High Street (Route 209) Sidewalk Feasibility Study, WIN 27474.00

CITY OF BATH & MAINE DEPARTMENT OF TRANSPORTATION
DECEMBER 9, 2024

GORRILL PALMER
An LJB Engineering Company

FINAL REPORT

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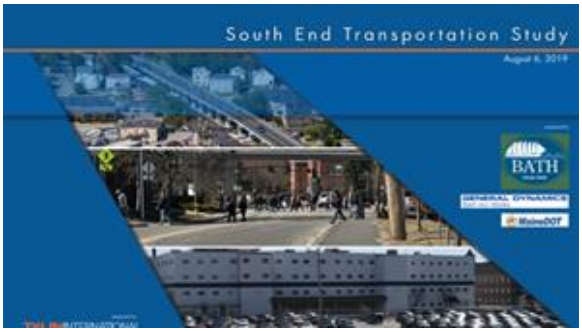
Acknowledgements

Gorrill Palmer would like to thank the City of Bath, the Maine Department of Transportation and the General Public for their tremendous contributions and assistance in the completion of this study.

Executive Summary

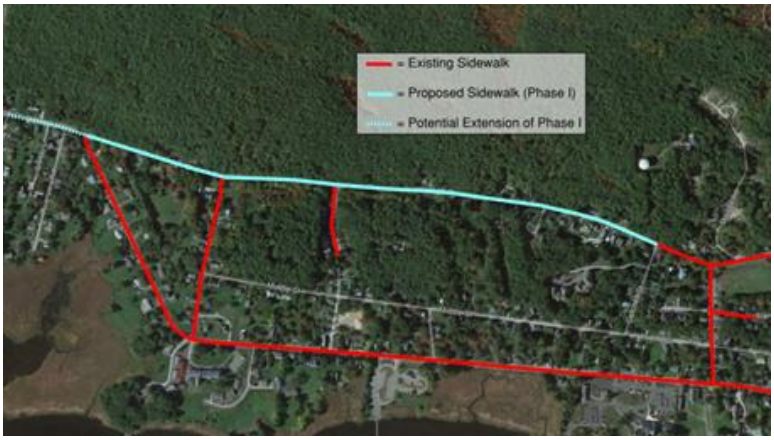
This study focuses on pedestrian improvements along High Street (Route 209) in Bath, Maine. The purpose of this study is to better understand the feasibility, impacts, costs, and potential project phasing (if applicable) to add an American with Disabilities Act (ADA) compliant sidewalk on High Street from Getchell Street to Graffam Way (approximately 0.85 miles). The limits of the project were later extended approximately 0.38 miles south of Graffam Way to Bridge Street (and the Winnegance Restaurant and Bakery). This study will serve to extend the existing pedestrian infrastructure, connect multiple sections of sideroad sidewalks that are currently dead ended at High Street (Ledge View Lane, Lemont Street, Webber Avenue, and Bridge Street), as well as connect neighborhood streets that are currently isolated from the city's pedestrian network (Graffam Way, Breezy Lane, and Riverview Road). This study considers the implications of constructing a sidewalk along both the east and/or west side of the road. Based on the initial site visit with the study team, it was determined that due to existing site constraints, the study should focus on locating the sidewalk on the east side of the road.



There has been one previous study completed within this area of Bath, which was the South End Transportation Study. Despite this study's partial overlap in project limits, it primarily focused on reducing conflicts between vehicles and pedestrians associated with Bath Iron Work's workforce in Bath's South End neighborhood (the area east of High Street from Route 1 to Webber Avenue). The study does briefly mention the need for pedestrian connectivity along the east side of High Street from Getchell Street to Webber Avenue. It also notes that there is demand for a sidewalk on the east side of High Street south of Webber Avenue, however, this was outside the limits of their study area.

High Street is a relatively narrow two-lane roadway section, classified as a major collector and corridor priority 3 with a posted speed limit of 30 MPH and a factored AADT of approximately 5600 vehicles. High Street serves as the main access route to Phippsburg as well as Popham Beach in the summer. In addition, it provides the only access to the Lilly Pond Community Forest trailhead. The existing roadway is approximately 24'-26' wide (including paved shoulders) with trees, utility poles, fences, ledge (westside), and vegetation within proximity to the edge of pavement. There are no high crash locations within the study limits, however, based on 2023 traffic volume and vehicle speed data provided by the City of Bath along this section of High Street; 85th percentile vehicle speeds are 5-10 mph above the posted speed limit. As a result, pedestrians tend to walk along the edge of the pavement or re-route down sideroads such as Webber Avenue to avoid the additional stresses posed by vehicles along High Street.

As determined during the initial site visit, the original concept plan featured a sidewalk along the east side of High Street with three mid-block crossings proposed at key crossing locations. The project was broken down into four sections (potential phases) based on where pedestrian connections could be made. Each section was then reviewed for key improvements, challenges, as well as environmental, right of way, and utility impacts at a planning level. This information was documented in the comparative analysis (Appendix C). Through the process, it was noted that in two of the four sections, there were a considerable number of "potential" permanent right of way impacts resulting from the construction of a sidewalk. As a result, alternate concept plans were developed for those two sections, which placed the sidewalk on the west side of High Street. This change reduced the "potential" right of way impacts but were plagued by other design challenges. The alternate concept plans were added into the plan set and included within the comparative analysis.



In addition to the concept plans, cost estimates for each section (including the two alternate sections) were generated. After comparing the options and weighing the benefits and associated challenges, the study team recommends the implementation of a sidewalk along the east side of High Street from Getchell Street to Webber Avenue (0.74 miles). In addition, there is a 100' gap in the sidewalk along Lemont Street that will need to be constructed as part of this project to fully connect to existing pedestrian infrastructure. This option provides pedestrian connections to Ledge View Lane, Lemont Street, the Lilly Pond Community Forest, the KELT community garden, and Webber Avenue. This will complete the pedestrian network in the South End neighborhood and provide numerous walking loops for pedestrians.

The final section, from Webber Avenue to Bridge Street, should be considered as a second phase to the project, as it completes the sidewalk network down to the Winnegance Creek Bridge (Bridge Street) and connects into the existing sidewalk in that area. It was not recommended for inclusion in the first phase of the project as it nearly doubled the overall cost of the project. Moreover, aside from the connections it provides to Riverview Road, Breezy Lane, and Graffam Way, it does not provide the same overall pedestrian connection/benefits as the sections recommended for phase I.

Consideration should be given to the inclusion of the sidewalk from Webber Avenue to Graffam Way (approximately 500') as part of phase I. This would serve to connect three neighborhood streets into the city's overall pedestrian network. However, since there are no sidewalks along any of these streets, it would create a dead-end section of sidewalk that requires pedestrians to turn around, which may be acceptable for an interim condition.

The study team has developed opinions of probable construction costs for each of the sections analyzed as part of the study. Construction costs are the costs needed to build the project. Using the conceptual layouts developed for each of the sections, preliminary quantities have been calculated, and construction costs have been estimated using Maine DOT average unit pricing and pay items. Work assumes a sawcut and widen approach to the project with slipform concrete curb and bituminous sidewalk as well as signing, striping, and drainage improvements. A 20% contingency has been added to each of the construction cost estimates. The construction costs are presented in 2024 dollars and no escalation to future years has been included. The construction cost estimate for the recommended option (Phase I - from Getchell Street to Webber Avenue) is $1,486,000.

Phase 1 - Opinion of Probable Construction Costs - Concept Plans			
Section 1 - 0.42 Miles	Section 2 - 0.14 Miles	Section 3 - 0.18 Miles	Total - 0.74 Miles
Getchell St to Ledge View Ln	Ledge View Ln to Lemont St	Lemont St to Webber Ave	Getchell St to Webber Ave
$ 796,000.00	$ 278,000.00	$ 412,000.00	$ 1,486,000.00

Total project cost is a Maine DOT term that includes not only the construction costs, but also the engineering costs, inspection costs, and right of way costs associated with the project. For purposes of this project, engineering costs and inspection costs have been estimated at approximately 10% of the construction costs (each). Right of way costs are based on anticipated property impacts and the potential acquisition of land that may be needed for the project. The conceptual total project cost for the recommended option is $1,894,600.

Introduction

The City of Bath, in partnership with the Maine Department of Transportation, requested this feasibility study along High Street (Route 209) in Bath, ME. The primary scope of work of this study is to identify the costs, impacts, and constraints of constructing a new sidewalk on Route 209 within the study area. The effort will include coordination with the client team, including representatives from the City of Bath and Maine DOT and will include review, planning, engineering analysis and recommendations on the best location of the sidewalk along Route 209. We will identify project constraints, highway needs, and costs, as well as drainage improvements to High Street directly attributable to a sidewalk. As part of the study, the team will identify sections of sidewalk that can be constructed altogether as one project, as well as individual projects that can be spread over a few years. This will provide the City of Bath with flexibility when planning these pedestrian infrastructure improvements.

The original limits of the study included an approximately 0.85 mile stretch of High Street beginning at Getchell Street and extending south to Graffam Way. On October 10, 2023, the study team (the City of Bath, Maine DOT, and Gorrill Palmer) held a kick-off meeting via Zoom to discuss the project. During this meeting, the proposed project limits, specifically the southern end, were discussed. It was noted by the city that there are existing sections of sidewalk as well as a destination (restaurant/bakery) located at the intersection of High Street and Bridge Street roughly 0.4 miles south of Graffam Way. The decision was made to extend the project limits south to connect to the existing Bridge Street sidewalk.

The project was split up into four sections or phases depending on what the City of Bath/Maine DOT had for available funding. The sections should be constructed in numerical order (starting at Getchell Street) but can be combined as required depending on available funding.

Section 1 – Begins at the recently constructed section of sidewalk located at the northeast corner of the High Street/Getchell Street intersection and extends south approximately 0.42 miles to the existing sidewalk at Ledge View Lane. Ledge View Lane has a pedestrian path that connects down to Washington Street via Robinson Street. Please note that Ledge View Lane is privately owned and may not be amenable to walkers utilizing their internal sidewalk.

Section 2 – Begins at Ledge View Lane and continues south approximately 0.14 miles to the existing sidewalk on Lemont Street. Please note that the existing sidewalk along Lemont Street currently dead ends approximately 100’ short of High Street. We recommend extending the sidewalk on Lemont Street as part of this section of the project to create a complete connection to the existing infrastructure.

Section 3 – Begins at Lemont Street and continues south 0.18 miles to the existing sidewalk located on the east side of Webber Avenue. As part of this section, Webber Avenue will be re-aligned (narrowed) to create a more defined T-intersection which will reduce speed from northbound traffic turning onto Webber Ave. This section also includes the reconstruction of approximately 200' of curb and sidewalk along Webber Avenue to complete/install the closed drainage system required for the project.

Section 4 – Begins at Webber Avenue and extends south approximately 0.49 miles to Bridge Street. This section includes a mid-block crossing at Bumpy Hill Road. Sidewalks are proposed on both sides of High Street south of Bumpy Hill Road. The intent is to replace the existing sidewalks that are present at this location. The proposed sidewalk on the east side of High Street will connect to the existing sidewalk present on the Winnegance Creek bridge. The proposed sidewalk west of High Street will extend to the street entrance to the Winnegance Restaurant and Bakery.

In total, the study area includes roughly 1.23 miles of sidewalks that will serve to enhance and connect the existing pedestrian infrastructure within the south end neighborhood in Bath, Maine.

Previous Studies

To gain a thorough understanding and form a complete picture of the corridor, Gorrill Palmer collected background information and prior studies (supplied by the City of Bath) to identify previous recommendations. There was one study completed that was specifically relevant to this study. The 2019 South End Transportation Study was completed by T.Y. Lin in coordination with the City of Bath, the Maine DOT, and Bath Iron Works. The study looked at pedestrian and vehicle conflicts within the entire south end neighborhood which includes the section of High Street from Getchell Street to Webber Avenue. This area as well as the area south of Webber Avenue were flagged as missing sections to the overall pedestrian network. The information, conclusions, and recommendations provided in that study were considered in the completion of this study.

Existing Conditions

On October 23, 2023, the study team met onsite to walk the limits of the project. The intent of the site visit was to view the project, review existing conditions along both sides of High Street, understand potential challenges, and locate walkable destinations within the project limits. Observations during the site visit include:

Roadway Geometry

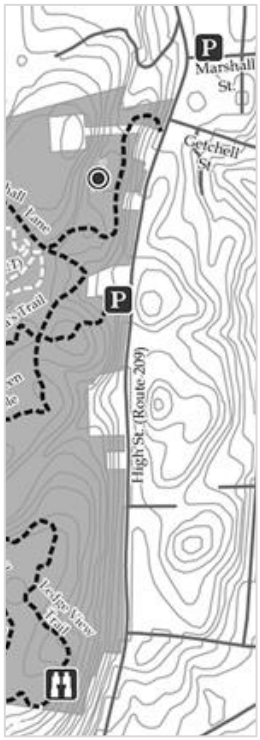
- High Street is relatively narrow, it appeared to have a paved width of approximately 26' with 11' travel lanes and 2' paved shoulders on either side. Outside the edge of pavement, the existing ground sloped away to varying degrees, forcing the team to walk on the 2' shoulder adjacent to traffic.
- The roadway winds back and forth along the base of a hill on the west side of High Street. Long stretches of relatively flat curves are interspersed with 2-3 sharper curves that provide poor sight distances for vehicles.

- The existing vertical profile is best described with the term "rolling terrain" as it is constantly varying and provides numerous changes in elevation.
- Vehicle speeds seem to be more than the 30 MPH speed limit.
- Webber Avenue is skewed and allows vehicles traveling northbound on High Street to make the turn with little to no speed reduction. The skew of the intersection would also create a longer crossing distance for pedestrians if there was sidewalk infrastructure.

Geographical Notes (Westside)

- There is a large heavily wooded hill for most of the project limits. The hill begins ascending within a few feet of the existing edge of pavement.
- There appears to be a large amount of ledge within the hill. There is visible ledge out crops scattered throughout most of the project.
- Houses appear to be located closer to the road and/or have vertical structures such as stairs and retaining walls due to the hill's grade differential with the road.
- There is an existing shallow drainage swale that runs along the base of the hill in sections of High Street where the roadway grade is steeper.
- The city noted a few areas that washout in big storms due to inadequate ditching.
- There is an existing closed drainage system present in sections 1 and 4.
- There are many mature trees along the edge of the road that would need to be removed to make room for a sidewalk.

Geographical Notes (Eastside)



- With exception to the hill located approximately 0.2 miles north of Ledge View Road (the Lilly Pond Community Forest trailhead and parking area), the existing ground falls away from the road.
- There are two areas where an existing ledge outcrop can be seen from the road.
- Houses appear to be located further back from the road, and many have drainage swales to help direct runoff away from houses.
- There is an existing closed drainage system present in section 1.
- There is an existing closed drainage system on Webber Avenue.
- There are many mature trees (significantly less than the west side) along the edge of the road that would need to be removed to make room for a sidewalk.
- There were two areas (within 500' either side of Ledge View Lane) that were noted as potential wetlands.
- Existing guardrail modifications will be required to provide adequate space for a sidewalk.

Pedestrian Infrastructure

- Marshall Street (one block north of the project limit) has an existing sidewalk on the south side of the road that currently dead ends approximately 200' short of High Street.
- The existing mid-block crossing to the Lilly Pond Community Forest trail (located just south of Getchell Street) is inadequately signed and does not provide a tip down for the existing sidewalk on the east side nor a landing area on the west side of High Street.
- There are three existing pedestrian facilities on side roads (Ledge View Lane, Lemont Street, and Webber Avenue) that are currently dead ended at High Street.
- There is a need for safe pedestrian access to the Lilly Pond Community trailhead and parking area located approximately 0.2 miles north of Ledge View Lane. This area has a ledge outcrop on the east side that will need to be removed to provide adequate stopping sight distance for a mid-block crossing.
- Lemont Street has an existing sidewalk on the south side of the road that currently dead ends approximately 100' short of High Street.
- A pedestrian path along High Street would create pedestrian access to the KELT local garden on Lemont Street.

- The three side roads just south of Webber Avenue (Riverview Road, Breezy Lane, and Graffam Way) are all dead-end roads with no pedestrian access to each other or the pedestrian infrastructure along Webber Avenue.
- There are no warning signs relating to the potential presence of pedestrians or pedestrian crossing locations within the project limits.

Bicycle Infrastructure

- The existing roadway shoulder (+/-2') is too narrow for cyclists. Cyclists are likely forced to ride, at least partially, within the existing roadway alongside vehicles.
- There are no existing "bike lanes" along either side of High Street for the entirety of the project limits.
- In section 4, from Bridge Street to roughly 100' north of Bumpy Hill Road, shoulders of 5' or greater are present along both sides of the road.
- In the northbound direction, at the location noted above, there is a roadway narrows sign followed by a share the road sign. There are no other existing bicycle or pedestrian signs within the project limits.
- There were no sharrows (newly striped or faded) that were visible along High Street.

Miscellaneous Notes

- Existing utility poles are located primarily on the westside of High Street through sections 2, 3, and 4, and on the eastside of High Street in section 1.

Based on the culmination of these field observations, the study team concluded that the project should propose the sidewalk on the east side of High Street. Factors that influenced this decision include better pedestrian connections, fewer mid-block crossings, minimized impacts to existing ledge, reduced impacts to existing mature trees, and reduced impacts to existing aerial utilities.

Crash History

Gorrill Palmer obtained the most recent three-year collision data for the study area from the Maine DOT for the period of 2021-2023, the most recent period available at the time this study was started. To determine whether a location has a high incidence of crashes, Maine DOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met to be classified as an HCL.

1. A critical rate factor (CRF) of 1.00 or more for the most recent three-year period. The CRF compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a crash rate that is not significantly above the average.
2. A minimum of eight crashes over the same three-year period.

The study team reviewed existing crash history within the project limits and found that no high crash locations existed.

Summary of Options

To provide the City of Bath with optimal flexibility, the project was divided into four sections (as identified in the introduction). These sections can be carried out as individual projects in a phased approach to construction or be combined into larger projects depending on available funding. Based on the initial site visit conducted by the study team, there was a strong preference for the sidewalk to be shown on the east side of High Street. Thus, the initial concept plans were prepared showing a 5.5’ wide sidewalk along the east side of High Street. Through our internal review process, it was discovered that there were portions of the sidewalk (in sections 3 and 4) that would require permanent right-of-way easements, which could be avoided if the sidewalk was relocated to the west side of High Street. The team proceeded to develop alternate concept plans which maintained sections 1 and 2 (without change) and called for the sidewalk to be transitioned to the west side of High Street in sections 3 and 4. Below, is a summary of both the Concept Plans as well as the Alternate Concept Plans.

Concept Plans (Sections 1-4)

The City of Bath recently constructed a new bituminous sidewalk with concrete curb along the east side of High Street beginning at Marshall Street and terminating at the northern corner of the High Street/Getchell Street intersection. The intent of this study is to match into the recently constructed sidewalk and continue south within the project limits. It is worth noting that there is an existing 5’ wide bituminous sidewalk with bituminous curb along High Street, south of Getchell Street, that runs for approximately 150’ before terminating at a driveway. This section of sidewalk is in poor condition, with large cracks in the pavement and minimal curb reveal along its limits. This existing section of the sidewalk will be replaced as proposed by this study. The proposed 5.5’ bituminous sidewalk with slipform concrete curb will continue southward from its northern limits for approximately 1.23 miles until it reaches the Winnegance Creek Bridge (Bridge Street) where it matches into the existing sidewalk.

ADA compliant mid-block crossings are proposed at the following three locations:

- **Location #1 –** Approximately 25' south of Getchell Street there is an existing mid-block crossing that connects the existing sidewalk to the Lilly Pond Community Forest trail system.
- **Location #2 –** Approximately 1,100' north of Ledge View Lane there is a trailhead and parking area, on the west side of High Street, for the Lilly Pond Community Forest. The project proposes to construct a mid-block crossing, with additional sidewalk on the west side of High Street, to allow pedestrians access to the trail system.
- **Location #3 –** Approximately 100' south of Bumpy Hill Road there is a proposed mid-block crossing that would connect the sidewalks on both sides of High Street. Ideally the mid-block crossing would be located further south, closer to the intersection of High Street and Bridge Street but due to the existing roadway's geometry, it is proposed further north.

All three of the proposed mid-block crossings will be made ADA compliant with rectangular rapid flashing beacon assemblies, new approach signage, and oversized striped crosswalks to improve visibility. Due to existing roadway geometry, the team reviewed stopping sight distance at each of these locations. Location #2 may require ledge removal along the back side of the sidewalk in order to meet the required crosswalk sight distances, but locations 1 and 3 should work with only minor clearing.

The east side of High Street is comprised mostly of private residences with driveways and forested areas. The existing driveways will be reconstructed and made ADA compliant with curb tip downs and a 1.5% shelf to ensure water remains in the roadway gutter. Access management and driveway openings were reviewed throughout the corridor to ensure compliance with Maine DOT standards. There are numerous mature trees that are located within the roadway clear zone that have been identified for removal as part of this project.

In general, the proposed sidewalk would be in a fill condition that would permit water behind the sidewalk to run away from the road as it would in the existing condition. Water that falls within the roads pavement footprint would be channeled into the proposed closed drainage system along the new curbline. The closed drainage system will outlet into low areas within the project limits (potential wetlands) and/or be connected to the existing closed drainage systems within the project. Additional review of existing closed drainage systems will be required during the design phase to ensure that they are able to handle the additional flow.

The intersection of Webber Avenue and High Street is skewed and allows vehicles traveling north on High Street to make the turn onto Webber at higher speeds. The project proposes to modify the intersection by realigning

Webber Ave and narrowing the curb opening to create a more pronounce T intersection. These geometric improvements will reduce vehicle speeds turning onto Webber Avenue and will reduce the pedestrian crossing distance at the intersection.

There are two sections of existing guardrail in section 4, at the south end of the project, by Bridge Street that will need to be either modified or fully replaced to provide adequate space for the new sidewalk.

Based on the GIS parcel files that were compiled for the project, there are potentially numerous substantial right of way impacts in sections 3 and 4 of the study. These sections were reviewed and an alternate concept plan for these two sections was developed.

Alternate Concept Plans (Sections 3-4)

The alternate concept plan does not propose any changes to section 1 or 2 of the original concept plans. The intent of the alternate concept plan was to investigate and develop a second option for sections 3 and 4 that avoids or minimizes impacts to the right of way. The plan proposes the extension of the 5.5' wide bituminous sidewalk, with concrete slipform curb, south along the west side of High Street from Lemont Street to the existing sidewalk at the Winnegance Creek Bridge (Bridge Street).

ADA compliant mid-block crossings will be required at the following three locations (in addition to the three locations noted in the original concept plans):

- Location #4 – Approximately 300' south of Lemont Street, the available right of way width on the east side of the street begins to lessen. To avoid the right of way impacts on the east side, the study proposes to introduce a mid-block crossing to move pedestrians to the west side of High Street. Due to the presence of a horizontal curve along High Street (at Lemont Street) the mid-block crossing was positioned as far south as possible to provide better sight distances.
- Location #5 – A mid-block crossing is proposed at Webber Avenue to connect the proposed sidewalk to the existing pedestrian infrastructure on the east side of High Street. This crossing could be omitted from the plan if both location #4 and #6 are constructed.
- Location #6 – A mid-block crossing is proposed just south of Graffam Way. To connect the three neighborhood roads (Riverview Road, Breezy Lane, and Graffam Way) to the existing/proposed pedestrian infrastructure. In coordination with the crossing, a sidewalk connection is proposed along the east side of High Street between Webber Avenue and Graffam Way. The inclusion of this mid-block crossing would allow pedestrians to continue south from any of the neighborhood streets without needing to back track to Webber Avenue to cross.

All three of the proposed mid-block crossings will be ADA compliant with new approach signage, and oversized striped crosswalks to improve visibility. Rectangular rapid flashing beacon assemblies (RRFB) were not proposed at these locations as it would place three RRFBs within a 1,200' section of road (six within the project limits). A better approach, if the alternate concept plan is required (or desired), would be to wait and observe the area to see which crossing(s) is/are the most frequently used and provide RRFBs at those locations to avoid oversaturating the area. The team reviewed stopping sight distances at each of these locations and found that sight distances can be met with proposed clearing.

The west side of High Street is comprised mostly by a forested area on the side of a steep hill that begins just beyond the existing edge of pavement. There are large ledge outcrops that can be seen along the hillside. Minimizing excavation in this area will be required to keep costs viable. Due to the presence of the hill, the houses on this side of High Street are generally closer to the road and have features such as retaining walls and stairs along the property. The project will require the construction of at least eight new runs of retaining wall on the back side of the proposed sidewalk. This number is composed of a mixture between new retaining walls due to grade differentials as well as older retaining walls that would likely need to be replaced as they would not survive adjacent construction activities. The existing driveways will be reconstructed and made ADA compliant with curb tip downs and a 1.5% shelf to ensure water remains in the roadway gutter. Access management and driveway openings were reviewed throughout the corridor.

In general, the proposed sidewalk would be in a cut condition that would allow water to flow across the sidewalk and into the proposed closed drainage system along the curbline. The proposed closed drainage system will outlet into low areas within the project limits (potential wetlands) and/or be connected to existing closed drainage systems within the project. Additional review of existing closed drainage systems will be required during the design phase to ensure that they are able to handle the additional flow. Consideration should be given to providing a drainage swale on the back side of the sidewalk in areas of heavy cut (along the hill) to allow water to run into field basins and be transported into the closed drainage system via pipes. This approach would minimize water flowing over the sidewalk, which can be dangerous in winter months as ice can form on the sidewalk from snow melting during the day and freezing overnight.

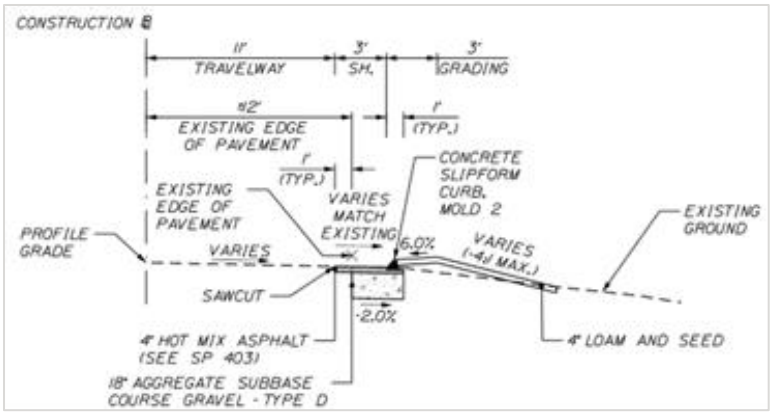
Changes to the intersection of Webber Avenue and High Street are proposed; similar in nature to what was proposed in the original concept plans (see previous section). These geometric improvements will help reduce vehicle speeds as they turn onto Webber Avenue and will reduce the pedestrian crossing distance.

Based on the GIS parcel files that were compiled for the project, the alternate concept plan would avoid larger permanent right-of-way acquisitions in favor of temporary construction easements. Existing right of way widths and potential easements will need to be evaluated further once surveyed right of way is obtained for the project.

Typical Sections

Multiple typical sections were developed for the proposed sidewalk and can be found in Appendix A of this document. The project will follow a sawcut and widen approach that includes provisions for an 11’ travel way with 3’ paved shoulder, slipform concrete curb, a 5.5’

bituminous sidewalk and variable conditions at the back of sidewalk which are required to match into existing conditions. The sawcut will be placed 2' inside of the existing edge of pavement and widened outward (away from the roadway centerline) from that point, consistent with past Maine DOT sidewalk projects.



Based on public input and City of Bath feedback, we recommend that consideration should be given to providing enhancements for bicyclists along the corridor. These enhancements include but are not limited to; re-striping the roadway travel lane to be 10' instead of 11', extending the roadway widening 1'-2' to provide a 5' shoulder for cyclists and providing a wider sidewalk (up to 10') to allow cyclists the ability to ride outside of the roadway footprint. The ability to widen the road or provide a wider sidewalk section is entirely dependent on the available right of way width and cannot be accurately determined until the surveyed right of way is made available.

Conceptual Plans

The study team has prepared conceptual plans for each of the alternatives presented in the previous section. Using base plans developed from aerial images as well as right of way and property line information from available GIS data, conceptual plans have been prepared for both the original and alternate concept plans.

The concept plans show travel lanes, shoulders, curbing, drainage, potential wetlands, access management, sidewalks, crosswalks, retaining walls, and proposed locations for rectangular rapid flashing beacon assemblies. Plan notes have been added to depict utilities, areas flagged by the City of Bath, proposed tree removals, and other features deemed important by the study team. The plans are drawn at a 25 scale with a north arrow shown for reference.

A copy of the concept plans can be found in Appendix A of this report.

Opinion of Costs

The study team has developed an opinion of probable construction cost for both the original concept plan as well as the alternate concept plan, which were analyzed as part of this study. Construction costs are defined as the costs needed to build the project. Using the conceptual layouts developed, preliminary quantities have been calculated, and construction costs have been estimated using Maine DOT average unit pricing and pay items. The concept plan was broken into four sections that can be constructed together or separately depending on available funding. Work assumes a sawcut and widen approach with a 3' paved shoulder, slipform concrete curb, 5.5' wide bituminous sidewalk and drainage improvements along the proposed curbline.

A 20% contingency has been added to each of the sections cost estimates. The construction costs are presented in 2024 dollars and no escalation to future years has been included. The conceptual construction cost estimate for each section (including the two alternate sections)

is provided below (please note that sections 1 & 2 do not change):

Opinion of Probable Construction Costs - Concept Plans				
Section 1 - 0.42 Miles	Section 2 - 0.14 Miles	Section 3 - 0.18 Miles	Section 4 - 0.49 Miles	Total - 1.23 Miles
Getchell St to Ledge View Ln	Ledge View Ln to Lemont St	Lemont St to Webber Ave	Webber Ave to Bridge St	Getchell St to Webber Ave
$ 796,000.00	$ 278,000.00	$ 412,000.00	$ 1,061,000.00	$ 2,547,000.00

Opinion of Probable Construction Costs - Alternate Concept Plans				
Section 1 - 0.42 Miles	Section 2 - 0.14 Miles	Section 3 - 0.18 Miles	Section 4 - 0.49 Miles	Total - 1.23 Miles
Getchell St to Ledge View Ln	Ledge View Ln to Lemont St	Lemont St to Webber Ave	Webber Ave to Bridge St	Getchell St to Webber Ave
$ 796,000.00	$ 278,000.00	$ 389,000.00	$ 2,014,000.00	$ 3,477,000.00

Total project cost is a Maine DOT term that includes not only the construction costs, but also the engineering costs, inspection costs and right of way costs associated with the project. The study team has included engineering costs at approximately 10% of construction costs for each section. Inspection costs have been estimated at 10% of the construction costs. Right of way costs are based on anticipated property impacts and potential acquisition of land that may be needed for the project. The conceptual total project cost for each section is summarized below:

Total Project Costs - Concept Plans				
Section 1 - 0.42 Miles	Section 2 - 0.14 Miles	Section 3 - 0.18 Miles	Section 4 - 0.49 Miles	Total - 1.23 Miles
Getchell St to Ledge View Ln	Ledge View Ln to Lemont St	Lemont St to Webber Ave	Webber Ave to Bridge St	Getchell St to Webber Ave
$ 987,600.00	$ 352,800.00	$ 554,200.00	$ 1,370,100.00	$ 3,264,700.00

Total Project Costs - Alternate Concept Plans				
Section 1 - 0.42 Miles	Section 2 - 0.14 Miles	Section 3 - 0.18 Miles	Section 4 - 0.49 Miles	Total - 1.23 Miles
Getchell St to Ledge View Ln	Ledge View Ln to Lemont St	Lemont St to Webber Ave	Webber Ave to Bridge St	Getchell St to Webber Ave
$ 987,600.00	$ 352,800.00	$ 482,900.00	$ 2,356,400.00	$ 4,179,700.00

A detailed breakdown of all cost estimates can be found in Appendix B of this report. The cost estimates provided in this report are considered conceptual and further refinements to the estimates can be expected during the design phase.

Property Impacts

Part of the evaluation for each section includes an assessment of potential property impacts. While it is the goal of any transportation study to stay inside the limits of available public right of way, that is not always possible and the construction of enhanced pedestrian infrastructure within a narrow right of way (40') may require land acquisition and/or land easements.

Using available GIS mapping for property and right of way limits, the study team has developed concept plans with the goal of minimizing property impacts, however, property impacts are still realized for each of the sections and applicable alternates in this study. Below is a summary of anticipated property impacts for each section as well as the applicable alternate plan.

In terms of disclaimers, please note the information presented in this section are planning level assessments of property impacts based on conceptual plans and are high-level estimates of land value and not based on detailed designs with ground survey, accurate right of way or property line information. No certified land appraiser has been used in calculating land value for this study. Further design refinements and adjustments to property impacts will need to be completed during the design phase. Also, the true cost for land and right-of-way acquisition will need to be completed by qualified professionals during the design process.

As part of this assessment, the study team has identified the approximate number and relative severity of the property impacts for each section shown on the project. For the purposes of this study, impacts were limited to three categories and assigned a dollar value per impact:

Anticipated ROW Impacts - Concept Plans			
Section 1 - 0.42 Miles	Section 2 - 0.14 Miles	Section 3 - 0.18 Miles	Section 4 - 0.49 Miles
Getchell St to Ledge View Ln	Ledge View Ln to Lemont St	Lemont St to Webber Ave	Webber Ave to Bridge St
Construction Easements: 18 Pemanent Easement (Minor): 4 Permanent Easement (Major): 0	Construction Easements: 5 Permanent Easement (Minor): 3 Permanent Easement (Major): 0	Construction Easements: 9 Permanent Easement (Minor): 2 Permanent Easement (Major): 5	Construction Easements: 18 Permanent Easement (Minor): 5 Permanent Easement (Major): 9

Anticipated ROW Impacts - Alternate Concept Plans			
Section 1 - 0.42 Miles	Section 2 - 0.14 Miles	Section 3 - 0.18 Miles	Section 4 - 0.49 Miles
Getchell St to Ledge View Ln	Ledge View Ln to Lemont St	Lemont St to Webber Ave	Webber Ave to Bridge St
Construction Easements: 18 Pemanent Easement (Minor): 4 Permanent Easement (Major): 0	Construction Easements: 5 Permanent Easement (Minor): 3 Permanent Easement (Major): 0	Construction Easements: 6 Permanent Easement (Minor): 2 Permanent Easement (Major): 0	Construction Easements: 21 Permanent Easement (Minor): 6 Permanent Easement (Major): 0

- Construction Easement – These are temporary easements that require no permanent land acquisition. Estimated at $2,000 per occurrence.
- Permanent Sidewalk Easement (Minor) – These are permanent right of way easements that likely require a strip take, approximately 1'-2', to provide room for the proposed sidewalk. Estimated at $4,000 per occurrence.
- Permanent Sidewalk Easement (Major) – These are permanent right of way easements that likely require a larger strip take, approximately 3'-5', to provide room for the proposed sidewalk. Estimated at $8,000 per occurrence.

Opinion of Probable ROW Costs - Concept Plans				
Section 1 - 0.42 Miles	Section 2 - 0.14 Miles	Section 3 - 0.18 Miles	Section 4 - 0.49 Miles	Total - 1.23 Miles
Getchell St to Ledge View Ln	Ledge View Ln to Lemont St	Lemont St to Webber Ave	Webber Ave to Bridge St	Getchell St to Webber Ave
$ 52,000.00	$ 22,000.00	$ 66,000.00	$ 128,000.00	$ 268,000.00

Opinion of Probable ROW Costs - Alternate Concept Plans				
Section 1 - 0.42 Miles	Section 2 - 0.14 Miles	Section 3 - 0.18 Miles	Section 4 - 0.49 Miles	Total - 1.23 Miles
Getchell St to Ledge View Ln	Ledge View Ln to Lemont St	Lemont St to Webber Ave	Webber Ave to Bridge St	Getchell St to Webber Ave
$ 52,000.00	$ 22,000.00	$ 20,000.00	$ 66,000.00	$ 160,000.00

The associated numbers are high level estimates used to provide a "best guess" of potential right of way impacts that may occur because of this project. Please note that all parcel acquisitions will be land only and no building acquisitions are anticipated as part of this project.

Comparative Analysis

The purpose of the study is to identify and select the preferred design based on numerous criteria established in coordination with the City of Bath and Maine DOT. The intent of the comparative analysis is to summarize all the project's components in one area that is easily interpreted by the study team as well as the public. This document provides project details in a quick and concise manner. Items that are summarized within the document include roadway characteristics, defined roadway sections (with associated cost estimate), key features, challenges, environmental issues, potential right of way impacts, utility concerns, and additional comments for consideration from the study team. This document can be found in Appendix C of this document.

Public Outreach

A public meeting for this project was held on June 4, 2024, in the Bath City Hall auditorium. The meeting was open to the public and was publicized by the City of Bath following state and federal guidelines for requesting public input. The meeting was relatively well attended by residents, town officials, and abutters. The presentation included introducing the study team, discussing the project background, scope of work, project goals, summary of crash data, roadway characteristics, summary of the proposed designs, utility impacts, project costs as well as the study schedule. The following questions and comments were received during this meeting:

- Concerns with vehicle speeds along the corridor.
- Can the travel way be striped at 10' to create wider shoulders for bikes?
  - Would re-striping lanes to 10' help reduce vehicle speeds?
- Can traffic calming be incorporated into the project to help slow vehicles?
- Can the project be expanded to include shoulder work opposite the sidewalk as well?
- Could this area be considered for a Maine DOT speed study?
- As well as a formal request for bicycle mobility to be considered in the project.

The public meeting material was left with the City of Bath and posted to the City's website for public consumption. Presentation materials including the sign in sheet, agenda and color hearing plans can be found in Appendix D of this document.

There was general support and enthusiasm for a sidewalk along High Street as it would provide a safe place to walk and allow pedestrians access to the trailhead(s) without having to drive and park (the parking area is small). For a more detailed summary of the questions and comments received during the presentation see Appendix E of this document.

Appendix A – Concept Plans

CITY OF BATH

HIGH STREET SIDEWALK FEASIBILITY STUDY

SAGADAHOC COUNTY

WIN 27474.00

TOTAL PROJECT LENGTH: 1.23 MILES

SECTION 4: 0.49 MILES
SECTION 3: 0.18 MILES
SECTION 2: 0.14 MILES
SECTION 1: 0.42 MILES

PLAN LEGEND

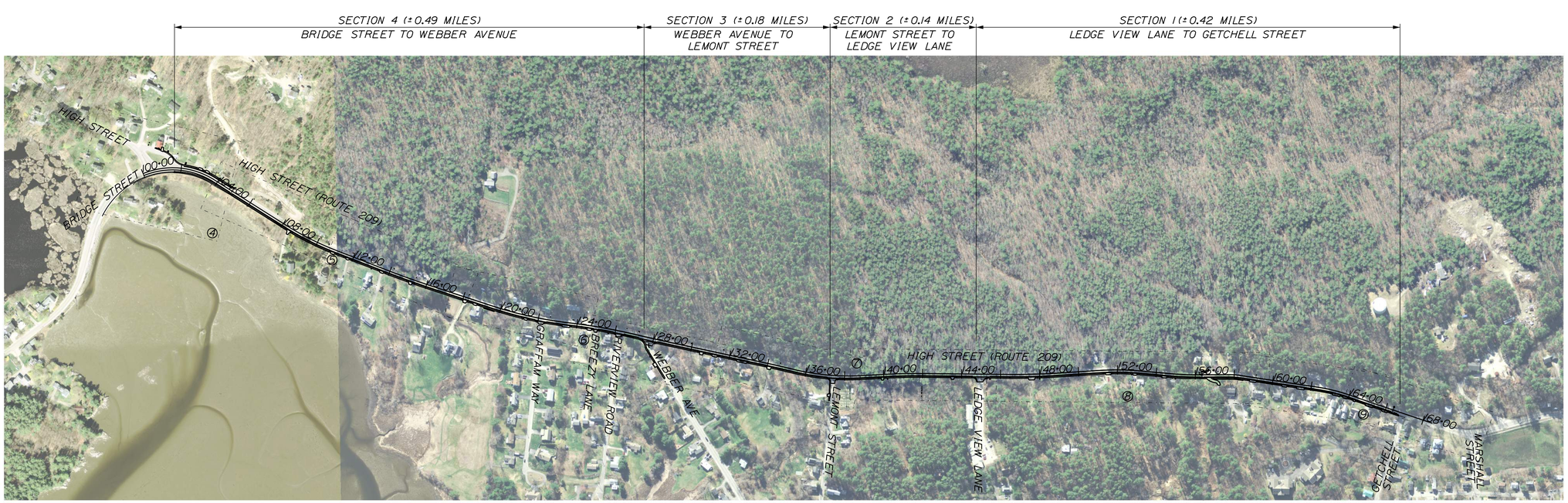
Town, County, State	Catch Basins	Existing / Proposed
Property Lines	Manholes	Existing / Proposed
R/W Lines-Existing	Proposed Underdrain	
R/W Lines-Proposed	Proposed Ditch	
Culvert-Existing	Existing Ditch	
Culvert Proposed	Utility Poles	Existing / Proposed
Curbing: Existing / Proposed	Fire Hydrants	Existing / Proposed
Type 1	Existing Water Line	
Type 3	Existing San. Sewer	
Type 5	Existing San. Sewer Manhole	
Outline of Bodies of Water	Guardrail-Existing	
Exposed Bedrock	Guardrail-Proposed	
Buildings	Guardrail-Cable, Other	
Trees: Conifer / Deciduous	Centerline-Existing	
Tree Line	Centerline-Proposed	10+00
Clearing Limit Line	Travelway-Existing	
Railroad	Travelway-Proposed	

Boring HB-XXX-###
Pavement Core PC-#
Test Pit TP-XXX-###

Probe P-#.#X
#.# = Depth
X = W (Weathered Rock)
R (Refusal)
NR (No Refusal)

INDEX OF SHEETS

Description	Sheet No.
Title Sheet	1
Typical Sections	2
Details Sheet	3
Concept Plans	4-9
Alternate Concept Plans	10-12



PROJECT LOCATION:	High Street (Route 209) from Getchell Street to Bridge Street in Bath, Maine.
PROGRAM AREA:	Maine DOT Planning Department and the City of Bath
SCOPE OF WORK:	The primary scope of work of this study is to identify the costs, impacts, and constraints of constructing a new sidewalk on Route 209 within the study area (Bridge Street to Getchell Street). Work will include review, planning, engineering analysis and recommendations on the best location of the sidewalk. We will identify project constraints, impacts, highway needs, and costs, as well as drainage improvements to Route 209 directly attributable to a sidewalk.

CONCEPT PLANS
OCTOBER 31, 2024

PLAN
300 0 300 600
Scale of Feet

WIN 027474.00

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CITY OF BATH
55 FRONT STREET
BATH, MAINE 04530

PROJECT INFORMATION		SIGNATURE	P.E. NUMBER	DATE
PROGRAM	CITY OF BATH			
PROJECT MANAGER	L. LEINER			
DESIGNER	J. WINCHENBACH			
CONSULTANT	GORRILL PALMER			
PROJECT RESIDENT				
CONTRACTOR				
PROJECT COMPLETION DATE				

BATH
HIGH STREET SIDEWALK
FEASIBILITY STUDY

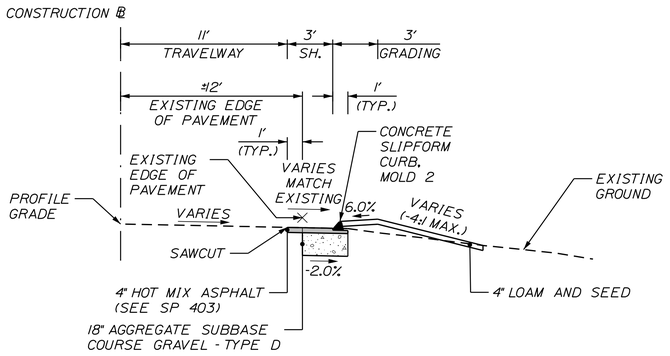
TITLE SHEET

SHEET NUMBER
1
OF 12

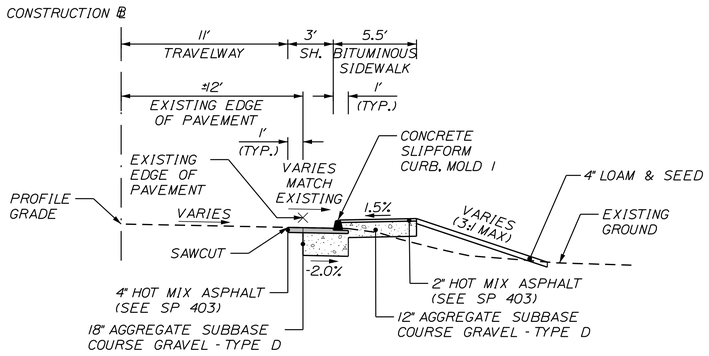
Filename: ...\00\Highway\001_Title.dgn Division: HIGHWAY
Username: Ellie.Robinson Date:10/30/2024
U:\City of Bath Maine\4160_Bath, High St Sidewalk Study\Z - CAD\00\Highway\001_Title.dgn

NOT TO SCALE

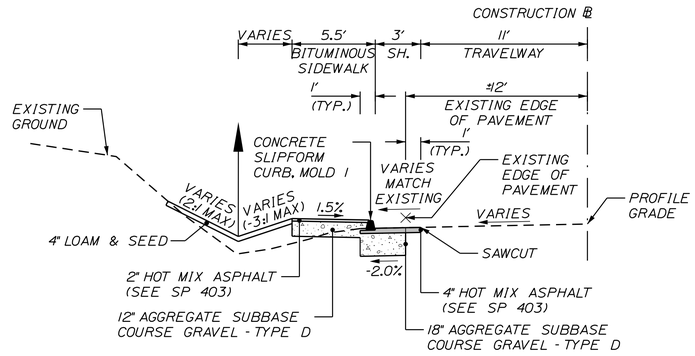
SH. = SHOULDER
SP = SPECIAL PROVISION
MAX. = MAXIMUM
MIN. = MINIMUM



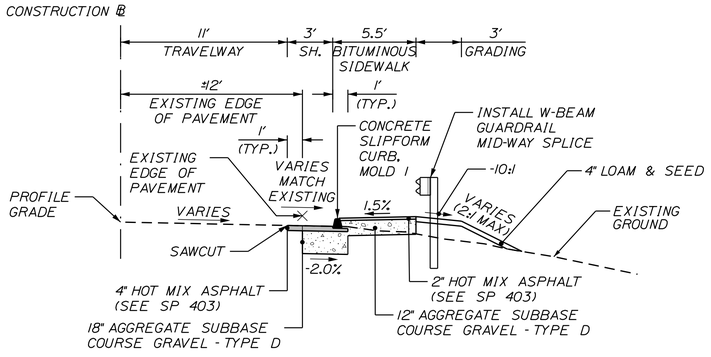
CONCRETE SLIPFORM CURB
WITHOUT SIDEWALK
TYPICAL SECTION



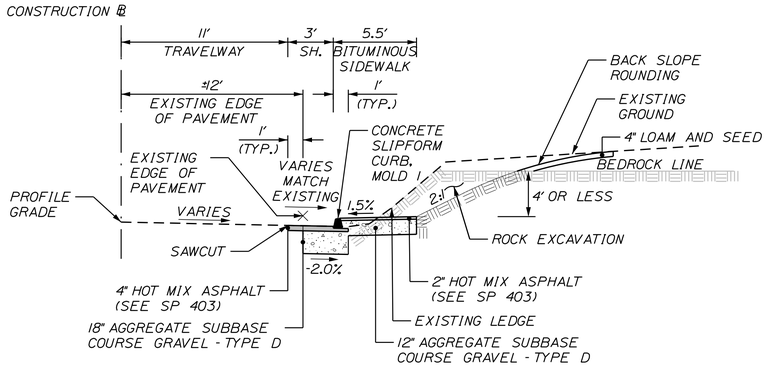
CONCRETE SLIPFORM CURB
WITH SIDEWALK
TYPICAL SECTION



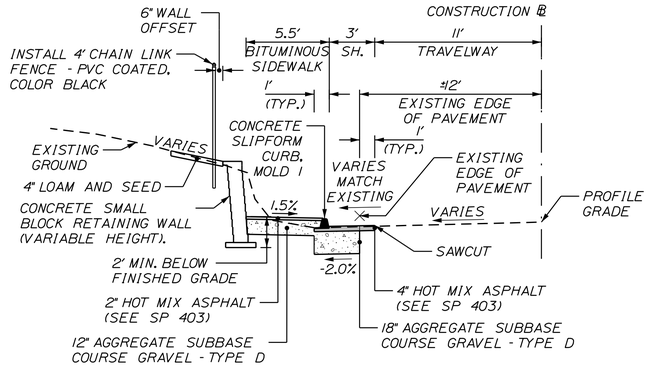
CONCRETE SLIPFORM CURB
WITH SIDEWALK AND DITCHING
TYPICAL SECTION



CONCRETE SLIPFORM CURB WITH
SIDEWALK AND GUARDRAIL
TYPICAL SECTION



CONCRETE SLIPFORM CURB WITH
SIDEWALK AND LEDGE CUT (<4')
TYPICAL SECTION



CONCRETE SLIPFORM CURB WITH
SIDEWALK AND RETAINING WALL
TYPICAL SECTION

NOTES:

1. THE PAVEMENT, BASE, AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
2. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW SIDE SHOULDER, THE LOW SIDE SHOULDER SHALL HAVE THE SAME SLOPE AS THE TRAVELWAY.
3. CROWNS FOR BOTH NORMAL AND SUPERELEVATION SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.
4. THE SHOULDER PAVEMENT THICKNESS SHALL BE THE SAME AS THE TRAVELWAY PAVEMENT THICKNESS FOR ALL ROADWAYS, UNLESS OTHERWISE NOTED.
5. SAWCUT LOCATIONS SHALL BE AT MINIMUM 1' (SEE PLANS FOR ADDITIONAL INFORMATION) INSIDE THE PROPOSED CURB OR EDGE OF EXISTING PAVEMENT, WHICHEVER IS CLOSEST TO THE CONSTRUCTION BASELINE. COORDINATE WORK WITH INSPECTOR.
6. SLIPFORM CONCRETE CURB SHALL BE PLACED ON THE BASE PAVEMENT LIFT PRIOR TO PLACEMENT OF SURFACE PAVEMENT.
7. EXISTING GUARDRAIL SHALL BE REPLACED (OR RESET) IF THE HEIGHT FROM THE TOP OF THE PAVEMENT SURFACE (AT FACE OF RAIL) TO THE TOP OF THE GUARDRAIL BEAM IS LESS THAN 26 1/2".
8. THE STATIONING UNDER EACH TYPICAL IS APPROXIMATE.

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CITY OF BATH
55 FRONT STREET
BATH, MAINE 04530

SIGNATURE
P.E. NUMBER
DATE

		BY	DATE
PROJ. MANAGER	L. LERNER		
DESIGN-DETAILED	T. WARREN	E. ROBINSON	10\24
CHECKED-REVIEWED	J. WINCHENBACH	D. ETTINGER	10\24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

BATH
HIGH STREET SIDEWALK
FEASIBILITY STUDY

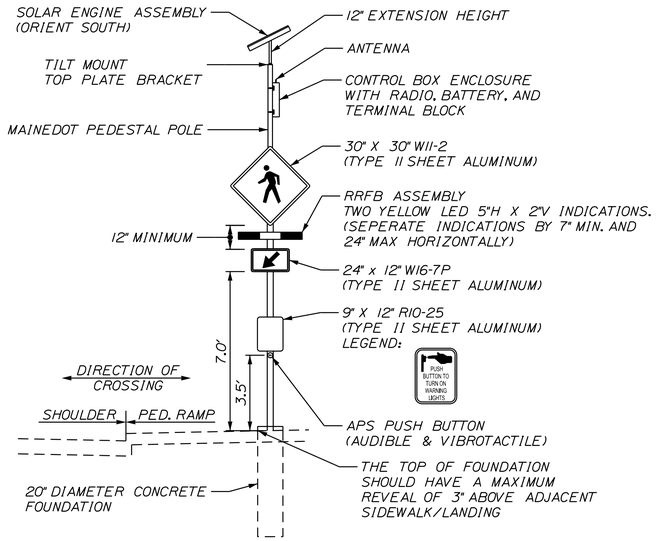
TYPICAL SECTIONS

SHEET NUMBER
2
OF 12

NOT TO SCALE

RECTANGULAR RAPID FLASHING BEACON NOTES:

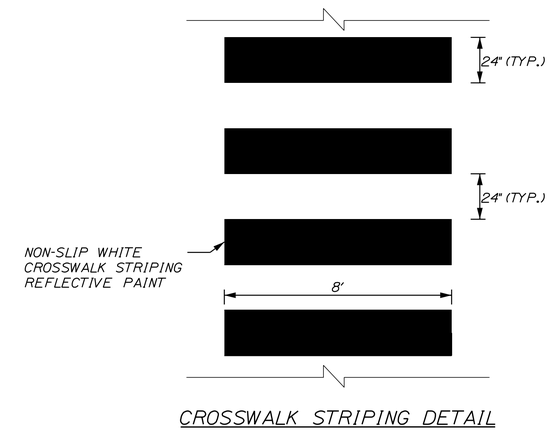
1. RRFB ASSEMBLY PAIRS AT EACH CROSSWALK SHALL BE INTERCONNECTED WITH RADIO COMMUNICATIONS.
2. PEDESTRIAN PUSH BUTTONS SHALL BE INSTALLED AT 3.5 FEET ABOVE ADJACENT ACCESSIBLE SURFACE GRADE.
3. MAXIMUM ALLOWABLE REACH DISTANCE FOR PEDESTRIAN PUSH BUTTONS IS 10 INCHES. INSTALL EXTENSION BRACKETS IF REQUIRED. PAYMENT FOR EXTENSION BRACKETS WILL BE INCIDENTAL TO ITEM 643.62.
4. ACCESSIBLE PEDESTRIAN PUSH BUTTONS ON RRFB PEDESTAL POLES SHALL BE PROVIDED WITH A PUSH BUTTON LOCATOR TONE AND A SPEECH MESSAGE. SPEECH MESSAGES SHALL BE "HIGH STREET, YELLOW LIGHTS ARE FLASHING FOR HIGH STREET". SPEECH MESSAGES SHALL BE REPEATED AT LEAST TWICE FOR EACH PUSH BUTTON ACTIVATION.
5. LOCATIONS OF ANY EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE PRESENCE OF UNDERGROUND UTILITY FACILITIES PRIOR TO COMMENCING ANY EXCAVATION WORK OR INSTALLATION OF POLES, JUNCTION BOXES, CONDUIT, OR GROUND-MOUNTED SIGNAGE AND SHALL NOTIFY UTILITIES OF PROPOSED WORK IN ACCORDANCE WITH MRSA TITLE 23 SECTION 3360-A. MAINE "DIG SAFE" SYSTEM. CONTRACTOR SHALL CONTACT DIG SAFE AT LEAST THREE WORKING DAYS PRIOR TO THE BEGINNING OF EXCAVATION. ALL UTILITIES SHALL BE LOCATED BEFORE BEGINNING EXCAVATION.
6. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY OPERATIONS ARE CONDUCTED THAT POTENTIALLY COULD CONFLICT WITH AERIAL UTILITIES.
7. SPECIFIED RRFB ASSEMBLY LOCATIONS ARE MEASURED TO THE CENTER OF THE POSTS/FOUNDATIONS.
8. ALL FIELD WIRING SHALL BE NEATLY BUNDLED AND CLEARLY IDENTIFIED WITH PERMANENT, LEGIBLE, WEATHERPROOF TAGS SECURELY ATTACHED TO EACH CABLE.
9. THE MAINTENANCE OF RRFB ASSEMBLIES AND FLASHING SIGNAGE SHALL REMAIN THE RESPONSIBILTY OF THE CONTRACTOR UNTIL FINAL ACCEPTANCE BY MAINEDOT.
10. W11-2 RRFB ASSEMBLY, AND W16-7P ARE INTENDED TO BE VISIBLE TO BOTH DIRECTIONS OF APPROACHING TRAFFIC ON EACH POST. INSTALL TWO OF EACH ON EACH POST.



RECTANGULAR RAPID FLASHING BEACON DETAIL

NOTES:

1. FLASH DURATION FOR CROSSING SHALL BE 20 SECONDS.
2. INSTALL R10-25 SIGNAGE AND PUSH BUTTONS TO ALIGN TO DIRECTION OF CROSSING.
3. PUSH BUTTONS MUST BE LOCATED NO MORE THAN 10" FROM EDGE OF SIDEWALK.
4. ALIGN W11-2 RRFB ASSEMBLY AND W16-7p TO FACE TRAFFIC.



CROSSWALK STRIPING DETAIL

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BATH, MAINE 04530

PROJ. MANAGER	L. LERNER		
DESIGN-DETAILED	T. WARREN	E. ROBINSON	10\24
CHECKED-REVIEWED	J. WINCHENBACH	D. ETTINGER	10\24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

BATH
HIGH STREET SIDEWALK
FEASIBILITY STUDY

DETAILS SHEET

SHEET NUMBER
3
OF 12

PLAN

25 0 25 50

Scale of Feet

CURVE DATA #1
PI = 102+06.19
D = 14°19'26.2"
Δ = 54°32'22.3" Rt.
R = 400.00'
L = 380.76'
T = 206.19'
E = 50.02'

28 HIGH ST
N/F CHAMPEON, DUANE

30 HIGH ST
N/F FAVA, JOANNE & STEPHEN JR

3 FRISBEE LN
N/F GIGGEY, SHANNON M & MARC R

12 FRISBEE LN
N/F WILLIAMS, JOHN R JR & WILLIAM, KARIN B

33 SYLVESTER DR
N/F GREENE, JENNIFER (TTEE) & JENNIFER GREENE 2000 REVOCABLE TRUST

40 HIGH ST
N/F SCAMMACCA, ANDREA S & TEBBEN, CHRISTOPHER

42 HIGH ST
N/F DAIGLE, KELSIE ANNE D

44 HIGH ST
N/F MINOR, SUSAN Z

27 HIGH ST
N/F STADLER, JOHN A & SARAH (TTEES) THE CAROL AND HENRY STADLER IRREVOCABLE

7 BRIDGE ST
N/F WADE, RYAN

10 BRIDGE ST
N/F BRENNAN, BRUCE R & KELLEY, MARGARET J

8 BRIDGE ST
N/F BEGIN-MURRAY, LUCY B & MURRAY, JOHN M

WINNEGANCE RESTAURANT & BAKERY

EXISTING UTILITY POLE WITH STREET LIGHT AND SUPPORT POLE

MATCH INTO EXISTING STAIRS

MATCH INTO EXISTING DRIVEWAY

MATCH INTO EXISTING PATH

EXISTING UTILITY POLE

EXISTING RIGHT OF WAY (TYP.)

REMOVE EXISTING BITUMINOUS CURB

ADJUST CB TO GRADE

ALTER CB TO MH

12" OPT. III INSTALL CB

MATCH INTO EXISTING PATH

EXISTING UTILITY POLE WITH STREET LIGHT

HIGH STREET

HIGH STREET (ROUTE 209)

CONSTRUCTION ℄

101+00

102+00

103+00

104+00

N 32°18'13.1" E
12" UD "C"

#1

5.5'

3'

11'

11'

5.1'

8.6'

5.5'

3'

11'

3'

5.5'

CONCRETE SLIPFORM CURB (MOLD I) (TYP.)

MATCH INTO EXISTING CURB AND BITUMINOUS SIDEWALK

ADJUST CB TO GRADE. CORE 12" UD "C" INTO EXISTING STRUCTURE

EXISTING GUARDRAIL TO REMAIN

100+00

MATCH INTO EXISTING STRIPING

EXISTING CURB TO REMAIN

BRIDGE STREET

PC = STA 100+00.00

APPROXIMATE LIMIT OF WINNEGANCE CREEK

PT = STA 103+80.76

WINNEGANCE CREEK

SECTION 4

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DESIGN3-DETAILED3	D. ETTINGER	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

BATH
HIGH STREET SIDEWALK
FEASIBILITY STUDY

CONCEPT PLANS

SHEET NUMBER
4
OF 12

Username: Ellie.Robinson Date:10/30/2024
Division: HIGHWAY
Filename: ...\00\Highway\004_HDPlan01.dgn
U:\City of Bath Maine\4160_Bath, High St Sidewalk Study\Z - CAD\00\Highway\004_HDPlan01.dgn

Filename: ...\00\Highway\005_HDPlan02.dgn   Division: HIGHWAY   Username: Ellie.Robinson   Date:10/30/2024

U:\City of Bath Maine\4160_Bath, High St Sidewalk Study\Z - CAD\00\Highway\005_HDPlan02.dgn

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CITY OF BATH
55 FRONT STREET
BATH, MAINE 04530

	BY	DATE
PROJ. MANAGER	L.LEINER	
DESIGN-DETAILED	T.WARREN	
CHECKED-REVIEWED	E.ROBINSON	10/24
DESIGN2-DETAILED2	J.WINCHENBACH	
DESIGN3-DETAILED3	D.ETTINGER	10/24
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

BATH HIGH STREET SIDEWALK FEASIBILITY STUDY

CONCEPT PLANS

SHEET NUMBER

5

OF 12

66 HIGH ST
N/F MADDEN,
DOREEN &
LEACH, JOHN

70 HIGH ST
N/F CHANDLER,
KIMBERLY MUCCULLOCH
FKA MCCULLOCH,
KIMBERLY R

72 HIGH ST
N/F BURR,
JOHN E &
KAREN
KOSTER

SECTION 4

PC = STA. 119+54.56

CITY OF BATH POLICE DEPARTMENT PREFERS THE SIDEWALK ON THE EAST SIDE OF HIGH STREET AS THEY UTILIZE THE SHOULDER ON THE WEST SIDE (BETWEEN WEBBER AVE AND BUMPY HILL ROAD) TO RUN SPEED RADAR

78 HIGH ST
N/F LIZOTTE, JASON T
& LAWE, SAMANTHA Z

PRC = STA. 123+55.79

82 HIGH ST
N/F GAUVIN,
DAVID M.

EXISTING UTILITY POLE AND STUB POLE

REMOVE EXISTING LEDGE. CONSTRUCT SIDEWALK

74 HIGH ST
N/F SMITH,
DAVID C. &
MARGO

NEW POLE TO BE PLACED 3' OFF OF SHOULDER STRIPE (AS OF 5/16/2024)

EXISTING RIGHT OF WAY (TYP.)

EXISTING UTILITY POLE

EXISTING UTILITY POLES

EXISTING UTILITY POLE WITH STREET LIGHT

118+00 119+00 120+00 121+00 122+00 123+00 124+00

#4 #5

3' 11' 5.5'

6" UD "B"

N 18°08'04.4" E

HIGH STREET (ROUTE 209)

12" UD "C"

INSTALL CB (TYP.)

6" CW

2'-4' ROW IMPACTS CONTINUED

APPROXIMATE PROFILE HIGH POINT

REMOVE TREES (6)

EXISTING UTILITY POLE

71 HIGH ST
N/F HERRIGEL,
RODGER K &
JILLIAN R H

73 HIGH ST
N/F CARR,
GEORGE

75 HIGH ST
N/F DOOLEY, PAULA R.

77 HIGH ST
N/F TRAFTON,
MICHAEL B. &
VICKI J.

GRAFFAM WAY

79 HIGH ST
N/F FRATTINI,
WILLIAM L &
BARBARA J

81 HIGH ST
N/F LAWSON,
MONICA A

BACK OF PROPOSED SIDEWALK WILL BE WITHIN ±3' OF THE EXISTING BUILDING

PLAN

25 0 25 50
Scale of Feet

CURVE DATA #4	CURVE DATA #5	CURVE DATA #6
PI = 121+55.85	PI = 125+29.98	PI = 128+04.03
D = 2°51'53.2"	D = 1°54'35.5"	D = 0°34'22.6"
Δ = 11°29'40.1" Lt.	Δ = 6°38'46.6" Rt.	Δ = 1°08'55.4" Lt.
R = 2000.00'	R = 3000.00'	R = 10000.00'
L = 401.23'	L = 348.00'	L = 200.49'
T = 201.29'	T = 174.19'	T = 100.25'
E = 10.10'	E = 5.05'	E = 0.50'

82 HIGH ST
N/F GAUVIN,
DAVID M.

CITY OF BATH POLICE DEPARTMENT PREFERS THE SIDEWALK ON THE EAST SIDE OF HIGH STREET AS THEY UTILIZE THE SHOULDER ON THE WEST SIDE (BETWEEN WEBBER AVE AND BUMPY HILL ROAD) TO RUN SPEED RADAR

HIGH ST (UNNUMBERED)
N/F GUIDI, TRACEY GINN &
GINN-MARVIN, JEAN GINN,
CLIFFORD MARK & FOY, JENNIFER
GINN C/O GINN REAL ESTA

APPROXIMATE PROFILE LOW POINT

EXISTING UTILITY POLE AND STUB POLE

EXISTING UTILITY POLE WITH STREET LIGHT

EXISTING STUB POLE

EXISTING UTILITY POLE

EXISTING STUB POLE AND UTILITY POLE WITH STREET LIGHT

2'-4' ROW IMPACTS CONTINUED

#5 #6

125+00 126+00 127+00 128+00 129+00 130+00 131+00

HIGH STREET (ROUTE 209)
CONSTRUCTION IE

N 12°08'15.6" E

3' 11' 5.5'

12" UD "C"

6" CW

EXISTING UTILITY POLE

EXISTING EDGE OF PAVEMENT

RIVERVIEW ROAD

BREEZY LANE

87 HIGH ST
N/F VOTRA, NICOLE E
C, KEVIN RYCE

2 RIVERVIEW RD
N/F WILEY, JON R
& JOAN E

PRC = STA. 127+03.79

MATCH INTO EXISTING CENTERLINE

WEBBER AVE

PT = STA. 129+04.28

REMOVE TREES (6)

39 WEBBER AVE
N/F OLEHOWSKI,
MICHAEL R

93 HIGH ST
N/F GORDON,
NICHOLAS
RICHARD

95 HIGH ST
N/F GELLATLY,
JEFFREY S.

81 HIGH ST
N/F LAWSON,
MONICA A

SECTION 4

SECTION 3

40 WEBBER AVE
N/F JURENAS, EDMUND A
& WEATHERBEE, SARAH M

ADJUST CB TO GRADE, CORE 12" UD "C" INTO EXISTING STRUCTURE

MATCH INTO EXISTING SIDEWALK

EXISTING UTILITY POLE

GORRILL PALMER
An LJB Engineering Company

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GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

CITY OF BATH
55 FRONT STREET
BATH, MAINE 04530

	BY	DATE
DESIGN-DETAILED	L. LENGER	
CHECKED-REVIEWED	T. WARREN	10\24
DESIGN2-DETAILED2	E. ROBINSON	10\24
DESIGN3-DETAILED3	J. WINCHENBACH	
REVISIONS 1	D. ETTINGER	
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PROJ. MANAGER

SIGNATURE

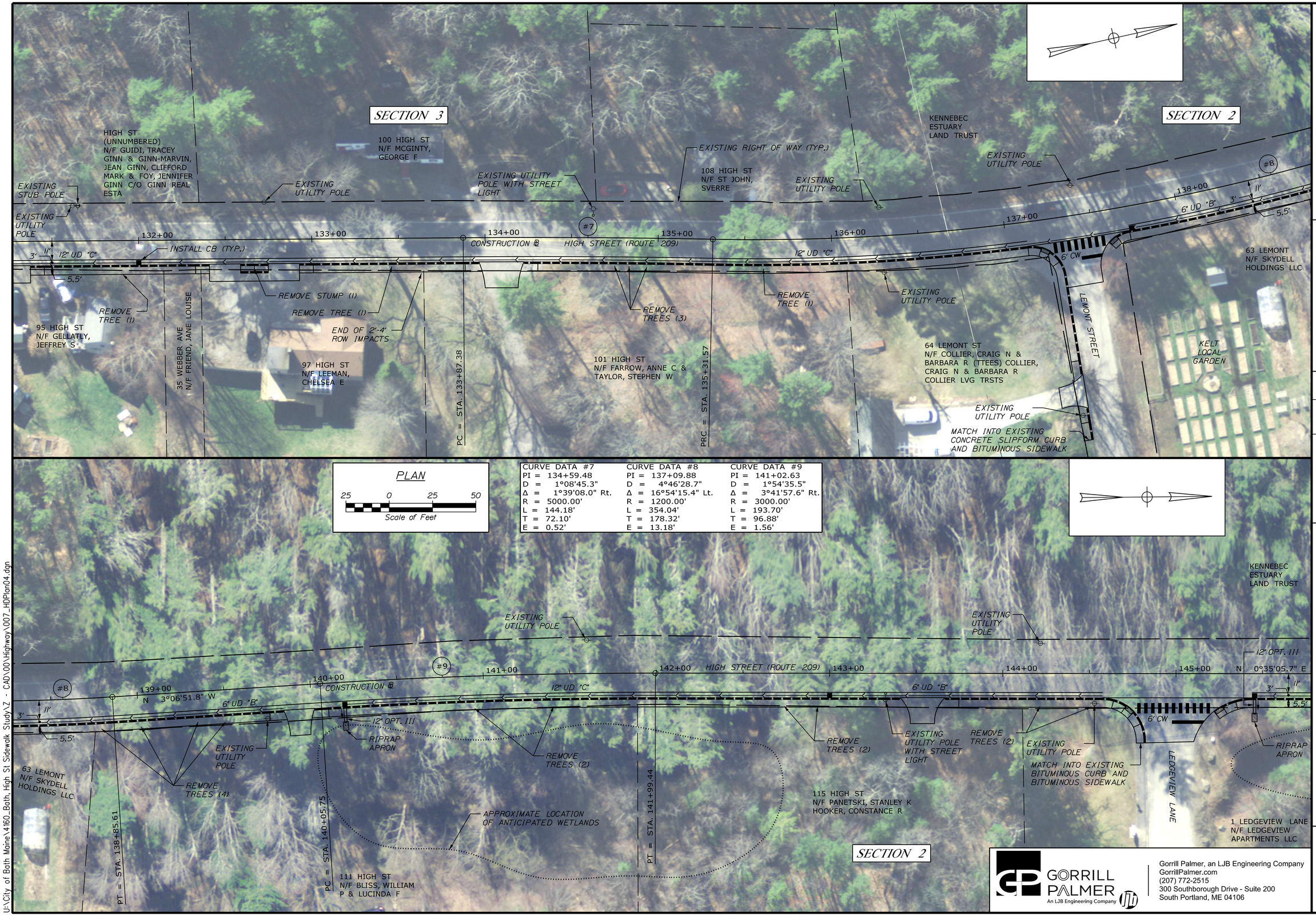
P.E. NUMBER

DATE

BATH
HIGH STREET SIDEWALK
FEASIBILITY STUDY

CONCEPT PLANS

SHEET NUMBER
6
OF 12



CITY OF BATH
55 FRONT STREET
BATH, MAINE 04530

	BY	DATE
PROJ. MANAGER	L. LENGER	
DESIGN-DETAILED	T. WARREN	10\24
CHECKED-REVIEWED	J. WINCHENBACH	
DESIGN2-DETAILED2	E. ROBINSON	10\24
DESIGN3-DETAILED3	D. ETTINGER	10\24
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

BATH
HIGH STREET SIDEWALK
FEASIBILITY STUDY

CONCEPT PLANS

SHEET NUMBER
7
OF 12

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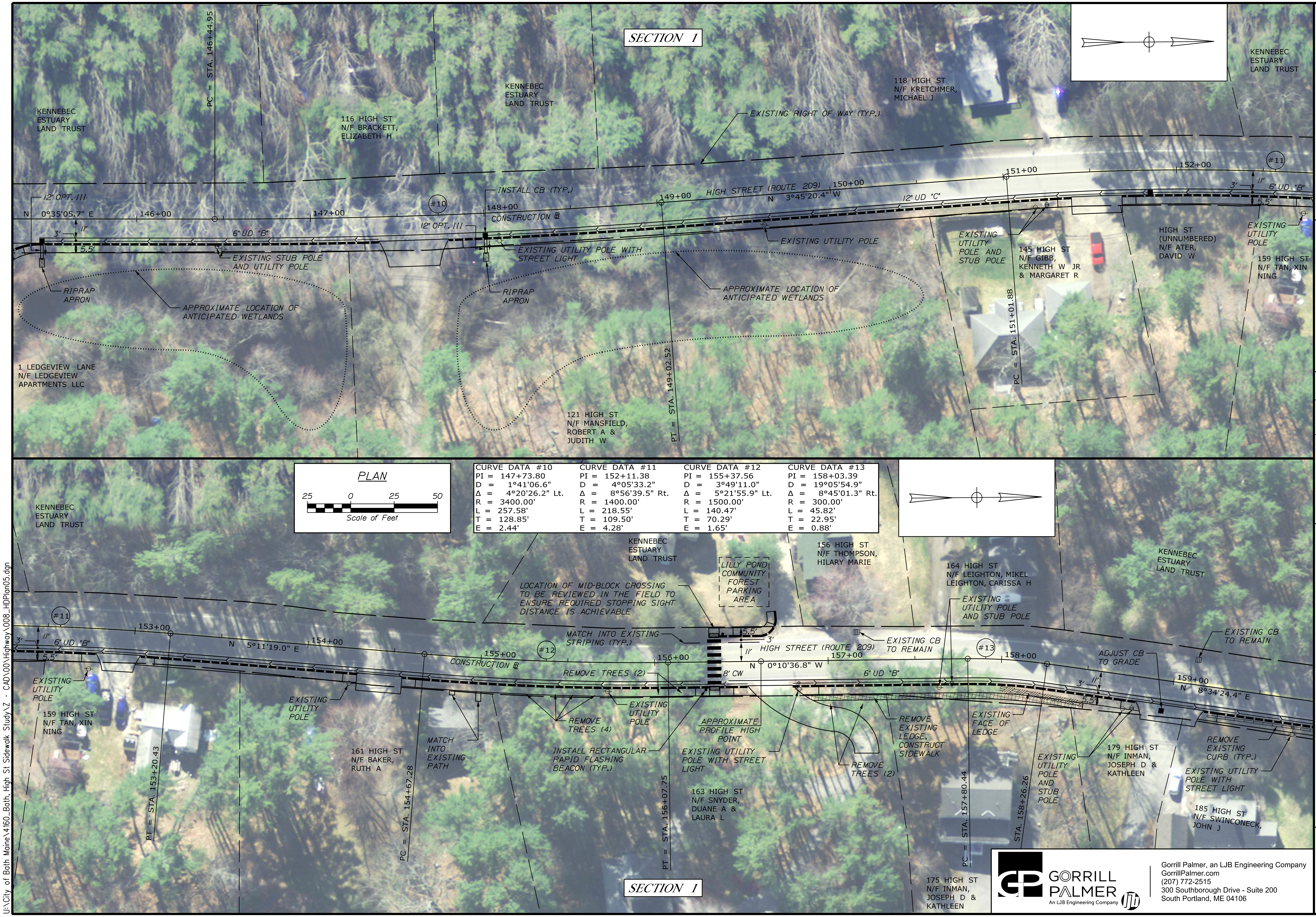
300 Southborough Drive - Suite 200
South Portland, ME 04106

Username: Ellie.Robinson Date:10/30/2024
Division: HIGHWAY
Filename: ...\00\Highway\007_HDPlan04.dgn
U:\City of Bath Maine\4160_Bath, High St Sidewalk Study\Z - CAD\00\Highway\007_HDPlan04.dgn



CURVE DATA #10	CURVE DATA #11	CURVE DATA #12	CURVE DATA #13
PI = 147+73.80	PI = 152+11.38	PI = 155+37.56	PI = 158+03.39
D = 1°41'06.6"	D = 4°05'33.2"	D = 3°49'11.0"	D = 19°05'54.9"
Δ = 4°20'26.2" Lt.	Δ = 8°56'39.5" Rt.	Δ = 5°21'55.9" Lt.	Δ = 8°45'01.3" Rt.
R = 3400.00'	R = 1400.00'	R = 1500.00'	R = 300.00'
L = 257.58'	L = 218.55'	L = 140.47'	L = 45.82'
T = 128.85'	T = 109.50'	T = 70.29'	T = 22.95'
E = 2.44'	E = 4.28'	E = 1.65'	E = 0.88'

CITY OF BATH
55 FRONT STREET
BATH, MAINE 04530

PROJ. MANAGER	L. LEINER	BY	DATE
DESIGN-DETAILED	T. WARREN	E. ROBINSON	10\24
CHECKED-REVIEWED	J. WINCHENBACH	D. ETTINGER	10\24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

BATH
HIGH STREET SIDEWALK
FEASIBILITY STUDY

CONCEPT PLANS

SHEET NUMBER
8
OF 12

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South Portland, ME 04106

SECTION 1

KENNEBEC ESTUARY LAND TRUST

190 HIGH ST N/F PHUONG, VAN

EXISTING CB TO REMAIN

EXISTING CB TO REMAIN

APPROXIMATE PROFILE LOW POINT

EXISTING CB TO REMAIN

APPROXIMATE PROFILE HIGH POINT

EXISTING RIGHT OF WAY (TYP.)

PRC = STA. 164+04.45

210 HIGH ST N/F RENNER, MAUREEN E & LIM, CHRISTINA L

ADJUST CB TO GRADE

159+00 N 8°34'24.4" E

160+00

161+00

HIGH STREET (ROUTE 209)

162+00

163+00

#14

164+00

165+00

#15

3' 11" 5.5'

6" UD "B"

INSTALL CB (TYP.)

CONSTRUCTION ℄

6" UD "B"

6" UD "B"

12" UD "C"

3' 11" 5.5'

12" OPT. III

EXISTING UTILITY POLE

ADJUST CB TO GRADE

REMOVE EXISTING CURB (TYP.)

EXISTING UTILITY POLE WITH STREET LIGHT

END OF EXISTING BITUMINOUS CURB WITH BITUMINOUS SIDEWALK

EXISTING UTILITY POLE WITH STREET LIGHT

CONSTRUCT NEW SIDEWALK BETWEEN THE PROPOSED CURB AND EXISTING BUILDING

EXISTING UTILITY POLE

REBUILD EXISTING SIDEWALK

EXISTING UTILITY POLE AND STUB POLE

179 HIGH ST N/F INMAN, JOSEPH D & KATHLEEN

185 HIGH ST N/F SWINCONECK, JOHN J

187 HIGH ST N/F GARCIA, ROBERT

189 HIGH ST N/F HARVEY, ELAINE ANN & BRADLEY, JAHMAAL LEWIS

195 HIGH ST N/F HUTTON, RABYRNE

203 HIGH ST N/F PLANT, DANIEL M

211 HIGH ST N/F GILES, STEPHEN & KATHRYN

217 HIGH ST N/F WHITE, STEPHEN C & MARION R

231 HIGH ST N/F RYTKY, BRUCE W & DESIREE C

CONSIDER CLOSING SECOND DRIVEWAY TO PARCEL

PT = STA. 158+26.26

PC = STA. 162+29.24

PLAN

25 0 25 50

Scale of Feet

CURVE DATA #14		CURVE DATA #15	
PI =	163+17.09	PI =	166+27.23
D =	6°01'52.1"	D =	0°10'06.7"
Δ =	10°34'02.1" Rt.	Δ =	0°45'03.0" Lt.
R =	950.00'	R =	34000.00'
L =	175.21'	L =	445.55'
T =	87.86'	T =	222.78'
E =	4.05'	E =	0.73'

KENNEBEC ESTUARY LAND TRUST

PRC = STA. 164+04.45

210 HIGH ST N/F RENNER, MAUREEN E & LIM, CHRISTINA L

KENNEBEC ESTUARY LAND TRUST

KENNEBEC ESTUARY LAND TRUST

260 HIGH ST N/F NASTO, DENNIS JAMES

PT = STA. 168+50.00

1 MITCHELL RD N/F MITCHELL, GERALD E & DONNA L

2 MITCHELL RD N/F WONG, RICHARD E & AMES, TIFFANY

APPROXIMATE LOCATION OF EXISTING LILLY POND TRAIL HEAD

PAVE UP TO GRANITE STAIRS

INSTALL RECTANGULAR RAPID FLASHING BEACON (TYP.)

EXISTING UTILITY POLE

REMOVE EXISTING CURB

EXISTING UTILITY POLE WITH STREET LIGHT

164+00 165+00 166+00 167+00 HIGH STREET (ROUTE 209) CONSTRUCTION ℄ 168+00 168+50

#15

8' CW

6' CW

6" UD "B"

12" UD "C"

3' 11" 5.5'

3' 11" 5.5'

MAINTAIN EXISTING SIDEWALK LANDING

211 HIGH ST N/F GILES, STEPHEN & KATHRYN

REBUILD EXISTING SIDEWALK

217 HIGH ST N/F WHITE, STEPHEN C & MARION R

EXISTING UTILITY POLE

EXISTING BACK OF SIDEWALK (LIMIT OF WROUGHT PORTION)

CONSIDER CLOSING SECOND DRIVEWAY TO PARCEL

EXISTING UTILITY POLE AND STUB POLE

231 HIGH ST N/F RYTKY, BRUCE W & DESIREE C

ADJUST CB TO GRADE, CORE 12" UD "C" INTO EXISTING STRUCTURE

GETCHELL STREET

237 HIGH ST N/F WOLFEL, KENDRA V & TRAVIS J

251 HIGH ST N/F SKYDELL, VICKI C & PAUL E (TTEES) VICKI C SKYDELL LIVING TRUST 12/3/2020

EXISTING SIDEWALK TO REMAIN

MARSHALL STREET

SECTION 1

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South Portland, ME 04106

CITY OF BATH
55 FRONT STREET
BATH, MAINE 04530

	BY	DATE
PROJ. MANAGER	L. LENER	
DESIGN-DETAILED	T. WARREN	10\24
CHECKED-REVIEWED	J. WINCHENBACH	
DESIGN2-DETAILED2	E. ROBINSON	10\24
DESIGN3-DETAILED3	D. ETTINGER	10\24
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

BATH
HIGH STREET SIDEWALK
FEASIBILITY STUDY

CONCEPT PLANS

SHEET NUMBER
9
OF 12

SECTION 4A

44 HIGH ST
N/F MINOR, SUSAN Z

EXISTING UTILITY POLE WITH STREET LIGHT

MATCH INTO EXISTING PATH

LOCATION OF MID-BLOCK CROSSING TO BE REVIEWED IN THE FIELD TO ENSURE REQUIRED STOPPING SIGHT DISTANCE IS ACHIEVABLE

INSTALL RECTANGULAR RAPID FLASHING BEACON (TYP.)

12" OPT. III

ALTER CB TO MH

BUMPY HILL ROAD

EXISTING RIGHT OF WAY (TYP.)

EXISTING UTILITY POLE

2 BUMPY HILL
N/F BAILEY, RAYMOND L JR & CATHY L

CITY OF BATH POLICE DEPARTMENT PREFERS THE SIDEWALK ON THE EAST SIDE OF HIGH STREET AS THEY UTILIZE THE SHOULDER ON THE WEST SIDE (BETWEEN WEBBER AVE AND BUMPY HILL ROAD) TO RUN SPEED RADAR

PC = STA. 108+12.87

A RETAINING WALL MAY BE REQUIRED TO SUPPORT THE DRIVEWAY ABOVE. AN ADDITIONAL STRUCTURAL ANALYSIS WILL BE REQUIRED AT THIS LOCATION

SIGNIFICANT COMMON EXCAVATION AT THIS LOCATION (POTENTIAL ROCK EXCAVATION)

INSTALL NEW CB (TYP.)

52 HIGH ST
N/F TRESCOT, EMILY G

EXISTING UTILITY POLE WITH STREET LIGHT

PROPOSED RETAINING WALL

54 HIGH ST
KENNEBEC ESTUARY LAND TRUST

PT = STA. 111+04.83

104+00
N 32°18'13.1" E
6" UD "B"
3'
11'
3'
11'
5.5'
5.5'
8" CW
105+00
CONSTRUCTION ℄
106+00
12" UD "C"
107+00
HIGH STREET (ROUTE 209)
108+00
109+00
#2
6" UD "B"
110+00
6" UD "B"
111+00
5.5'
3'
11'

MATCH INTO EXISTING STRIPING

MATCH EXISTING EDGE OF PAVEMENT

EXISTING UTILITY POLE

EXISTING GUARDRAIL TO REMAIN

EXISTING UTILITY POLE WITH STREET LIGHT

EXISTING UTILITY POLES

EXISTING GUARDRAIL TO REMAIN

EXISTING UTILITY POLE

WINNEGANCE CREEK

APPROXIMATE LIMIT OF WINNEGANCE CREEK

51 HIGH ST
N/F HUGGER, NANCY B NAULTY, SHERBURNE F

8 WILLIAMS CT
N/F WULF, DAVID M STONE-WULF, DEBORAH L

NOTES:
1. EXISTING UTILITY POLES ON THE WEST SIDE OF HIGH STREET SHALL BE RELOCATED DIRECTLY BEHIND THE PROPOSED CURB TO MAKE ROOM FOR THE SIDEWALK.

PLAN
25 0 25 50
Scale of Feet

CURVE DATA #2		CURVE DATA #3	
PI =	109+59.31	PI =	115+09.85
D =	3°49'11.0"	D =	1°06'06.6"
Δ =	11°09'08.3" Lt.	Δ =	3°01'00.4" Lt.
R =	1500.00'	R =	5200.00'
L =	291.97'	L =	273.79'
T =	146.45'	T =	136.93'
E =	7.13'	E =	1.80'

PC = STA. 113+72.93

PT = STA. 116+46.72

CITY OF BATH POLICE DEPARTMENT PREFERS THE SIDEWALK ON THE EAST SIDE OF HIGH STREET AS THEY UTILIZE THE SHOULDER ON THE WEST SIDE (BETWEEN WEBBER AVE AND BUMPY HILL ROAD) TO RUN SPEED RADAR

66 HIGH ST
N/F MADDEN, DOREEN & LEACH, JOHN

70 HIGH ST
N/F CHANDLER, KIMBERLY MUCCULLOCH FKA MCCULLOCH, KIMBERLY R

NO IMPACTS TO EXISTING HYDRANT

REPLACE EXISTING RETAINING WALL WITH NEW PROPOSED RETAINING WALL

60 HIGH ST
N/F WIRICK, WENONAH M & ANDREI, JOSHUA C

62 HIGH ST
N/F MILLS, LESLIE TRACY

EXISTING UTILITY POLE WITH STREET LIGHT

RECONSTRUCT WOODEN STAIRCASE

PROPOSED RETAINING WALL (TYP.)

56 HIGH ST
N/F FRUIN, WILLIAM F & SAWAKO FUJITA

REMOVE TREES (3)

EXISTING UTILITY POLE AND STUB POLE

EXISTING UTILITY POLE

ADJUST CB TO GRADE

REMOVE BUSH

EXISTING UTILITY POLE WITH STREET LIGHT

54 HIGH ST
KENNEBEC ESTUARY LAND TRUST

PT = STA. 111+04.83

5.5'
3'
11'
6" UD "B"
111+00
N 21°09'04.8" E
112+00
CONSTRUCTION ℄
6" UD "B"
113+00
ADJUST CB TO GRADE
114+00
#3
115+00
12" UD "C"
116+00
N 18°08'04.4" E
117+00
5.5'
11'
6" UD "B"
118+00

EXISTING UTILITY POLE AND STUB POLE

HIGH STREET (ROUTE 209)

51 HIGH ST
N/F HUGGER, NANCY B NAULTY, SHERBURNE F

53 HIGH ST
N/F SOULOS, JANE & GEORGE

55 HIGH ST
N/F EMERO, THOMAS

55 HIGH ST
N/F EMERO, THOMAS D PR

55 HIGH ST
N/F EMERO, THOMAS

65 HIGH ST
N/F SHIPLEY, DAVID M & LISA P

67 HIGH ST
N/F JEROME, BRYN M & JOSEPH M

71 HIGH ST
N/F HERRIGEL, RODGER K & JILLIAN R H

SECTION 4A

GORRILL PALMER
An LJB Engineering Company

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South Portland, ME 04106

CITY OF BATH
55 FRONT STREET
BATH, MAINE 04530

	BY	DATE
PROJ. MANAGER	L. LENER	
DESIGN-DETAILED	T. WARREN	10\24
CHECKED-REVIEWED	E. ROBINSON	10\24
DESIGN2-DETAILED2	J. WINCHENBACH	
DESIGN3-DETAILED3	D. ETTINGER	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

BATH
HIGH STREET SIDEWALK
FEASIBILITY STUDY

ALTERNATE CONCEPT PLANS

SHEET NUMBER
10
OF 12

Filename: ...\00\Highway\011_HDPlan08.dgn
U:\City of Bath Maine\4160_Bath, High St Sidewalk Study\Z - CAD\00\Highway\011_HDPlan08.dgn
Division: HIGHWAY
Username: Ellie.Robinson
Date: 10/30/2024


SECTION 4A
66 HIGH ST N/F MADDEN, DOREEN & LEACH, JOHN
70 HIGH ST N/F CHANDLER, KIMBERLY MUCCULLOCH FKA MCCULLOCH, KIMBERLY R
72 HIGH ST N/F BURR, JOHN E & KAREN KOSTER
74 HIGH ST N/F SMITH, DAVID C. & MARGO
78 HIGH ST N/F LIZOTTE, JASON T & LAWE, SAMANTHA Z
82 HIGH ST N/F GAUVIN, DAVID M.
71 HIGH ST N/F HERRIGEL, RODGER K & JILLIAN R H
73 HIGH ST N/F CARR, GEORGE
75 HIGH ST N/F DOOLEY, PAULA R.
77 HIGH ST N/F TRAFTON, MICHAEL B. & VICKI J.
79 HIGH ST N/F FRATTINI, WILLIAM L & BARBARA J
81 HIGH ST N/F LAWSON, MONICA A
NO IMPACTS TO EXISTING HYDRANT
REPLACE EXISTING RETAINING WALL WITH NEW PROPOSED RETAINING WALL (TYP.)
CONSTRUCT NEW CONCRETE STEPS AND CONCRETE PATH CONNECTION
EXISTING UTILITY POLE AND STUB POLE
PC = STA. 119+54.56
NEW POLE TO BE PLACED 3' OFF OF SHOULDER STRIPE (AS OF 5/16/2024)
EXISTING UTILITY POLE WITH STREET LIGHT
ADJUST CB TO GRADE
REMOVE TREE (1)
LOCATION OF MID-BLOCK CROSSING TO BE REVIEWED IN THE FIELD TO ENSURE REQUIRED STOPPING SIGHT DISTANCE IS ACHIEVABLE
REPLACE EXISTING WOODEN STAIRS AND CONCRETE PATH
PROPOSED RETAINING WALL (TYP.)
CITY OF BATH POLICE DEPARTMENT PREFERS THE SIDEWALK ON THE EAST SIDE OF HIGH STREET AS THEY UTILIZE THE SHOULDER ON THE WEST SIDE (BETWEEN WEBBER AVE AND BUMPY HILL ROAD) TO RUN SPEED RADAR
EXISTING HYDRANT TO REMAIN
PRC = STA. 123+55.79
MATCH INTO EXISTING STAIRS
12" OPT. III
EXISTING UTILITY POLE AND STUB POLE
6' UD "B"
118+00
119+00
120+00
121+00
122+00
123+00
124+00
N 18°08'04.4" E
HIGH STREET (ROUTE 209)
#4
#5
12" UD "C"
6' CW
EXISTING UTILITY POLES
EXISTING UTILITY POLE
EXISTING RIGHT OF WAY (TYP.)
APPROXIMATE PROFILE HIGH POINT
MATCH EXISTING EDGE OF PAVEMENT
INSTALL CB (TYP.)
GRAFFAM WAY
PLAN
25 0 25 50
Scale of Feet
82 HIGH ST N/F GAUVIN, DAVID M.
CITY OF BATH POLICE DEPARTMENT PREFERS THE SIDEWALK ON THE EAST SIDE OF HIGH STREET AS THEY UTILIZE THE SHOULDER ON THE WEST SIDE (BETWEEN WEBBER AVE AND BUMPY HILL ROAD) TO RUN SPEED RADAR
EXISTING HYDRANT TO REMAIN
MAINTAIN EXISTING STORM DRAIN INLET
HIGH ST (UNNUMBERED) N/F GUIDI, TRACEY GINN & GINN-MARVIN, JEAN GINN, CLIFFORD MARK & FOY, JENNIFER GINN C/O GINN REAL ESTA
APPROXIMATE PROFILE LOW POINT
EXISTING UTILITY POLE AND STUB POLE
PROPOSED DITCHING ON BACK SIDE OF SIDEWALK TO COLLECT WATER COMING DOWN HILL TOWARDS THE ROAD
EXISTING UTILITY POLE WITH STREET LIGHT
EXISTING STUB POLE
EXISTING UTILITY POLE AND STUB POLE
125+00
126+00
127+00
128+00
129+00
130+00
131+00
#6
HIGH STREET (ROUTE 209)
CONSTRUCTION ℄
N 12°08'15.6" E
12" OPT. III
INSTALL NEW CB (TYP.)
EXISTING UTILITY POLE
MATCH INTO EXISTING PATH
BREEZY LANE
87 HIGH ST N/F VOTRA, NICOLE E C, KEVIN RYCE
81 HIGH ST N/F LAWSON, MONICA A
RIVERVIEW ROAD
2 RIVERVIEW RD N/F WILEY, JON R & JOAN E
PRC = STA. 127+03.79
MATCH INTO EXISTING CENTERLINE
EXISTING STUB POLE AND UTILITY POLE WITH STREET LIGHT
EXISTING EDGE OF PAVEMENT (TYP.)
WEBBER AVE
PT = STA. 129+04.28
39 WEBBER AVE N/F OLEHOWSKI, MICHAEL R
93 HIGH ST N/F GORDON, NICHOLAS RICHARD
95 HIGH ST N/F GELLATLY, JEFFREY S
40 WEBBER AVE N/F JURENAS, EDMUND A & WEATHERBEE, SARAH M
ADJUST CB TO GRADE. CORE 12" UD "C" INTO EXISTING STRUCTURE
EXISTING UTILITY POLE
MATCH INTO EXISTING SIDEWALK
SECTION 3A

CURVE DATA #4	CURVE DATA #5	CURVE DATA #6
PI = 121+55.85	PI = 125+29.98	PI = 128+04.03
D = 2°51'53.2"	D = 1°54'35.5"	D = 0°34'22.6"
Δ = 11°29'40.1" Lt.	Δ = 6°38'46.6" Rt.	Δ = 1°08'55.4" Lt.
R = 2000.00'	R = 3000.00'	R = 10000.00'
L = 401.23'	L = 348.00'	L = 200.49'
T = 201.29'	T = 174.19'	T = 100.25'
E = 10.10'	E = 5.05'	E = 0.50'

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BATH, MAINE 04530

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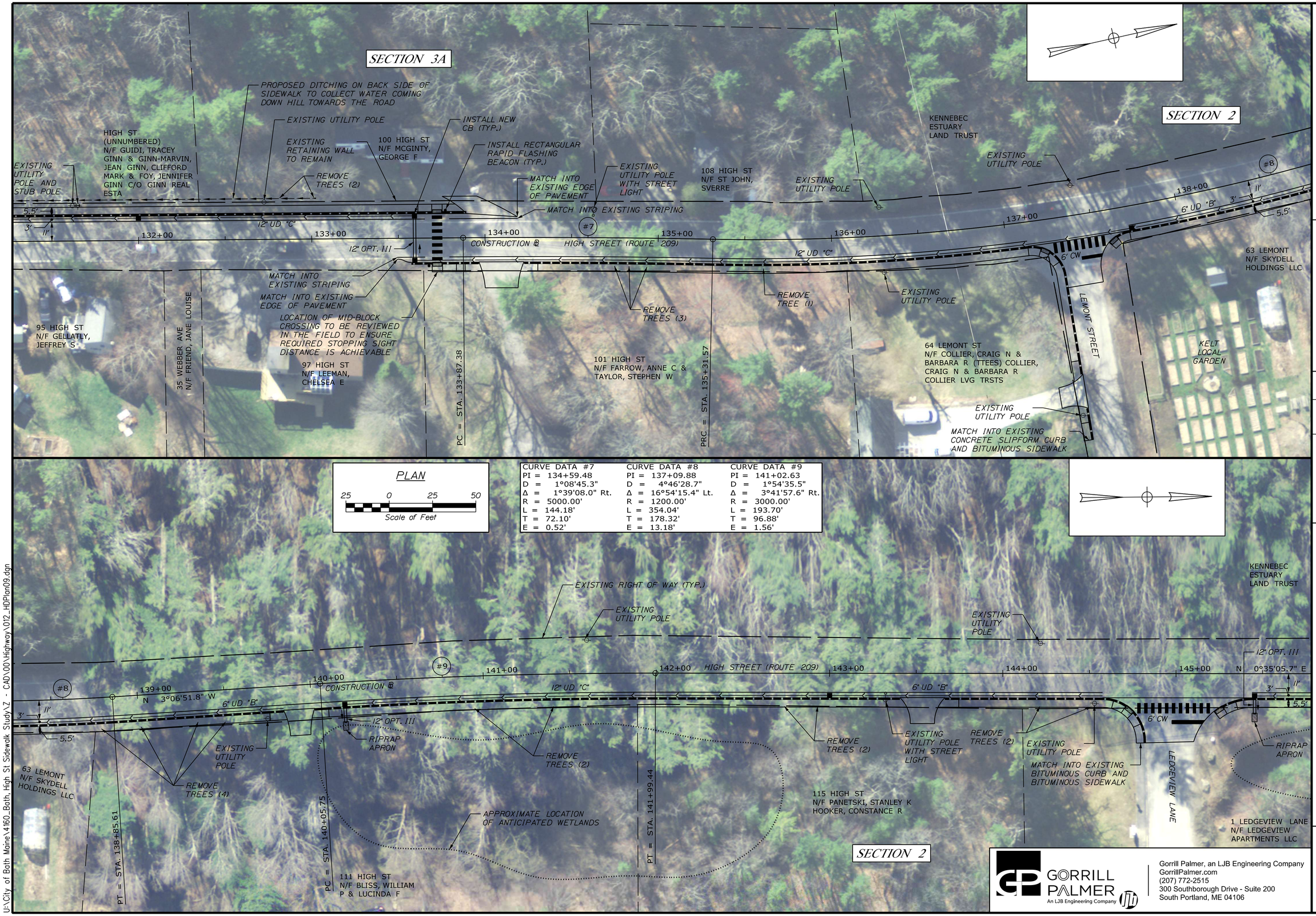
PROJ. MANAGER	L. LENER	
DESIGN-DETAILED	T. WARREN / E. ROBINSON	10/24
CHECKED-REVIEWED	J. WINCHENBACH / D. ETTINGER	10/24
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE
P.E. NUMBER
DATE

BATH HIGH STREET SIDEWALK FEASIBILITY STUDY

ALTERNATE CONCEPT PLANS

SHEET NUMBER
11



CITY OF BATH
55 FRONT STREET
BATH, MAINE 04530

	BY	DATE
DESIGNED	L. LENER	
DETAILED	T. WARREN	10\24
CHECKED	E. ROBINSON	10\24
REVIEWED	J. WINCHENBACH	
PROJ. MANAGER	D. ETTINGER	
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

BATH
HIGH STREET SIDEWALK
FEASIBILITY STUDY

ALTERNATE CONCEPT PLANS

SHEET NUMBER
12
OF 12

GORRILL PALMER
An LJB Engineering Company
Gorrill Palmer, an LJB Engineering Company
GorrillPalmer.com
(207) 772-2515
300 Southborough Drive - Suite 200
South Portland, ME 04106

Username: Ellie.Robinson Date:10/30/2024
Division: HIGHWAY
Filename: ...\00\Highway\012_HDPlan09.dgn
U:\City of Bath Maine\4160_Bath, High St Sidewalk Study\Z - CAD\00\Highway\012_HDPlan09.dgn

Appendix B – Opinion of Probable Construction Costs

Job Number:	4160
WIN	27474.00
Project Name:	**High Street Sidewalk Feasibility Study**
Project Location:	**Bath, Maine**
Comments:	Opinion of Probable Cost - Concept Plan Construction Cost Estimate
Date:	10/31/2024

Calculated By: E. Robinson, T. Warren
Checked By: J. Winchenbach

Notes:
1. Opinion of probable cost does not include engineering, construction inspection, right of way, environmental, or utility costs.
2. Opinion of probable cost is based on the Concept Plans dated October 31, 2024.
3. The unit prices are base upon recently constructed and/or bid projects from the Maine DOT and other LAP projects.

Bath - High Street Sidewalk Feasibility Study - Concept Plans

					Section 1 - 0.42 Miles Getchell St to Ledge View Ln		**Section 2 - 0.14 Miles** Ledge View Ln to Lemont St		**Section 3 - 0.18 Miles** Lemont St to Webber Ave		**Section 4 - 0.49 Miles** Webber Ave to Bridge St		**Total - 1.23 Miles** Getchell St to Bridge St	
	Item	Item Description	Unit	Unit Price	Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount
	201.11	CLEARING	AC	$ 10,000.00	0.25	$ 2,500.00	0.15	$ 1,500.00	0.05	$ 500.00	0.20	$ 2,000.00	0.65	$ 6,500.00
	201.23	REMOVING SINGLE TREE TOP ONLY	EA	$ 2,000.00	6	$ 12,000.00	10	$ 20,000.00	12	$ 24,000.00	13	$ 26,000.00	41	$ 82,000.00
	201.24	REMOVING STUMP	EA	$ 1,000.00	6	$ 6,000.00	10	$ 10,000.00	13	$ 13,000.00	13	$ 13,000.00	42	$ 42,000.00
	203.20	COMMON EXCAVATION	CY	$ 50.00	800	$ 40,000.00	260	$ 13,000.00	350	$ 17,500.00	1200	$ 60,000.00	2610	$ 130,500.00
	203.21	ROCK EXCAVATION	CY	$ 130.00	200	$ 26,000.00	15	$ 1,950.00	20	$ 2,600.00	100	$ 13,000.00	335	$ 43,550.00
	206.07	STRUCTURAL ROCK EXCAVATION - DRAINAGE & MINOR STRUCTURES	CY	$ 250.00	200	$ 50,000.00	30	$ 7,500.00	40	$ 10,000.00	100	$ 25,000.00	370	$ 92,500.00
	304.10	AGGREGATE SUBBASE COURSE - GRAVEL	CY	$ 65.00	930	$ 60,450.00	350	$ 22,750.00	510	$ 33,150.00	1360	$ 88,400.00	3150	$ 204,750.00
SP	403.208	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE	T	$ 225.00	65	$ 14,625.00	35	$ 7,875.00	45	$ 10,125.00	110	$ 24,750.00	255	$ 57,375.00
SP	403.209	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	T	$ 250.00	220	$ 55,000.00	60	$ 15,000.00	90	$ 22,500.00	260	$ 65,000.00	630	$ 157,500.00
SP	403.213	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE COURSE)	T	$ 275.00	120	$ 33,000.00	60	$ 16,500.00	80	$ 22,000.00	200	$ 55,000.00	460	$ 126,500.00
	603.159	12 INCH CULVERT PIPE OPTION III	LF	$ 100.00	40	$ 4,000.00	15	$ 1,500.00	65	$ 6,500.00	15	$ 1,500.00	135	$ 13,500.00
	604.092	CATCH BASIN TYPE B1-C	EA	$ 5,000.00	5	$ 25,000.00	3	$ 15,000.00	2	$ 10,000.00	8	$ 40,000.00	18	$ 90,000.00
	604.16	ALTERING CATCH BASIN TO MANHOLE	EA	$ 3,000.00	0	$ -	0	$ -	0	$ -	1	$ 3,000.00	1	$ 3,000.00
	604.18	ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	EA	$ 2,000.00	3	$ 6,000.00	0	$ -	1	$ 2,000.00	3	$ 6,000.00	7	$ 14,000.00
	605.09	6-INCH UNDERDRAIN TYPE B	LF	$ 65.00	1450	$ 94,250.00	365	$ 23,725.00	0	$ -	625	$ 40,625.00	2440	$ 158,600.00
	605.11	12-INCH UNDERDRAIN TYPE C	LF	$ 80.00	540	$ 43,200.00	275	$ 22,000.00	1220	$ 97,600.00	1950	$ 156,000.00	3985	$ 318,800.00
SP	606.1301	31" W-BEAM GUARDRAIL - MID-WAY SPLICE - SINGLE FACED	LF	$ 60.00	0	$ -	0	$ -	0	$ -	610	$ 36,600.00	610	$ 36,600.00
SP	606.259	ANCHORAGE ASSEMBLY	EA	$ 2,500.00	0	$ -	0	$ -	0	$ -	3	$ 7,500.00	3	$ 7,500.00
SP	608.26	CURB RAMP DETECTABLE WARNING FIELD	SF	$ 125.00	74	$ 9,250.00	20	$ 2,500.00	20	$ 2,500.00	90	$ 11,250.00	204	$ 25,500.00
SP	609.21	CONCRETE SLIPFORM CURB	LF	$ 15.00	1750	$ 26,250.00	690	$ 10,350.00	920	$ 13,800.00	2830	$ 42,450.00	6190	$ 92,850.00
	615.07	LOAM	CY	$ 70.00	300	$ 21,000.00	100	$ 7,000.00	150	$ 10,500.00	450	$ 31,500.00	1000	$ 70,000.00
	618.13	SEEDING METHOD NUMBER 1	UN	$ 60.00	22	$ 1,320.00	8	$ 480.00	10	$ 600.00	30	$ 1,800.00	70	$ 4,200.00
	619.12	MULCH	UN	$ 50.00	22	$ 1,100.00	8	$ 400.00	10	$ 500.00	30	$ 1,500.00	70	$ 3,500.00
	626.421	24-INCH DIAMETER FOUNDATION	LF	$ 150.00	24	$ 3,600.00	0	$ -	0	$ -	12	$ 1,800.00	36	$ 5,400.00
	627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	LF	$ 0.50	2150	$ 1,075.00	750	$ 375.00	950	$ 475.00	3000	$ 1,500.00	6850	$ 3,425.00
	627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	SF	$ 3.00	515	$ 1,545.00	0	$ -	310	$ 930.00	410	$ 1,230.00	1235	$ 3,705.00
SP	643.63	RECTANGULAR RAPID FLASHING BEACON	LS	$ 15,000.00	2	$ 30,000.00	0	$ -	0	$ -	1	$ 15,000.00	3	$ 45,000.00
	645.292	REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	SF	$ 80.00	50	$ 4,000.00	25	$ 2,000.00	25	$ 2,000.00	50	$ 4,000.00	150	$ 12,000.00
SP	652.00	WORK ZONE TRAFFIC CONTROL	LS	$ 100,000.00	0.34	$ 34,000.00	0.11	$ 11,000.00	0.15	$ 15,000.00	0.40	$ 40,000.00	1	$ 100,000.00
	656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LS	$ 20,000.00	0.34	$ 6,800.00	0.11	$ 2,200.00	0.15	$ 3,000.00	0.40	$ 8,000.00	1	$ 20,000.00
	659.10	MOBILIZATION	LS	$ 150,000.00	0.34	$ 51,000.00	0.11	$ 16,500.00	0.15	$ 22,500.00	0.40	$ 60,000.00	1	$ 150,000.00
				Construction Total:		$ 662,965.00		$ 231,105.00		$ 343,280.00		$ 883,405.00		$ 2,120,755.00
				20% Contingency:		$ 132,593.00		$ 46,221.00		$ 68,656.00		$ 176,681.00		$ 424,151.00
				Total Cost:		$ 795,558.00		$ 277,326.00		$ 411,936.00		$ 1,060,086.00		$ 2,544,906.00
				Rounded:		**$ 796,000.00**		**$ 278,000.00**		**$ 412,000.00**		**$ 1,061,000.00**		**$ 2,545,000.00**

SP :Special Provision required

Job Number:	4160
WIN	27474.00
Project Name:	**High Street Sidewalk Feasibility Study**
Project Location:	**Bath, Maine**
Comments:	Opinion of Probable Cost - Alternate Concept Plan Construction Cost Estimate
Date:	10/31/2024

Calculated By: E. Robinson, T. Warren
Checked By: J. Winchenbach

Notes:
1. Opinion of probable cost does not include engineering, construction inspection, right of way, environmental, or utility costs.
2. Opinion of probable cost is based on the Concept Plans dated October 31, 2024.
3. The unit prices are base upon recently constructed and/or bid projects from the Maine DOT and other LAP projects.

Bath - High Street Sidewalk Feasibility Study - Alternate Concept Plans

					Section 1 - 0.42 Miles Getchell St to Ledge View Ln		**Section 2 - 0.14 Miles** Ledge View Ln to Lemont St		**Section 3 - 0.18 Miles** Lemont St to Webber Ave		**Section 4 - 0.49 Miles** Webber Ave to Bridge St		**Total - 1.23 Miles** Getchell St to Bridge St	
	Item	Item Description	Unit	Unit Price	Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount
	201.11	CLEARING	AC	$ 10,000.00	0.25	$ 2,500.00	0.15	$ 1,500.00	0.15	$ 1,500.00	0.15	$ 1,500.00	0.70	$ 7,000.00
	201.23	REMOVING SINGLE TREE TOP ONLY	EA	$ 2,000.00	6	$ 12,000.00	10	$ 20,000.00	6	$ 12,000.00	5	$ 10,000.00	27	$ 54,000.00
	201.24	REMOVING STUMP	EA	$ 1,000.00	6	$ 6,000.00	10	$ 10,000.00	6	$ 6,000.00	5	$ 5,000.00	27	$ 27,000.00
	203.20	COMMON EXCAVATION	CY	$ 50.00	800	$ 40,000.00	260	$ 13,000.00	380	$ 19,000.00	1700	$ 85,000.00	3140	$ 157,000.00
	203.21	ROCK EXCAVATION	CY	$ 130.00	200	$ 26,000.00	15	$ 1,950.00	40	$ 5,200.00	100	$ 13,000.00	355	$ 46,150.00
	206.07	STRUCTURAL ROCK EXCAVATION - DRAINAGE & MINOR STRUCTURES	CY	$ 250.00	200	$ 50,000.00	30	$ 7,500.00	40	$ 10,000.00	100	$ 25,000.00	370	$ 92,500.00
	304.10	AGGREGATE SUBBASE COURSE - GRAVEL	CY	$ 65.00	930	$ 60,450.00	350	$ 22,750.00	450	$ 29,250.00	1650	$ 107,250.00	3380	$ 219,700.00
SP	403.208	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE	T	$ 225.00	65	$ 14,625.00	35	$ 7,875.00	35	$ 7,875.00	110	$ 24,750.00	245	$ 55,125.00
SP	403.209	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	T	$ 250.00	220	$ 55,000.00	60	$ 15,000.00	85	$ 21,250.00	380	$ 95,000.00	745	$ 186,250.00
SP	403.213	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE COURSE)	T	$ 275.00	120	$ 33,000.00	60	$ 16,500.00	75	$ 20,625.00	230	$ 63,250.00	485	$ 133,375.00
	603.159	12 INCH CULVERT PIPE OPTION III	LF	$ 100.00	40	$ 4,000.00	15	$ 1,500.00	25	$ 2,500.00	65	$ 6,500.00	145	$ 14,500.00
	604.092	CATCH BASIN TYPE B1-C	EA	$ 5,000.00	5	$ 25,000.00	3	$ 15,000.00	3	$ 15,000.00	9	$ 45,000.00	20	$ 100,000.00
	604.16	ALTERING CATCH BASIN TO MANHOLE	EA	$ 3,000.00	0	$ -	0	$ -	0	$ -	2	$ 6,000.00	2	$ 6,000.00
	604.18	ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	EA	$ 2,000.00	3	$ 6,000.00	0	$ -	0	$ -	8	$ 16,000.00	11	$ 22,000.00
	604.247	CATCH BASIN TYPE F5-C	EA	$ 4,000.00	0	$ -	0	$ -	0	$ -	1	$ 4,000.00	1	$ 4,000.00
	605.09	6-INCH UNDERDRAIN TYPE B	LF	$ 65.00	1450	$ 94,250.00	365	$ 23,725.00	0	$ -	965	$ 62,725.00	2780	$ 180,700.00
	605.11	12-INCH UNDERDRAIN TYPE C	LF	$ 80.00	540	$ 43,200.00	275	$ 22,000.00	1000	$ 80,000.00	2000	$ 160,000.00	3815	$ 305,200.00
	607.163	CHAIN LINK FENCE - 4 FOOT - PVC COATED	LF	$ 70.00	0	$ -	0	$ -	0	$ -	870	$ 60,900.00	870	$ 60,900.00
SP	608.26	CURB RAMP DETECTABLE WARNING FIELD	SF	$ 125.00	74	$ 9,250.00	20	$ 2,500.00	32	$ 4,000.00	122	$ 15,250.00	248	$ 31,000.00
SP	609.21	CONCRETE SLIPFORM CURB	LF	$ 15.00	1750	$ 26,250.00	690	$ 10,350.00	1040	$ 15,600.00	3200	$ 48,000.00	6680	$ 100,200.00
	615.07	LOAM	CY	$ 70.00	300	$ 21,000.00	100	$ 7,000.00	150	$ 10,500.00	500	$ 35,000.00	1050	$ 73,500.00
	618.13	SEEDING METHOD NUMBER 1	UN	$ 60.00	22	$ 1,320.00	8	$ 480.00	10	$ 600.00	35	$ 2,100.00	75	$ 4,500.00
	619.12	MULCH	UN	$ 50.00	22	$ 1,100.00	8	$ 400.00	10	$ 500.00	35	$ 1,750.00	75	$ 3,750.00
	626.421	24-INCH DIAMETER FOUNDATION	LF	$ 150.00	24	$ 3,600.00	0	$ -	12	$ 1,800.00	12	$ 1,800.00	48	$ 7,200.00
	627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	LF	$ 0.50	2150	$ 1,075.00	750	$ 375.00	1050	$ 525.00	3500	$ 1,750.00	7450	$ 3,725.00
	627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	SF	$ 3.00	515	$ 1,545.00	0	$ -	200	$ 600.00	700	$ 2,100.00	1415	$ 4,245.00
SP	643.63	RECTANGULAR RAPID FLASHING BEACON	LS	$ 15,000.00	2	$ 30,000.00	0	$ -	1	$ 15,000.00	1	$ 15,000.00	4	$ 60,000.00
	645.292	REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	SF	$ 80.00	50	$ 4,000.00	25	$ 2,000.00	50	$ 4,000.00	100	$ 8,000.00	225	$ 18,000.00
SP	652.00	WORK ZONE TRAFFIC CONTROL	LS	$ 100,000.00	0.34	$ 34,000.00	0.11	$ 11,000.00	0.15	$ 15,000.00	0.40	$ 40,000.00	1	$ 100,000.00
	656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LS	$ 20,000.00	0.34	$ 6,800.00	0.11	$ 2,200.00	0.15	$ 3,000.00	0.40	$ 8,000.00	1	$ 20,000.00
	659.10	MOBILIZATION	LS	$ 150,000.00	0.34	$ 51,000.00	0.11	$ 16,500.00	0.15	$ 22,500.00	0.40	$ 60,000.00	1	$ 150,000.00
SP	672.10	PRECAST CONCRETE BLOCK GRAVITY WALL	SF	$ 135.00	0	$ -	0	$ -	0	$ -	4800	$ 648,000.00	4800	$ 648,000.00
				Construction Total:		$ 662,965.00		$ 231,105.00		$ 323,825.00		$ 1,677,625.00		$ 2,895,520.00
				20% Contingency:		$ 132,593.00		$ 46,221.00		$ 64,765.00		$ 335,525.00		$ 579,104.00
				Total Cost:		$ 795,558.00		$ 277,326.00		$ 388,590.00		$ 2,013,150.00		$ 3,474,624.00
				Rounded:		**$ 796,000.00**		**$ 278,000.00**		**$ 389,000.00**		**$ 2,014,000.00**		**$ 3,475,000.00**

SP :Special Provision required

Job Number: 4160
WIN: 27474.00
Project Name: High Street Sidewalk Feasibility Study
Project Location: Bath, Maine
Comments: Comparative Analysis
Date: 10/31/2024

Calculated By: T.Warren
Checked By: J. Winchenbach

Notes:
1. The sidewalk layout shown on the Concept Plans is based on field notes collected during a site walk with the City of Bath, Maine DOT, and Gorrill Palmer on October 23, 2023.
2. The Comparative Analysis is based on the Concept Plans dated October 31, 2024.

Bath - High Street Sidewalk Feasibility Study - Comparative Analysis

Section: Street to Street (Approx.)	Roadway	Length (Approx.)	High Crash Locations	Key Features within the Section:	Challenges within the Section:	Environmental Review (Assumptions)	Right of Way Impacts (Approximate # of Parcels))	Utility Pole Conflicts (Approximate)	Cost Estimate (See Attached)	Additional Comments
Section 1: Getchell Street to Ledge View Lane	High Street (AADT: 4580) Major Collector 30 MPH Priority: 3	0.42 Miles	Intersections: No Segments: No	1) It connects into (and extends) the recently constructed sidewalk on High Street (North of Getchell Street). 2) It provides a mid-block crossing to the Lilly Pond Community Trail (stairs into the woods, approx. Sta. 166+40, Lt.). 3) It provides pedestrian access to the Lilly Pond Community Trail Trailhead and Parking area (approx. Sta. 156+35, Lt.) 4) It creates a 1.3 mile pedestrian walking loop: High St/Ledge View Ln/Robinson St/ Washington St/ Marshall St/High St. - This will require an additional 200' of sidewalk construction on Marshall St (not included in estimate or shown on the plans). - Ledge View Lane is privately owned and may not be amenable to being used as a walking loop.	1) The removal of existing ledge is required to construct the sidewalk from Sta. 156+50 to Sta. 158+50, Rt. 2) Approximately +/- 6 large trees will need to be removed to complete this section. 3) There are challenges with sight distance at the mid-block crossing to the Lilly Pond Community Trail trailhead. 4) We anticipate minor impacts (fill slopes) to existing "wetlands" (delineation required) from Sta. 145+50 to Sta. 150+50, Rt. 5) Utility poles are located on the eastside of High St, and may need to be relocated to provide adequate sidewalk clear width.	Maine DEP - MCGP: Required Maine DEP - SP: Not Required. ACOE - Category 1 SVNF - Required NRPA: Unknown (Wetland delineation required)	Construction Easements: 18 Minor Permanent Easement: 4 Major Permanent Easement: 0 - This section will make use of existing wrought portion	Anticipated Conflicts: 1) With existing utility poles: 12 2) With existing utility brace poles: 5	**$ 796,000.00**	This section connects downtown Bath (as well as the residential sector east of High Street) to the Lilly Pond Trail System.
Section 2: Ledge View Lane to Lemont Street	High Street (AADT: 4580) Major Collector 30 MPH Priority: 3	0.14 Miles	Intersections: No Segments: No	1) It connects the two (2) currently dead-ended sections of sidewalk on Ledge View Lane and Lemont Street. 2) It provides additional pedestrian access to the KELT Local Garden (located on Lemont Street). 3) It creates a 0.75 mile pedestrian walking loop: High St/Lemont St/Washington St/Robinson St/Ledge View Ln/High St. - This would require constructing an additional 100' of sidewalk along Lemont Street. - Ledge View Lane is privately owned and may not be amenable to being used as a walking loop.	1) Approximately +/- 10 large trees will need to be removed to complete this section. 2) We anticipate minor impacts (fill slopes) to existing "wetlands" (delineation required) from Sta. 140+00 to Sta. 143+00, Rt. 3) Stone structures at the end of the driveway (115 High Street) will need to be removed to make room for the sidewalk. 4) Utility poles are located on the eastside of High St, and may need to be relocated to provide adequate sidewalk clear width.	Maine DEP - MCGP: Not Required Maine DEP - SP: Not Required. ACOE - Category 1 SVNF - Required NRPA: Unknown (Wetland delineation required)	Construction Easements: 5 Minor Permanent Easements: 3 Major Permanent Easements: 0	Anticipated Conflicts: 1) With existing utility poles: 2 2) With existing utility brace poles: 0	**$ 278,000.00**	There are only two (2) houses along this section of High Street, and both are well off the road. Unless this section of sidewalk is constructed alongside another connecting section (3 or 1), a sidewalk along Middle Street (same limits) may see more pedestrian usage.
Section 3: Lemont Street to Webber Avenue	High Street (AADT: 4460) Major Collector 30 MPH Priority: 3	0.18 Miles	Intersections: No Segments: No	1) It connects the two (2) currently dead-ended sections of sidewalk on Lemont Street and Webber Avenue. 2) It provides additional pedestrian access to the KELT Local Garden (located on Lemont Street). 3) It creates a 0.7 mile pedestrian walking loop (Triangle): High St/Webber Ave/Lemont St/High St. - This would require constructing an additional 100' of sidewalk along Lemont Street.	1) Approximately +/- 12 large trees will need to be removed to complete this section. 2) Should consider geometric improvements to the intersection of High Street/Webber Avenue. 3) Significant right of way impacts through this section.	Maine DEP - MCGP: Not Required Maine DEP - SP: Not Required. ACOE - Category 1 SVNF - Not Required NRPA: Unknown	Construction Easements: 9 Minor Permanent Easements: 2 Major Permanent Easements: 5	Anticipated Conflicts: 1) With existing utility poles: 0 2) With existing utility brace poles: 0	**$ 412,000.00**	This section of sidewalk provides a walking loop at the end of the existing pedestrian infrastructure that runs down Washington Street and Webber Avenue.
Section 3 (Alternate): Lemont Street to Webber Avenue	High Street (AADT: 4460) Major Collector 30 MPH Priority: 3	0.18 Miles	Intersections: No Segments: No	1) It connects the two (2) currently dead-ended sections of sidewalk on Lemont Street and Webber Avenue. 2) It provides additional pedestrian access to the KELT Local Garden (located on Lemont Street). 3) It creates a 0.7 mile pedestrian walking loop (Triangle): High St/Webber Ave/Lemont St/High St. - This would require constructing an additional 100' of sidewalk along Lemont Street. 4) Minimizes right of way impacts through this section.	1) Approximately +/- 6 large trees will need to be removed to complete this section. 2) Should consider geometric improvements to the intersection of High Street/Webber Avenue. 3) Two (2) additional mid-block crossings are required to make pedestrian connections. 4) Utility poles are located on the westside of High St, and may need to be relocated to provide adequate sidewalk clear width.	Maine DEP - MCGP: Not Required Maine DEP - SP: Not Required. ACOE - Category 1 SVNF - Not Required NRPA: Unknown	Construction Easements: 6 Minor Permanent Easements: 2 Major Permanent Easements: 0	Anticipated Conflicts: 1) With existing utility poles: 0 2) With existing utility brace poles: 0	**$ 389,000.00**	This section of sidewalk provides a walking loop at the end of the existing pedestrian infrastructure that runs down Washington Street and Webber Avenue.
Section 4: Webber Avenue to Bridge Street	High Street (AADT: 5230) Major Collector 30 MPH Priority: 3	0.49 Miles	Intersections: No Segments: No	1) Connects the gap in existing pedestrian infrastructure from Bridge Street (and Winnegance Bakery) to Webber Ave. 2) Connects existing sidewalk infrastructure to a few scenic areas along Winnegance Creek. 3) Provides sidewalk connectivity to the three (3) residential developments: - Graffam Way, Breezy Lane, and Riverview Road.	1) Approximately +/- 13 large trees will need to be removed to complete this section. 2) Need to replace two (2) sections of existing guardrail to make room for the proposed sidewalk. 3) Need to review challenges with the proposed sight distance at the mid-block crossing at Sta. 104+75. 4) Significant right of way impacts through this section.	Maine DEP - MCGP: Required Maine DEP - SP: Not Required. ACOE - Category 1 SVNF - Not Required NRPA: Unknown	Construction Easements: 18 Minor Permanent Easements: 5 Major Permanent Easements: 9	Anticipated Conflicts: 1) With existing utility poles: 0 2) With existing utility brace poles: 0	**$ 1,061,000.00**	This section extends the existing pedestrian infrastructure, that currently dead ends at Webber Ave, down to the Winnegance Bakery and connects into the existing sidewalk that continues East to the Phippsburg town line.
Section 4 (Alternate): Webber Avenue to Bridge Street	High Street (AADT: 5230) Major Collector 30 MPH Priority: 3	0.49 Miles	Intersections: No Segments: No	1) Connects the gap in existing pedestrian infrastructure from Bridge Street (and Winnegance Bakery) to Webber Ave. 2) Provides sidewalk connectivity to the three (3) residential developments: - Graffam Way, Breezy Lane, and Riverview Road. 3) There is existing drainage infrastructure on the western side of the road that can be utilized. 4) Minimizes right of way impacts through this section.	1) Approximately +/- 5 large trees will need to be removed to complete this section. 2) A significant number of retaining walls and staircases will need to be replaced to minimize property impacts. 3) There will potentially be significant impacts to the switchback driveway located at Sta. 108+50, Lt. 4) Three (3) additional mid-block crossings are required to make pedestrian connections. 5) Utility poles are located on the westside of High St, and may need to be relocated to provide adequate sidewalk clear width.	Maine DEP - MCGP: Required Maine DEP - SP: Not Required. ACOE - Category 1 SVNF - Not Required NRPA: Unknown	Construction Easements: 21 Minor Permanent Easements: 6 Major Permanent Easements: 0	Anticipated Conflicts: 1) With existing utility poles: 12 2) With existing utility brace poles: 3	**$ 2,014,000.00**	This section extends the existing pedestrian infrastructure, that currently dead ends at Webber Ave, down to the Winnegance Bakery and connects into the existing sidewalk that continues East to the Phippsburg town line.

Abbreviations

AADT: Average Annual Daily Traffic
MCGP: Maine Construction General Permit
SP: Stormwater Permit
DEP: Department of Environmental Protection
ACOE: Army Corps of Engineers
SVNF: Self Verification Notification Form
NRPA: National Resource Protection Act
DOT: Department of Transportation

Right of Way Impacts Glossary

Construction Easements = Temporary grading rights
Minor Permanent Easement = Sidewalk encroaches 1' to 2' onto private property.
Major Permanent Easements = Sidewalk encroaches 3' to 5' onto private property.

Project Lighting Notes:

1. Existing utility poles are located primarily on the westside of High Street through sections 4, 3, and 2. In section 1, the utility poles are transitioned to the eastside of High Street.
2. There are existing cobra-style lights attached to the existing utility poles throughout the limits of the project, spaced every 3 to 4 poles.
3. Due to existing right of way widths, we would recommend making use of the existing lighting infrastructure and potentially adding additional lighting in critical areas.
4. The Maine DOT Guideline for Lighting Pedestrian Crosswalks will need to be reviewed and incoproated into the project during design.

GORRILL PALMER
An LJB Engineering Company

Public Meeting – Bath, High Street Sidewalk Feasibility Study – Sign in Sheet

Project: **High Street Sidwalk Feasibility Study, Bath, Maine**
WIN: **027474.00**

Date: **June 4, 2024**
Place: **6:00pm at the Bath City Hall Auditorium**

NAME & TITLE	ADDRESS	EMAIL ADDRESS	PHONE NUMBER
Margaret + Kenneth Gibb	145 High St		
John Morse	57 Main Rd. Phippsburg		
Bob Grant	20 High St Bath	bob.grant481@gmail.com	
Patricia Cavanaugh	20 High St	pc.islandview@gmail.com	
Tim Blair	Bike, Ped + Transportation	tblair@bnpadvisors.com	207-720-0024
ELIZABETH MORSE	57 MAIN ROAD PHIPPSBURG		
Jared Winchenbach	Gorrill Palmer (Presenter)	J.Winchenbach@GorrillPalmer.COM	
Trey Warren	Gorrill Palmer (Presenter)	twarren@gorrillpalmer.com	
LEE LEINER	450 OAK GROVE AVE	lleiner@cityofbath.com	

Bath, High Street Sidewalk Feasibility Study WIN 27474.00
PUBLIC MEETING #1
June 4, 2024, 6:00 PM, at City Hall - Bath, Maine

TECHNICAL PRESENTATION

1. Introductions

a. Public meeting on Bath, High Street sidewalk feasibility study.

b. Lee Leiner (City PWD), Jared Winchenbach (GP Project Manager), Trey Warren (GP Lead Engineer), Others.

2. Meeting Format

a. Technical presentation followed by questions and answers.

b. T. Warren taking notes.

c. Sign-in sheet.

d. Please state your name when asking questions.

3. Project Goals/Purpose and Need

a. This project is a Planning Study through the Maine DOT initiated and led by the City of Bath.

b. Projects tend to start in planning and then based on the results of the planning study (and public process) can be moved forward into design and construction. The planning study allows the municipality to have something in hand (a concept) to approach the Maine DOT and request funding assistance in the multimodal/highway program.

c. Project goals – Extend pedestrian infrastructure south along High Street (Route 209) from Getchell Street (matches into an existing sidewalk) to Graffam Way as well as connect sections of existing pedestrian infrastructure that currently dead-end at High Street. In addition, this sidewalk will provide a walkable connection to the Lilly Pond Community Forest parking area and trailhead.

d. Provide sidewalks, crosswalks, rapid flashing beacons, and access management to driveways.

e. Pedestrian improvements will be designed to achieve ADA compliance.

4. Project Limits

a. Original project limits: High Street (Route 209) from Getchell Street to Graffam Way approximately 0.85 miles.

b. Revised project limits: High Street (Route 209) from Getchell Street to Bridge Street (Route 209) approximately 1.23 miles.

5. Roadway Characteristics

a. High Street (Route 209) – priority 3 roadway, 30 mph with 5,600 AADT.

   i. Roadway winds back and forth and has a decent amount of grade.

   ii. Avg speed is higher than 30mph, narrow to no shoulders makes walking feel dangerous.

b. Sideroads – priority 5 roadways, local roads, 25 mph with 1,5000 max AADT.

c. No high crash locations within project limits over the 3-year period of 2021 - 2023. HCL: 8 or more accidents and CRF 1.0+ in 3-year period.

6. Graphics overview

a. Plan view – Street names, proposed work (sidewalk, grading, curbing, drainage, driveways), assumed tree takes, right of way, property owner names, and property lines.

b. Existing profiles – none, based on aerial.

c. Typical sections

7. Summary of Design

a. The current project includes a preferred and an alternative concept plan.

   i. Gorrill Palmer, Maine DOT & the City of Bath met late in 2023 to complete a site walk and concluded that it would be preferred for the sidewalk to be on the East side of High Street. This is based on a reduced number of mid-block crossings, access to higher residential areas, easier tie ins to existing pedestrian infrastructure, and lower construction costs.

      - The sheets labeled Concept Plans show this design.

   ii. During the design process we noticed that the right of way was tighter on the east side of the road and would require multiple (minor) acquisitions to complete the work. A revised design (Alternate Concept Plans) was completed to help avoid right of way impacts.

      - The sheets labeled Alternate Concept Plans show this design.

b. Concept Plans –

   i. Building 5.5’ wide bituminous sidewalk with slipform concrete curb.

   ii. Travel way widths to match existing roadway, shoulder adjacent to the sidewalk will be widened from 1’ to 3’.

      - If space allowed, esplanades would be considered but based on our review of the existing right of way none is anticipated.

Design Walkthrough:

iii. Mid-block crossing at the Lilly Pond trail head (stairs) with rectangular rapid flashing beacons.

iv. Remove/replace existing bituminous curb and existing sidewalk.

v. Ledge (bedrock) cut at the top of the hill near Lilly Pond parking area.

vi. Mid-block crossing at the Lilly Pond parking area with rectangular rapid flashing beacons.

vii. Sidewalk connection to existing sidewalk on Ledge View Lane.

viii. Sidewalk connection to existing sidewalk on Lemont Street.

- We will need to extend the sidewalk approximately 125' down Lemont to make the connection.

ix. Minor geometric improvements to Webber Avenue

- Reduced pavement footprint to make a shorter connection for pedestrians.
- T up the intersection to reduce potential speed taking the corner.

x. Sidewalk will be continued across Riverview Road, Breezy Lane, and Graffam Way.

xi. Relocation of the existing guardrail at the south end of the project will be required to provide room for the proposed sidewalk.

xii. Mid-block crossing just South of Bumpy Hill Road with rectangular rapid flashing beacons.

xiii. The sidewalk will connect to the existing sidewalk on the East side of High Street at its intersection with Bridge Street and replace the existing section of bituminous sidewalk on the west side of the road.

xiv. Drainage improvements – Combination of maintaining the existing drainage infrastructure and adding new catch basins, underdrains, culverts and ditching to ensure water moves as required.

c. Alternate Concept Plans –

Design Walkthrough:

i. Mid-block crossing at the Lilly Pond trail head (stairs) with rectangular rapid flashing beacons.

ii. Remove/replace existing bituminous curb and existing sidewalk.

iii. Ledge (bedrock) cut at the top of the hill near Lilly Pond parking area.

iv. Mid-block crossing at the Lilly Pond parking area with rectangular rapid flashing beacons.

v. Sidewalk connection to existing sidewalk on Ledge View Lane.

vi. Sidewalk connection to existing sidewalk on Lemont Street.

- *We will need to extend the sidewalk approximately 125' down Lemont to make the connection.*

vii. Mid-block crossing halfway between Lemont Street and Webber Avenue with RRFB.

viii. Sidewalk will be constructed on West side of road from here South (aside from a few connection sections).

ix. Mid-block crossing at Webber Avenue.

x. Minor geometric improvements to Webber Avenue
   - Reduced pavement footprint to make a shorter connection for pedestrians.
   - T up the intersection to reduce potential speed taking the corner.

xi. Proposed sidewalks on both sides of High Street from Webber Ave to Graffam Way.
   - Sidewalk across Riverview Road, Breezy Lane, and Graffam Way.

xii. Mid-block crossing just South of Graffam Way.

xiii. Retaining Walls on west side of road.

xiv. Mid-block crossing just South of Bumpy Hill Road with rectangular rapid flashing beacons.

xv. The sidewalk will connect to the existing sidewalk on the East side of High Street at its intersection with Bridge Street and replace the existing section of bituminous sidewalk on the west side of the road.

xvi. Drainage improvements – Combination of maintaining the existing drainage infrastructure and adding new catch basins, underdrains, culverts and ditching to ensure water moves as required.

8. Review of Materials & Sections

9. Utilities

a. Overhead utility poles have been reviewed in the field, they are located on both sides of the road (weave back and forth).
   i. In section 1, the utility poles are primarily on the East side of the road.
   ii. In sections 2, 3, & 4, the utility poles are primarily on the West side of the road.

b. We are working on reviewing existing lighting, there are overhead lights on the utility poles.

c. Poles may need to be relocated but we won't know for sure until survey is collected, and the design is underway.

d. We will work with underground utilities once the project goes under design.

10. Environmental process

a. Coordination during design.

11. Right of way process

a. The existing ROW shown is parcel information (not guaranteed to be accurate).

b. Work beyond ROW limits will likely require temp construction easements for grading and permanent sidewalk easements in select locations.

12. Cost/Funding

a. Construction cost is currently estimated at:

   i. Concept Plans: $2.5 million.

   ii. Alternate Concept Plans: $3.5 million.

13. Schedule

a. The final report will be due over the next month.

b. Not currently funded for design (coordination with the City and Maine DOT is ongoing).

c. Not currently funded for construction.

14. Questions and Answers

1. Can we substitute slipform concrete curb for granite curb? Potentially!

   a. Existing curb on the north end of the project is slipform concrete (Marshall to Getchell), generally we will try to match exiting curb types (aside from bituminous) to make a cohesive aesthetic.

   b. Pricing: the cost of granite curb is approximately 4 times the cost (per linear foot) of slipform concrete curb.

      i. On a mile-long project this can increase the cost of construction by $250,000.

2. Why are there no proposed bike lanes/multi-use path?

   a. Currently there is no bicycle infrastructure to the north or south of the project limits.

   b. Right of way issues: existing right of way is variable 35’ to 40’ in width through most of the corridor. This makes even adding a 5.5’ sidewalk within the right of way difficult.

   c. We are widening the shoulder through this section to be 3’ instead of 1’.

   d. Perhaps once we receive a survey, there is a chance that we have more ROW than anticipated and we could widen the shoulder.


HIGH STREET
SIDEWALK FEASIBILITY STUDY
BATH, MAINE
CONCEPT PLANS
WIN 027474.00
SCALE: 1"=25'
MaineDOT
BATH, MAINE
SECTION 4: +/- 0.49 MILES
BRIDGE STREET TO WEBBER AVENUE
HIGH STREET (ROUTE 209)
BRIDGE STREET
WINNEGANCE CREEK
COLOR KEY
PROPOSED FEATURES
ALIGNMENT
ROADWAY IMPROVEMENTS
DRAINAGE
SIDEWALK
DRIVES
GRASSED AREA
WETLAND
LANE LINES
TOPO GP
COASTAL AREA
ROW LINES
EXISTING FEATURES
SOUTH OF STA. 111+00 = 2013 AERIAL
NORTH OF STA. 111+00 = 2018 AERIAL

HIGH STREET
SIDEWALK FEASIBILITY STUDY
BATH, MAINE
CONCEPT PLANS

WIN 027474.00
SCALE: 1"=25'

MaineDOT

SECTION 1: +/- 0.42 MILES
LEDGE VIEW LANE TO GETCHELL STREET

SECTION 2: +/- 0.14 MILES
LEMONT STREET TO LEDGE VIEW LANE

SECTION 3: +/- 0.18 MILES
WEBBER AVENUE TO LEMONT STREET

SECTION 4: +/- 0.49 MILES
BRIDGE STREET TO WEBBER AVENUE


HIGH STREET
SIDEWALK FEASIBILITY STUDY
BATH, MAINE
CONCEPT PLANS
WIN 027474.00
SCALE: 1"=25'
MaineDOT
SECTION 1: +/- 0.42 MILES
LEDGE VIEW LANE TO GETCHELL STREET
HIGH STREET (ROUTE 209)
GETCHELL STREET
COLOR KEY
PROPOSED FEATURES
ALIGNMENT
ROADWAY IMPROVEMENTS
DRAINAGE
SIDEWALK
DRIVES
DISABLED AREA
WETLAND
TREE LINES
TOPO UP
COASTAL AREA
ROW LINES
EXISTING FEATURES


HIGH STREET
SIDEWALK FEASIBILITY STUDY
BATH, MAINE
ALTERNATE CONCEPT PLANS
WIN 027474.00
SCALE: 1"=25'
MaineDOT
SECTION 4: +/- 0.49 MILES
BRIDGE STREET TO WEBBER AVENUE
HIGH STREET (ROUTE 209)
HIGH STREET
BRIDGE STREET
WINNEGANCE CREEK
COLOR KEY
PROPOSED FEATURES
EXISTING FEATURES

HIGH STREET
SIDEWALK FEASIBILITY STUDY
BATH, MAINE
ALTERNATE CONCEPT PLANS

WIN 027474.00
SCALE: 1"=25'

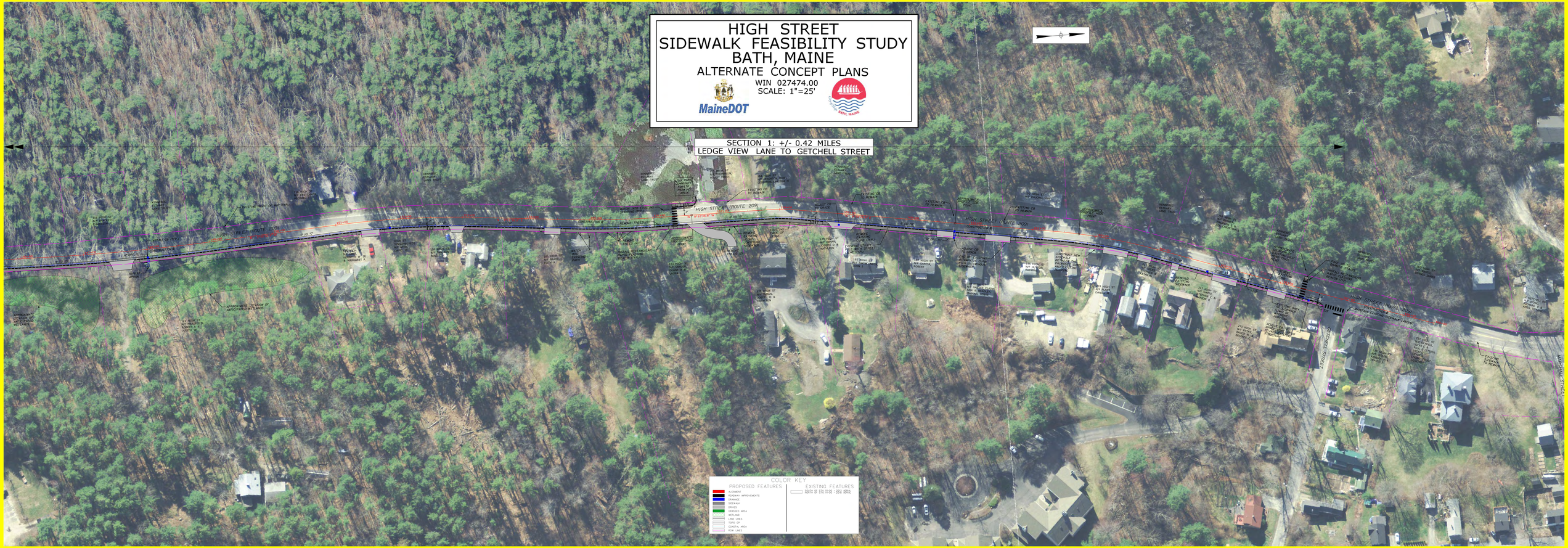
MaineDOT

SECTION 1: +/- 0.42 MILES
LEDGE VIEW LANE TO GETCHELL STREET

SECTION 2: +/- 0.14 MILES
LEMONT STREET TO LEDGE VIEW LANE

SECTION 3: +/- 0.18 MILES
WEBBER AVENUE TO LEMONT STREET

SECTION 4: +/- 0.49 MILES
BRIDGE STREET TO WEBBER AVENUE


HIGH STREET
SIDEWALK FEASIBILITY STUDY
BATH, MAINE
ALTERNATE CONCEPT PLANS
WIN 027474.00
SCALE: 1"=25'
MaineDOT
SECTION 1: +/- 0.42 MILES
LEDGE VIEW LANE TO GETCHELL STREET
HIGH STREET (ROUTE 209)
GETCHELL STREET
COLOR KEY
PROPOSED FEATURES
ALIGNMENT
ROADWAY IMPROVEMENTS
DRAINAGE
SIDEWALK
DRIVES
DISTURBED AREA
WETLANDS
TREE LINES
TOPO UP
COASTAL AREA
ROW LINES
EXISTING FEATURES

Appendix E – Public Meeting Comments

GORRILL PALMER
An LJB Engineering Company

300 Southborough Drive, South Portland, ME 04106
(207) 772-2515

Project:	**WIN 27474.00, Bath, High Street Sidewalk Feasibility Project**
Subject:	**Public Meeting #1 – Public Comments**
Date & Loc:	June 4, 2024, at 6:00pm at the Bath City Hall
Comments:	Residents of Bath (names listed below if possible)
Responses:	Gorrill Palmer (Provided June 7, 2024)
Attendees:	Lee Leiner (City of Bath), Jared Winchenbach (Gorrill Palmer), & Trey Warren (Gorrill Palmer) (Dakota Hewlett (Maine DOT) could not attend)

Please find Gorrill Palmer's responses below (in **RED**) to Public Meeting comments (in **BLACK**):

Comments from the Public:

1. Comment (person did not state name): Large trucks use Webber Street so the curb radii should not be sharpened too far.

   Response: If the project moves forward into design, and the High Street/Webber Avenue intersection is included within the project limits; Gorrill Palmer (GP) will complete turning movements to ensure that large trucks (WB-67 or a design vehicle designated by the city) will be able to make the required movements without needing to encroach into oncoming traffic.

2. Comment from Tim Blair: How far back from the back of sidewalk will the retaining walls be? Retaining walls right at the back of sidewalk can create an unpleasant walking experience for the public.

   Response: Due to limited available right of way widths through the corridor, it is assumed that the retaining walls will be located at the back of the 5.5' sidewalk. If we find that the existing right of way is wider than anticipated, we will look to widen the sidewalk to 6' or 6.5' to account for a shy factor for pedestrians.

3. Comment from Tim Blair: Could the proposed lanes be re-striped at 10' or less to make the shoulders wider in this area?

   Response: Maine DOT does permit the use of 10' lanes in urbanized areas with posted speed limits of 30 mph and below (High Street – 30 mph roadway) without requiring a design exception. Additionally, they state that 10' lanes should be investigated where there has been an expressed desire for a bicycle facility and changing lane widths would result in providing 4 to 5 feet in width for a bicycle facility. We will discuss this option in more detail with the City of Bath.

4. Comment from Tim Blair: How will the project calm traffic? It appears that there is nothing being done to slow down traffic.

   Response: The intent of the project is to provide pedestrian connectivity along High Street from Getchell Street to Bridge Street. Speeding is generally considered a law enforcement issue, however, based on the information noted in section 3 (see above) we could potentially see some traffic calming benefits from re-striping the road to 10' widths with 4' shoulders. The construction of a sidewalk and the presence of pedestrians will help this area feel more like an urban street and less like a rural road, which should also help reduce vehicle speeds.

5. Comment from Tim Blair: Can crosswalk bump outs be added to shorten crossings?

   Response: Due to limited shoulder widths on High Street, 3' to 4' (depending on the travel way striping), it is not feasible to "bump out" the curb to provide a shorter cross walk as the bump would not significantly narrow the roadway. Additionally, bumping out the curb would reduce an already narrow shoulder which would make it more difficult for bicyclists.

6. Comment from Tim Blair: Formal request for bicycle mobility to be considered in the project.

   Response: The formal request has been noted and will be coordinated with the Maine DOT PM Dakota Hewlett.

7. Comment from Tim Blair: Can the project address the roadway shoulders on the opposite side of the road as well as the side with the proposed sidewalk? The existing 1' shoulder is not sufficient for bikes.

   Response: The intent of the project is to provide an ADA compliant pedestrian facility along High Street from Getchell Street to Bridge Street. The proposed widening of the shoulder on the side of the proposed sidewalk is required per Maine DOT minimum shoulder standards for this roadway classification. We can discuss with Dakota whether the Maine DOT would consider widening the opposing side of the road as part of this project.

8. Comment from Community Member in 2nd row: Striping fades quickly in this corridor, the road should be re-striped to help identify where the roadway shoulder is to keep vehicles from drifting towards pedestrians in the shoulder.

   Response: The City of Bath (Lee) commented that they recently restriped the road and will work to keep the area striped.

9. Comment from Ken Gibbs: Ken voiced his support for the project but wanted to note that there is a speed issue in front of his property (145 High Street) as vehicles go down the hill from the Lilly Pond parking area heading South.

   Response: The design team is aware that vehicles are traveling above the posted speed limit along High Street and will coordinate with the Maine DOT and the City of Bath moving forward to consider potential traffic calming alternatives.

10. Comment from Ken Gibbs: Ken is concerned about the impacts that the sidewalk and area will have on his property. He has a fence along the edge of his property with a drainage ditch and a garden behind it.

    Response: The project will look to minimize impacts on private property. There will be new proposed drainage infrastructure installed on High Street as part of this project. There is potential that the cross culvert that moves water into the ditch in his yard could be tied into the underdrain system via a catch basin. This would help reduce impacts to his property as a large ditch would no longer be required.

11. Comment from Margret Gibbs: Margret asked if speeds could be dropped in this area?

    Response: To change the speed limit of a roadway the Maine DOT would require that a speed study be completed to analyze the existing condition and determine whether the speed limit should be decreased (or in some instances increased). Our recommendation would be to move forward with this project first, change the feel of the road from a rural roadway to an urban street and then, if speed is still an issue, consider requesting a speed study. Completing a speed study before changing the character of a roadway could have the opposite effect of what is desired.

12. Comment from Tim Blair: Tim mentioned that the DOT has been rethinking speed studies recently and considering complete streets more when reviewing an area. Is there additional information that Gorrill Palmer has in terms of these speed studies and how they are being looked at?

    Response: We will discuss the potential shift in how speed studies are being reviewed by the Maine DOT with Dakota Hewlett and reevaluate how we approach speeding on this corridor.

13. Comment from Ken Gibbs: Ken stated that the project would help make drivers more aware of pedestrians in the area.

    Response: GP agrees with this comment.

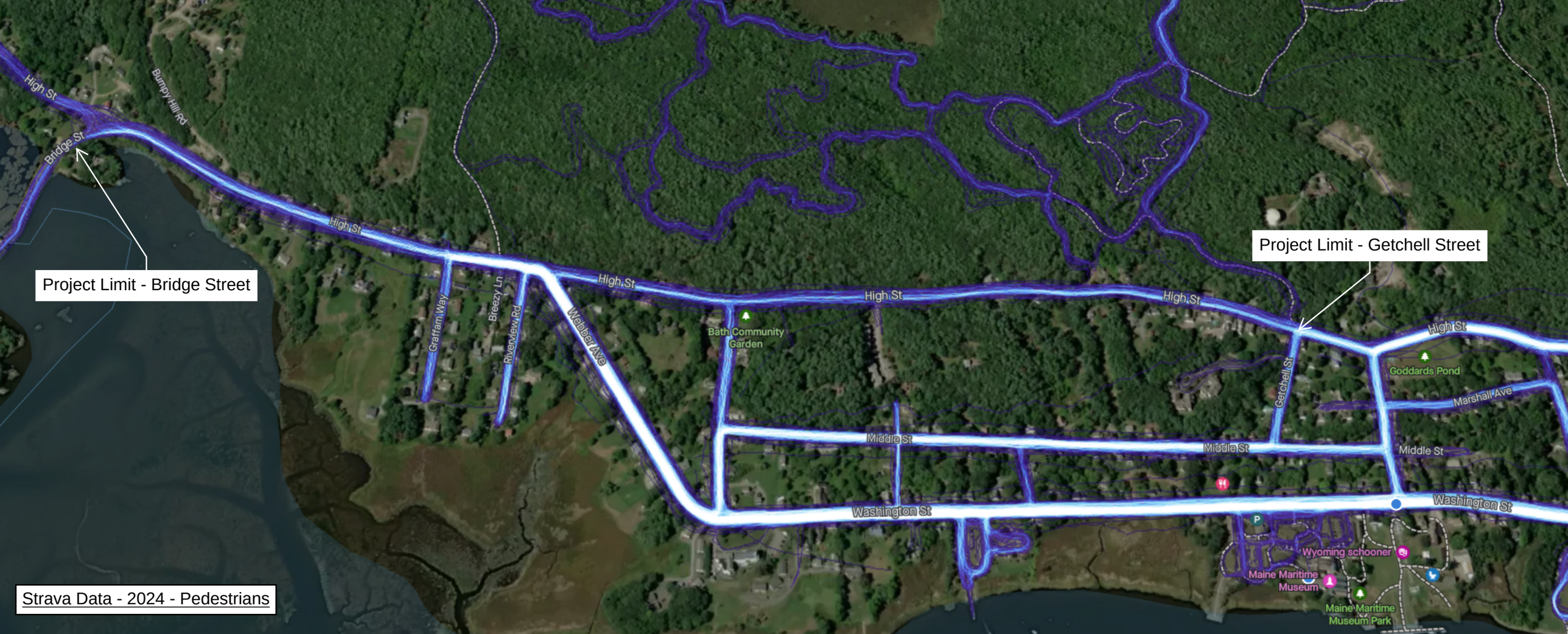
14. Comment from Deb (last name not provided): Does this sidewalk count as a multi-use path? Could bikes, for example, use the sidewalk to travel along High Street as well as pedestrians?

    Response: A multi-use path is generally 8' wide (minimum) and has an esplanade and/or hardscaping to separate path users from the roadway shoulder. Due to the sidewalk only being 5.5' wide we would not recommend bicyclists use the sidewalks. We will meet with the Maine DOT to discuss potential improvements for bicyclists along the corridor (as noted in previous comments).

15. Comment from the Councilor of Ward 1 (project area): Is vertical traffic calming being considered as part of this project? Specifically, a raised crosswalk or speed table at the mid-block crossing at the Lilly Pond Trail parking area?

    Response: Based on the current Maine DOT Guidelines for the use of Traffic Calming Devices, a raised cross walk/ speed table would be permitted on High Street (corridor priority 3 with a speed limit less than 35mph). However, the City of Bath commented that raised speed tables/crosswalks are not currently being considered for this project. Additional coordination on this topic is required.

Appendix F – Strava Data


Project Limit - Bridge Street
Project Limit - Getchell Street
Strava Data - 2024 - Pedestrians
High St
Bridge St
Bumpy Hill Rd
Graham Way
Breezy Ln
Riverview Rd
Weibel Ave
Bath Community Garden
Getchell St
Goddards Pond
Marshall Ave
Middle St
Washington St
Wyoming schooner
Maine Maritime Museum
Maine Maritime Museum Park


Project Limit - Bridge Street
Project Limit - Getchell Street
Strava Data - 2024 - Bicycle
High St
Bridge St
Bumpy Hill Rd
Graffam Way
Breezy Ln
Riverview Rd
Webber Ave
Bath Community Garden
Getchell St
Goddards Pond
Marshall Ave
Middle St
Washington St
Wyoming schooner
Maine Maritime Museum
Maine Maritime Museum Park