"
20 0 20

Vanasse Hangen Brustlin, Inc.

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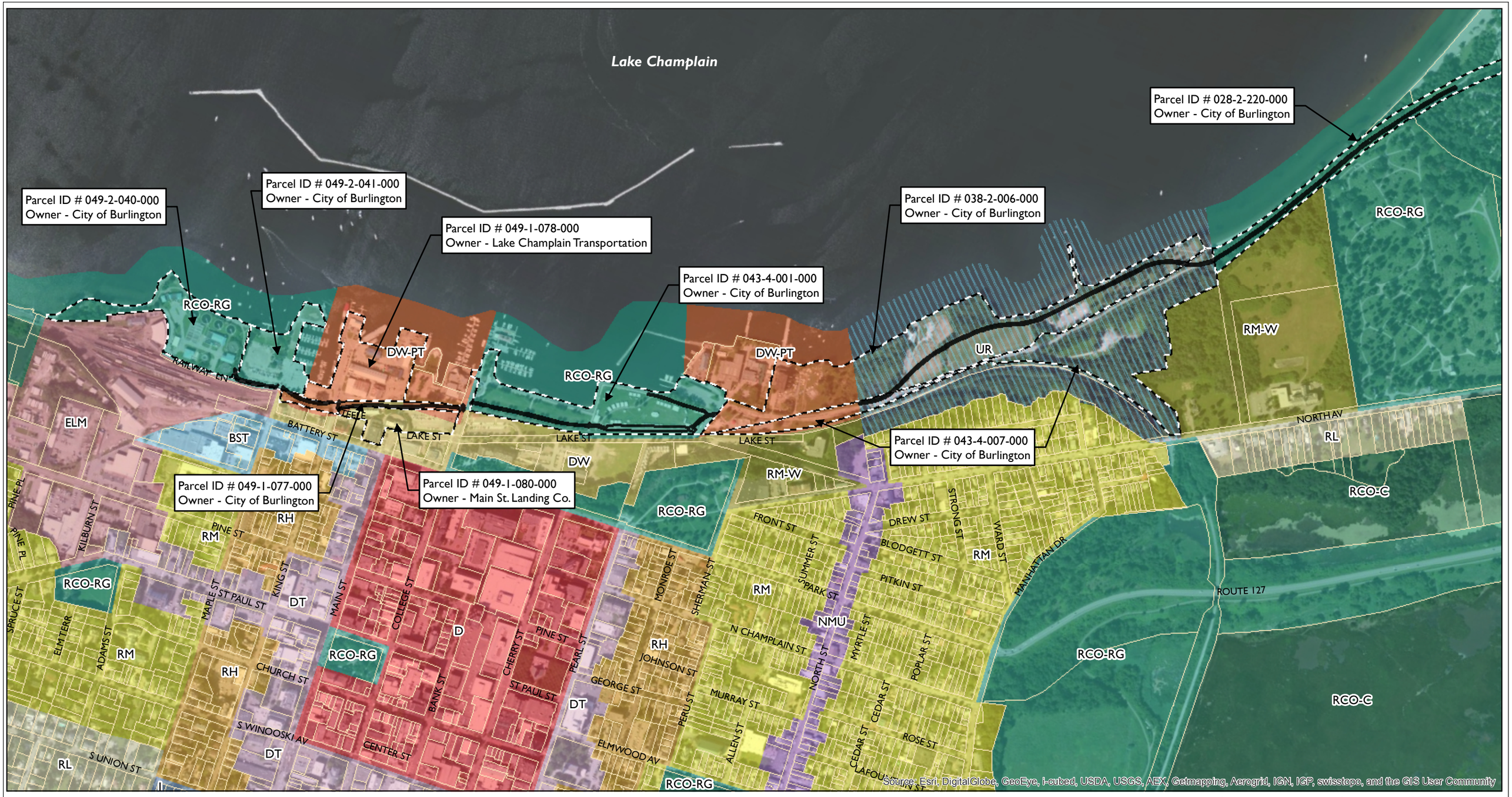
PROJECT LEADER: M.A. COLGAN	DRAWN BY: D.A. GINGRAS
DESIGNED BY: D.A. GINGRAS	CHECKED BY: M.A. COLGAN
LAYOUT VIEWS (16 OF 16)	SHEET 19 OF 19



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Proposed Phase One Construction Footprint
Parcels Intersected by Phase One of Construction
Parcel Boundary

Zoning - Base Districts

Mixed Use
- Downtown
- Downtown Transition
- Downtown Waterfront
- Downtown Waterfront - Public Trust
- Battery Street Transition
- Neighborhood Mixed Use
- Neighborhood Activity Center
- Neighborhood Activity Center - Riverside

Enterprise
- Enterprise - Agricultural Processing and Energy
- Enterprise - Light Manufacturing

Institutional
- Institutional

Residential
- Residential - High Density
- Residential - Medium Density
- Waterfront Residential - Medium Density
- Residential - Low Density
- Waterfront Residential - Low Density

Urban Reserve
- Urban Reserve

Recreation/ Conservation
- RCO - Agriculture
- RCO - Recreation/Greenspace
- RCO - Conservation

City of Burlington, VT
Bike Path Rehabilitation: Perkins Pier to North Beach
Zoning District Summary and Site Location Map

June 4, 2014

600 300 0 600 Feet

Sources: Background - ESRI Basemap (2012); Zoning base districts and parcel boundaries provided by the City of Burlington (2014); Roads data downloaded from VCGI (2013); Parcel Ownership from Burlington Grand List (2014)

VHB Vanasse Hangen Brustlin, Inc.

F:\57634.00\GIS\Project\11x17_Zoning_SiteLocation.mxd, Prepared by: jtherrien

DEPARTMENT OF PLANNING & ZONING

Burlington Bike Path Rehabilitation
Summary of Lot Coverage for Burlington Zoning Permit Application
First Phase of Construction - Perkins Pier to North Beach, Plus Physical Improvements in Waterfront Park

Prepared by VHB
Revised June 23, 2014

Parcel ID	Size of Parcel (sq. ft.)	Owner*	Bike Path Segment	Zoning District	Public Right-of-Way?*	Size of Parcel within Zoning District (sq. ft.)**	Allowable Lot Coverage (%)	Approximate Existing Lot Coverage (sq. ft.)	Approximate Existing Lot Coverage (%)	Existing Lot Coverage Combined with Proposed Improvements (sq. ft)***	Proposed Lot Coverage including Bike Path Improvements (%)	Notes
028-2-220-000	817,802	State of Vermont (leased by City)	Texaco Beach to North Beach	RCO - Recreation/Greenspace	YES	381,149	N/A	N/A	N/A	N/A	N/A	Public Right-of-Way, not subject to Zoning Restrictions
038-2-006-000	905,768	City of Burlington	WAN (not applicable)	Downtown Waterfront - Public Trust	No	245,999	100%	--	--	--	--	--
			Urban Reserve	Urban Reserve	No	659,767	0%	6,818	1.0%	6,818	1.0%	Final plans to specify which existing surfaces will be removed to ensure no net increase in lot coverage.
043-4-001-000	465,785	City of Burlington	Waterfront Park	RCO - Recreation/Greenspace	No	389,102	25%	72,270	18.6%	74,610	19.2%	Below threshold.
043-4-007-000	648,455	City of Burlington	WAN (not applicable)	Downtown Waterfront - Public Trust	No	76,450	100%	--	--	--	--	--
			Urban Reserve	Urban Reserve	No	571,997	0%	74,991	13.1%	74,991	13.1%	Final plans to specify which existing surfaces will be removed to ensure no net increase in lot coverage.
049-1-077-000	59,417	State of Vermont (leased by City)	Perkins Pier to College St	Downtown Waterfront	YES	10,656	N/A	N/A	N/A	N/A	N/A	Public Right-of-Way, not subject to Zoning Restrictions
			Perkins Pier to College St	Downtown Waterfront - Public Trust	YES	48,762	N/A	33,721	N/A	N/A	N/A	Public Right-of-Way, not subject to Zoning Restrictions
049-1-078-000	258,424	Lake Champlain Transportation	Perkins Pier to College St	Downtown Waterfront - Public Trust	No	258,424	100%	241,513	93.5%	241,254	93.4%	Below threshold.
049-1-080-000	117,798	Main St. Landing Co.	Perkins Pier to College St	Downtown Waterfront - Public Trust	No	16,187	100%	16,103	99.5%	16,185	100.0%	At threshold.
049-2-040-000	311,047	City of Burlington	Perkins Pier to College St	RCO - Recreation/Greenspace	No	311,048	5%	154,372	49.6%	154,371	49.6%	Wastewater Treatment Plant
049-2-041-000	178,889	City of Burlington	Perkins Pier to College St	RCO - Recreation/Greenspace	TBD	178,726	70%	118,041	66.0%	118,035	66.0%	Below threshold.

Assumed public right of way

* Parcel ownership and public righ-of-way are currently being confirmed. Responses are subject to change.

** For Waterfront Park, the value provided is the area of park limits within the parcel boundaries.

*** For Waterfront Park, calculation of lot coverage excludes driveable grass per zoning amendment and includes lot coverage reduction attributable to removal of diagonal path in Event Grounds.
For the Urban Reserve, the City understands that, per Zoning Ordinance, there is to be no net increase in lot coverage. Values provided are subject to change.