TOWN OF KITTERY

200 Rogers Road, Kittery, ME 03904
Telephone: (207) 475-1323 | Fax: (207) 439-6806
Visit us: www.kitteryme.gov/planning-board

Town of Kittery
April 11, 2024

ITEM 2—5 Whipple Road—Major Site Plan — Final Review

Action: Hold public hearing. Approve plan or continue review Mike Sudak, on behalf of owner/applicants PB Real Estate Holdings LLC, requests approval to construct a 3,400 square foot commercial facility containing a butcher's shop and restaurant, along with associated parking and utilities, on the property of 5 Whipple Road, Tax Map 9, Lot 134, in the Business Local (B-L) Zone.

PROCESS SUMMARY

REQ'D	ACTION	COMMENTS	STATUS
NO	Sketch Plan Acceptance/Approval	Not required for site plan review	N/A
YES	Planning board determination of completeness	3/14/24	Accepted
NO	Site Visit	Optional for planning board, required for planning staff	N/A
YES	Public Hearing	Scheduled for 4/11/24	Pending
YES	Preliminary Plan Approval	Scheduled for 4/11/24	Pending
YES	Final Plan Review and Decision	Scheduled for 4/11/24	Pending
Applicant: Prior to the signing of the approved Plan any **Conditions of Approval related to the Findings of Fact along with waivers and variances (by the BOA) must be placed on the Final Plan and, when applicable, recorded at the York County Registry of Deeds. PLACE THE MAP AND LOT NUMBER IN 1/4" HIGH LETTERS AT LOWER RIGHT BORDER OF ALL PLAN SHEETS.**			

OTHER PERMITS AND REQUIREMENTS

- State Fire Marshal NFPA #13 fire protection system approval.
- DEP construction permitting and site review.
- Driveway entrance permit with Public Works.
- Brownfield remediation planning through MDEP

PROJECT INTRODUCTION

This is the second review for a proposed restaurant and butcher shop on the property of 5 Whipple Road. Currently the site of a 1,328 sq ft auto repair facility, the parcel still contains a canopy and barrels from a former gas station that used to function on the property. The area is a mix of commercial and residential uses, with the parcel directly abutting a Town-owned piece of land to the north and the St. Raphael's Church to the south.

In conjunction with federally required brownfield remediation work, the auto repair facility and an old gas canopy on the property would be demolished. A proposed butcher shop would be constructed in the footprint of the existing repair shop, with a 2,076 sq ft expansion of the current building to house a restaurant, both under the same ownership.

Planning board review is required because the applicant needs a modification to the landscape planter strip requirements in **§16.4.17.D.(4).** The applicant currently meets all stormwater requirements but is seeking relief, discussed further below. Per **§16.7.10.D.(3),** a preliminary plan may also be considered the final plan application if no changes occur. The applicant is requesting to receive final plan approval at this time.

On March 14th, the planning board accepted the application as complete, then scheduled a public hearing to be held on April 11th. The applicant has resubmitted the plan set to address the review engineer's comments and provide the full landscaping plan required for final approval. Third-party engineer review deemed the remaining issues were small enough that conditional final approval is warranted at this time. Due to the small impact of the development and the fact that this only requires planning board review due to the requested waivers, **staff suggest final approval is warranted at this time.** The planning board should hold the public hearing and then discuss the requested waivers.

WAIVERS REQUESTED

1. Landscaping planter strip modification: the applicant is requesting a modification to reduce the depth of the planter strip from 15 feet to 7.5 feet along all rights-of-way, to ensure adequate space to meet parking requirements.
2. Landscaping planter strip waiver: the applicant is requesting a waiver from the vegetative planter strip along 68 feet of the frontage on Whipple Road, to allow the building to meet the maximum 20-foot front yard setback. The planter strip minimum directly contradicts the maximum front yard setback standard in this zone. Additionally, moving the building further from Whipple Road would interrupt existing water and sewer utility lines north of the proposed footprint.
    a. The applicant proposes to provide a thin landscape strip between the proposed building and required sidewalks along Whipple Road, using a mulched planting bed to create elevated screening with the minimal space available.
3. Street tree minimum modification: the applicant is required to provide a minimum of 12 street trees due to the amount of frontage on the site. The applicant wishes to reduce this number to 8 (6 of which would be located along a right-of-way), due to the small size of the lot and concern that the mature tree canopies would block each other.
    a. The applicant proposes additional low-elevation landscaping features that would not interfere with the mature trees, to provide adequate screening of the site that would compensate for the reduced number of trees.
4. Stormwater management modification: the applicant wishes to reduce the standard requiring 100% of stormwater be treated on-site to 90%, which is within the planning board's

jurisdiction as the applicant proposes a development with only 70% impervious surface. Currently, 0% of stormwater is treated on the property. Providing partial relief on the modification would still allow for an improvement of stormwater management, while also allowing the applicant to provide more green space and utilize low-impact-development rather than large gray infrastructure systems.

STAFF COMMENTS

Listed below are additional comments provided by staff in addition to general review of standards:

1. Due to the small size of the proposed business, planning board review is only required because of the necessary waiver requests. Per the site plan criteria standards in **§16.7.5,** because the project proposes a commercial property of less than 5,000 square feet and disturbance of less than 1 acre of land, the project would otherwise be considered a minor site plan.
2. The applicant has currently been working with MDEP regarding treatment of all hazardous residue on the property. Included in the application is a report from MDEP listing the current measures implemented and next steps required as part of remediation to be completed before the proposed businesses may be in use on the property.
3. Per **§16.4.17.D.(2).(c).[2],** any required plantings that do not survive must be replaced within one year. This requirement does not expire and runs with the land. Staff suggest this note be added to the site plan or landscaping plan.

PROJECT ANALYSIS

Staff reviewed the application and provided materials and have provided their determination on the requirements and standards below. All requirements that have not been met or require further discussion are highlighted.

Code Ref.	§16.4 Land Use Zone Standards	
	Standard	Determination
§16.4.17.B/C.	Permitted/Special Exception Uses	The proposed uses are permitted.
§16.4.17.D.(1).(c).	An off-site parking agreement may be pursued by the applicant if they so choose	The applicant appears to currently meet the parking standard on-site, described further below
§16.4.17.D.(1).(g).	Lot size: no minimum	It appears the standard is satisfied.
§16.4.17.D.(1).(h).	Street frontage: no minimum	It appears the standard is satisfied.
§16.4.17.D.(1).(i).	Front setback setbacks: 20 ft maximum	By expanding the existing structure towards the

		Whipple Road ROW, the proposed development reduces the structure's nonconformance. It appears the standard is satisfied.
§16.4.17.D.(1).(j).	Rear and side setbacks: 10 ft minimum NOTE: when abutting a residential district or single family use, minimum setback is 15 feet	It appears the standard is satisfied.
§16.4.17.D.(1).(k).	Building height: 40 feet maximum NOTE: solar apparatus are excluded from the height maximum.	It appears the standard is satisfied.
§16.4.17.D.(1).(l).	Impervious surface: no maximum	It appears the standard is satisfied
§16.4.17.D.(1).(m).	100% of stormwater must be treated on-site. NOTE: The planning board may provide relief to this standard if the applicant proposes less than 70% of the site to be impervious.	The standard currently appears to be satisfied. The applicant is requesting a waiver to reduce this requirement, discussed above. The applicant proposes to reduce impervious surface from ~92.5% to 70%, meaning this modification would be in the planning board's jurisdiction.
§16.4.17.D.(1).(n).	Open space: 15% minimum	It appears the standard is satisfied.
§16.4.17.D.(2).(a)..	• Parking must be located to side or rear of buildings	It appears the standard is satisfied.

§16.4.17.D.(2).(c).	A Landscaping plan is required by a registered landscape architect. Plantings that do not survived must be replaced within one year.	A landscaping plan has been provided.
§16.4.17.D.(2).(c).[3].	Parking areas of 5 or more lots requires one of the following landscaping options: • Any combination of trees, shrubs, grasses, or plants in a planting bed 8 feet wide. • One tree per 25 feet of street frontage, 12 feet high at time of planting, in a planting bed at least 8 feet wide. • Fencing no more than 6 feet high.	The applicant has provided a landscaping plan and is requesting modifications to the street tree requirements, listed above.
§16.4.17.D.(2).(d).	10% of the parking area must be landscaped	The standard appears to be satisfied.
§16.4.17.D.(3).	Building design standards: • Loading docks and overhead doors must be located on the side or rear of the building.	It appears the standard is satisfied.
§16.4.17.D.(4).(a).	A 15 feet vegetative planter strip is required adjacent to the right of way of all public roads or sidewalk. Vegetative strip requirements: • The entire landscape must be vegetated with a combination of shrubs, perennials, and ornamental grasses. • One tree for each 25 feet of street frontage. • Plantings that die must be replaced within one year	The applicant is requesting a modification to the planter strip depth, listed above.
§16.4.17.D.(4).(c).	Outdoor service and storage areas must be located to the side or rear of the building, and require screening by a 6-foot-tall fence	It appears the standard Is satisfied.
§16.4.17.D.(4).(d).	Sidewalks are required to internally connect the property to all other abutting properties.	The standard appears to be satisfied.

§16.4.17.D.(4).(e).	Open space: 15% minimum NOTE: the planning board may allow landscaping to be considered a part of the open space to meet the minimum.	The standard appears to be satisfied.
Code Ref.	§16.5 General Performance Standards	
	Standard	Determination
§16.5.14.B	The property fronts a right-of-way on three sides. Because Title 16 has no definition for a multiple-fronted lot, the standards for a corner lot in **16.3.2** are the only option be used. One road providing primary access will be considered the "front yard," while all others are considered "side yards." Such side yards must still meet the requirements of the front yard setback, but standards related to frontage do not apply.	The Whipple Road ROW is to be considered the main access driveway and will be considered the road providing "frontage."
§16.5.20	Any outdoor dining proposed would need meet additional parking standards when required.	For an outdoor dining area of less than 1,000 square feet, no additional parking is required.
§16.5.10	Essential Services	Water and wastewater have both confirmed capacity for the project. Existing municipal wastewater systems can be used to divert post-treatment stormwater.
§16.7.11.F.(e).	Parking requirements: • 1 space for the warehousing use • 5 spaces for the retail use • 19 spaces for the restaurant use Total spaces: 24	The plan appears to exceed the minimum number of spaces required. The plan also meets the minimum number of ADA spaces required.
§13.1.6.5/§13.1.6.6	Sewer impact fees and special sewer entrance fees: Impact fee – $13,000 Entrance fee – $3,000 Total cost - $16,000	This is an estimate provided by planning and development staff. Actual total will be provided by the Wastewater Department during permitting process.
Code Ref.	§16.7.10 Site Plan Requirements	
	Standard	Determination

§16.7.10.C.(4).(a-i).	• Paper plan sheets no smaller than 11" x 17" • Scale of drawing no greater than 1 inch = 30 feet • Code block in right-hand corner • Standard boundary survey of existing conditions • Compass with arrow pointing true north • Locus map of property • Vicinity map and aerial photograph • Surveyed acreage of parcel(s), rights-of-way, wetlands, and amount of street frontage • Names and addresses of owners of record abutting property	Provided
§16.7.10.C.(4).(j).	Existing conditions survey including all identified structures, natural resources, rights-of-way, and utilities located on and within 100 feet of the property.	Provided
§16.7.10.C.(4).(k).	• Proposed development area including: • Location and detail of proposed structures and signs • Proposed utilities including power, water, and sewer. • Sewage facilities type and placement. • Domestic water source • Lot lines, rights-of-way, and street alignments • Road and other paved area plans • Existing and proposed setbacks • Storage areas for waste or hazardous materials • Topographic contours of existing contours and finished grade elevations • Locations and dimensions of artificial features such as pedestrian ways, sidewalks, curb cuts, driveways, fences, retaining walls,	Provided
§16.7.10.C.(4).(l).	Natural features or site elements to be preserved.	Provided
§16.7.10.C.(4).(m).	Identified property encumbrances.	Provided
§16.7.10.C.(4).(n).	Kittery Water District approval letter.	Provided
§16.7.10.C.(4).(o).	Erosion and sedimentation control plan.	Provided

§16.7.10.C.(4).(p).	Stormwater management plan and drainage analysis.	Provided
§16.7.10.C.(4).(q).	Soil survey.	Provided
§16.7.10.C.(4).(r).	Trip generation estimates.	Provided
§16.7.10.C.(4).(s).	Traffic impact analysis.	Neither proposed number of parking spaces nor estimated trip generation trigger requirements for a traffic impact analysis.
§16.7.10.C.(4).(t).	Test pit analysis.	Not applicable
§16.7.10.C.(4).(u).	Approval letter from Town sewage.	Provided
§16.7.10.C.(4).(v).	Evaluation of development by Technical Review Committee department heads.	Provided
§16.7.10.C.(4).(w).	Additional submissions as required: • Brownfield remediation report	Provided
§16.7.10.D.(3).(a-l).	Additional final plan requirements including: • Proposed streets, pedestrian ways, lots, easements, and areas dedicated to public use • Location of any markers or permanent monuments • Location and description of all structures, including signs. • Floor plans and elevations of principal structures • Building materials and colors • Fences, retaining walls, and other artificial features. Stormwater management plan and drainage	Provided
§16.7.10.D.(3).(g).	Outdoor lighting and signage plan showing: • All buildings, parking areas, driveways, services areas, proposed exteriors and snow storage areas • All proposed lighting fixture specifications • Photometric data, including cutoff fixtures and color rendering index • Mounting height of all external lights Lighting analysis of proposed installation to show minimum, maximum, and average luminance	Provided

§16.7.10.D.(3).(g).[1].	Snow storage areas.	Provided
§16.7.10.D.(3).(h).	Locations of machinery in permanently installed locations are likely to cause noise along lot lines.	Provided
§16.7.10.D.(3).(i).	Storage areas for materials (raw, finished, or waste), and list of any types of toxic/hazardous materials stored on-site.	Provided
§16.7.10.D.(3).(j).	Location of fences, retaining walls, and other artificial features	Provided
§16.7.10.D.(3).(k).	Landscaping plan including location, size, and type of plan material	Provided
§16.7.10.D.(3).(l).	Stormwater management plan for stormwater and other surface water drainage	Provided

DISCUSSION, NEXT STEPS, AND RECOMMENDATIONS

The purpose of final review is for the planning board to see an application in its entirety, incorporate feedback from the public, and further solidify their stance on any requested modifications to standards. Staff believe the applicant has met the standards to the greatest practical extent, and the conflicting requirements in the code and nature of the lot itself warrant the need for all requested waivers. Staff maintain that final approval is warranted at this time, on the condition that all issues identified by third-party review and staff are addressed before plan recording.

RECOMMENDED MOTIONS

Below are recommended motions for the Board's use and consideration:

Motion to conditionally approve the application

Move to approve (with conditions listed above) the final site plan by Mike Sudak, on behalf of owner/applicants PB Real Estate Holdings LLC.

Kittery Planning Board
Findings of Fact
For 5 Whipple Road
Site Plan Review

Note: This approval by the Planning Board constitutes an agreement between the Town and the Developer incorporating the Development plan and supporting documentation, the Findings of Fact, and all waivers and/or conditions approved and required by the Planning Board.

WHEREAS: Mike Sudak, on behalf of owner/applicants PB Real Estate Holdings LLC, requests approval to construct a 3,400 square foot commercial facility containing a butcher's shop and restaurant, along with associated parking and utilities, on the property of 5 Whipple Road, Tax Map 9, Lot 134, in the Business Local (B-L) Zone.

Pursuant to the Plan Review meetings conducted by the Planning Board as noted in the Plan Review Notes dated 4/4/24.

REQ'D	ACTION	COMMENTS	STATUS
NO	Sketch Plan	Not required for site plan review	N/A
YES	Completeness/Acceptance	3/14/24	Accepted
NO	Site Visit	Optional for planning board, required for planning staff	N/A
YES	Public Hearing	Scheduled for 4/11/24	Pending
YES	Preliminary Plan Approval	Scheduled for 4/11/24	Pending
YES	Final Plan Approval	Scheduled for 4/11/24	Pending

Pursuant to the application and plan and other documents considered to be a part of a plan review decision by the Planning Board in this Finding of Fact consisting of the following (hereinafter the "Plan"):

1. Final site plan application received 3/22/24 from Mike Sudak of Attar Engineering.
2. Stormwater Management Report received 3/22/24 from Mike Sudak of Attar Engineering.

NOW THEREFORE, based on the entire record before the Planning Board and pursuant to the applicable standards in the Land Use and Development Code, the Planning Board makes the following factual findings and conclusions:

Chapter 16.7 GENERAL DEVELOPMENT REQUIREMENTS

16.7.10.D.(5).(b). Findings of Fact

Action by the Board shall be based upon findings of fact which certify or waive compliance with all the required standards of this title, and which certify that the development satisfies the following requirements:

Development Conforms to Local Ordinances.

Standard: *The proposed development conforms to a duly adopted comprehensive plan as per adopted provisions in the Town Code, zoning ordinance, subdivision regulation or ordinance, development plan or land use plan, if any. In making this determination, the municipal reviewing authority may interpret these ordinances and plans.*

Finding: The proposed development conforms to the requirements listed in Title 16 For the B-L Zone.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Water Supply Sufficient.

Standard: *The proposed development has sufficient water available for the reasonably foreseeable needs of the development.*

Finding: The proposed development has received confirmation from Kittery Water District that sufficient capacity exists to service all water and fire suppression needs.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Sewage Disposal Adequate.

Standard: *The proposed development will provide for adequate sewage waste disposal and will not cause an unreasonable burden on municipal services if they are utilized.*

Finding: The proposed development has received confirmation from the Town Wastewater Department confirming sufficient capacity for anticipated wastewater needs..

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Stormwater Managed.

Standard: *The proposed development will provide for adequate stormwater management.*

Finding: The proposed development necessitated a stormwater management system which was reviewed by the Town's peer review engineering firm and found to be satisfactory. The applicant intends to receive a waiver reducing on-site treatment obligations to 90%.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Traffic Managed.

Standard: *The proposed development will:*

[a] Not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads existing or proposed; and

[b] Provide adequate traffic circulation, both on-site and off-site.

Finding: The proposed development did not generate enough traffic to require a full impact study. By reducing the number of curb cuts on the property and updating pedestrian walkways, the development appears to have a positive impact on traffic flow.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Parking and Loading.

Standard: *Provisions have been made for safe internal vehicular circulation, loading and service areas, and parking associated with the proposed development.*

Finding: The proposed development exceeds the parking minimum.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Utilities.

Standard: *The size, type, and locations of all public utilities and private utilities to serve the proposed development will be installed per accepted engineering practices*

Finding: Public and private utility infrastructure have adequate capacity to service the entire proposed development. The applicant will coordinate with relevant department heads and MDOT to ensure utility installation does not conflict with anticipated road improvements on Whipple Road and Wentworth Street.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Erosion controlled.

Standard: *The proposed development will not cause unreasonable soil erosion or a reduction in the land's capacity to hold water so that a dangerous or unhealthy condition results.*

Finding: The proposed development will be required to provide erosion and sedimentation controls during construction and the approved stormwater management system will control the stormwater on-site.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Groundwater protected.

Standard: *The proposed development will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater.*

Finding: It appears the proposed development will not cause any unreasonable adverse effects of the quantity or quality of groundwater.

Conclusion: This standard appears to be met.

Vote of _ in favor __ against __ abstaining

Freshwater wetlands identified.

Standard: *All freshwater wetlands within the project area have been identified on any maps submitted as part of the application, regardless of the size of these wetlands.*

Finding: There are no freshwater wetlands on the site.

Conclusion: This standard appears to be met.

Vote of _ in favor __ against __ abstaining

River, stream or brook identified.

Standard: *Any river, stream or brook within or abutting the proposed project area has been identified on any maps submitted as part of the application. For purposes of this section, "river, stream or brook" has the same meaning as in 38 M.R.S. § 480-B, subsection 9. Municipal solid waste disposal available. The proposed development will not cause an unreasonable burden on the municipality's ability to dispose of solid waste, if municipal services are to be used.*

Finding: It appears that a stream does not exist in or abutting the property within 75 feet.

Conclusion: This standard appears to be met.

Vote of _ in favor __ against __ abstaining

Water body quality and shoreline protected.

Standard: *Whenever situated entirely or partially within 250 feet of any wetland, the proposed development will not adversely affect the quality of that body of water or unreasonably affect the shoreline of that body of water. Flood areas identified and development conditioned. All flood-prone areas within the project area have been identified on maps submitted as part of the application. Water and air pollution minimized. The proposed development will not result in undue water or air pollution. In making this determination, the following must be considered:*

[a] Elevation of the land above sea level and its relation to the floodplains;

[b] Nature of soils and subsoils and their ability to adequately support waste disposal;

[c] Slope of the land and its effect on effluents;

[d] Availability of streams for disposal of effluents;

[e] Applicable state and local health and water resource rules and regulations; and

[f] Safe transportation, disposal and storage of hazardous materials.

Finding: It appears that the proposed development will not adversely affect the quality of any water or wetland body.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Aesthetic, cultural and natural values protected.

Standard: *The proposed development will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat identified by the Department of Inland Fisheries and Wildlife or the municipality, or rare and irreplaceable natural areas, or any public rights for physical or visual access to the shoreline.*

Finding: The proposed development does not appear to have an adverse effect on aesthetic, cultural and natural values as described in the standard.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Environmental considerations.

Standard: *The proposed development will not result in undue levels of lighting, noise, vibrations, smoke, heat, glare, fumes, dust, toxic matter, odors, or electromagnetic interference.*

Finding: The proposed development will not produce any adverse effects that would cause undue environmental degradation. By providing landscaped area to a property that is almost entirely impervious surface, the applicant would be removing a heat island.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Utilization of the site.

Standard: *The proposed development does reflect the natural capabilities of the site to support development.*

Finding: It appears that the proposed development is designed in a manner that respects the natural capabilities of the lot.

Conclusion: This standard appears to be met.

Vote of _ in favor _ against _ abstaining

Developer financially and technically capable.

Standard: *Developer is financially and technically capable to meet the standards of this section.*

Finding: It appears the developer is financially and technically capable to execute the project. A cost estimate and performance guarantee will be provided to Planning Staff prior to any permitting. **Conclusion:** This standard appears to be met.
Vote of _ in favor _ against _ abstaining

Based on the foregoing Findings, the Kittery Planning Board finds the applicant has satisfied each of the review standards for approval and, therefore, the Kittery Planning Board hereby grants final approval for the Development at the above referenced property, including any waivers granted or conditions as noted.

Waivers:

1. Modification to reduce the depth of the planter strip from 15 feet to 7.5 feet along all rights-of-way, ensuring adequate space to meet parking requirements.
2. Waiver from the vegetative planter strip along 68 feet of the frontage on Whipple Road, to allow the building to meet the maximum 20-foot front yard setback.
3. Modification to the number of required street trees from 12 to 8 (6 of which would be along a right-of-way), due to the small size of the lot and concern that the mature tree canopies would block each other.
4. Modification of on-site stormwater treatment from 100% to 90%, allow the applicant to provide more green space and partially utilize low-impact development to meet standards.

Conditions of Approval (to be included as notes on the final plan in addition to the existing notes):

1. Without prior approval, no changes, erasures, modifications or revisions may be made to any Planning Board approved final plan.
2. Applicant/contractor will follow Maine DEP Best Management Practices for all work associated with site and building construction to ensure adequate erosion control and slope stabilization.
3. Prior to the commencement of grading and/or construction within a building envelope, as shown on the Plan, the owner and/or developer must stake all corners of the envelope. These markers must remain in place until the Code Enforcement Officer determines construction is completed and there is no danger of damage to areas that are, per Planning Board approval, to remain undisturbed.
4. All Notices to Applicant contained in the Findings of Fact (dated: 4/11/24).

Conditions of Approval (Not to be included as notes on the final plan):

1. Incorporate any plan revisions on the site plan as recommended by Staff, Planning Board, or Peer Review Engineer, and submit for Staff review prior to endorsement and recording of the plan.

Notices to Applicant:

1. Prior to the release of the signed plans, the applicant must pay all outstanding fees associated with review, including, but not limited to, Town Attorney fees, peer review, newspaper advertisements and abutter notification.
2. State law requires all subdivision and shoreland development plans, and any plans receiving waivers or variances, be recorded at the York County Registry of Deeds within 90 days of the final approval.
3. Three (3) paper copies of the final recorded plan and any and all related state/federal permits or legal documents that may be required, must be submitted to the Town Planning Department. Date of Planning Board approval shall be included on the final plan in the Signature Block.
4. This approval by the Town Planning Board constitutes an agreement between the Town and the Developer, incorporating the Plan and supporting documentation, the Findings of Fact, and any Conditions of Approval.

The Planning Board authorizes the Planning Board Chair, or Vice Chair, to sign the Final Plan and the Findings of Fact upon confirmation of compliance with any conditions of approval.

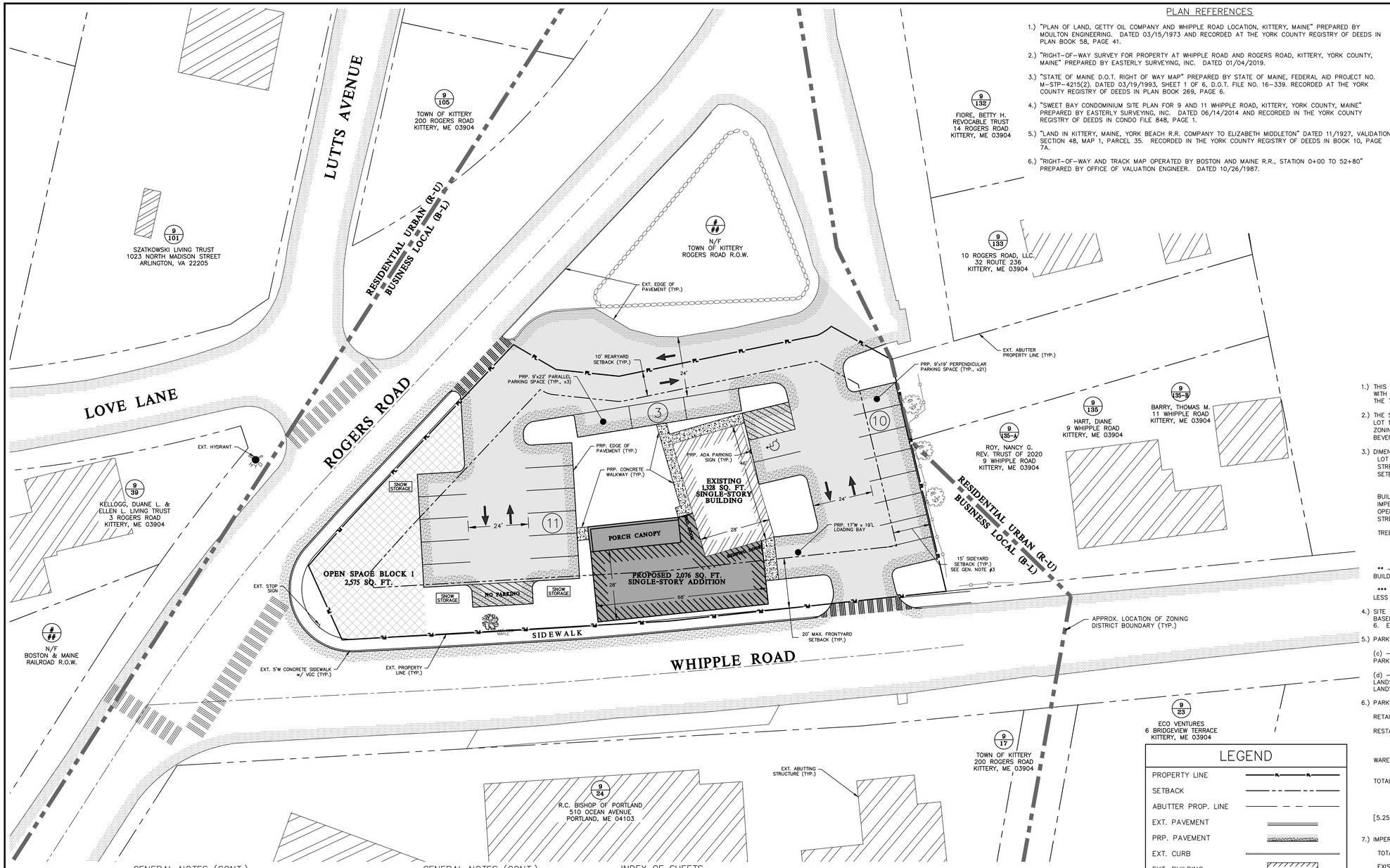
Vote of _ in favor _ against _ abstaining

APPROVED BY THE KITTERY PLANNING BOARD ON 4/11/24

_____

Dutch Dunkelberger, Planning Board Chair

Per Title 16.2.12.B(1) - An aggrieved party with legal standing may appeal a final decision of the Planning Board to the York County Superior Court in accordance with Maine Rules of Civil Procedures Section 80B, within forty-five (45) days from the date the decision by the Planning Board was rendered.



PLAN REFERENCES

1.) "PLAN OF LAND, GETTY OIL COMPANY AND WHIPPLE ROAD LOCATION, KITTERY, MAINE" PREPARED BY MOULTON ENGINEERING. DATED 03/15/1973 AND RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 58, PAGE 41.

2.) "RIGHT-OF-WAY SURVEY FOR PROPERTY AT WHIPPLE ROAD AND ROGERS ROAD, KITTERY, YORK COUNTY, MAINE" PREPARED BY EASTERLY SURVEYING, INC. DATED 01/04/2019.

3.) "STATE OF MAINE D.O.T. RIGHT OF WAY MAP" PREPARED BY STATE OF MAINE, FEDERAL AID PROJECT NO. M-STP-4215(2). DATED 03/19/1993, SHEET 1 OF 6, D.O.T. FILE NO. 16-339. RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 269, PAGE 6.

4.) "SWEET BAY CONDOMINIUM SITE PLAN FOR 9 AND 11 WHIPPLE ROAD, KITTERY, YORK COUNTY, MAINE" PREPARED BY EASTERLY SURVEYING, INC. DATED 06/14/2014 AND RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN CONDO FILE 848, PAGE 1.

5.) "LAND IN KITTERY, MAINE, YORK BEACH R.R. COMPANY TO ELIZABETH MIDDLETON" DATED 11/1927, VALIDATION SECTION 48, MAP 1, PARCEL 35. RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN BOOK 10, PAGE 7A.

6.) "RIGHT-OF-WAY AND TRACK MAP OPERATED BY BOSTON AND MAINE R.R., STATION 0+00 TO 52+80" PREPARED BY OFFICE OF VALUATION ENGINEER. DATED 10/26/1987.

LOCATION MAP

APPROX. SCALE: 1" = 2,000'

GENERAL NOTES

1.) THIS PLAN DEPICTS THE DEVELOPMENT OF THE SUBJECT PARCEL INTO A BUTCHER SHOP AND RESTAURANT WITH ASSOCIATED ON-SITE PARKING. THE ALLOCATED PARKING HAS BEEN DESIGNED IN ACCORDANCE WITH THE TOWN OF KITTERY §16.7.11.F: "PARKING AND LOADING".

2.) THE SUBJECT PARCEL, LOCATED AT THE CORNER OF WHIPPLE ROAD AND ROGERS ROAD, IS IDENTIFIED AS LOT 134 ON MAP 9, CONSISTS OF 0.51 ACRES IN AREA, AND IS LOCATED IN THE BUSINESS-LOCAL (B-L) ZONING DISTRICT. THERE ARE NO OVERLAY ZONES. "RESTAURANT" AND "SPECIALTY FOOD AND/OR BEVERAGE FACILITY" ARE BOTH PERMITTED USES IN THE B-L ZONE AS PER §16.4.17.B.

3.) DIMENSIONAL REQUIREMENTS FOR THE B-L ZONING DISTRICT AS PER §16.4.17.D.(1):

LOT SIZE:	NO MINIMUM, PROVIDED §16.4.17.D.(1).(g) IS MET
STREET FRONTAGE:	NO MINIMUM, PROVIDED §16.4.17.D.(1).(h) IS MET
SETBACKS:	20' FRONTYARD (MAXIMUM) [2' PROPOSED]
	15' SIDEYARD (MINIMUM)**
	15' REARYARD (MINIMUM)**
BUILDING HEIGHT:	40' (MAXIMUM) [17'-2" PROPOSED]
IMPERVIOUS SURFACE:	NO MAXIMUM, PROVIDED §16.4.17.D.(1).(i) IS MET
OPEN SPACE:	15% LOT AREA (MINIMUM)***
STREET-SIDE TREES:	1 TREE PER 25' STREET FRONTAGE (1 EXISTING)

TREE PLANTING OBLIGATIONS:
STREET FRONTAGE (WHIPPLE ROAD) = [240' FRONTAGE / 25'] = 9.6 TREES REQUIRED
PARKING SPACES (PER GEN. NOTE #11) = [25 SPACES TOTAL / 8] = 3.13 TREES REQUIRED
[9.6 + 3.13 - 1 EXISTING TREE] = 11.73 => 12 TREES REQUIRED [8 PROVIDED]

** - PER §16.4.17.D.(1).(j): WHERE SIDE/REAR SETBACKS ABUT A RESIDENTIAL DISTRICT, 15' OR 50% BUILDING HEIGHT IS REQUIRED, WHICHEVER IS GREATER

*** - PER §16.4.17.D.(4).(e): REQUIRED AMOUNT OF OPEN SPACE IS REDUCED TO 10% MINIMUM FOR LOTS LESS THAN 40,000 SQ. FT. IN SIZE (22,240 SQ. FT. EXISTING)

4.) SITE TOPOGRAPHY, EXISTING GROUND SURFACE CONDITIONS, AND BOUNDARY MONUMENTATION ARE DEPICTED BASED ON STATE OF MAINE ORTHOIMAGERY, STATE AND TOWN GIS IMAGERY, AND PLAN REFERENCES 1 THRU 6. EXISTING CONDITIONS OF ABUTTING PROPERTIES ARE APPROXIMATE. VERTICAL DATUM IS NAVD88.

5.) PARKING & LANDSCAPING STANDARDS SPECIFIC TO THE B-L ZONING DISTRICT AS PER §16.4.17.D.(2):

(c) - SCREENING THROUGH THE USE OF PLANTINGS AND/OR FENCING IS REQUIRED FOR ALL NEW OR REVISED PARKING ABUTTING PUBLIC STREETS AND/OR SINGLE-FAMILY RESIDENTIAL USES OR RESIDENTIAL ZONES.

(d) - A MINIMUM OF 10% OF ANY SURFACE PARKING AREA CONSISTING OF 10 OR MORE SPACES MUST BE LANDSCAPED WITH TREES AND VEGETATED ISLANDS. THIS REQUIREMENT IS IN ADDITION TO OTHER REQUIRED LANDSCAPING AND STREET TREE REQUIREMENTS. SEE GRADING & UTILITIES PLAN, SHEET #3.

6.) PARKING CALCULATION AS PER §16.7.11.F.(4):

RETAIL STORE (BUTCHER SHOP):	1 SPACE / 175 SQ. FT. GROSS FLOOR AREA
RESTAURANT:	1 SPACE / 3 SEATS (SEATING IS CALCULATED BY DIVIDING THE TOTAL FLOOR AREA WITH CUSTOMER ACCESS BY 15)
WAREHOUSE AND STORAGE:	1 SPACE / 500 SQ. FT. GROSS FLOOR AREA, LESS PORTIONS DEDICATED TO RETAIL SALES OR OFFICE AREA
TOTAL PARKING REQUIREMENT:	[934 SQ. FT. RETAIL / 175] = 5.25 SPACES [280 SQ. FT. STORAGE / 500] = 0.56 SPACES [838 SQ. FT. RESTAURANT / 15] = 55.87 SEATS [55.87 SEATS / 3] = 18.62 SPACES

[5.25 + 0.56 + 18.62] = 24.43 => 24 SPACES REQUIRED PER §16.7.11.F.(4).(d)
(24 PROPOSED, 1 ADA)

7.) IMPERVIOUS COVERAGE CALCULATION:

TOTAL PARCEL AREA	= 22,240 SQ. FT.
EXISTING BUILDING FOOTPRINT	= 1,328 SQ. FT.
PROPOSED BUILDING FOOTPRINT	= 2,227 SQ. FT. (INCLUDES PORCH CANOPY)
PROPOSED PEDESTRIAN WALKWAYS	= 386 SQ. FT.
PROPOSED PARKING & LOADING	= 11,293 SQ. FT.
[1,328 + 2,227 + 386 + 11,293]	= 15,234 SQ. FT. TOTAL IMPERVIOUS

[15,234 / 22,240] = 68.5% < 70%
* - SEE GENERAL NOTE #3 FOR ADDITIONAL REQUIREMENTS

8.) OPEN SPACE CALCULATION:

TOTAL PARCEL AREA	= 22,240 SQ. FT.
OPEN SPACE BLOCK 1	= 2,575 SQ. FT.
[2,575 / 22,240]	= 11.6% > 10% => OK

-- GENERAL NOTES CONTINUED ELSEWHERE ON SHEET 1 --

GENERAL NOTES (CONT.)

9.) THE CONTRACTOR MUST CONTACT DIG SAFE AND ALL LOCAL UTILITY DISTRICTS PRIOR TO THE START OF CONSTRUCTION TO VERIFY THE LOCATION OF EXISTING SUBSURFACE UTILITIES AND CONDITIONS. LOCATING AND PROTECTING ANY UNDERGROUND OR ABOVE-GROUND UTILITY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

10.) THIS DEVELOPMENT IS CURRENTLY SERVICED BY AND PROPOSES TO CONTINUE TO BE SERVICED BY KITTERY WATER DISTRICT (KWD) AND KITTERY SEWER SERVICES (KSS). ALL UTILITY MATERIALS, SIZES, AND CONSTRUCTION PRACTICES SHALL BE IN ACCORDANCE WITH STANDARDS OF THE KITTERY WATER DISTRICT (KWD) AND KITTERY SEWER SERVICES (KSS).

11.) PARKING LANDSCAPING REQUIREMENTS PER §16.4.17.D.(4).(a) AND §16.7.11.F.(4).(g):

A VEGETATED LANDSCAPE PLANTER STRIP MUST BE PROVIDED A MINIMUM OF 15' IN DEPTH ADJACENT TO THE RIGHT-OF-WAY OF ALL PUBLIC ROADS OR THE EXISTING SIDEWALK. THE PLANNING BOARD MAY REDUCE THE REQUIRED WIDTH IF THE AREA BETWEEN THE FRONT PROPERTY LINE AND THE FRONT WALL OF THE BUILDING WILL BE DESIGNED AND USED AS A PEDESTRIAN SPACE, OUTDOOR DINING, OR SEATING AREA.

STREET-SIDE TREES MAY BE SPACED ALONG THE FRONTAGE OR GROUPED/CLUSTERED TO ENHANCE THE VISUAL QUALITY OF THE SITE. THE TREES MUST BE A MINIMUM OF 2½" CALIPER AND BE AT LEAST 12' HIGH AT THE TIME OF PLANTING. EXISTING LARGE HEALTHY TREES MUST BE PRESERVED IF PRACTICAL AND WILL COUNT TOWARDS THIS REQUIREMENT. ANY REQUIRED PLANTINGS THAT DO NOT SURVIVE MUST BE REPLACED WITHIN ONE YEAR - THIS REQUIREMENT DOES NOT EXPIRE AND RUNS WITH THE LAND.

PARKING LANDSCAPING IS REQUIRED FOR PARKING AREAS CONTAINING 10 OR MORE PARKING SPACES AND MUST HAVE AT LEAST 1 TREE/8 SPACES. SUCH TREES ARE TO BE LOCATED EITHER WITHIN THE LOT OR WITHIN 5' OF IT. SUCH TREES ARE TO BE AT LEAST 1½"ø WITH NO LESS THAN 25 SQ. FT. OF UNPAVED SOIL OR PERMEABLE SURFACE AREA PER TREE.

12.) THE CLOSEST FIRE HYDRANT IS LOCATED ACROSS THE STREET ON ROGERS ROAD, APPROXIMATELY 140' FROM THE CLOSEST CORNER OF THE PROPOSED ADDITION.

13.) AS PER §16.4.17.D.(4).(c), PROPOSED SERVICE AREAS FOR DUMPSTERS, COMPRESSORS, GENERATORS, AND SIMILAR ITEMS SHALL BE SURROUNDED AND SCREENED BY FENCING A MINIMUM OF 6' HIGH AND CONSTRUCTED OF SIMILAR MATERIALS TO THE SURROUNDING BUILDINGS.

14.) SNOW STORAGE LOCATIONS ARE DEPICTED ON THE PLANS. IN INSTANCES WHERE THE DEVELOPED LOT REACHES ITS CAPACITY FOR SNOW STORAGE, ALL EXCESS SNOW SHALL BE CARRIED OFF-SITE.

GENERAL NOTES (CONT.)

15.) HOURS OF OPERATION:

MAINE MEAT (BUTCHER SHOP USE)
MONDAY & TUESDAY: CLOSED
WEDNESDAY THRU SATURDAY: 11:00A - 6:00P
SUNDAY: 11:00A - 3:00P

TONGUE 'N CHEEK (RESTAURANT USE)
MONDAY & TUESDAY: CLOSED
WEDNESDAY & THURSDAY: 11:00A - 8:00P
FRIDAY & SATURDAY: 11:00A - 9:00P
SUNDAY: 11:00A - 8:00P

WAIVERS REQUESTED

§16.4.17.D.(4).(a) - VEGETATED LANDSCAPE PLANTER STRIP FOR THE B-L ZONING DISTRICT
REQUESTED MODIFICATION: MINIMUM DEPTH REDUCTION FROM 15' TO 7.5' FOR ENTIRETY OF PROPOSED DEVELOPMENT (ADJACENT TO ROGERS ROAD AND WHIPPLE ROAD)

§16.4.17.D.(4).(a) - VEGETATED LANDSCAPE PLANTER STRIP FOR THE B-L ZONING DISTRICT
REQUESTED MODIFICATION: REMOVAL OF ALL PLANTER STRIP REQUIREMENTS FOR A WIDTH OF 68' ALONG THE WHIPPLE ROAD FRONTAGE TO ACCOMMODATE THE PROPOSED BUILDING ADDITION

§16.4.17.D.(4).(a).[2] - STREET-SIDE TREE REQUIREMENTS FOR THE B-L ZONING DISTRICT
REQUESTED MODIFICATION: REDUCTION OF STREET-SIDE TREE REQUIREMENTS FROM 10 TO 6. ADDITIONAL TREE PLANTINGS ARE PROPOSED IN THE INTERIOR OF THE PROPOSED DEVELOPMENT IN MORE SUITABLE LOCATIONS AND IN EXCESS OF THE PARKING-RELATED TREE PLANTING OBLIGATIONS OF §16.7.11.F.(4).(g)

§16.4.17.D.(1).(l)&(m) - STORMWATER MANAGEMENT REQUIREMENTS FOR THE B-L ZONING DISTRICT
REQUESTED MODIFICATION: REDUCTION OF PERCENTAGE OF GENERATED ON-SITE STORMWATER REQUIRED TO BE MANAGED FROM 100% TO 90%. THE PROPOSED DEVELOPMENT INCLUDES ON-SITE TREATMENT (TREEBOX BIORETENTION VAULT) AND DETENTION AND GROUNDWATER RECHARGE (DETENTION POND)

CONDITIONS OF APPROVAL

1.) PROPOSED CONVEYANCES DEPICTED ON EXISTING CONDITIONS PLAN AND BOUNDARY SURVEY SHALL BE EXECUTED UPON RECEIPT OF PLANNING BOARD SITE PLAN APPROVAL. EXECUTED AND RECORDED DEEDS AND STAMPED BOUNDARY SURVEY SHALL BE PROVIDED TO THE TOWN PRIOR TO RECORDING OF THE APPROVED SITE PLAN.

INDEX OF SHEETS

1.) OVERALL SITE PLAN
2.) EXISTING CONDITIONS PLAN
3.) GRADING & UTILITIES PLAN
4.) PHOTOMETRIC PLAN
5.) OVERALL LANDSCAPE PLAN
6.) SITE DETAILS
7.) SITE DETAILS
8.) STORMWATER: EXISTING CONDITIONS
9.) STORMWATER: DEVELOPED CONDITIONS

LEGEND

PROPERTY LINE
SETBACK
ABUTTER PROP. LINE
EXT. PAVEMENT
PRP. PAVEMENT
EXT. CURB
EXT. BUILDING
PRP. BUILDING
PRP. PARKING
EXT. CROSSWALK
PRP. CROSSWALK
EXT. STONEWALL
TRAFFIC FLOW ARROW
EXT. WATER HYDRANT
PRP. OPEN SPACE
EXT. ZONING BOUNDARY

TOWN OF KITTERY PLANNING BOARD
SITE PLAN APPROVED: DATE

GRAPHIC SCALE
0 20 40 60 80 (FEET)

NO.	DESCRIPTION	DATE
A	PRELIMINARY & FINAL S.P.R. REVISIONS	03/22/24
	REVISIONS	

KENNETH A. WOOD No. 5992 - STATE OF MAINE - LICENSED PROFESSIONAL ENGINEER

TAX MAP 9, LOT 134

OVERALL SITE PLAN
MAINE MEAT BUTCHER & RESTAURANT
5 WHIPPLE ROAD, KITTERY, MAINE

FOR: PB REAL ESTATE HOLDINGS, LLC.
7 WALLINGFORD SQUARE, SUITE 104
KITTERY, ME 03904

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE ◆ SURVEYING
1284 STATE ROAD - ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE:	APPROVED BY:	DRAWN BY:
1" = 20'		MJS
DATE:		REVISION DATE:
12/28/23		A : 03/22/24
JOB NO: 23088	FILE: 5 WHIPPLE BASE.DWG	SHEET: 1

APPROX. LOCATION OF EXT. 16" WATER MAIN (DIGITIZED FROM TOWN GIS SERVICE)

EXT. 1" COPPER WATER SERVICE EXTENDING TO ABUTTER TM/L 9/133 TO REMAIN

EXT. POWER POLE, GUY ANCHOR, & OVERHEAD ELECTRIC (TYP.) TO REMAIN

EXT. FENCELINE (TYP.) TO REMAIN

APPROX. LOCATION OF EXT. 10" WATER MAIN (DIGITIZED FROM TOWN GIS SERVICE)

PROPOSED CONVEYANCE
1,893 SQ. FT. (0.04 AC.)

EXT. LARGE OFF-SITE CANOPY TREE TO REMAIN (TYP.)

EXT. EDGE OF PAVEMENT (TYP.)

EXT. 3" COPPER WATER SERVICE TO REMAIN

EXT. CATCH BASIN
RIM ELEV. = 32.97'
8" CMP INV. IN (SW) = 28.22'
18" CMP INV. IN (NW) = 27.72'
12" CPP INV. IN (NE) = 27.67'
18" CMP INV. OUT (S) = 27.57'

EXT. CATCH BASIN
RIM ELEV. = 32.95'
8" CPP INV. IN (SW) = 28.51'
12" CPP INV. OUT (NE) = 28.15'

EXT. BUILDING FOOTPRINT (TYP.) (STRUCTURE TO REMAIN AND BE RENOVATED)

PROPOSED CONVEYANCE
3,843 SQ. FT. (0.09 AC.)

EXISTING
1,328 SQ. FT.
SINGLE-STORY
BUILDING
SLAB ELEV. = 33.0'

EXISTING SUBJECT PARCEL
14,258 SQ. FT.
(0.33 AC.)

EXT. EDGE OF PAVEMENT (TYP.)

EXT. SEWER MANHOLE (TYP.)
RIM ELEV. = 32.63'
(STRUCTURE TO REMAIN)

PROPOSED CONVEYANCE
2,246 SQ. FT. (0.05 AC.)

EXT. CATCH BASIN
RIM ELEV. = 32.57'
30" CPP INV. IN (W) = 20.41'
30" CPP INV. OUT (SE) = 19.85'

APPROX. LOCATION OF EXT. 6" WATER MAIN (DIGITIZED FROM TOWN GIS SERVICE)

APPROX. LOCATION OF EXT. 6" WATER MAIN (DIGITIZED FROM TOWN GIS SERVICE)

ROGERS ROAD

EXT. CATCH BASIN
RIM ELEV. = 32.35'
18" CMP INV. IN (N) = 24.25'
24" CPP INV. OUT (S) = 24.15'
(STRUCTURE TO REMAIN)

EXT. CONCRETE CANOPY PILLAR (TYP.) (TO BE REMOVED)

6" HYDRANT LINE

EXT. SECOND ROGERS ROAD ENTRANCE TO BE REMOVED, RAISED CONCRETE SIDEWALK TO BE EXTENDED

EXT. CONCRETE PAD FUELING BAY & APPROX. CANOPY OVERHANG (TO BE REMOVED)

EXT. SECOND WHIPPLE ROAD ENTRANCE TO BE REMOVED, RAISED CONCRETE SIDEWALK TO BE EXTENDED

EXT. CONCRETE STORAGE TANK (SINCE REMOVED)

EXT. PETROLEUM TANK COVER (TYP.) (SINCE REMOVED)

EXT. 8" SEWER GRAVITY MAIN (TYP.)

EXT. CATCH BASIN
RIM ELEV. = 31.10'
12" PVC INV. IN (SW) = 24.80'
24" CPP INV. IN (N) = 21.00'
30" CPP INV. OUT (E) = 20.80'
(STRUCTURE TO REMAIN)

WHIPPLE ROAD

15" RED MAPLE

EXT. CATCH BASIN
RIM ELEV. = 30.55'
6" CPP INV. IN (W) = 25.55'
12" PVC INV. IN (S) = 25.00'
12" PVC INV. OUT (NE) = 24.93'

EXT. EDGE OF PAVEMENT (TYP.)

EXT. CATCH BASIN
RIM ELEV. = 32.06'
12" CPP INV. OUT (SE) = 29.56'
(STRUCTURE TO REMAIN)

EXT. STOP SIGN TO REMAIN

GRID

GRAPHIC SCALE
0 10 20 30 40 (FEET)

LEGEND

PROPERTY LINE	
SETBACK	
ABUTTER PROP. LINE	
EXT. PAVEMENT	
EXT. CURB	
EXT. BUILDING	
EXT. CROSSWALK	
EXT. STONEWALL	
EXT. WATER LINE	W
EXT. SEWER LINE	S
EXT. SEWER MANHOLE	S
EXT. FORCE MAIN	FM
EXT. STORM LINE	D
EXT. CATCH BASIN	
EXT. MAJOR CONTOUR	XXX
EXT. MINOR CONTOUR	XXX
DRAINAGE FLOW ARROW	

TAX MAP 9, LOT 134

NO.	DESCRIPTION	DATE
A	PRELIMINARY & FINAL S.P.R. REVISIONS	03/22/24
	REVISIONS	

STATE OF MAINE
KENNETH A. WOOD
No. 5992
LICENSED PROFESSIONAL ENGINEER

EXISTING CONDITIONS PLAN
MAINE MEAT BUTCHER & RESTAURANT
5 WHIPPLE ROAD, KITTERY, MAINE

FOR: PB REAL ESTATE HOLDINGS, LLC.
7 WALLINGFORD SQUARE, SUITE 104
KITTERY, ME 03904

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1" = 10'		MJS
DATE:		REVISION DATE:
12/28/23		A : 03/22/24
JOB NO: 23088	FILE: 5 WHIPPLE BASE.DWG	SHEET: 2

MAP 9, LOT 134

GRADING & UTILITY NOTES

1.) ALL STORM DRAINS SHALL BE ADS N-12 (HDPE) OR APPROVED EQUAL (UNLESS NOTED OTHERWISE). PROPER TRENCHING AND BACKFILLING ARE VITAL TO THE LONG TERM PERFORMANCE AND DURABILITY OF HDPE CULVERT INSTALLATIONS. SEE HDPE CULVERT TRENCH DETAIL.

2.) ALL PROPOSED STORMWATER BEST MANAGEMENT PRACTICES (BMPs) SHALL BE MAINTAINED IN ACCORDANCE WITH THE POST-CONSTRUCTION STORMWATER MANAGEMENT GUIDELINES OF §16.7.11.D. INSPECTION AND MAINTENANCE OF ALL ON-SITE STORMWATER BMPs (TREEBOX BIORETENTION VAULT, DETENTION POND, OVERFLOW CONTROL STRUCTURE) SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.

3.) LANDSCAPING CALCULATION (AS PER §16.4.17.D.(2).(d):

OVERALL LOT AREA	= 22,240 SQ. FT. (0.51 AC.)
LANDSCAPED AREA PROPOSED	= 5,156 SQ. FT. (0.12 AC.) SEE OVERALL LANDSCAPE PLAN, SH.#5
[5,156 / 22,240]	= 23.2% > 10% = OK

4.) SNOW STORAGE LOCATIONS ARE DEPICTED ON THE PLANS. IN INSTANCES WHERE THE DEVELOPED LOT REACHES ITS CAPACITY FOR SNOW STORAGE, ALL EXCESS SNOW SHALL BE CARRIED OFF-SITE.

LEGEND

- PROPERTY LINE
- SETBACK
- ABUTTER PROP. LINE
- EXT. PAVEMENT
- PRP. PAVEMENT
- PRP. CONCRETE
- EXT. CURB
- PRP. CONCRETE CURB
- EXT. BUILDING
- PRP. BUILDING
- PRP. PARKING
- EXT. CROSSWALK
- PRP. CROSSWALK
- EXT. STONEWALL
- TRAFFIC FLOW ARROW
- PRP. OPEN SPACE
- EXT. STOCKADE FENCE
- EXT. LARGE TREE (CONIFEROUS)
- EXT. OVERHEAD ELEC (OHU)
- EXT. POWER POLE
- EXT. GUY ANCHOR
- EXT. WATER LINE (W)
- EXT. WATER HYDRANT
- EXT. STORM LINE (D)
- PRP. STORM LINE (D)
- EXT. CATCH BASIN
- PRP. CATCH BASIN
- DRAINAGE FLOW ARROW
- EXT. SIGN
- EXT. MAJOR CONTOUR (XXX)
- EXT. MINOR CONTOUR (XXX)
- PRP. MAJOR CONTOUR (XXX)
- PRP. MINOR CONTOUR (XXX)
- PRP. SPOT GRADE (102.0' X)

EXISTING 1,328 SQ. FT. SINGLE-STORY BUILDING SLAB ELEV. = 33.0'

PROPOSED 2,076 SQ. FT. SINGLE-STORY ADDITION SLAB ELEV. = 33.0'

PORCH CANOPY

APPROX. LOCATION OF EXT. 10" WATER MAIN (DIGITIZED FROM TOWN GIS SERVICE)

EXT. ¾" COPPER WATER SERVICE TO REMAIN

FLUSH INTERSECTION OF ADA LOADING BAY AND PED. SIDEWALK

PRP. ADA PARKING SIGN (TYP.)

EXT. CATCH BASIN
RIM ELEV. = 32.95'
8" CPP INV. IN (SW) = 28.51'
12" CPP INV. OUT (NE) = 28.15'

EXT. CATCH BASIN
RIM ELEV. = 32.97'
8" CMP INV. IN (SW) = 28.22'
18" CMP INV. IN (NW) = 27.72'
12" CPP INV. IN (NE) = 27.67'
18" CMP INV. OUT (S) = 27.57'

EXT. CATCH BASIN
RIM ELEV. = 32.35'
18" CMP INV. IN (N) = 24.25'
24" CPP INV. OUT (S) = 24.15'
PRP. SWAP TO SOLID DMH COVER

PRP. ~800 SQ. FT. SEASONAL OUTDOOR DINING AREA TO BE MAINTAINED AS LAWN

PRP. 1,500 GAL (7'x10') GREASE INTERCEPTOR SEPTIC TANK (H-20 RATED)

EXT. SEWER MANHOLE (TYP.)
RIM ELEV. = 32.63'

EXT. CATCH BASIN
RIM ELEV. = 32.57'
30" CPP INV. IN (W) = 20.41'
30" CPP INV. OUT (SE) = 19.85'
NEW 12" CPP INV. IN (W) = 28.00'

PRP. 6"ø GRAVITY SERVICE FROM BUILDING TO O.W.S. & MUNICIPAL MANHOLE

PRP. FILTERRA UNIT (FTPD0608 SPEC)
10'W x 6'D VAULT
INLET ELEV. = 32.0'
12" CPP INV. OUT = 28.42'

EXT. 8" SEWER GRAVITY MAIN (TYP.)

EXT. CATCH BASIN
RIM ELEV. = 31.10'
12" PVC INV. IN (SW) = 24.80'
24" CPP INV. IN (N) = 21.00'
30" CPP INV. OUT (E) = 20.80'
PRP. SWAP TO SOLID DMG COVER
NEW 12" CPP INV. IN (W) = 28.20'

EXT. CATCH BASIN
RIM ELEV. = 30.55'
6" CPP INV. IN (W) = 25.55'
12" PVC INV. IN (S) = 25.00'
12" PVC INV. OUT (NE) = 24.93'

EXT. CATCH BASIN
RIM ELEV. = 32.06'
12" CPP INV. OUT (SE) = 29.56'

SERVICE LINE FOR EXT. PRP. HYDRANT LOCATED IN WESTERN SHOULDER OF ROGERS ROAD = SEE SHEET #1 FOR EXACT LOCATION

PRP. DETENTION POND #1 w/ OVERFLOW CONTROL STR.
RIM ELEV. = 32.50'
4"ø V.O. @ 31.50'
2x 4"ø V.O. @ 30.50'
12" CPP INV. OUT = 28.62'
SEE DETAIL SHEET 6

PRP. E&SC BARRIER (TYP.) SEE DETAIL SHEET #6

PRP. LANDSCAPE PLANTER STRIP DEPTH MEASUREMENT (TYP.) SEE "WAIVERS REQUESTED" NOTES PACKAGE ON SHEET #1

EXT. STOP SIGN

SNOW STORAGE

1.5% SLOPE

3% SLOPE

1.5% SLOPE

ROGERS ROAD

WHIPPLE ROAD

RED MAPLE

GRID

GRAPHIC SCALE
0 10 20 30 40 (FEET)

TAX MAP 9, LOT 134

NO.	DESCRIPTION	DATE
B	PRELIMINARY & FINAL S.P.R. REVISIONS	03/22/24
A	MINOR S.P.R. REVISIONS	02/22/24
	REVISIONS	

STATE OF MAINE
KENNETH A. WOOD
No. 5992
LICENSED PROFESSIONAL ENGINEER

GRADING & UTILITIES PLAN
MAINE MEAT BUTCHER & RESTAURANT
5 WHIPPLE ROAD, KITTERY, MAINE

FOR: PB REAL ESTATE HOLDINGS, LLC.
7 WALLINGFORD SQUARE, SUITE 104
KITTERY, ME 03904

ATTAR ENGINEERING, INC.
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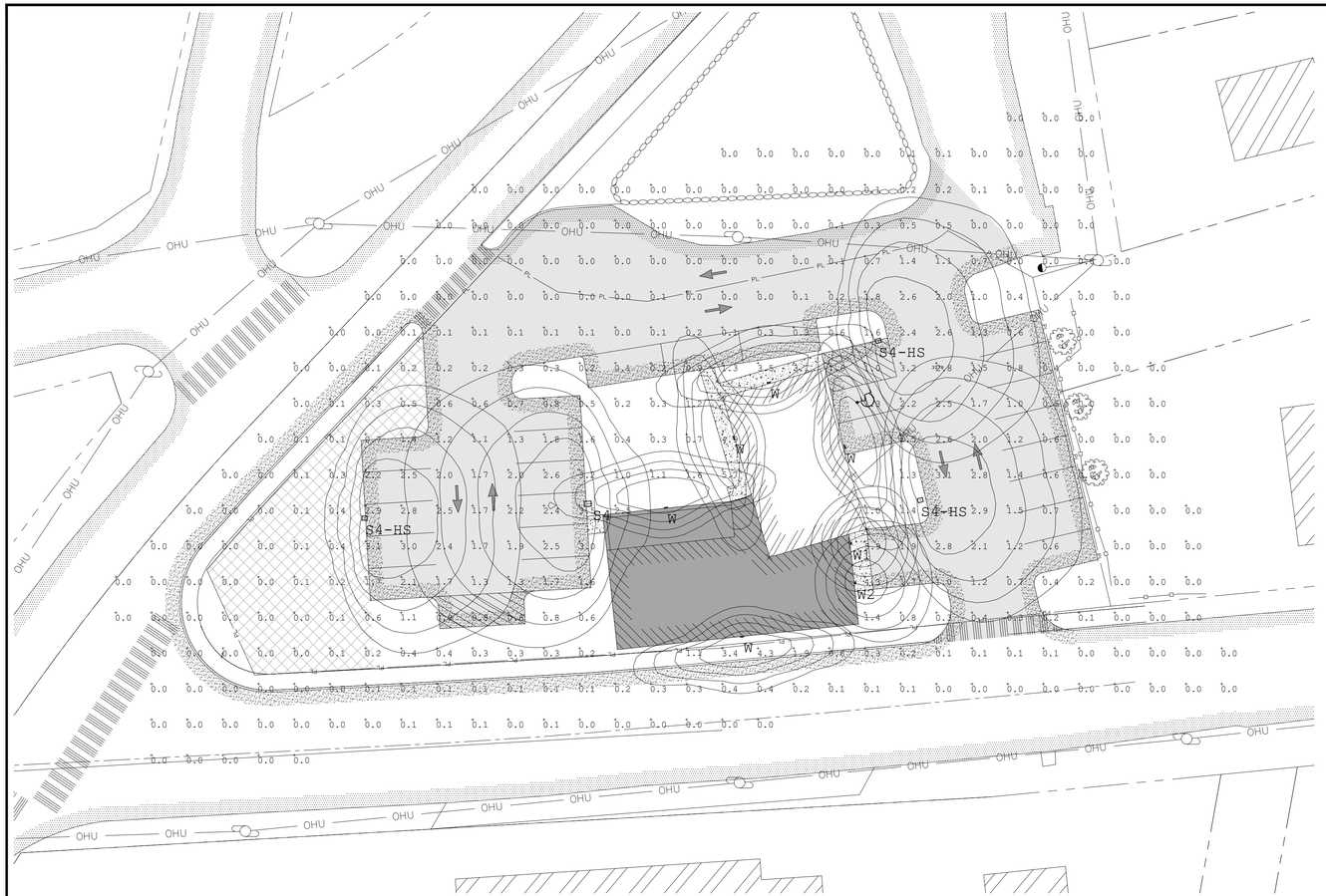
1" = 10'		MJS
DATE:		REVISION DATE:
01/30/24		A : 03/22/24
JOB NO: 23088	FILE: 5 WHIPPLE BASE.DWG	SHEET: 3

MAP 9, LOT 134



Luminaire Schedule					
Symbol	Qty	Label	Arrangement	Description	[MANUFAC]
	1	S4	Single	MRS-LED-06L-SIL-4-UNV-DIM-30-70CRI-CXX-IMSBT1 / 4SQ B3 S11G15 S AB 4BC (15' AFG)	LSI INDUSTRIES, INC.
	3	S4-HS	Single	MRS-LED-06L-SIL-4-UNV-DIM-30-70CRI-IH-CXX-IMSBT1 / 4SQ B3 S11G15 S AB 4BC (15' AFG)	LSI INDUSTRIES, INC.
	5	W	Single	AWL XX 30K / WALL MTD 12' AFG	LSI INDUSTRIES, INC.
	2	W1	Single	WPSLS-01L-30-CXX / WALL MTD ABOVE MAN DOORS	LSI INDUSTRIES, INC.
	1	W2	Single	WPSLS-01L-30-CXX / WALL MTD 12' AFG	LSI INDUSTRIES, INC.

WESTERN PARKING LOT

Illuminance (Fc)
Average = 1.80
Maximum = 3.5
Minimum = 0.5
Avg/Min Ratio = 3.60
Max/Min Ratio = 7.00

EASTERN PARKING LOT

Illuminance (Fc)
Average = 1.58
Maximum = 3.2
Minimum = 0.4
Avg/Min Ratio = 3.95
Max/Min Ratio = 8.00

GRID

GRAPHIC SCALE
0 20 40 60 80 (FEET)

TAX MAP 9, LOT 134

NO.	DESCRIPTION	DATE
A	PRELIMINARY & FINAL S.P.R. REVISIONS	03/22/24
	REVISIONS	

STATE OF MAINE
KENNETH A. WOOD
No. 5992
LICENSED PROFESSIONAL ENGINEER

PHOTOMETRIC PLAN
MAINE MEAT BUTCHER & RESTAURANT
5 WHIPPLE ROAD, KITTERY, MAINE

FOR: PB REAL ESTATE HOLDINGS, LLC.
7 WALLINGFORD SQUARE, SUITE 104
KITTERY, ME 03904

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE ◆ SURVEYING
1284 STATE ROAD – ELIOT, MAINE 03903
PHONE: (207)439–6023 FAX: (207)439–2128

SCALE:	APPROVED BY:	DRAWN BY:
1" = 20'		MJS
DATE:		REVISION DATE:
12/28/23		A : 03/22/24
JOB NO: 23088	FILE: 5 WHIPPLE BASE.DWG	SHEET: 4

MAP 9, LOT 134

Catalog # : _____ Project : _____
Prepared By : _____ Date : _____

AWL
All-Weather Wallpack - Low Profile

IP65

OVERVIEW	
Lumen Range	1500
CCT	4000K
Wattage	15
Efficacy (LPW)	100
Weight lbs (kg)	3.7 lbs (EP model 4.5 lbs.)

FEATURES & SPECIFICATIONS

Construction
- Die-cast aluminum housing
- Available in Bronze, White, Black, and Silver

Optical
- UV-resistant, high-impact polycarbonate lens
- Minimum CRI of 70

Electrical
- Standard Universal Voltage - 120/277VAC dual primary at 60Hz
- Emergency Package (EP) option draws and additional 17W and includes self-test/self-diagnostic and a heater for cold weather operation to -25°C (-13°F)
- Standard photocontrol sensor for use in dusk to dawn applications that can be disabled to be used as and always on or switchable fixture.
- Optional PIR motion sensor (PIR) with up to 10' of detection and operational dusk to dawn. The light will activate when motion is detected in AC mode only and turn off after two minutes of inactivity.

Battery
- Maintenance-free NiCad Battery
- Operating temperatures: -25°C to 50°C (-13°F to 122°F)

Installation
- Universal pattern backplate provides 3" or 4" J-box mounting pattern with keyhole slots
- Can be surface mounted using the ½" conduit entry point at top of housing

Warranty
- 5 year warranty on all electronics and housing

Listings
- UL 924
- cULus Listed for Wet Locations
- IP65 rated
- State of California Title 24
- NFPA 101
- NFPA 70
- NEC
- UL Listed 90 minute emergency run time; 24 hour recharge time

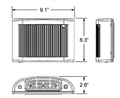
ORDERING GUIDE

TYPICAL ORDER EXAMPLE: **AWL BR EP**

Prefix	Housing Color	Controls
AWL - All-Weather Wallpack Low Profile	**BR** - Bronze **WH** - White **BK** - Black **SL** - Silver	**EP*** - Emergency Package **PIR*** - PIR motion sensor

1 - EP option includes self-test/self-diagnostic and a heater for cold weather operation to -25°C (-13°F)
2 - PIR option adds a PIR motion sensor and removes photocontrol

PRODUCT DIMENSIONS



Catalog # : _____ Project : _____
Prepared By : _____ Date : _____

Mirada Small Area (MRS)
Outdoor LED Area Light

IP66 IK08

OVERVIEW	
Lumen Package	6,000 - 30,000
Wattage Range	39 - 209
Efficacy Range (LPW)	112 - 163
Weight lbs(kg)	20 (9.1)
Control Options	IMSBT, ALB, ALS, 7-Pin, PCI

QUICK LINKS
Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 27 lbs in carton.

Optical System
- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in distribution types 2, 3, 4, SW, FT, and LC/RC.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- Available in 5000K, 4000K, and 3000K color temperatures per ANSI C78.377
- Minimum CRI of 70.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical
- High-performance driver features over-voltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L70 Calculated Life: >60k Hours
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F). 30L lumen packages rated to +40°C.
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls
- Optional integral passive infrared Bluetooth® motion and photocell sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation
- Designed to mount to square or round poles.
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes LSI's traditional B3 drill pattern.

Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- IDA compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applications are qualified.
- IK08 rated luminaire per IEC 66262 mechanical impact code
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Catalog # : _____ Project : _____
Prepared By : _____ Date : _____

Slim Wall Pack (WPSLS)
Small LED Slim Wall Pack

OVERVIEW	
Lumen Range	1,000 - 4,000
Wattage Range	12 - 40
Efficacy Range (LPW)	98 - 122
Weight lbs(kg)	3.8 (1.7)

QUICK LINKS
Ordering Guide | Performance | Dimensions | Photometrics

FEATURES & SPECIFICATIONS

Construction
- Rigid Precision Die cast-aluminum housing for durability and consistency.
- Vertical fins serve as a heat sink and resist accumulation of dust and debris.
- The Patent Pending thermal stacking heat removal technology extracts heat from within the housing moving it away from LEDs and integral components.
- Luminaire hinges open from the bottom to prevent leakage.
- Luminaire is proudly manufactured and tested in the U.S.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory
- Shipping weight: 3.8 lbs in carton.

Optical System
- High-performance Chip On Board (COB) LEDs behind clear tempered glass for maximum light output.
- 3000K (4000K | 5000K color temperatures.
- Minimum CRI of 71.
- Zero uplight.

Electrical
- High-performance driver features over-voltage, under-voltage, short-circuit and over temperature protection.
- 0-10 volt dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz
- L70 Calculated Life: >100k Hours
- Total harmonic distortion: <20%
- Power factor: >.85
- Input power stays constant over life.
- Driver Off-State Power is 0 watts.
- Chip On Board (COB) LEDs with integrated circuit board mounted directly to the housing to maximize heat dissipation and promote long life.
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.
- Minimum 2.5kV surge rating
- Operating temperature: -40°C to +50°C (-40°F to +122°F)

Controls
- Optional 120V electronic button Photocontol.
- Apertures for field or factory installed photocontrol.

Installation
- Surface mounts direct to J-box or wall.
- Features a bubble level and removable hinged face frame for ease of installation.

Warranty
- LSI LED Fixtures carry a 5-year warranty.
- 1 Year warranty on optional Button Photocell.

Listings
- Listed to UL 1598 and UL 8750.
- CSA Listed
- RoHS Compliant.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- American Recovery and Reinvestment Act Funding Compliant.
- Suitable For Wet Locations.

Specifications and dimensions subject to change without notice.

Catalog # : _____ Project : _____
Prepared By : _____ Date : _____

Steel Poles
Square Straight

QUICK LINKS
Ordering Guide | Configurations | Dimensions | EPA

FEATURES & SPECIFICATIONS

Pole Shaft
- Straight poles are 4", 5", or 6" square.
- Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi.
- On Tenon Mount steel poles, tenon is 2-3/8" O.D. high-strength pipe. Tenon is 4-3/4" in length.

Hand-Hole
- Standard hand-hole location is 12" above pole base.
- Poles 22' and above have a 3" x 6" reinforced hand-hole. Shorter poles have a 2" x 4" non-reinforced hand-hole.

Base
- Pole base is ASTM-A36 hot-rolled steel plate with a minimum yield strength of 36,000 psi.
- Two-piece square base cover is optional.

Anchor Bolts
- Poles are furnished with anchor bolts featuring zinc-plated double nuts and washers. Galvanized anchor bolts are optional.
- Anchor Bolts conform to ASTM F 1554-07a Grade 55 with a minimum yield strength of 55,000 PSI.

Ground Lug
- Ground lug is standard.

Duplex Receptacle
- Weatherproof duplex receptacle is optional.

Ground Fault Circuit Interrupter
- Self-testing Ground fault circuit interrupter is optional.

Finishes
- Every pole is provided with the DuraGrip Protection System and a 5-year limited warranty:
- When the top-of-the line DuraGrip Plus Protection System is selected, in addition to the DuraGrip Protection System, a non-porous, automotive-grade corrosion coating is applied to the lower portion of the pole interior sealing and further protecting it from corrosion. This option extends the limited warranty to 7 years.

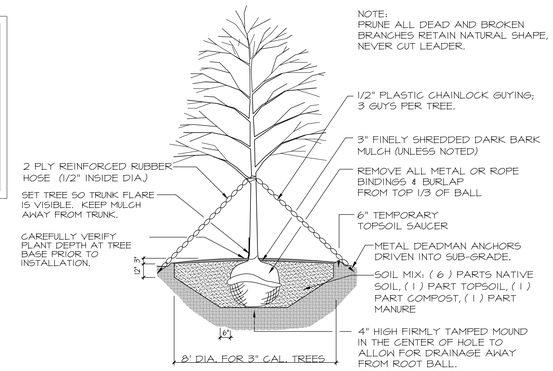
Determining The Luminaire/Pole Combination For Your Application:
- Select luminaire from luminaire ordering information.
- Select bracket configuration if required
- Determine EPA value from luminaire/bracket EPA chart
- Select Pole Height
- Select MPH to match wind speed in the application area (See windspeed maps).
- Confirm pole EPA equal to or exceeding value of luminaire/bracket EPA
- Consult factory for special wind load requirements and banner brackets.

Pole Vibration Damper
- A pole vibration damper is recommended in open terrain areas of the country where low steady state winds are common.
- Non-tapered poles and lightly loaded poles are more susceptible to destructive vibration if a damper is not installed.

Listings
- UL Listed
- BAA/TAA Compliant

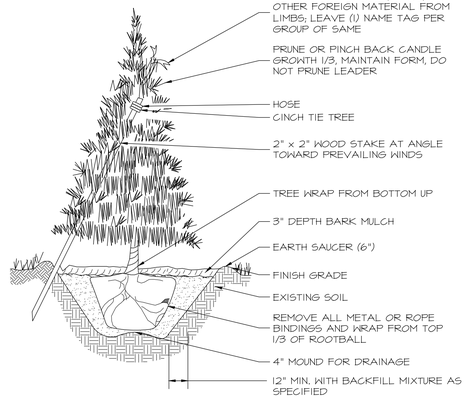
PLANT LIST

QTY	NAME	LATIN	SIZE
2	OCTOBER GLORY MAPLE	ACER RUBRUIM 'OCTOBER GLORY'	2.5-3" CAL.
3	LONDON PLANE TREE	PLATANUS X ACERIFOLIA	2.5-3" CAL.
4	JAPANESE TREE LILAC	SYRINGA RETICULATA	2-2.5" CAL.
1	PRAIRIFIRE CRABAPPLE	MALUS 'PRAIRIFIRE'	2-2.5' CAL.
1	JAPANESE WHITE PINE	PINUS PARVIFLORA	8-10 FT HT.
40	WINTERGREEN BOXWOOD	BUXUS MICROPHYLLA	24-30" HT.
3	MISS KIM KOREAN LILAC	SYRINGA PUB. SUB. 'PATULA' 3	3-4 FT. HT.
6	LIMELIGHT HYDRANGEA	HYDRANGEA 'LIMELIGHT'	5 GAL.
43	REED GRASS 'KARL FOERSTER'	MISCANTHUS SINENSIS 'KARL FOERSTER'	3 GAL.
10	DWARF FOUNTAIN GRASS 'HAMELN'	PENNISETUM ALOPECUROIDES	3 GAL.
140	ASSORTED PERENNIALS	DAYLILY, SEDUM, LAVENDER, HOSTA	1 GAL
2,300	LAWN	SEED TO LAWN	SF



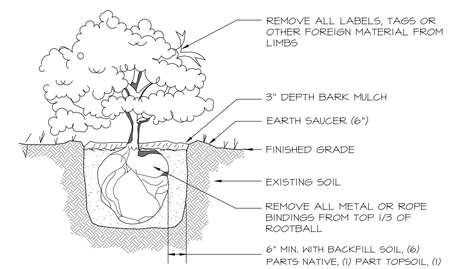
1 LPI DECIDUOUS TREE PLANTING INSTALLATION

NOT TO SCALE



2 LPI EVERGREEN TREE PLANTING INSTALLATION

NOT TO SCALE



3 LPI SHRUB PLANTING INSTALLATION

NOT TO SCALE

PLANT SYMBOL LEGEND

CT–CANOPY TREE (MAPLE & LONDON PLANE)

OT–ORNAMENTAL TREE (TREE LILAC & CRABAPPLE)

ET–EVERGREEN TREE (PINE)

SH–SHRUB (LILAC & HYDRANGEA)

GR–GRASEES (LARGE & SMALL)

PERENNIAL BEDS

PLANTING NOTES:

1. THE LANDSCAPE CONTRACTOR SHALL SUPPLY ALL PLANTS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE PLAN.

2. ANY SUBSTITUTION OF SPECIFIED PLANTS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT. ONLY NATIVE SPECIES AND/OR VARIETIES WILL BE ACCEPTABLE.

3. ALL TREE, SHRUB, VINE, AND PLANT BED (GROUNDCOVERS, PERENNIALS, BULBS, ETC.) LOCATIONS SHALL BE STAKED OR MARKED BY CONTRACTOR AND THEN APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD PRIOR TO PLANTING. CONTRACTOR MUST GIVE A MINIMUM 3 DAY NOTICE BETWEEN STAKING AND PLANTING.

4. CHALK MARK NORTH AT TREE BASE PRIOR TO DIGGING AT NURSERY. REPLANT ON SITE WITH SAME NORTH ORIENTATION FOR ALL TREES.

5. ALL PLANTS INSTALLED SHALL MEET THE SPECIFICATIONS OF THE AMERICAN STANDARD FOR NURSERY STOCK (LATEST ADDITION) AS SET FORTH BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.

6. ALL PLANTS SHALL BE DELIVERED TO THE SITE FOR REVIEW BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

7. THE LANDSCAPE CONTRACTOR IS ADVISED OF THE EXISTENCE OF UNDERGROUND UTILITIES, THE LOCATION OF WHICH SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY EXCAVATION OPERATIONS. SHOULD THE LOCATION OF PROPOSED PLANTINGS CONFLICT WITH ANY OF SAID UTILITIES, ADJUST PLANT LOCATIONS ACCORDINGLY AFTER CONSULTATION WITH THE LANDSCAPE ARCHITECT.

8. PLANTING TREES AND SHRUBS: EXCAVATE PLANTING PITS WITH SLOPING SIDES, AND WITH BOTTOM OF EXCAVATION RAISED IN CENTER FOR DRAINAGE. LOOSEN HARD SUBSOIL IN BOTTOM OF EXCAVATION, AND LOOSEN SOIL ON SIDES OF SLOPES. SET PLANTS IN CENTER OF PIT WITH TOP OF BALL RAISED SLIGHTLY ABOVE FINISH GRADES. PLACE A SETTING LAYER OF COMPACTED PLANTING MIX. REMOVE BURLAP AND WIRE BASKETS FROM TOP OF BALLS. ON SIDES, FOLD BACK WIRE AND REMOVE UPPER PORTIONS OF BURLAP. DO NOT USE PLANT IF ROOT BALL IS CRACKED OR BROKEN. IF CONTAINER, REMOVE CONTAINER AND SCOUR PERIMETER SOIL AND ROOTS. PLACE PLANTING MIX AROUND BALL/CONTAINER IN LAYERS, TAMPING TO ELIMINATE VOIDS AND AIR POCKETS. DO NOT COVER TOP OF ROOT BALL. PRUNE, THIN, AND SHAPE AFTER PLANTING.

9. MULCH PLANTING BEDS AND TREE PITS WITH 3" FINELY SHREDDED AND AGED BARK MULCH OR AS SPECIFIED ON THE PLAN. MULCH SAMPLE TO BE APPROVED BY OWNER PRIOR TO INSTALLATION.

10. ALL DISTURBED LAWN AREAS TO BE LOAMED AND SODDED AS NECESSARY AT NO ADDITIONAL COST TO OWNER(S).

11. GRADES SHOWN REPRESENT PROPOSED GRADES PER CONTRACT. CONTRACTOR TO VERIFY GRADES AS NEEDED.

12. PLANT MATERIALS SHALL BE GUARANTEED FOR ONE (1) YEAR AFTER PLANTING. ANY DEAD, UNSIGHTLY, OR UNHEALTHY PLANTS SHALL BE REPLACED IN KIND AT NO COST TO THE OWNER(S).

13. THE CONTRACTOR SHALL REPLACE OR REPAIR TO ORIGINAL CONDITION ANY AND ALL UTILITIES, PAVING, CURBING, ETC., DAMAGED AS A RESULT OF THEIR OPERATIONS AT NO ADDITIONAL COST TO THE OWNER(S).

14. A PRE-CONSTRUCTION MEETING SHALL BE HELD PRIOR TO LANDSCAPE CONTRACTOR BEGINNING CONSTRUCTION OR ORDERING PLANT MATERIALS.

15. PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.

16. OWNER TO REPLACE DEAD PLANTS IN PERPETUITY AFTER THE INITIAL (1) YEAR GUARANTEE EXPIRES.

17. ALL STREET SIDE TREES MUST BE A MINIMUM OF 2.5" CALIPER AND BE AT LEAST 12 FEET HIGH AT THE TIME OF PLANTING. (KITTERY ZONING ORDINANCE SECTION 16.4.21.E.3(c) LANDSCAPING SITE IMPROVEMENTS.)

SEEDING NOTES:

1. THE FOLLOWING GENERAL PRACTICES SHALL BE USED TO ESTABLISH LAWNS. FOR MORE DETAILED SPECIFIC REQUIREMENTS, REFER TO PROJECT MANUAL AND WRITTEN EROSION AND SEDIMENTATION CONTROL PLAN:

2. ALL DISTURBED AREAS ON-SITE NOT COVERED BY BUILDINGS OR PAVED AREAS SHALL RECEIVE A MINIMUM OF 4" OF LOAM AND SOD, UNLESS DETAILED OR SPECIFIED ELSEWHERE.

3. ALL FINAL SEEDING SHALL BE COMPLETED WITHIN SEVEN (7) DAYS FOLLOWING THE FINAL GRADING.

4. FOR LAWN CONSTRUCTION SPECIFICATIONS, SOIL AMENDMENTS, SEED MIX AND APPLICATION RATES, REFER TO THE PROJECT MANUAL AND THE "EROSION AND SEDIMENTATION CONTROL PLAN.

5. ALL AREAS SHALL BE MULCHED IMMEDIATELY AFTER SEEDING. MULCHING SHALL BE MONITORED. IF MULCHING PROVES TO BE INEFFECTIVE, THEN NETTING AND MATTING SHALL BE USED IN ITS PLACE.

6. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN OCTOBER 1 AND APRIL 15. DORMANT SEEDING SHALL NOT BE USED UNLESS APPROVED BY OWNER'S REPRESENTATIVE.

7. SHOULD DORMANT SEEDING BE NECESSARY, THE SPECIFIED SEED APPLICATION RATE SHALL BE DOUBLED.

8. FOR LATE SEEDING OR DORMANT SEEDING, ALL FERTILIZING, SEEDING, AND MULCHING SHALL BE DONE ON THE SAME DAY IMMEDIATELY AFTER THE LOAM IS SPREAD. FINAL GRADING SHALL BE LIMITED TO AREAS WHICH CAN BE COMPLETED AND SEEDED THE SAME DAY.

GRAPHIC SCALE

0 20 40 60 80 (FEET)

TAX MAP 9, LOT 134

NO.	DESCRIPTION	DATE
	REVISIONS	

LICENSED LANDSCAPE ARCHITECT
3-21-24
SCOTT M. STRYNAR
NO. 3148
STATE OF MAINE

OVERALL LANDSCAPE PLAN
MAINE MEAT BUTCHER & RESTAURANT
5 WHIPPLE ROAD, KITTERY, MAINE

FOR: JARROD SPANGLER
7 WALLINGFORD SQUARE, SUITE 104
KITTERY, ME 03904

SCOTT STRYNAR LANDSCAPE ARCHITECT, LLC
98 MEEHAN LANE, NORTH BERWICK, ME 03906
(T) 207-957-444

SCALE: 1" = 20'	APPROVED BY:	DRAWN BY: SS
DATE: 3/20/24		REVISION DATE: – : –
JOB NO: 23088	FILE: 195-BASE.DWG	SHEET: 5

MAP 9, LOT 134

EROSION & SEDIMENTATION CONTROL NOTES

1. PRIOR TO ANY SNOW EVENT, SILTATION FENCE OR HAY BALE BARRIERS WILL BE INSTALLED DOWNSLOPE OF ALL STRIPPING OR CONSTRUCTION OPERATIONS. A DOUBLE SILT FENCE BARRIER SHALL BE INSTALLED DOWNSLOPE OF ANY SOIL MATERIAL STOCKPILES. SILT FENCES SHALL BE INSPECTED AFTER EACH RAIN EVENT AND DAILY DURING PROLONGED RAIN. SILT AND SOIL PARTICLES ACCUMULATING BEHIND THE FENCE SHALL BE REMOVED AFTER EACH SIGNIFICANT RAIN EVENT AND IN NO INSTANCE SHOULD ACCUMULATION EXCEED 1/2 THE HEIGHT OF THE FENCE. TORN OR DAMAGED AREAS SHALL BE REPAIRED.

2. TEMPORARY AND PERMANENT VEGETATION AND MULCHING IS AN INTEGRAL COMPONENT OF THE EROSION AND SEDIMENTATION CONTROL PLAN. ALL AREAS SHALL BE INSPECTED AND MAINTAINED UNTIL THE DESIRED VEGETATIVE COVER IS ESTABLISHED. THESE CONTROL MEASURES ARE ESSENTIAL TO EROSION PREVENTION AND ALSO REDUCE COSTLY REWORK OF GRADED AND SHAPED AREAS.

3. SEEDING, FERTILIZER AND LIME RATES AND TIME OF APPLICATION WILL BE DEPENDENT ON SOIL REQUIREMENTS. TEMPORARY VEGETATION SHALL BE MAINTAINED IN THESE AREAS UNTIL PERMANENT SEEDING IS APPLIED. ADDITIONALLY, EROSION AND SEDIMENTATION MEASURES SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED.

4. ALL LAWN AREA, OUTER POND SIDE SLOPES AND SWALES SHALL BE PERMANENTLY SEEDED WITH THE FOLLOWING MIXTURE: 20 LB/ACRE CREEPING RED FESCUE, 2 LB/ACRE REDTOP AND 20 LB/ACRE TALL FESCUE FOR A TOTAL OF 42 LB/ACRE. FERTILIZER AND LIME RATES SHALL BE DEPENDENT ON SOIL TESTING. IN THE ABSENCE OF SOIL TESTS, FERTILIZE WITH 10-20-20 (N-P205-K201) AT 800 LB/ACRE AND LIME AT 3 TONS/ACRE. MULCH WITH HAY AT 70-90 LB/1000 S.F. 4" OF LOAM SHALL BE APPLIED PRIOR TO SEEDING.

5. POND BOTTOMS AND INNER POND SIDESLOPES SHALL BE PERMANENTLY SEEDED WITH THE FOLLOWING MIXTURE: 20 LB/ACRE CREEPING RED FESCUE, 8 LB/ACRE BIRDSFOOT TREFOIL AND 20 LB/ACRE TALL FESCUE FOR A TOTAL OF 48 LB/ACRE. SEE THE ABOVE NOTE FOR FERTILIZER, LIME AND MULCHING RATES.

6. TEMPORARY VEGETATION OF ALL DISTURBED AREAS, MATERIAL STOCKPILES AND OTHER SUCH AREAS SHALL BE ESTABLISHED BY SEEDING WITH EITHER WINTER RYE AT A RATE OF 112 LB/ACRE OR ANNUAL RYEGRASS AT A RATE OF 40 LB/ACRE. WINTER RYE SHALL BE USED FOR FALL SEEDING AND ANNUAL RYEGRASS FOR SHORT DURATION SEEDING. SEEDING SHALL BE ACCOMPLISHED BEFORE OCTOBER 1. TEMPORARY STABILIZATION WITH MULCH OF DISTURBED AREAS SHALL TAKE PLACE WITHIN 7 DAYS OF THE CESSATION OF CONSTRUCTION ACTIVITIES IN AN AREA THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS. AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY SHALL BE TEMPORARILY STABILIZED WITH MULCH WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.

7. TEMPORARY SEEDING OF DISTURBED AREAS SHALL BE ACCOMPLISHED BEFORE OCTOBER 1. PERMANENT SEEDING SHALL BE ACCOMPLISHED BEFORE SEPTEMBER 15.

8. ALL SEEDED AREAS SHALL BE MULCHED WITH HAY AT A RATE OF 2 BALES (70-90 LB) PER 1000 S.F. OF SEEDED AREA.

9. ALL DISTURBED AREAS ON THE SITE SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR TEMPORARILY STABILIZED PER E&S NOTE 6. PERMANENT STABILIZATION MEANS 90% COVER WITH MATURE, HEALTHY PLANTS FOR PLANTED AREAS AND FOR SODDED AREAS, COMPLETE BINDING OF SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

10. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT ALL ACCESSES TO PUBLIC ROADS (SEE PLAN). TEMPORARY CULVERTS SHALL BE PROVIDED AS REQUIRED.

11. SLOPES BETWEEN 2:1 AND 3:1 (INCLUDING 3:1) SHALL BE TREATED WITH POLYJUTE OPEN WEAVE GEOTEXTILE (OR EQUIVALENT) AFTER SEEDING. JUTE MATS SHALL BE ANCHORED PER MANUFACTURER'S SPECIFICATIONS. SLOPES BETWEEN 2:1 AND 1.5:1 (INCLUDING 2:1) SHALL BE ANCHORED WITH RIPRAP. SLOPES ARE PROHIBITED FROM BEING STEEPER THAN 1.5:1.

12. EXCESSIVE DUST CAUSED BY CONSTRUCTION OPERATIONS SHALL BE CONTROLLED BY APPLICATION OF WATER OR CALCIUM CHLORIDE.

13. THE CONTRACTOR MAY OPT TO USE EROSION CONTROL MIX BERM AS A SEDIMENT BARRIER IN LIEU OF SILTATION FENCE OR HAY BALE BARRIERS WITH APPROVAL FROM THE INSPECTING ENGINEER.

14. SEDIMENT BARRIERS SHALL BE DOUBLED WITH 75' OF WETLANDS OR OTHER PROTECTED NATURAL RESOURCES.

15. TEMPORARY E&S CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS OF PERMANENT STABILIZATION. ACCUMULATED SEDIMENTS SHALL BE REMOVED AND THE AREA STABILIZED.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT. THESE STANDARDS CAN BE FOUND IN THE FOLLOWING DOCUMENT: MDEP CHAPTER 500 (STORMWATER MANAGEMENT), APPENDIX C. HOUSEKEEPING. HOUSEKEEPING PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, SPILL PREVENTION, GROUNDWATER PROTECTION, FUGITIVE SEDIMENT AND DUST, DEBRIS AND OTHER MATERIALS, EXCAVATION DEWATERING, AUTHORIZED NON-STORMWATER DISCHARGES AND UNAUTHORIZED NON-STORMWATER DISCHARGES. ANY SPILL OR RELEASE OF HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE MDEP; FOR OIL SPILLS, CALL 1-800-482-0777; FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664.

17. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

18. ALL SEDIMENT BARRIERS AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION.

19. SEDIMENT BARRIERS SHALL BE INSTALLED DOWN-GRADIENT OF STOCKPILES, AND STORMWATER SHALL BE PREVENTED FROM RUNNING ONTO STOCKPILES.

20. THE PROPOSED STORMWATER MANAGEMENT AREAS INTENDED FOR USE AS PERMANENT, POST-CONSTRUCTION BMP'S SHALL BE USED TO TEMPORARILY MANAGE FLOWS DURING CONSTRUCTION. THESE BMP'S SHALL BE MAINTAINED DURING THEIR TEMPORARY USE BY INSTALLING THE APPROPRIATE MEASURES DURING CONSTRUCTION, INCLUDING UNDERDRAINS, SOIL FILTER MEDIA, ETC. SEDIMENT REMOVAL AND SLOPE STABILIZATION SHALL TAKE PLACE AS NECESSARY FOR TEMPORARY CONSTRUCTION MANAGEMENT.

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT. THESE STANDARDS CAN BE FOUND IN THE FOLLOWING DOCUMENT: MDEP CHAPTER 500 (STORMWATER MANAGEMENT), APPENDIX C. HOUSEKEEPING. HOUSEKEEPING PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, SPILL PREVENTION, GROUNDWATER PROTECTION, FUGITIVE SEDIMENT AND DUST, DEBRIS AND OTHER MATERIALS, EXCAVATION DEWATERING, AUTHORIZED NON-STORMWATER DISCHARGES AND UNAUTHORIZED NON-STORMWATER DISCHARGES(DETAILED BELOW).

E&S INSPECTION/MAINTENANCE DURING CONSTRUCTION

A. INSPECTION AND CORRECTIVE ACTION. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, MATERIALS STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK, PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES, AS WELL AS BEFORE AND WITHIN 24 HOURS AFTER A STORM EVENT WHICH PRODUCES 0.5 INCHES OR MORE WITHIN SAID 24 HOUR PERIOD. A TOWN-APPOINTED ENGINEER WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS AND SHALL ALSO ENSURE THAT THE RECOMMENDED MAINTENANCE IS PERFORMED.

B. MAINTENANCE. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE REPAIRED, THE REPAIR WORK SHOULD BE INITIATED UPON DISCOVERY OF THE PROBLEM BUT NO LATER THAN THE END OF THE NEXT WORKDAY. IF ADDITIONAL BMPS OR SIGNIFICANT REPAIR OF BMPS ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT WHICH PRODUCES 0.5 INCHES OR MORE WITHIN A 24 HOUR PERIOD. ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.

C. DOCUMENTATION. KEEP A LOG (REPORT) SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS, THE DATE(S) OF THE INSPECTIONS, AND MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIALS STORAGE AREAS, AND VEHICLES ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.

CONSTRUCTION HOUSEKEEPING PUNCHLIST

1. ALL DISTRUBED AREAS SHALL BE PERMANENTLY STABILIZED, AND PLANTINGS SHALL BE ESTABLISHED (GRASS SEEDS HAVE GERMINATED WITHIN 90% VEGETATIVE COVER).

2. ALL TRASH, SEDIMENTS, DEBRIS, OR ANY SOLID WASTE SHALL BE REMOVED FROM STORMWATER CHANNELS, CATCH BASINS, DETENTION STRUCTURES, DISCHARGE POINTS, AND LEVEL SPREADERS.

3. ALL EROSION AND SEDIMENTATION DEVICES SHALL BE REMOVED (SILTATION FENCES AND POSTS, DIVERSIONS AND SEDIMENT STRUCTURES, ETC.)

4. ALL DELIVERABLES (CERTIFICATIONS, SURVEY INFORMATION, AS-BUILT PLANS, REPORTS, NOTICES OF TERMINATION, ETC.) IN ACCORDANCE WITH ALL PERMIT REQUIREMENTS SHALL BE SUBMITTED TO THE TOWN, THE MAINE DEP, HOMEOWNER'S ASSOCIATION, OWNER, AND/OR ALL APPROPRIATE ENTITIES.

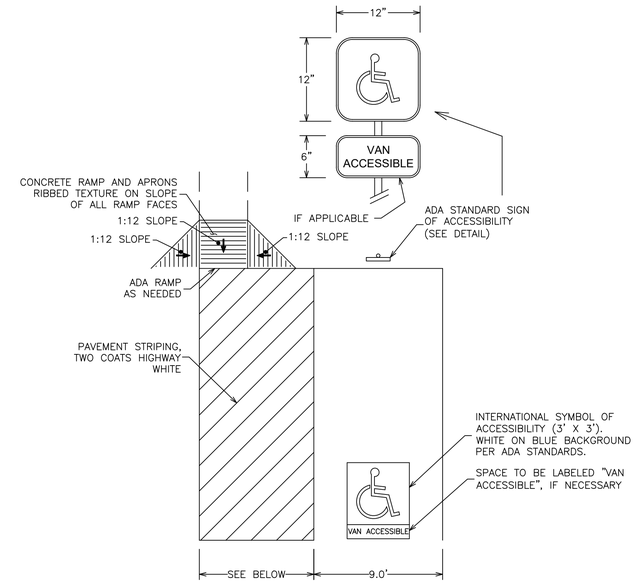
STORMWATER DISCHARGE REQUIREMENTS

AUTHORIZED NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:

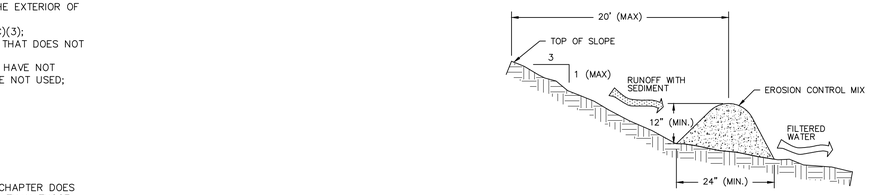
(A) DISCHARGES FROM FIREFIGHTING ACTIVITY;
(B) FIRE HYDRANT FLUSHINGS;
(C) VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
(D) DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3);
(E) ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
(F) PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
(G) UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
(H) UNCONTAMINATED GROUNDWATER OR SPRING WATER;
(I) FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
(J) UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5))
(K) PORTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS
(L) LANDSCAPE IRRIGATION

UNAUTHORIZED NON-STORMWATER DISCHARGES. THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:

(A) WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
(B) FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
(C) SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
(D) TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE



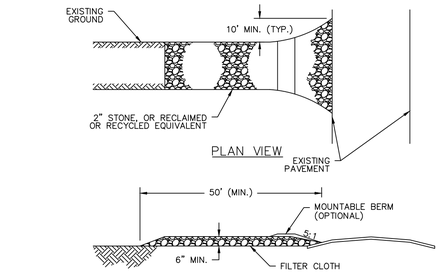
ACCESSIBLE PARKING SPACE DETAIL
ACCESSIBLE RAMP DETAIL
AISLE SHALL BE 5' WIDE FOR AUTOMOBILES OR 8' WIDE FOR VANS
(NTS)



EROSION CONTROL MIX COMPOSITION STANDARDS:

- THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80 AND 100%, DRY WEIGHT BASIS.
- PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN AND A MINIMUM OF 70% MAXIMUM OF 85% PASSING A 0.75" SCREEN.
- THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
- LARGE PORTIONS OF SILTS, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
- SOLUBLE SALTS CONTENT SHALL BE < 4.0 mmhos/cm
- THE pH SHOULD FALL BETWEEN 5.0 AND 8.0.

EROSION CONTROL MIX BERM – NTS

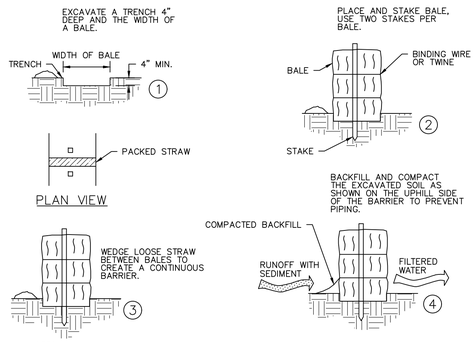


PROFILE

NOTES:

1. GEOTEXTILE: PLACE FILTER CLOTH OVER ENTIRE AREA TO BE COVERED WITH AGGREGATE. FILTER CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENTIAL LOT.
2. PIPING OF SURFACE WATER UNDER ENTRANCE SHALL BE PROVIDED AS REQUIRED. IF PIPING IS IMOSSIBLE, A MOUNTABLE BERM WITH A 5:1 SLOPE WILL BE PERMITTED.

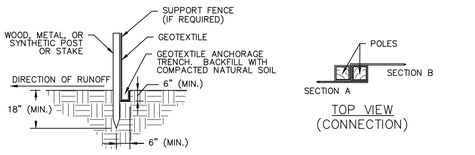
STABILIZED CONSTRUCTION ENTRANCE



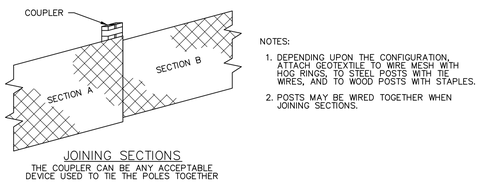
NOTES:

1. PLACE BALES IN A SINGLE ROW, LENGTHWISE ON THE CONTOUR.
2. PLACE BALES 10' AWAY FROM THE TOE OF SLOPE.
3. IN SLOPING AREAS WHERE SURFACE FLOW FOLLOWS THE BALE LINE, INSTALL PERPENDICULAR BALE CHECKS AT APPROPRIATE INTERVALS (100' MAX.)

HAY BALE BARRIER – NTS



TOE-IN METHOD

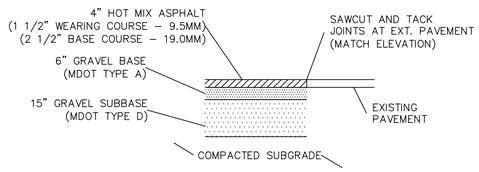


NOTES:

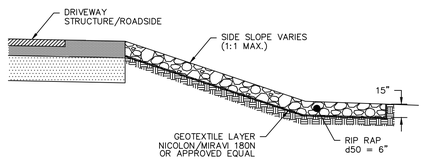
1. DEPENDING UPON THE CONFIGURATION, ATTACH GEOTEXTILE TO WIRE MESH WITH HOG RINGS, TO STEEL POSTS WITH TIE WIRES, AND TO WOOD POSTS WITH STAPLES.
2. POSTS MAY BE WIRED TOGETHER WHEN JOINING SECTIONS.

JOINING SECTIONS
THE COUPLER CAN BE ANY ACCEPTABLE DEVICE USED TO TIE THE POLES TOGETHER

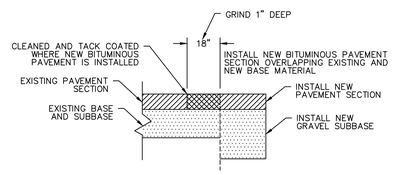
TEMPORARY SILT FENCE – NTS



ASPHALT PARKING CROSS SECTION
(NTS)
GRAVEL FILL TO BE COMPACTED TO 95% MODIFIED PROCTOR



RIP RAP SIDE SLOPE DETAIL



PAVEMENT JOINT CROSS SECTION
NEW PAVEMENT ABUTTING EXISTING PAVEMENT

GRAPHIC SCALE
0 30 60 90 120 (FEET)

TAX MAP 9, LOT 134

NO.	DESCRIPTION	DATE
	REVISIONS	
A	PRELIMINARY & FINAL S.P.R. REVISIONS	03/22/24

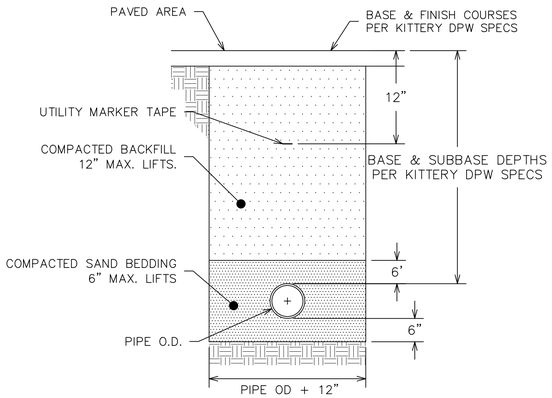
STATE OF MAINE
KENNETH A. WOOD
No. 5992
LICENSED PROFESSIONAL ENGINEER

SITE DETAILS
MAINE MEAT BUTCHER & RESTAURANT
5 WHIPPLE ROAD, KITTERY, MAINE

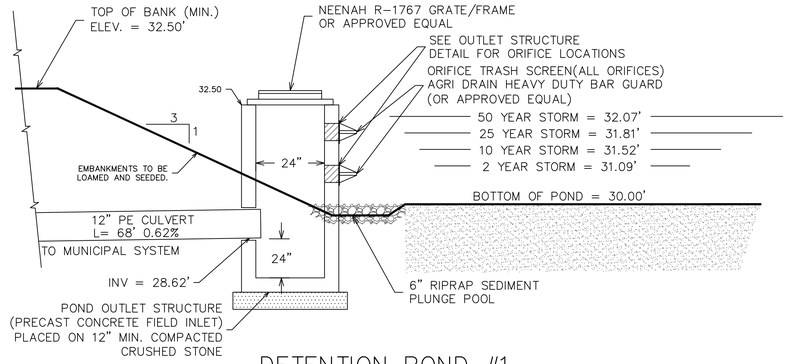
FOR: PB REAL ESTATE HOLDINGS, LLC.
7 WALLINGFORD SQUARE, SUITE 104
KITTERY, ME 03904

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE ◆ SURVEYING
1284 STATE ROAD – ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

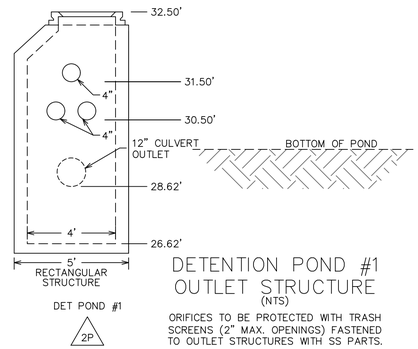
SCALE:	APPROVED BY:	DRAWN BY:
AS NOTED		MJS
DATE:		REVISION DATE:
01/30/24		A : 03/22/24
JOB NO: 23088	FILE: 5 WHIPPLE BASE.DWG	SHEET: 6



UTILITY TRENCH PATCH DETAIL
(NTS)



DETENTION POND #1
(NTS)
NOTES: PIPE JOINTS TO BE WATER TIGHT



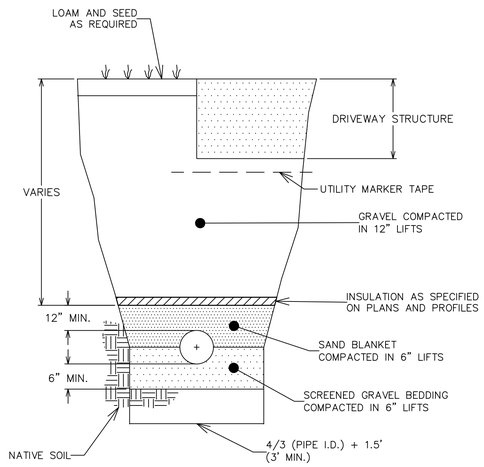
DETENTION POND #1
OUTLET STRUCTURE
(NTS)
ORIFICES TO BE PROTECTED WITH TRASH SCREENS (2" MAX. OPENINGS) FASTENED TO OUTLET STRUCTURES WITH SS PARTS.

FTPD CONFIGURATION

(OPTIONS: DEEP "-D", THROAT INLET "-T", PIPE INLET "-P", PIPE AND THROAT INLET "-PT')

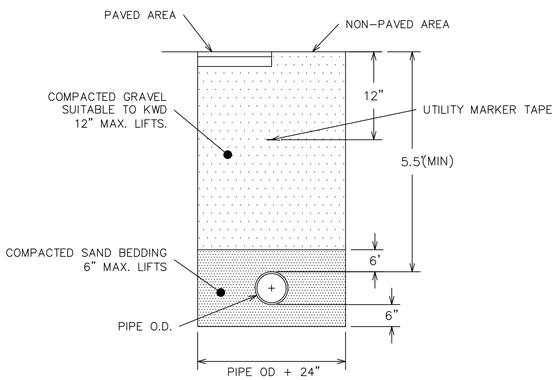
MODEL NAME	PART NUMBER	AVAILABILITY	MEDIA AREA (SF)	MEDIA BAY SIZE	VAULT SIZE (W x L)	WEIR LENGTH/ MAX. CURB OPENING	*MAX. BYPASS FLOW (CFS) STD / DEEP	INLET/ OUTLET ACCESS DIA.	TREE GRATE QTY. AND SIZE
FTPD 4x4 (4x6 VAULT)	FTPD0404	ALL	16	4 x 4	4 x 6	1'-8"	1.4 / 4.6	12"/12"	(1) 3' x 3'
FTPD 4x6 (4x8 VAULT)	FTPD0406	ALL (EXCEPT DE, MD, NJ, PA, VA, WV)	24	4 x 6	4 x 8	1'-8"	1.4 / 4.6	12"/12"	(1) 3' x 3'
FTPD 6x4 (6x6 VAULT)	FTPD0604	ALL (EXCEPT CA, TX)	24	6 x 4	6 x 6	1'-8"	1.4 / 4.6	12"/12"	(1) 3' x 3'
FTPD 4.5x5.8 (4.5x7.8 VAULT)	FTPD045058	DE, MD, NJ, PA, VA, WV ONLY	26	4.5 x 5.83	4.5 x 7.83	1'-8"	1.4 / 4.6	12"/12"	(1) 3' x 3'
FTPD 6x6 (6x8 VAULT)	FTPD0606	ALL	36	6 x 6	6 x 8	1'-8"	1.4 / 4.6	12"/12"	(1) 3' x 3'
FTPD 6x8 (6x10 VAULT)	FTPD0608	ALL (EXCEPT CA, TX)	48	6 x 8	6 x 10	1'-8"	1.4 / 4.6	12"/12"	(1) 4' x 4'
FTPD 8x7 (8x10 VAULT)	FTPD0807	CA, TX ONLY	56	8 x 7	8 x 10	2'-6"	2.1 / 6.8	24"/24"	(1) 4' x 4'
FTPD 6x10 (6x12 VAULT)	FTPD0610	ALL (EXCEPT CA, TX)	60	6 x 10	6 x 12	1'-8"	1.4 / 4.6	12"/12"	(1) 4' x 4'
FTPD 7x10 (7x13 VAULT)	FTPD0710	ALL (EXCEPT CA, TX)	70	7 x 10	7 x 13	2'-6"	2.1 / 6.8	24"/24"	(1) 4' x 4'
FTPD 8x9 (8x12 VAULT)	FTPD0809	CA, TX ONLY	72	8 x 9	8 x 12	2' -6"	2.1 / 6.8	24"/24"	(1) 4' x 4'
FTPD 8x10.5 (8x14 VAULT)	FTPD08105	ALL	84	8 x 10.5	8 x 14	3'-0"	2.5 / 8.2	24"/24"	(1) 4' x 4'
FTPD 8x12.5 (8x16 VAULT)	FTPD08125	ALL (EXCEPT OR, WA)	100	8 x 12.5	8 x 16	3'-0"	2.5 / 8.2	24"/24"	(2) 4' x 4'
FTPD 9x11.5 (9x15 VAULT)	FTPD09115	OR, WA ONLY	103	9 x 11.5	9 x 15	3'-0"	2.5 / 8.2	24"/24"	(2) 4' x 4'

*MAX. BYPASS FLOW IS INTERNAL WEIR FLOW. CAPACITIES SHOWN ARE FOR STANDARD DEPTH AND DEEP (-D), RESPECTIVELY. SITE SPECIFIC ANALYSIS IS REQUIRED TO DETERMINE CURB INLET FLOW CAPACITY.

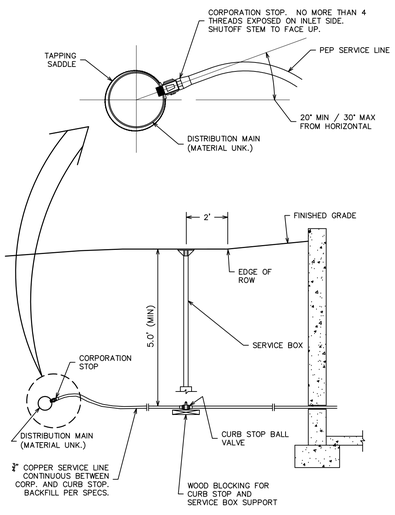


TRENCH TO BE SUPPORTED BY SLOPING BACK AT 2:1 OR OTHER ACCEPTABLE METHOD.

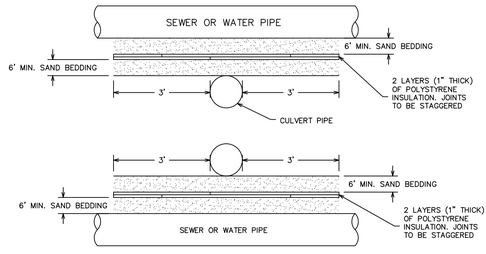
SEWER PIPE TRENCH
(NTS)



WATER LINE
TRENCH DETAIL
(NTS)

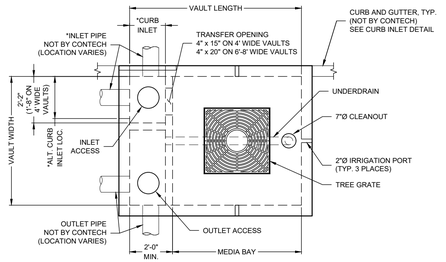


WATER SERVICE DETAIL
(NTS)

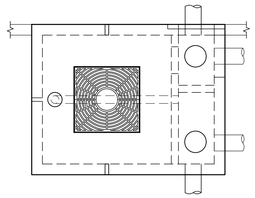


CULVERT CROSSING
(NTS)

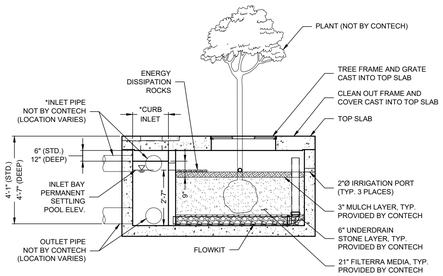
GRAPHIC SCALE
0 30 60 90 120 (FEET)



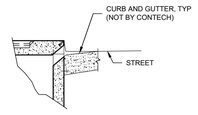
PLAN VIEW



ALTERNATE ORIENTATION



SECTION A-A
(STANDARD DEPTH SHOWN)



CURB INLET DETAIL

TAX MAP 9, LOT 134

NO.	DESCRIPTION	DATE
A	PRELIMINARY & FINAL S.P.R. REVISIONS	03/22/24

REVISIONS

KENNETH A. WOOD No. 5992 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SITE DETAILS
MAINE MEAT BUTCHER & RESTAURANT
5 WHIPPLE ROAD, KITTERY, MAINE

FOR: PB REAL ESTATE HOLDINGS, LLC.
7 WALLINGFORD SQUARE, SUITE 104
KITTERY, ME 03904

ATTAR ENGINEERING, INC.
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PHONE: (207)439-6023 FAX: (207)439-2128

SCALE:	APPROVED BY:	DRAWN BY:
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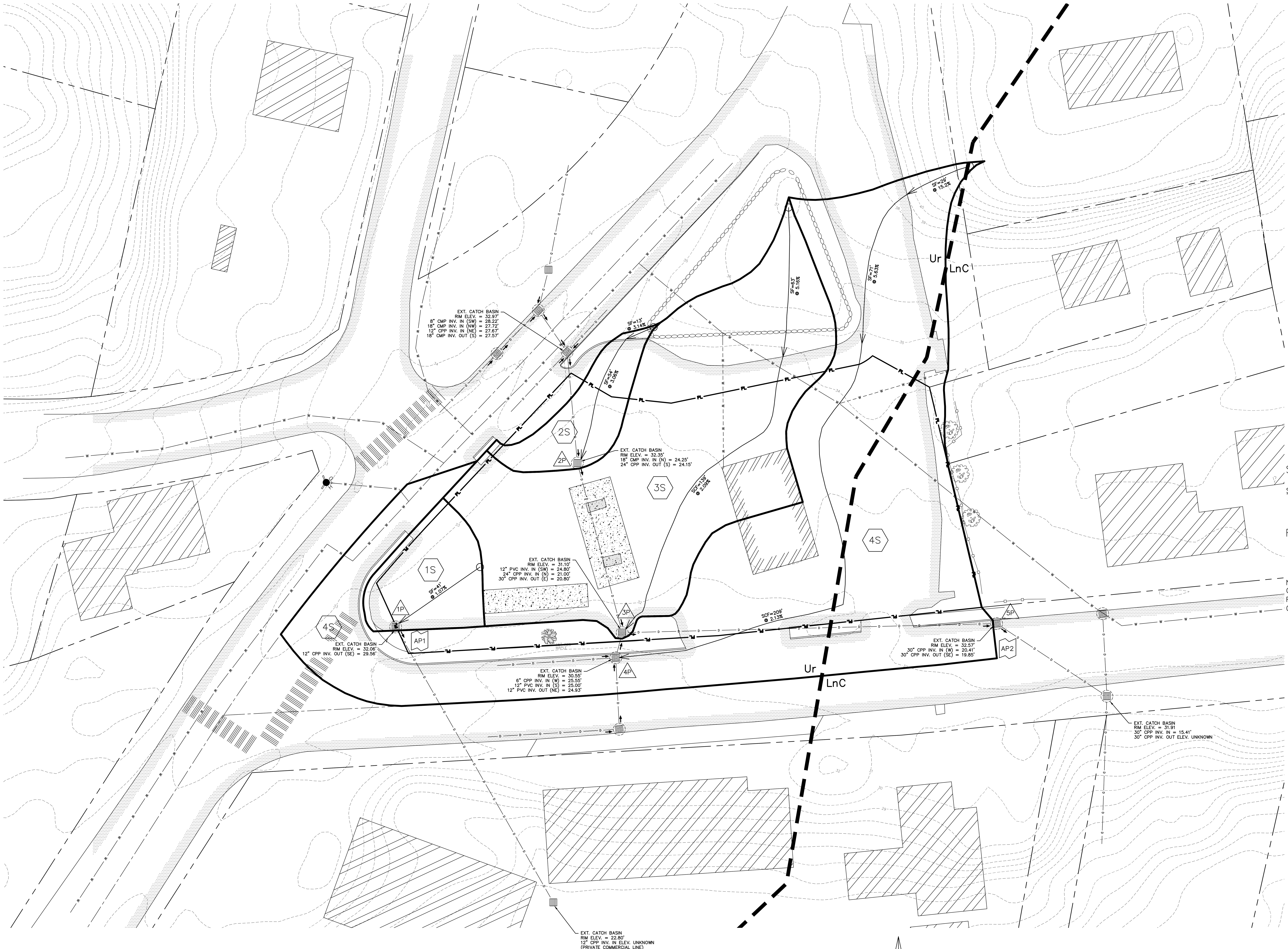
DATE:		REVISION DATE:
01/30/24		A : 03/22/24
JOB NO: 23088	FILE: 5 WHIPPLE BASE.DWG	SHEET: 7



SOILS LEGEND

SYMBOL	SOIL SERIES NAME	HSG	SLOPES
LnC	LYMAN LOAM, ROCKY	D	8–15%
Ur	URBAN LAND	–	N/A

FLOW TYPES

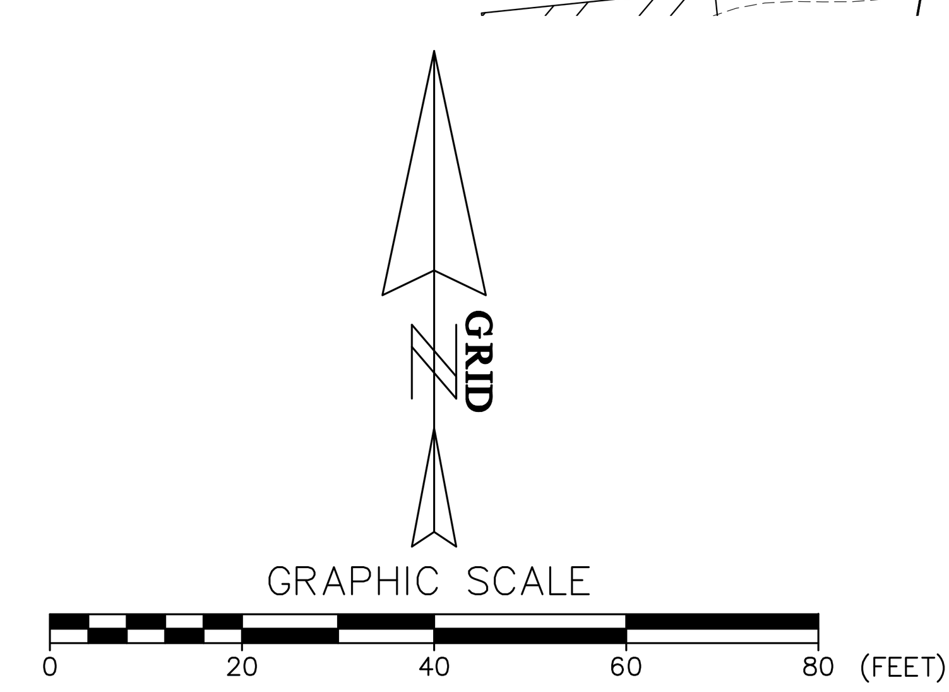
SF SHEET FLOW
SCF SHALLOW CONCENTRATED FLOW
CF CHANNEL FLOW

NOTE: SOILS INFORMATION IS TAKEN FROM CUSTOM SOIL RESOURCE REPORT FOR YORK COUNTY, MAINE, MEDIUM INTENSITY, INFORMATION GATHERED FROM THE NATIONAL RESOURCES CONSERVATION SERVICE (NRCS). SURVEY AREA DATA IS VERSION 22, DATED 09/05/2023.

(1S) SUBCATCHMENT
[1R] REACH
(1P) POND
(AP1) ANALYSIS POINT

LEGEND

PROPERTY LINE	—PL—PL—
EXT. ABUTTER LINE	——— – –
EXT. GRAVEL	— — — —
EXT. PAVEMENT	———
EXT. BUILDING	(hatched)
EXT. MAJOR CONTOUR	-------XXX-------
EXT. MINOR CONTOUR	- - - - XXX - - - -
EXT. STORM LINE	——— D ———
EXT. CATCH BASIN	■
EXT. SUBCATCHMENT	━━━
EXT. Tc FLOW LINE	○———→
EXT. Tc GRADE CALC	SF=XXX' @ X.XX%
SOIL TYPE BOUNDARY	━ ━ ━ ━



TAX MAP 9, LOT 134

NO.	DESCRIPTION	DATE
A	PRELIMINARY & FINAL S.P.R. REVISIONS	03/22/24

REVISIONS

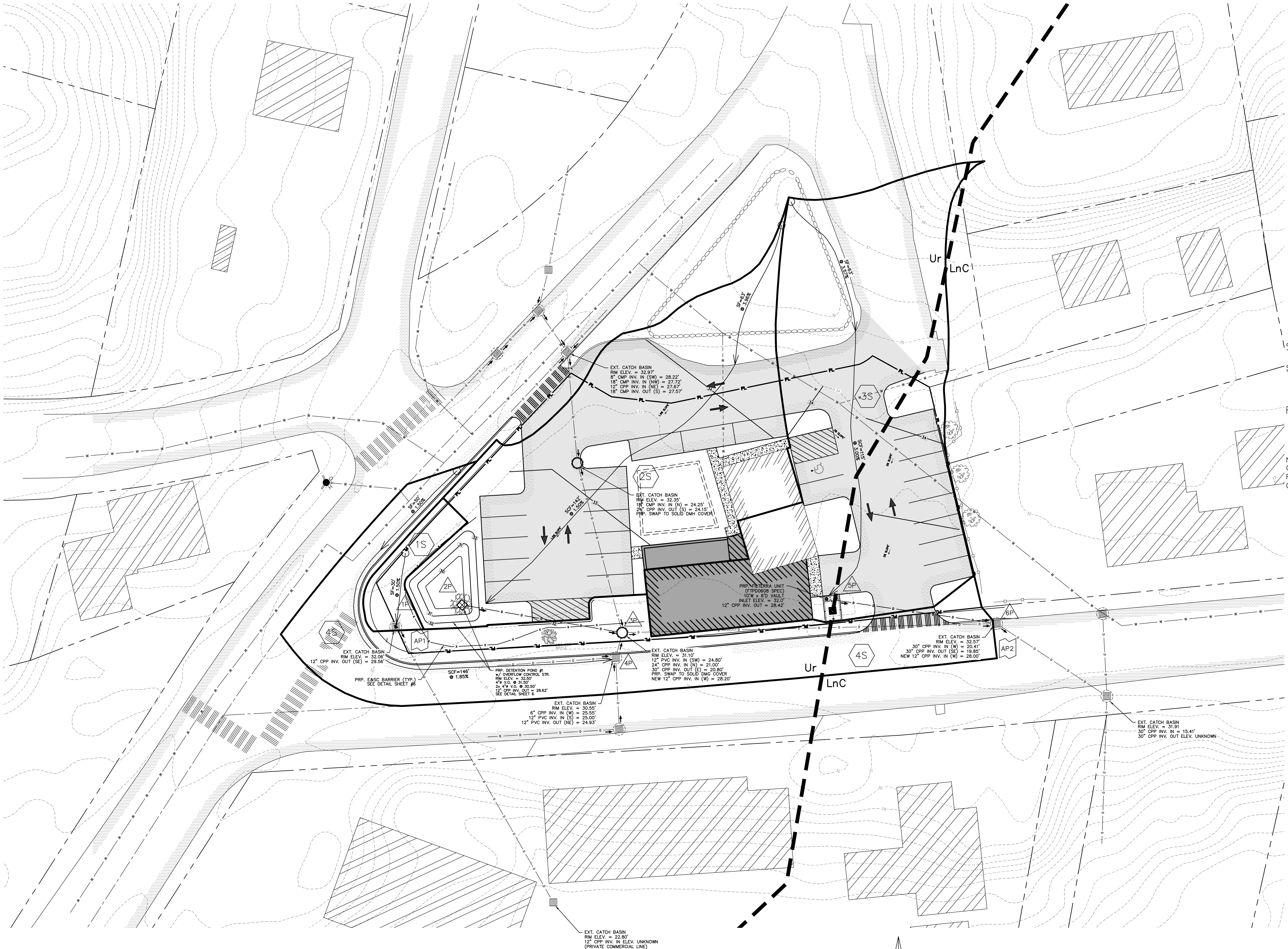
STATE OF MAINE
KENNETH A. WOOD
No. 5992
LICENSED
PROFESSIONAL ENGINEER

STORMWATER: EXISTING CONDITIONS
MAINE MEAT BUTCHER & RESTAURANT
5 WHIPPLE ROAD, KITTERY, MAINE

FOR: PB REAL ESTATE HOLDINGS, LLC.
7 WALLINGFORD SQUARE, SUITE 104
KITTERY, ME 03904

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE ◆ SURVEYING
1284 STATE ROAD – ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE: 1" = 20'	APPROVED BY:	DRAWN BY: MJS
DATE: 01/30/24		REVISION DATE: A : 03/22/24
JOB NO: 23088	FILE: 5 WHIPPLE BASE.DWG	SHEET: 8



Maine Meat Butcher & Restaurant - Existing Condition Peak Flows

Analysis Point	2 Year Storm (cfs)	10 Year Storm (cfs)	25 Year Storm (cfs)	50 Year Storm (cfs)
AP1	0.14	0.21	0.27	0.33
AP2	2.53	4.00	5.16	6.25

Rainfall Event Totals (in.)	
2-Year	3.24
10-Year	4.94
25-Year	6.28
50-Year	7.54

Maine Meat Butcher & Restaurant - Developed Condition Peak Flows

Analysis Point	2 Year Storm (cfs)	10 Year Storm (cfs)	25 Year Storm (cfs)	50 Year Storm (cfs)
AP1	0.05	0.08	0.11	0.14
AP2	2.00	3.10	3.98	4.90

Maine Meat Butcher & Restaurant - Change in Peak Flows

Analysis Point	2 Year Storm (cfs)	10 Year Storm (cfs)	25 Year Storm (cfs)	25 Year Storm (cfs)
AP1	-0.09	-0.13	-0.16	-0.19
AP2	-0.53	-0.90	-1.18	-1.35

SOILS LEGEND

SYMBOL	SOIL SERIES NAME	HSG	SLOPES
LnC	LYMAN LOAM, ROCKY	D	8–15%
Ur	URBAN LAND	–	N/A

FLOW TYPES

SF SHEET FLOW
SCF SHALLOW CONCENTRATED FLOW
CF CHANNEL FLOW

NOTE: SOILS INFORMATION IS TAKEN FROM CUSTOM SOIL RESOURCE REPORT FOR YORK COUNTY, MAINE, MEDIUM INTENSITY, INFORMATION GATHERED FROM THE NATIONAL RESOURCES CONSERVATION SERVICE (NRCS). SURVEY AREA DATA IS VERSION 22, DATED 09/05/2023.

1S SUBCATCHMENT
1R REACH
1P POND
AP1 ANALYSIS POINT

LEGEND

PROPERTY LINE
EXT. ABUTTER LINE
EXT. GRAVEL
EXT. PAVEMENT
PRP. PAVEMENT
EXT. BUILDING
PRP. BUILDING
EXT. STORM LINE — D
PRP. STORM LINE — D
EXT. CATCH BASIN
PRP. CATCH BASIN
EXT. MAJOR CONTOUR — XXX
EXT. MINOR CONTOUR — XXX
PRP. MAJOR CONTOUR — XXX
PRP. MINOR CONTOUR — XXX
PRP. SPOT GRADE — 102.0'
PRP. SUBCATCHMENT
PRP. Tc FLOW LINE
PRP. Tc GRADE CALC — SF=XXX' @ X.XX%
SOIL TYPE BOUNDARY
PRP. SILTATION FENCE

GRID

GRAPHIC SCALE
0 20 40 60 80 (FEET)

TAX MAP 9, LOT 134

STORMWATER: DEVELOPED CONDITIONS
MAINE MEAT BUTCHER & RESTAURANT
5 WHIPPLE ROAD, KITTERY, MAINE

NO.	DESCRIPTION	DATE
A	PRELIMINARY & FINAL S.P.R. REVISIONS	03/22/24

REVISIONS

STATE OF MAINE
KENNETH A. WOOD
No. 5992
LICENSED
PROFESSIONAL ENGINEER

FOR: PB REAL ESTATE HOLDINGS, LLC.
7 WALLINGFORD SQUARE, SUITE 104
KITTERY, ME 03904

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JOB NO: 23088	FILE: 5 WHIPPLE BASE.DWG	SHEET: 9

MAP 9, LOT 134

ATTAR
ENGINEERING, INC
CIVIL STRUCTURAL MARINE

Mr. Jason Garnham, Director of Planning and Development
Mr. Maxim Zakian, Town Planner
Town of Kittery, Maine
200 Rogers Road
Kittery, Maine 03904

March 22nd, 2024
Project No. 23088

RE: Preliminary & Final Site Plan Review Application – Completeness Revisions
Maine Meat Butcher & Restaurant
5 Whipple Road, Kittery, Maine (Tax Map 9, Lot 134)

Dear Mr. Zakian & Mr. Garnham:

On behalf of PB Real Estate Investments, LLC., I have enclosed for your review and consideration a revised Plan Set and associated attachments for the above-referenced project. Revisions have been made to address comments from the following sources:

- Town Staff and Planning Board members during the March 14th, 2024 Planning Board meeting;
- CMA Engineers, Third-Party Technical Reviewer, within their March 5th, 2024 review memo, and;
- CMA Engineers and Town Staff during a virtual conference call on March 11th, 2024
- Ongoing correspondence between the Applicant's Agent and Town Planner

General Revisions:

- Attached are the following documents demonstrating the already-completed and ongoing Environmental Site Assessment (ESA) associated with the former refueling station use:
  - Limited Phase II ESA – Executive Summary, prepared by TRC (entire document has been uploaded to Town portal and is available upon request)
  - Environmental Media Management Plan (EMMP), prepared by TRC
  - No Further Action Assurance (NFAA) Letter, prepared by Maine DEP through their Voluntary Response Action Program (VRAP) and recorded at the York County Registry of Deeds (YCRD)
  - Hazardous Building Materials Assessment, prepared by John Turner Consulting for the existing pre-renovated building

  These documents, in addition to conversations between the Applicant and Senior Geologist from TRC responsible for the preparation of the above, demonstrate the nature of the existing subsurface and its ability to be considered for the alternative stormwater management practices described below.

- As discussed during the above-mentioned meetings on March 11th and 14th, the proposed development has been re-analyzed and determined to be capable of supporting on-site detention and groundwater infiltration in lieu of a portion of the previously-depicted stormwater management practices. The western treebox bioretention vault has been removed and replaced with a nearby shallow detention pond accompanied by an overflow control structure. This detention pond shall be maintained as lawn and shall allow for the collected runoff of the western half of the site to contribute

to groundwater recharge. The eastern treebox bioretention vault shall remain exactly as depicted in previous Plan Set iterations.

- The HydroCAD stormwater model for this development has been updated to reflect the above-described management changes. All affected Plan Set sheets have been similarly updated to reflect these changes. The stormwater model has also been expanded to encompass the 50-year rain event in its analysis. Peak runoff reductions are still achieved at both analysis points and across all analyzed rain events.

- A "Waivers Requested" notes package has been added to Sheet #1 (Overall Site Plan) which includes all requests discussed at the March 14th Planning Board meeting:
    - Vegetated Landscape Planter Strip partial modification and partial waiver pursuant to §16.4.17.D.(4).(a)
    - Street-Side Tree Requirement reduction pursuant to §16.4.17.D.(4).(a).[2]
    - On-Site Stormwater Management reduction pursuant to §16.4.17.D.(1).(l)&(m)

- A "Conditions of Approval" notes package has been added to Sheet #1 which specifies the intended timeline of conveyance execution, recording, and submission of a stamped boundary survey relative to Planning Board application approval.

- A "Grading & Utility Notes" package has been added to Sheet #3 (Grading & Utilities Plan) which includes guidelines for stormwater infrastructure, post-construction management guidelines, snow storage language, and demonstrates the satisfaction of the proposed development with the landscaping requirements specific to the B-L zoning district per §16.4.17.D.(2).(d).

- The unstamped Boundary Survey for the proposed development as mentioned in the Conditions of Approval notes package shall be provided to the Town before the upcoming Planning Board meeting. A revised, stamped, and signed Survey shall be prepared and submitted to the Town as outlined in the condition described on Sheet #1.

- Sheet #5 (Overall Landscape Plan) has been prepared in collaboration with licensed Landscape Architect Mr. Scott Strynar and is included in the Plan Set. Landscaped area compliance achieved from this plan is summarized on Sheet #3 as described above, and waiver requests associated with this plan are summarized on Sheet #1 as also described above.

- General Note #3 on Sheet #1 has been updated to reflect the provided tree plantings for the proposed development, as well as the proposed frontyard setback and building height measurements to demonstrate compliance.

- The entire Plan Set has been revised to show the removal of one parking space; the northwestern-most space from the western proposed lot and the closest point of impervious to Rogers Road. General Notes #6 & #7 on Sheet #1 have been updated to reflect the new parking total (24 spaces required, 24 proposed) and impervious coverage calculation for the development. The total impervious cover is now beneath the 70% threshold which enables the stormwater management waiver request, and the parking space chosen for removal allows the vegetated landscape planter strip waiver request to be for a more reasonable reduced depth. The Applicant humbly requests the Planning Board continue to support these waiver requests.

- General Note #8 on Sheet #1 has been revised to depict the new open space calculation for the development. With the removed parking space summarized above, this area has been incorporated into the adjacent proposed open space block.

- General Note #14 on Sheet #1 has been added to declare the development's policy on snow storage. Locations have been depicted at select locations and the Overall Landscape Plan has been designed to have perennials in designated snow storage locations to allow for winter-season stockpiling to occur.

Third-Party Memo Revisions:

- The Applicant intends to have the existing Kittery Water District service be shared between both proposed uses, with any potential up-sizing of the existing line as required and as previously communicated. The existing ¾" copper service to the structure subject to proposed renovation is depicted throughout the Plan Set.

- The Applicant intends to retain the existing sewer service to the current building for the proposed butcher and specialty grocer use. Sheet #3 (Grading & Utilities Plan) has been updated to include a proposed 6"Ø gravity sewer line, which shall service the commercial kitchen associated with the proposed restaurant use. This gravity line shall be received by a 1,500 gallon grease interceptor sited beneath the proposed shipping bay before ultimately connecting to the nearby municipal sewer manhole and 8" gravity main.

- The proposed stormwater management changes call for the removal of the western treebox bioretention vault and retention of the eastern vault as described above. The Applicant has discussed the proposed stormwater design and revisions with the Town's MS4 Coordinator throughout and has received approval to connect to the municipal system that runs through the site. The MS4 Coordinator has also declared that no utility easements exist for the municipal closed system and that none shall be required to be established as a result of this development.

- A Stormwater Operation & Maintenance (O&M) Manual specific to this site has been prepared as requested. Specific language for this development's BMPs is included, and the product-specific owner's manual for the proposed Filterra Bioretention Vault shall remain a part of the O&M package for the project.

- Sheets #1 & #3 have been revised to include Traffic Flow Arrows as requested. Legends on both sheets have also been updated to reflect these additions.

- Sheet #1 has been revised to include the dimensions of the proposed loading bay; 17' in width by 19' in depth.

- Sheet #3 has been revised to include the required landscaping calculations demonstrated in the new Sheet #5 summarized above and to demonstrate compliance with §16.7.11.F.(4).(g).

- Sheet #1 has been revised to differentiate the typical measurements of proposed perpendicular and parallel parking spaces. All relevant callouts have been updated to reflect the appropriate number of perpendicular spaces (21) and parallel spaces (3) covered by these dimensional standards.

- The Applicant intends to retain and utilize the existing overhead electric service for both proposed uses. Should this declaration result in an additional waiver pursuant to §16.7.11.G.(2), the Applicant humbly requests the Planning Board grant this request to allow the existing overhead service to remain and continue to be used.

- Sheet #2 (Existing Conditions Plan) has been revised to also serve as the application's Demolition Plan. Existing callouts have been updated and new callouts have been added to declare which existing entities are to remain, be removed, or have already been removed through environmental remediation efforts.

- Sheet #1 has been revised to include typical parking space dimensions for both proposed parking space configurations. Additionally, aisle width dimensions have also been added to demonstrate the capacity for two-way circulation throughout the site.

- General Note #10 on Sheet #1 has been revised to reflect the appropriate utility district information.

- Sheet #1 has been revised to depict the existing 15" red maple along the Whipple Road frontage that shall be retained through the proposed development.

- Sheets #1 & #3 have been revised to include handicap parking signage at the designated parking space.

- Sheet #1 has been revised to include the nearby existing fire hydrant referenced in General Note #12.

- Sheet #3 has been revised to include a callout for the nearby existing fire hydrant in the western shoulder of Rogers Road. This structure is not visible from the viewport of Sheet #3, but reference is made to Sheet #1 where the scale is larger enough to provide the exact location.

- Receiving downstream components of the closed municipal stormwater system were analyzed as part of the intended tie-in for partial flows of the proposed development. The intended connection point is part of a very deep (~25'-30') drainage way that has existed in some fashion since at least the mid 1910's, serving as a stone culvert crossing for the York Harbor and Beach Railroad Company depot.

- Sheet #3 has been revised to include additional spot grade elevations at the proposed travelway entrances and interfaces with the curbed concrete sidewalk. Depicted spot grades originate from survey-locating raised sidewalks in preparation of the project's Boundary Survey.

- Sheet #6 (Site Details) has been revised and expanded into a second page (Sheet #7) to include all necessary items; water details, sewer details, travelway and sidewalk information, ADA parking space and loading bay, and new stormwater details associated with the detention basin and overflow control structure.

- Sheet #3 has been revised to include the location of erosion and sedimentation control measures to be installed around the site.

- Sheet #7 (Site Details) has been revised to include Filterra details previously provided in a separate cut sheet outside of the Plan Set.

- Sheets #8 (Stormwater: Existing Condition) and #9 (Stormwater: Developed Condition) have been revised to include rim and invert elevations of the downstream structures used as analysis points in the stormwater model.

We look forward to discussing this project with Town Staff at their next available Planning Board meeting. If any additional information is required, please contact me. Thank you for your assistance.

Sincerely,

Michael J. Sudak

Michael J. Sudak, E.I.

23088 Cover 22Mar2024.doc

Project Number:
564620.0

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

Best Automotive
5 Whipple Road
Kittery, Maine 03904
December 2023

Prepared For:
Maine Meat
7 Wallingford Square, #104
Kittery, ME 03904

&

Southern Maine Planning and Development Commission
110 Main St #1400
Saco, ME 04072

Prepared By:
TRC
63 Marginal Way 4th Floor
Portland, ME 04101

Laura Volk

Prepared by:
Laura Volk
Project Scientist

Reviewed and Approved by:
Emily Wassmer, PG/LG, LSP
Project Manager & Senior Geologist

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EXECUTIVE SUMMARY

TRC Environmental Corporation (TRC) was retained by Maine Meat and Southern Maine Planning and Development Commission (SMPDC) (also known as the "Clients") to perform a Limited Phase II Environmental Site Assessment (Phase II ESA) of Best Automotive located at 5 Whipple Road in Kittery, Maine 03904 (herein referred to as the "Site"). TRC conducted this Phase II ESA in accordance with American Society for Testing and Materials (ASTM) International E1903-19 to assess subsurface media at the Site in support of future Site redevelopment.

The Site is described by the Town of Kittery as parcel number 9-134 and is an approximately 0.59-acre parcel. The Site has been operated by Best Automotive as an automotive repair shop for over thirty years. The Site was historically an automotive repair shop and filling station, and prior to which it operated as a railroad depot.

The objectives of this Limited Phase II ESA were to supplement the previous investigations performed at the Site by assessing subsurface conditions at the Site in the vicinity of a 15,000-gallon gasoline underground storage tank (UST) and an in-ground hydraulic lift. This Phase II ESA included the investigation of soil and groundwater conditions and the assessment and removal of the UST and in-ground hydraulic lift at the Site.

A Subject Property Location map is included as **Figure 1**. A Subject Property Layout map is included as **Figure 2**.

The following conclusions are based on the results of this Limited Phase II ESA:

- **Overburden Geology** – The Site surface currently consists of asphalt, unpaved areas, landscaped areas, or structures and the local topography is generally flat, but slopes to the south toward the Piscataqua River. Based on conditions observed during this assessment, the Site is underlain by gravelly sand with urban fill material to at least 15 feet below grade. Fill material is underlain a layer of clay at approximately 15 feet below ground surface (bgs). The layer of clay is underlain by native silty sand to at least 20 feet below grade.

- **Groundwater Flow Direction and Depth** – Groundwater was encountered at depths ranging between 6.9 and 9.5 feet bgs in the soil borings. Groundwater flows to the south towards the Piscataqua River.

- **Soil Analytical Results** – There were no detections of volatile petroleum hydrocarbons (VPH), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), Toxicity Characteristic Leaching Procedure (TCLP) semi-volatile organic compounds (SVOCs), TCLP pesticides, or TCLP herbicides above the applicable Maine Department of Environmental Protection (MEDEP) Remedial Action Guidelines (RAGs).

  Concentrations of the extractable petroleum hydrocarbons (EPH) analyte C_{11}-C_{22} aromatic hydrocarbons exceeded the Residential RAGs in sample LIFT-1 (4,080 mg/kg). Concentrations of arsenic exceeded the Leaching to Groundwater and Residential RAGs in samples LIFT-1 (27.3 mg/kg) at 8.5 feet bgs, SB/MW-1 (16.8 mg/kg) at 10 feet bgs, and SB/MW-2 (18.6 mg/kg) at 7 feet bgs. Additionally, concentrations of arsenic exceeded the Leaching to Groundwater RAGs in sample SB/MW-3 (8.24 mg/kg) at 5 feet bgs.

Concentrations of tetrachloroethene and trichloroethene were detected in sample LIFT-1, well below the most stringent Leaching to Groundwater RAGs. These compounds were not detected in the remaining soil samples or the groundwater samples collected during this investigation. The low-level chlorinated detections in soil can likely be attributed to automotive repair activities at the Site involving the historic use of products containing chlorinated solvents.

- **Groundwater Analytical Results** – There were no detections of VOCs or PCBs above the applicable RAGs.

  Concentrations of select target polycyclic aromatic hydrocarbons (PAHs) exceeded the Residential RAGs in sample MW-02 for the following analytes:
  - Benzo(a)anthracene (7.03 µg/L);
  - Benzo(b)fluoranthene (6.33 µg/L);
  - Benzo(a)pyrene (5.04 µg/L);
  - Indeno(1,2,3-cd)pyrene (3.47 µg/L); and
  - Dibenzo(a,h)anthracene (0.948) µg/L.

  Concentrations of arsenic exceeded the Residential RAGs in samples MW-01 (54.0 µg/L), MW-02 (34.06 µg/L), and MW-03 (3.45 µg/L). Additionally, concentrations of chromium exceeded the hexavalent chromium Residential RAG in samples MW-02 (17.02 µg/L) and MW-03 (3.55 µg/L). Finally, concentrations of lead exceeded the Residential RAGs in samples MW-02 (8.07 µg/L) and MW-03 (4.92 µg/L).

Based on the findings of the Phase II ESA and the plans for Site redevelopment (commercial structure), TRC recommends the following:

- A limited area of petroleum-impacted soil is located at the base of the former hydraulic lift location. Additionally, elevated levels of arsenic are present in the urban fill material underlying the Site in the vicinity of the building. Concentrations in soil do not exceed the Commercial Worker or Construction Worker RAGs, which are applicable to the proposed future use of the Site. Additionally, exposure to the soil is limited due to the presence of the building and/or depth of impacts. Elevated concentrations of several PAHs and total metals (arsenic, chromium, and lead) are present in groundwater and are below the Construction Worker RAGs, which are applicable to the Site as it's serviced by the municipal water supply. Vapor intrusion is not considered to be a concern based on the laboratory data. TRC does not recommend further assessment or remediation at this time.

- Because the investigation was partially funded by the Southern Maine Planning and Development Commission (SMPDC)'s EPA Brownfields Program, MEDEP will be notified of the results upon issuance of the reports. To address the RAG exceedances, TRC recommends pursing a modification to the existing Voluntary Response Action Program (VRAP) No Further Action Assurance letter that was issued for the site in 2003 to include a Declaration of Environmental Covenant (DEC) and Environmental Media Management Plan (EMMP). The DEC may include the following restrictions, which are consistent with the current and proposed future site uses:

- Prohibit use of the site for residential purposes without the approval of MEDEP.
- Prohibit use of site groundwater for drinking water purposes.
- Management of subsurface soil and groundwater during future construction activities may only occur in accordance with the EMMP.

This Executive Summary is part of this complete report; any findings, opinions, or conclusions in this Executive Summary are made in context with the complete report. TRC recommends that the User read the entire report for supporting information related to findings, opinions, and conclusions.

1.0 INTRODUCTION

TRC Environmental Corporation (TRC) was retained by Maine Meat and Southern Maine Planning and Development Commission (SMPDC) (also known as the "Clients") to perform a Limited Phase II Environmental Site Assessment (Phase II ESA) of Best Automotive located at 5 Whipple Road in Kittery, Maine 03904 (herein referred to as the "Site"). TRC conducted this Phase II ESA in accordance with American Society for Testing and Materials (ASTM) International E1903-19 to assess subsurface media at the Site in support of future Site redevelopment.

The objective of this Limited Phase II ESA report is to summarize the methods and results of the Limited Phase II ESA activities, which took place at the Site in October 2023. TRC conducted this Phase II ESA to assess subsurface media at the Site in support of future Site redevelopment.

1.1 Site Location and Description

The Site is in Kittery, Maine and is zoned as commercial. The Site is described by the Town of Kittery as parcel number 9-134 and is an approximately 0.59-acre parcel. The Site has been operated by Best Automotive as an automotive repair shop for over thirty years. The Site was historically an automotive repair shop and filling station, and prior to which it operated as a railroad depot.

According to the Phase I ESA prepared by TRC in August 2023, there is one approximately 1,300-square foot single-story commercial building located in the eastern portion of the Site, which was constructed in 1950. An in-ground hydraulic lift was also observed within the building and removed during Phase II ESA activities. There is a canopy in the western portion of the Site, however, the canopy's fuel dispensers were previously removed after filling station operations reportedly ceased in 2007. Finally, the former empty 15,000-gallon underground storage tank (UST) was located in the southwestern portion of the Site but was removed during Phase II ESA activities.

A Subject Property Location map is included as **Figure 1**. A Subject Property Layout map is included as **Figure 2**. A Photographic Log is included in **Appendix A**.

1.2 Surrounding Area Description

Surrounding properties generally include mixed residential and commercial entities to the north, south, east, and west. The Piscataqua River is located 200 feet south of the Site.

1.3 Geologic and Hydrogeologic Conditions

1.3.1 Topographic Setting

According to United States Geological Survey (USGS) topographic maps reviewed during the Phase I ESA, the Site topographic elevation is approximately 33 feet above mean sea level (msl). Topography at the Site slopes to the south towards the Piscataqua River, 450 feet south of the Site.

1.3.2 Mapped Geologic Conditions

According to the Significant Sand and Gravel Aquifer Map No. 2, the Site is not located in an area designated as a sand and gravel aquifer. Based on the United States Department of Agriculture (USDA) Web Soil Survey, Site soils consist of urban land and Lyman loam.

1.3.3 Observed Geologic Conditions

The Site surface currently consists of asphalt, unpaved areas, landscaped areas, or structures. Based on conditions observed during this assessment, the Site is underlain by gravelly sand with urban fill material to at least 15 feet below grade. Fill material is underlain by a layer of clay at approximately 15 feet below ground surface (bgs). The layer of clay is underlain native silty sand to at least 20 feet below grade.

1.3.4 Hydrogeologic Conditions

Groundwater was encountered at depths ranging between approximately 6.9 and 9.5 feet bgs in the groundwater monitoring wells. Based on the relative elevation survey described in Section 2.7, groundwater flow direction flows south towards the Piscataqua River.

TRC conducted a limited well search to determine if public or private drinking water supplies are within 2,500 feet of the Site. The majority of the area is serviced by the municipal water supply (Kittery Water District). However, the following private drinking water wells were identified:

- 26 Williams Avenue, 990 feet southeast of the Site – bedrock, well depth of 500 feet;
- 38 Love Lane, 1,400 feet west of the Site – bedrock, well depth of 300 feet; and
- 350 State Road, 2,400 feet west of the Site – bedrock, well depth of 400 feet.

These drinking water supplies are believed to be sourced from a deep bedrock aquifer, which is located 300 to 500 feet bgs. Shallow overburden groundwater (6.9 and 9.5 feet bgs) at the Site is unlikely to be hydraulically connected to the bedrock aquifer associated with the drinking water wells.

2.0 SITE INVESTIGATION

2.1 Objectives

The objectives of this Phase II ESA were to investigate subsurface soil and groundwater conditions at the Site, and to remove and assess the empty 15,000-gallon UST and the in-ground hydraulic lift. The following sections summarize activities performed as part of TRC's assessment conducted at the Site in October 2023. The specific investigation tasks were as follows:

- Prepare a Site-specific Health and Safety Plan (HASP);
- Notify Dig Safe at least 72-hours prior to subsurface investigations;
- Obtain the services of a geophysical subcontractor to pre-clear soil boring locations and identify potential additional USTs and/or other subsurface structures;
- Collect up to eight (8) confirmatory soil samples from UST excavation area and piping run and submit for laboratory analysis of volatile petroleum hydrocarbons(VPH) plus targets polycyclic aromatic hydrocarbons (PAHs);
- Collect up to eight (8) confirmatory soil samples from areas at and around the removed in-ground hydraulic lift in the Site automotive garage repair and submit for laboratory analysis of volatile organic compounds (VOCs), extractable petroleum hydrocarbon (EPH) plus targets PAHs, polychlorinated biphenyls (PCBs), and/or Resource Conservation and Recovery Act (RCRA) 8 metals;
- Install three (3) soil borings outside of the automotive building footprint, collect soil samples from each boring, and submit for laboratory analysis of VOCs, EPH plus target PAHs, PCBs, and RCRA 8 metals;
- Complete the three (3) soil borings as monitoring wells;
- Develop and gauge water levels within the monitoring wells prior to sampling for VOCs, EPH plus target PAHs, PCBs, and RCRA 8 metals;
- Collect soil disposal samples and facilitate off-site transportation and disposal if the work generates a stockpile of contaminated soil;
- Perform a relative elevation survey to determine the groundwater flow direction; and
- Complete a Limited Phase II ESA Report.

2.2 Site-Specific HASP

Prior to initiating subsurface assessment fieldwork, TRC prepared a Site-specific HASP to ensure the safety of TRC employees performing environmental investigation activities on Site. The HASP was developed in accordance with the requirements set forth in 29 Code of Federal Regulations 1910.120, Hazardous Waste Operations and Emergency Response. Specifically, the HASP identified and detailed potential Site hazards, appropriate action limits for each hazard, required task-specific personal protective equipment, decontamination procedures, and proper protocols for emergency events if encountered. The HASP was provided to project personnel and adhered to during on-Site investigation activities. A copy of the HASP was kept on Site during investigation activities.

2.3 Utility Clearing and Ground Penetrating Radar

Prior to the performance of earthwork, Dig Safe was contacted to mark public underground utilities at the Site. Additionally, a private utility clearing contractor (ProMark Utility Locating, Inc. of

Gorham, Maine) was utilized to identify potential private underground utilities and other subsurface piping/structures and clear the proposed boring locations. The survey was completed using a Radiodetection RD7100 TL Multifunction Precision Locator, Tx-5 Transmitter (Radio Locator), and a ground-penetrating radar (GPR) (GSSI UtilityScan). All areas surveyed were clear of underground utilities and no other subsurface piping/structures were detected.

2.4 UST Removal

Between October 2 and 4, 2023, TRC directed Environmental Projects, Inc. (EPI) of Auburn, Maine in the removal of the empty 15,000-gallon gasoline UST and associated piping to assess subsurface conditions. EPI is an underground oil storage tank installer certified under 32 Maine Revised Statutes §§ 10001 -10016. Prior to UST removal, EPI used a vacuum excavation truck to confirm that the UST was empty. No material was present in the UST. EPI then used an excavator to break up and remove the concrete pad located at grade atop the UST. Following the removal of the concrete pad and during excavation to uncover the UST, TRC screened the soils around the UST, vent/fill pipes, and pipe run with a 10.6 EV lamp MiniRAE 3000 photoionization detector (PID) using the MEDEP bag headspace method per the MEDEP Standard Operating Procedure (SOP) TS004 and OIL-IN-SOIL™ field screening test kits. TRC observed petroleum odors and staining of the soil situated between the concrete pad and the top of the UST near the fill port. TRC screened the area with a PID and noted a reading of 50 parts per million by volume (ppmv). MEDEP staff were on-site at the time and were notified of the elevated PID readings. 0.57 tons of impacted soil were segregated and stockpiled on polyethylene sheeting. EPI vented the UST and later cleaned the interior of the tank until work ceased for the day on October 2, 2023. The open excavation was secured with barriers and caution tape.

On October 3, 2023, TRC and EPI returned to the Site to continue UST removal activities. EPI continued to excavate soils around the UST while TRC screened the sidewalls of the excavation area with a PID and OIL-IN-SOIL™ kits. TRC did not observe any visual or olfactory contamination. PID readings measured between 0.1 and 0.2 ppmv and OIL-IN-SOIL™ kits were negative. The UST, measuring approximately 42 feet long by 8 feet in diameter was successfully removed. The dimensions of the UST excavation measured approximately 57 feet long by 25 feet wide by 14 feet deep. TRC collected confirmatory sidewall samples UST-2, UST-3, UST-4, and UST-5 from 5-7 feet bgs and sample UST-1 from the base of the tank grave at 14 feet bgs. The UST grave was then backfilled with the clean soil side casted during initial excavation activities. EPI then removed the concrete above the remaining piping. The soil above the pipes was excavated, the pipes were subsequently removed, and TRC collected additional confirmatory samples (PIPE-1, PIPE-2, and PIPE-3) from the base of the former pipe run area at 2 feet bgs. Following the selection of samples, soil samples were carefully placed on ice immediately upon collection. A field duplicate was collected from PIPE-1. Soil samples were submitted to Alpha Analytical (Alpha), of Westborough, Massachusetts, for analysis of VPH plus target PAHs.

Soil samples were assessed in the field for visual or olfactory evidence of potential contaminant impacts in accordance with MEDEP Chapter 691; the MEDEP Compendium of Field Testing of Soil Samples for Gasoline and Fuel Oil, revised October 15, 2012 (SOP-TS004); MEDEP Protocol for the Use of Portable Vapor Monitors, revised April 28, 2015 (RWM-DR-019); and/or applicable TRC Standard Operating Procedures (SOPs), as appropriate. The analytical results are discussed in Section 3.2 and presented in **Table 1**. Sample locations are shown in **Figure 2**.

Impacted soil encountered during the October 2, 2023 excavation activities was containerized in two 55-gallon drums pending offsite disposal at an appropriate licensed receiving facility. On

October 4, 2023, the empty UST was taken off Site for disposal. Additional imported backfill arrived on Site on October 5, 2023 to continue filling UST grave. The drums were transported to Juniper Ridge Landfill in Alton, Maine on October 6, 2023 for disposal. The gasoline/water mixture from cleaning the UST was transported to Juniper Ridge Landfill in Alton, Maine on November 13, 2023 for disposal. Waste disposal documentation for the impacted soil and gasoline/water mixture is included in **Appendix B**.

2.5 Hydraulic Lift Removal

On October 4, 2023, TRC and EPI began preparing for the removal of the in-ground hydraulic lift located in the garage on Site. EPI drained approximately 40 gallons of hydraulic oil from the in-ground hydraulic lift into a 55-gallon drum, collected a sample from the hydraulic oil, and submitted the sample to Alpha for PCB analysis. Analytical results indicated that PCBs were not detected in the hydraulic oil.

The following day, on October 5, 2023, TRC and EPI returned to the Site to continue hydraulic lift removal activities. EPI began by cutting the concrete to access the hydraulic lift. The in-ground hydraulic lift and piston were removed and measured approximately 8 feet in length. TRC screened the soils around the hydraulic equipment using a PetroFlag™ hydrocarbon analyzer calibrated to the hydraulic oil response factor. Impacted soil was encountered near the base of the lift piston at approximately 7 feet bgs. The soil was excavated, segregated, and drummed for off-site disposal. Excavation activities were discontinued at approximately 8.5 feet bgs prior to achieving favorable field screening results due to physical equipment limitations (i.e., the depth exceeded the reach of the excavator). At the completion of excavation, PetroFlag™ readings ranged from 129 to 416 ppm on the sidewalls. Readings at the base were above the quantifiable limit of the meter (1,000 ppm). TRC collected confirmatory sidewall samples LIFT-2, LIFT-3, LIFT-4, and LIFT-5 from 2 or 4 feet bgs and sample LIFT-1 from the base of the hydraulic lift grave at 8.5 feet bgs. Following the selection of samples, soil samples were carefully placed on ice immediately upon collection. Soil samples from the sidewalls were submitted to Alpha for analysis of EPH plus target PAHs and PCBs. The soil sample from the base was submitted to Alpha for analysis of VOCs, EPH plus target PAHs, PCBs, and RCRA 8 metals.[1]

On October 6, 2023, the hydraulic lift excavation was backfilled with imported material and compacted. TRC also collected one soil disposal characterization sample (DISPOSAL-1) from the impacted soil generated during the hydraulic lift removal to facilitate disposal at an appropriate licensed receiving facility. Following sample collection, soil samples were immediately placed on ice. The soil disposal sample was submitted to Alpha for analysis of Toxicity Characteristic Leaching Procedure (TCLP) VOCs, TCLP semi-volatile organic compounds (SVOCs), PCBs, TCLP pesticides, TCLP herbicides, TCLP RCRA 8 metals, extractable organic halides, flashpoint, pH, and reactive cyanide and sulfide.

[1] This sample was submitted for supplemental analyses as a conservative measure to understand potential soil impacts remaining in this location. Because the analyses were added to the analytical suite at the time of excavation and sample collection, TRC did not have adequate laboratory glassware on hand, and the VOC sample was subsequently preserved by the lab upon receipt.

The drummed hydraulic oil and impacted soil from the hydraulic lift were transported to Juniper Ridge Landfill in Alton, Maine on October 6, 2023. Waste disposal documentation is included in **Appendix B**.

Soil sample analytical results are discussed in Section 3.2 and presented in **Table 1**. The hydraulic lift sample locations are shown in **Figure 2**.

2.6 Soil Boring Advancement, Monitoring Well Installation, and Soil Sampling

On October 4, 2023, three soil borings (TRC-SB-01 through TRC-SB-03) were advanced via direct-push drilling methods (GeoProbe®). Drilling services were provided by EPI, a licensed Maine drilling company, sub-contracted by TRC. Continuous soil samples were collected during drilling activities using 5-foot-long macrocores with acetate liners/sleeves. Sampling continued until borings were advanced to 20 feet bgs or until refusal. Drilling refusal was encountered at borings TRC-SB-01 and TRC-SB-02 at 15 and 14 feet bgs, respectively. Refusal was not encountered in TRC-SB-03.

Soils from each macrocore were visually examined and screened in the field for VOCs using a PID via the MEDEP bag headspace method. Immediately upon collecting the sample, TRC screened the sample using a PID and noted organic vapor readings above background, and proceeded to collect laboratory analytical samples, as appropriate. The soil borings were logged and described by a TRC field geologist. The soil profile observed at the Site generally consisted of gravelly sand with urban fill material to 15 feet bgs. Fill material is underlain by a layer of clay at approximately 15 feet bgs, underlain by native silty sand to at least 20 feet bgs. Soils were also evaluated for physical characteristics and inspected for visual and/or olfactory evidence of contamination prior to the selection of the sample. In boring TRC-SB-01, petroleum odors were observed from 7-10 feet bgs and in boring TRC-SB-02, a slight chemical odor was observed from 8-10 feet bgs. Finally, in boring TRC-SB-03, a dark layer of sand was observed around 7 feet bgs but no odor was identified. During drilling activities, groundwater was generally observed in soils between 6.9 and 9.5 feet bgs.

One soil sample was collected from each soil boring location at the depth interval exhibiting the greatest evidence of contamination. Following the selection of samples, soil samples were carefully placed on ice immediately upon collection. A field duplicate was collected from TRC-SB-02. Samples SB/MW-1 (10), SB/MW-2 (7), DUP, and SB/MW-3 (5) were submitted to Alpha for analysis of VOCs, EPH plus targets, PCBs, and RCRA 8 metals. Soil sample results are discussed in Section 3.2 and presented in **Table 1**.

After soil sample collection, groundwater monitoring wells were installed at each soil boring. The monitoring wells were completed to a maximum construction depth of approximately 15 feet bgs and were constructed of 10 feet of 2-inch diameter 0.010-inch slot schedule 40 polyvinyl chloride (PVC) well screen. No. 2 sand was used to fill the annulus around the well screen to approximately 1 to 3 feet above the top of the screen, and a bentonite seal was placed above the sand. The monitoring wells were completed at the surface with flush-mounted road boxes. TRC developed the newly installed monitoring wells to remove fine particles from around the sand pack and well screen by purging 3 well volumes or until the groundwater was visibly clear. Monitoring well construction information is detailed in the boring logs included as **Appendix C**. The monitoring wells are identified as TRC-SB-01/MW-01, TRC-SB-02/MW-02, and TRC-SB-03/MW-03, as shown in **Figure 2**.

2.7 Groundwater Sampling and Relative Elevation Survey

On October 13, 2023, TRC returned to the Site to gauge monitoring wells for the presence of non-aqueous phase liquid (NAPL) and to collect groundwater samples from the newly installed monitoring wells. Prior to sampling, TRC gauged monitoring wells for the presence of LNAPL using a Solinst™ Oil/Water Interface Probe and measured depth to groundwater. TRC collected depth to groundwater measurements from the newly installed monitoring wells TRC-MW-01, TRC-MW-02, and TRC-MW-03, as well as measurements from historic monitoring wells MW-1 and MW-4. Historic monitoring wells MW-2, MW-3, MW-5, MW-6, and MW-7 are depicted on Figure 3 for reference only and were not included in the survey. MW-5 and MW-6 were found to be dry. Additionally, MW-2 was filled with dirt, and MW-3 and MW-7 were destroyed. No LNAPL was detected in monitoring wells TRC-MW-01, TRC-MW-02, TRC-MW-03, MW-1, or MW-4.

TRC collected groundwater samples from the three monitoring well locations (TRC-MW-01, TRC-MW-02, and TRC-MW-03). Groundwater sampling was conducted using low-flow sampling techniques with peristaltic pump intakes set at the approximate center of the water column in each well. Following the sample collection, groundwater samples were immediately placed on ice. A field duplicate was collected from MW-01. Samples MW-01, DUP, MW-02, and MW-03 were submitted to Alpha for analysis of VOCs, EPH plus targets, PCBs, and total RCRA 8 metals. Groundwater sample results are discussed in Section 3.3 and presented in **Table 2**.

On October 27, 2023, TRC performed a relative elevation survey using differential leveling techniques and a self-leveling laser level. Elevations are based on an arbitrary site datum, established on an immoveable site feature with an assigned elevation of 100.00 feet to be used as the site benchmark. Well elevations were measured at the top of the PVC riser at the predetermined measuring point for depth to water measurements. Groundwater contours were generated based on the depth to water measurements recorded from newly installed monitoring wells TRC-MW-01, TRC-MW-02, and TRC-MW-03 and historical wells MW-1 and MW-4. As depicted in **Figure 3**, groundwater flows to the south towards the Piscataqua River.

2.8 Quality Assurance

Sample collection, quality assurance/quality control procedures (QA/QC), and employment of data quality objectives were conducted by TRC. The analytical data collected during the Phase II ESA was evaluated to determine its suitability for use for the project objectives and to determine the Chemicals of Concern (COCs). TRC conducted a Data Usability Assessment (DUA) which reviewed the soil samples collected on October 3, 4, 5, and 6, 2023 and the groundwater samples collected on October 13, 2023. In general, except as noted in the DUA, data are usable for project decisions based on a review of accuracy, precision, and sensitivity of the data. The data are valid as reported and may be used for decision-making purposes with the following cautions and limitations:

- The nondetect VOC results in soil sample LIFT-1 cannot be used for project objectives due to inadequate preservation in the field, as described in Section 2.5 above.
- Caution should be used with results for total arsenic in samples SB/MW-3 (5) and DUP due to field duplicate variability. The results for total arsenic in samples SB/MW-3 (5) and DUP are slightly below the Maine Department of Environmental Protection (MEDEP) Remedial Action Guideline (RAG) for Residential scenario. The decision-making process may be affected as the results for arsenic in these samples could have been higher and above the MEDEP RAG for the Residential scenario.

The DUA is included as **Appendix E**.

2.9 Decontamination Procedures

All decontamination procedures were conducted in accordance with applicable guidance documents. Sampling tools were decontaminated using a laboratory grade detergent and rinsed with distilled water prior to collecting the next sample. The direct-push rod shoe was decontaminated using a similar solution before advancing the next bore hole.

3.0 RESULTS

A summary of the soil and groundwater laboratory analytical results is provided below. The laboratory analytical reports are provided as **Appendix D**, and the DUA is provided as **Appendix E**.

3.1 Applicable Regulatory Categories

Results of the soil and groundwater samples were compared to the criteria listed below to evaluate contaminant conditions, evaluate locations for potential additional sampling, and evaluate remedial options, if necessary.

Maine Department of Environmental Protection (MEDEP) Remedial Action Guidelines (RAGs) (Revised/Effective November 15, 2023)

Maine RAGs for the Soil Exposure Pathway:

- Leaching to Groundwater;
- Residential Scenario;
- Commercial Worker Scenario; and
- Construction Worker Scenario.

Maine RAGs for the Groundwater Exposure Pathway:

- Residential Scenario; and
- Construction Worker Scenario.

3.2 Soil

Laboratory analytical data for the confirmatory soil samples collected from the UST and pipe excavations indicate that no concentrations of VPH or target PAH analytes were detected above the applicable MEDEP RAGs or Chapter 691 Laboratory Soil Notification Levels.

Analytical results for the sample collected from the hydraulic lift excavation base at 8.5 feet bgs indicate concentrations of C11-C22 aromatic hydrocarbons and arsenic above the MEDEP Leaching to Groundwater and Residential RAGs. Concentrations of tetrachloroethene and trichloroethene were detected in sample LIFT-1 well below the Leaching to Groundwater and Residential RAGs. All other nondetect VOC results in sample LIFT-1 were rejected due to inadequate preservation in the field, as described in Section 2.5. No RAG exceedances were noted in the sidewall samples.

Laboratory analytical data for the soil boring samples, collected from 5 to 10 feet below grade, indicate concentrations of arsenic above the MEDEP Leaching to Groundwater and Residential RAGs.

Analytical results for the disposal sample collected from the impacted soils from the hydraulic lift were not detected above laboratory reporting limits, excluding extractable organic halides, flashpoint, and pH.

Please see **Table 1** for the tabulated soil analytical results.

3.3 Groundwater

Laboratory analytical data for the groundwater sample collected from well MW-02 indicate concentrations of several PAHs, total arsenic, total chromium,[2] and total lead above the MEDEP Residential RAGs. Laboratory analytical data for the remaining groundwater samples also indicate concentrations of total arsenic above the MEDEP Residential RAGs. Please see **Table 2** for the tabulated groundwater analytical results.

[2] Total chromium results were compared to the hexavalent chromium RAGs as a conservative measure.

4.0 CONCEPTUAL SITE MODEL

The following section provides a current Conceptual Site Model (CSM) for the Site. This CSM represents TRC's current Site understanding based on existing data. The CSM may evolve over time as additional information becomes available.

4.1 Historical Information

The Site has operated as a gasoline filling station and automotive repair shop since 1931 and has been operated by Best Automotive for over thirty years. Prior to 1931, the Site operated as a railroad depot. Historically, nine USTs were installed at the Site and contained premium unleaded gasoline, unleaded gasoline, diesel, waste oil, and #2 fuel oil. By 1993, all but one UST (the UST removed in October 2023) were removed. As discussed in Section 2.5, a hydraulic lift was also present at the Site but was removed during this Phase II ESA. In 1993 due to underground storage tank corrosion, a release of gasoline occurred at the Site in 1993 and both soil and groundwater were impacted. Remedial activities associated with the gasoline release included product recovery, soil vapor extraction and soil venting, and groundwater monitoring; the release achieved closure with MEDEP in 1995.

4.2 Current Site Use

The Site is currently operated by Best Automotive as an automotive repair shop.

4.3 Anticipated Future Site Use

It is planned for the Site to be redeveloped for commercial use.

4.4 Geologic and Hydrogeologic Conditions

The Site surface currently consists of asphalt, unpaved areas, landscaped areas, or structures. Based on conditions observed during this assessment, the Site is underlain by gravelly sand with urban fill material to at least 15 feet below grade, which is assumed to be present throughout the area beyond the Site boundary. Fill material is underlain by a layer of clay at approximately 15 feet bgs. The layer of clay is underlain native silty sand to at least 20 feet below grade.

Groundwater was encountered at depths ranging between approximately 6.9 and 9.5 feet bgs in the groundwater monitoring wells. Based on the relative elevation survey described in Section 2.7, groundwater flow direction flows south towards the Piscataqua River.

4.5 Nature and Extent of Impacts

As described in Section 3 above, concentrations of EPH and arsenic were detected above the Leaching to Groundwater and Residential RAGs in soil samples collected during this investigation. The EPH soil exceedances are localized to below the former lift location within the building at approximately 8.5 feet bgs (sample LIFT-1). The arsenic soil exceedances are located within the fill material in the eastern portion of the Site at approximately 7 to 10 feet bgs. Additionally, concentrations of tetrachloroethene and trichloroethene were detected in soil sample LIFT-1, well below the most stringent Leaching to Groundwater RAGs. These compounds were

not detected in the remaining soil samples or the groundwater samples collected during this investigation. The low-level chlorinated detections in soil can likely be attributed to automotive repair activities at the Site involving the historic use of products containing chlorinated solvents, though no such compounds were observed on Site during the Phase I ESA or Phase II ESA.

Concentrations of select PAHs (benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenzo(a,h)anthracene), arsenic, chromium,[3] and lead exceeded the Residential RAGs in groundwater samples collected during this investigation. The wells that were sampled are located in the eastern portion of the Site.

4.6 Potential Sources of Impacts

Based on the Limited Phase II ESA analytical results and the known history of the Site, the EPH exceedance in soil can be attributed to hydraulic oil from the in-ground hydraulic lift. Arsenic exceedances in soil may be background concentrations and/or related to urban fill.

Exceedances of PAHs and metals in groundwater are likely attributed to suspended urban fill sediment in the sample matrix. Groundwater was encountered at approximately 6.9 and 9.5 feet bgs within the urban fill layer, and therefore the monitoring wells were screened in the urban fill material. The concentrations of metals vary slightly between each monitoring well (i.e., arsenic concentrations were 3.45 ug/L in TRC-MW-03 and 54 ug/L in TRC-MW-01, and chromium concentrations were 3.55 ug/L in TRC-MW-03 and 17.02 in TRC-MW-02), and PAH concentrations exceed the Residential RAGs only in MW-02; however, urban fill is heterogenous in nature and varying concentrations can be expected throughout the same stratigraphic unit. TRC notes that the urban fill material is believed to exist both on and off-Site throughout the area and is not associated with Site operations.

[3] Total chromium results were compared to the hexavalent chromium RAGs as a conservative measure.

5.0 FINDINGS AND CONCLUSIONS

The following conclusions are based on the results of TRC's assessment at the Site:

- **Overburden Geology** – The Site surface currently consists of asphalt, unpaved areas, landscaped areas, or structures and the local topography is generally flat, but slopes to the south toward the Piscataqua River. Based on conditions observed during this assessment, the Site is underlain by gravelly sand with anthropogenic fill material to at least 15 feet below grade. Fill material is underlain a layer of clay at approximately 15 feet bgs. The layer of clay is underlain by native silty sand to at least 20 feet below grade.

- **Groundwater Flow Direction and Depth** – Groundwater was encountered at depths ranging between 6.9 and 9.5 feet bgs in the soil borings. Groundwater flows to the south towards the Piscataqua River.

- **Soil Analytical Results** – There were no detections of VPH, VOCs, PCBs, TCLP SVOCs, TCLP pesticides, or TCLP herbicides above the applicable MEDEP RAGs.

  Concentrations of the extractable petroleum hydrocarbons (EPH) analyte C_{11}-C_{22} aromatic hydrocarbons exceeded the Residential RAGs in sample LIFT-1 (4,080 mg/kg). Concentrations of arsenic exceeded the Leaching to Groundwater and Residential RAGs in samples LIFT-1 (27.3 mg/kg) at 8.5 feet bgs, SB/MW-1 (16.8 mg/kg) at 10 feet bgs, and SB/MW-2 (18.6 mg/kg) at 7 feet bgs. Additionally, concentrations of arsenic exceeded the Leaching to Groundwater RAGs in sample SB/MW-3 (8.24 mg/kg) at 5 feet bgs.

  Concentrations of tetrachloroethene and trichloroethene were detected in sample LIFT-1, well below the most stringent Leaching to Groundwater RAGs. These compounds were not detected in the remaining soil samples or the groundwater samples collected during this investigation. The low-level chlorinated detections in soil can likely be attributed to automotive repair activities at the Site involving the historic use of products containing chlorinated solvents.

- **Groundwater Analytical Results** – There were no detections of VOCs or PCBs above the applicable RAGs.

  Concentrations of select target polycyclic aromatic hydrocarbons (PAHs) exceeded the Residential RAGs in sample MW-02 for the following analytes:
  - Benzo(a)anthracene (7.03 µg/L);
  - Benzo(b)fluoranthene (6.33 µg/L);
  - Benzo(a)pyrene (5.04 µg/L);
  - Indeno(1,2,3-cd)pyrene (3.47 µg/L); and
  - Dibenzo(a,h)anthracene (0.948) µg/L.

  Concentrations of arsenic exceeded the Residential RAGs in samples MW-01 (54.0 µg/L), MW-02 (34.06 µg/L), and MW-03 (3.45 µg/L). Additionally, concentrations of chromium exceeded the hexavalent chromium Residential RAGs in samples MW-02 (17.02 µg/L)

and MW-03 (3.55 µg/L). Finally, concentrations of lead exceeded the Residential RAGs in samples MW-02 (8.07 µg/L) and MW-03 (4.92 µg/L).

6.0 RECOMMENDATIONS

A limited area of petroleum-impacted soil is located at the base of the former hydraulic lift location. Additionally, elevated levels of arsenic are present in the urban fill material underlying the Site in the vicinity of the building. Concentrations in soil do not exceed the Commercial Worker or Construction Worker RAGs, which are applicable to the proposed future use of the Site. Additionally, exposure to the soil is limited due to the presence of the building and/or depth of impacts. Elevated concentrations of several PAHs and total metals (arsenic, chromium, and lead) are present in groundwater and are below the Construction Worker RAGs, which are applicable to the Site as it's serviced by the municipal water supply. Vapor intrusion is not considered to be a concern based on the laboratory data. TRC does not recommend further assessment or remediation at this time.

Because the investigation was partially funded by SMPDC's EPA Brownfields Program, MEDEP will be notified of the results upon issuance of the reports. To address the Residential RAG exceedances, TRC recommends pursing a modification to the existing Voluntary Response Action Program (VRAP) No Further Action Assurance letter that was issued for the site in 2003 to include a Declaration of Environmental Covenant (DEC) and Environmental Media Management Plan (EMMP). The DEC may include the following restrictions, which are consistent with the current and proposed future site uses:

- Prohibit use of the site for residential purposes without the approval of MEDEP.
- Prohibit use of site groundwater for drinking water purposes.
- Management of subsurface soil and groundwater during future construction activities may only occur in accordance with the EMMP.

7.0 LIMITATIONS

1. TRC's study was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and TRC observed that the degree of care and skill was generally exercised by other consultants under similar circumstances and conditions. TRC's findings and conclusions must be considered not as scientific certainties, but rather as a professional opinion concerning the significance of the limited data gathered during the course of the study. No other warranty, express or implied, is made. Specifically, TRC does not and cannot represent that the subject property contains no hazardous material, oil, or other latent condition beyond that observed by TRC during its study. Additionally, TRC makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by an MEDEP audit.

2. This study and report have been prepared on behalf of and for the exclusive use of the Southern Maine Planning and Development Commission (SMPDC) and Maine Meat, solely for use in a Phase II ESA for the Best Automotive property, located in Kittery, Maine (subject property). This submittal and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without the prior written consent of TRC or the Clients.

3. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Clients. The work described in this report was carried out in accordance with the Terms and Conditions referenced in our proposal to the Clients.

4. In the event that the Clients or others authorized to use this report obtain information on environmental or hazardous waste issues at the subject property not contained in this report, such information shall be brought to TRC's attention forthwith. TRC will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

8.0 REFERENCES

MEDEP, 2012 — Compendium of Field Testing of Soil Samples for Gasoline and Fuel Oil, (SOP-TS004), October 15, 2012.

MEDEP, 2015 — Protocol for the Use of Portable Vapor Monitors, (RWM-DR-019), April 28, 2015.

MEDEP, 2018 — Chapter 691 Rule for Underground Oil Storage Facilities, September 2018.

MEDEP, 2023 — Remedial Action Guidelines, November 15, 2023.

TRC, 2023 — TRC, Phase I Environmental Site Assessment, Best Automotive, Kittery, Maine, August 17, 2023.

1.0 INTRODUCTION

The purpose of this Environmental Media Management Plan (EMMP) is to outline methods for the management and disposal of soil and/or groundwater generated during potential future construction activities at the property located at 5 Whipple Road in Kittery Maine (the "Site"). The approximately 0.59-acre property is currently owned by BWF Management LLC. Ownership is anticipated to transfer to Maine Meat in early 2024. The property is currently used for automotive repair, and the planned reuse of the property is a restaurant and food grocer.

The Site has been accepted into the Maine Department of Environmental Protection (MEDEP) Voluntary Response Action Program (VRAP), as further discussed in **Section 3** (Property History). This EMMP was designed to address obligations and conditions necessary for construction. A Declaration of Environmental Covenant (DEC) inclusive of this EMMP will be filed for the Site with the York County Registry of Deeds.

2.0 CONTACTS

The current Site owner is as follows:

Kathleen Furbish
5 Whipple Road
Kittery, ME 03904
(207) 439-4368
bestautokittery@gmail.com

The future Site owner is as follows:

Jarrod Spangler
Maine Meat
7 Wallingford Square, Suite 104
Kittery, ME 03904
(207) 703-0219
inquire@memeat.com

The Qualified Environmental Professional (QEP)/consultant representative for the Site is as follows:

TRC
Emily Wassmer
63 Marginal Way, 4th Floor
Portland, Maine 04101
ewassmer@trccompanies.com
(207) 298-0785

The MEDEP representative for the Site is as follows:

Mr. David Chapman
28 Tyson Drive
Augusta, Maine 04330
David.Chapman@maine.gov
(207) 446-9897

3.0 PROPERTY HISTORY

Based on available information, the subject property was developed as a railroad depot with railroad tracks present in the southern portion of the parcel as early as 1919. The subject property was then used as a filling station and automotive repair shop with two gasoline tanks present as early as 1931. The approximately 1,300-square foot single-story commercial building located in the eastern portion of the subject property was constructed in 1950. A fuel dispenser island canopy associated with the former filling station operations is located on the western portion of the property. The subject property is currently operated by Best Automotive as an auto repair shop. Best Automotive has operated at the subject property for over thirty years. Several environmental investigations have been performed at the Site, as detailed below.

In August 2023, TRC conducted a Phase I Environmental Site Assessment for the subject property. The following Recognized Environmental Condition was noted, quoted directly in italics:

Historical and Current Uses of the Subject Property
Based on available information, the subject property was developed as a railroad depot with railroad tracks present in the southern portion of the parcel as early as 1919. The subject property was then used as a filling station and automotive repair shop with two gasoline tanks present as early as 1931. The use of the subject property for these activities predated modern requirements for management of hazardous materials and reporting/remediation of releases. The current building was constructed by 1950 and has been used for automotive repair since that time. Gasoline filling operations reportedly ceased over 15 years ago. The building includes a hydraulic lift, which consists of subsurface components that may have leaked over time. Additionally, based on the age of the lift, the hydraulic oil may contain PCBs. The condition of the hydraulic lift components and soil surrounding/underlying these components is unknown.

The subject property has historically maintained at least 9 underground storage tanks (USTs), identified herein as Tank No. 1 through 9. Two USTs were first located at the subject property in 1931 and it is unknown if these tanks have been removed; an unknown gasoline UST was discovered during removals in 1993 which may account for one of these historical USTs, but the second UST may remain on-site. A waste oil UST (Tank No. 6) was removed in 1990; however, documentation of the removal could not be located; therefore, the condition of the UST upon removal and potential impacts to soil in the vicinity of the former waste oil UST are unknown. Seven USTs were removed in 1993 following the identification of a release (described below). One UST (Tank No. 8) remains on-site; however, this tank has reportedly not been used in over a decade and requires removal to achieve compliance with the Maine Department of Environmental Protection (MEDEP). Though the remaining UST is inspected annually, given the subsurface nature of the structure, the condition of the tank, associated piping, and surrounding/underlying soil is unknown. Based on the depth to groundwater reported in prior assessments (approximately 4.5-7 feet below grade) and the close proximity to the river, the UST may be situated within the groundwater table, potentially resulting in corrosion.

Finding No. 1 is considered to be a REC for the following reasons: a railroad line was formerly present at the subject property and it is unknown if the tracks were removed prior to development; the subject property has operated as a gasoline filling station and automotive repair shop for nearly 100 years, and modern environmental regulations were not in place for the majority of the operation; the condition of the hydraulic lift components are unknown and are reported to have leaked over time, the soil surrounding/underlying the lift may be impacted, and the hydraulic oil may contain PCBs; additional USTs may remain at the subject property and the condition of the former waste oil UST and surrounding/underlying soil is unknown; and the condition of the remaining out-of-service UST and surrounding/underlying soil is unknown, and removal of the

UST is required to achieve compliance with MEDEP. Though prior assessments were conducted at the subject property, the above-described conditions have not been fully investigated.

Additionally, one historical REC was noted, quoted directly in italics.

Documented Historical Release at the Subject Property and Participation in VRAP
A release of gasoline occurred at the subject property in July 1993, which was subsequently remediated to the satisfaction of MEDEP by 1995. Additionally, six USTs were removed from the subject property in July and August 1993. In 2002, Phase I and II ESA reports were provided to MEDEP along with an application to the Voluntary Response Action Program (VRAP). The subject property was accepted into the VRAP and a No Further Action Assurance (NFAA) Letter was issued in 2003. The most recent documentation from MEDEP on this matter indicates that the subject property remains in compliance. Finding No. 2 is considered an HREC as the prior release and UST removals have been addressed to the satisfaction of MEDEP and no activity and use limitations are in place.

Following the completion of the Phase I ESA, TRC completed a Limited Phase II ESA in the fall of 2023 which included soil and groundwater sampling. Additionally, TRC oversaw the removal of the remaining gasoline UST and the in-ground hydraulic lift. During UST closure activities, a limited volume of gasoline-impacted soil was removed from around the former fill port of the tank and disposed off-site. Additionally, a limited volume of hydraulic-oil impacted soil was removed from the base of the lift piston. Reports documenting these activities were completed in December 2023. The findings of the limited Phase II ESA are provided below and quoted directly in italics.

- ***Overburden Geology*** *– The Site surface currently consists of asphalt, unpaved areas, landscaped areas, or structures and the local topography is generally flat, but slopes to the south toward the Piscataqua River. Based on conditions observed during this assessment, the Site is underlain by gravelly sand with urban fill material to at least 15 feet below grade. Fill material is underlain a layer of clay at approximately 15 feet below ground surface (bgs). The layer of clay is underlain by native silty sand to at least 20 feet below grade.*

- ***Groundwater Flow Direction and Depth*** *– Groundwater was encountered at depths ranging between 6.9 and 9.5 feet bgs in the soil borings. Groundwater flows to the south towards the Piscataqua River.*

- ***Soil Analytical Results*** *– There were no detections of volatile petroleum hydrocarbons (VPH), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), Toxicity Characteristic Leaching Procedure (TCLP) semi-volatile organic compounds (SVOCs), TCLP pesticides, or TCLP herbicides above the applicable Maine Department of Environmental Protection (MEDEP) Remedial Action Guidelines (RAGs).*

  Concentrations of the extractable petroleum hydrocarbons (EPH) analyte C_{11}-C_{22} aromatic hydrocarbons exceeded the Residential RAGs in sample LIFT-1 (4,080 mg/kg). Concentrations of arsenic exceeded the Leaching to Groundwater and Residential RAGs in samples LIFT-1 (27.3 mg/kg) at 8.5 feet bgs, SB/MW-1 (16.8 mg/kg) at 10 feet bgs, and SB/MW-2 (18.6 mg/kg) at 7 feet bgs. Additionally, concentrations of arsenic exceeded the Leaching to Groundwater RAGs in sample SB/MW-3 (8.24 mg/kg) at 5 feet bgs.

  Concentrations of tetrachloroethene and trichloroethene were detected in sample LIFT-1, well below the most stringent Leaching to Groundwater RAGs. These compounds were not detected in the remaining soil samples or the groundwater samples collected during

this investigation. The low-level chlorinated detections in soil can likely be attributed to automotive repair activities at the Site involving the historic use of products containing chlorinated solvents.

- ***Groundwater Analytical Results*** *– There were no detections of VOCs or PCBs above the applicable RAGs.*

  Concentrations of select target polycyclic aromatic hydrocarbons (PAHs) exceeded the Residential RAGs in sample MW-02 for the following analytes:
  - *Benzo(a)anthracene (7.03 µg/L);*
  - *Benzo(b)fluoranthene (6.33 µg/L);*
  - *Benzo(a)pyrene (5.04 µg/L);*
  - *Indeno(1,2,3-cd)pyrene (3.47 µg/L); and*
  - *Dibenzo(a,h)anthracene (0.948) µg/L.*

  Concentrations of arsenic exceeded the Residential RAGs in samples MW-01 (54.0 µg/L), MW-02 (34.06 µg/L), and MW-03 (3.45 µg/L). Additionally, concentrations of chromium exceeded the hexavalent chromium Residential RAG in samples MW-02 (17.02 µg/L) and MW-03 (3.55 µg/L). Finally, concentrations of lead exceeded the Residential RAGs in samples MW-02 (8.07 µg/L) and MW-03 (4.92 µg/L).

Based on the Phase II ESA findings, TRC concluded that a limited area of petroleum-impacted soil remains at the base of the former hydraulic lift location. Additionally, elevated levels of arsenic are present in the urban fill material underlying the Site in the vicinity of the building. Concentrations in soil do not exceed the Commercial Worker or Construction Worker RAGs, which are applicable to the proposed future use of the Site. Additionally, exposure to the soil is limited due to the presence of the building and/or depth of impacts. Elevated concentrations of several PAHs and total metals (arsenic, chromium, and lead) are present in groundwater and are below the Construction Worker RAGs, which are applicable to the Site as it's serviced by the municipal water supply. Vapor intrusion is not considered to be a concern based on the laboratory data.

Based on the Limited Phase II ESA analytical results and the known history of the Site, the EPH exceedance in soil can be attributed to hydraulic oil from the in-ground hydraulic lift. Arsenic exceedances in soil may be background concentrations and/or related to urban fill.

Exceedances of PAHs and metals in groundwater are likely attributed to suspended urban fill sediment in the sample matrix. Groundwater was encountered at approximately 6.9 and 9.5 feet bgs within the urban fill layer, and therefore the monitoring wells were screened in the urban fill material. The concentrations of metals vary slightly between each monitoring well (i.e., arsenic concentrations were 3.45 ug/L in TRC-MW-03 and 54 ug/L in TRC-MW-01, and chromium concentrations were 3.55 ug/L in TRC-MW-03 and 17.02 in TRC-MW-02), and PAH concentrations exceed the Residential RAGs only in MW-02; however, urban fill is heterogenous in nature and varying concentrations can be expected throughout the same stratigraphic unit. TRC notes that the urban fill material is believed to exist both on and off-Site throughout the area and is not associated with Site operations.

TRC recommended that the site owner/buyer pursue a modification to the existing VRAP No Further Action Assurance letter that was issued for the site in 2003 to include a DEC and EMMP.

4.0 CONTAMINANTS OF CONCERN AND MEDEP REQUIREMENTS

Concentrations of EPH and arsenic were detected above the Leaching to Groundwater and Residential RAGs in soil samples collected during the recent Phase II ESA described above. The EPH soil exceedances are localized to below the former lift location within the building at approximately 8.5 feet bgs. The arsenic soil exceedances are located within the fill material in the eastern portion of the Site at approximately 7 to 10 feet bgs. Additionally, concentrations of tetrachloroethene and trichloroethene were detected below the former lift location, well below the most stringent Leaching to Groundwater RAGs. These compounds were not detected in the remaining soil samples or the groundwater samples collected during this investigation. The low-level chlorinated detections in soil can likely be attributed to automotive repair activities at the Site involving the historic use of products containing chlorinated solvents, though no such compounds were observed on Site during the recent investigations.

Concentrations of select PAHs (benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenzo(a,h)anthracene), arsenic, chromium, and lead exceeded the Residential RAGs in groundwater samples collected during the recent investigation. Analytical data tables are attached and sampling locations are depicted on the attached Figure 1.

To control potential exposures to these impacts, the following measures are required:

1. The extraction of groundwater at the Site is prohibited without the express written permission of MEDEP.
2. The Site may not be used for residential purposes without the express written permission of MEDEP.
3. Soils and groundwater that remain located in situ at the Site and that may be disturbed during future redevelopment activities (e.g., future construction, additions, utility work, emergency repairs, etc.) may not be moved off-Site without the express written permission of MEDEP. In order to minimize soil disturbance and limit potential dermal and oral contact with soil, Site soils and groundwater must be managed in accordance with this MEDEP-approved EMMP.

5.0 ENVIRONMENTAL MEDIA MANAGEMENT PLAN

5.1 Prior to Soil Disturbance or Excavation

Prior to any disturbance or excavation of Site soils by a contractor, the following actions must be completed:

- The current property owner must notify MEDEP;
- Consultation with a State of Maine Certified Geologist/Environmental Professional (Consultant) who will guide the contractor and coordinate with the property owners and MEDEP; and
- A Health and Safety Plan (HASP) must be developed and made available to the contractor.

Prior to disturbance of the ground surface; personnel involved with excavation activities at the Site will be informed of the following items:

- Requirements of the EMMP and location of the area covered by the plan;
- Location of excavation area(s);
- Estimated volume of impacted soil;
- Proper soil handling procedures; and
- Proper personnel protective equipment.

5.2 Personal Protective Equipment

The contaminants of concern in Site soil are petroleum hydrocarbons, PAHs, and metals. As such, workers should wear standard personal protective equipment typical for use in construction, such as gloves, long pants, sturdy work boots, and eye protection when working with impacted or potentially impacted soil or groundwater. Workers should avoid dermal contact, ingestion and inhalation of dust or particulates during work, to the extent practicable while executing standard construction activities.

The contractor will use a HASP prepared in accordance with the EMMP to provide contact information and directions to local emergency services, if necessary.

5.3 Soil Disturbance or Excavation Activities

While the excavator is conducting their work that involves disturbance or excavation of Site soils:

- A safety tailgate meeting must be conducted for the contractor prior to the beginning of work.
- Excavator must adhere to a site-specific Health and Safety Plan, which specifies procedures and protections to prevent exposure to potentially contaminated soil and/or groundwater.
- Visual monitoring for dust generated by excavation activities will be conducted. If significant dust is generated, the excavation will be wetted with water periodically to suppress dust.
- The transfer of soil from the excavation to the stockpile areas will be conducted in such a manner as to prevent the spread of contaminated or potentially contaminated soils off-Site.
- Stockpiles must be managed in accordance with Section 5.4 below.
- The excavator must adhere to Maine's stormwater Best Management Practices (BMPs).

5.4 Off-Site Soil Disposal

If excess contaminated soils are generated during the contractor's actions, the soils will be stockpiled on-Site, appropriately covered and secured, and characterized for disposal at an off-Site licensed disposal facility, in coordination with MEDEP. The following methods are acceptable for temporary storage of removed soils:

- Storage in a properly labeled and secured container, such as a 55-gallon drum or covered roll-off dumpster.
- Stockpiled on-Site over polyethylene sheeting (at least 6-mil grade) with appropriate erosion controls in place, including covering and/or stormwater runoff deterrents (such as surrounding the pile with hay bales).

Characterization requirements of soils to be disposed of at an off-Site facility will vary based on the chosen licensed facility.

If soil is being transported off-Site, the proper bills-of-lading and/or manifests, soil shipping logs, or other waste transportation papers shall accompany the shipment. Acceptance letters and disposal tickets from the landfill or treatment facility will be obtained for any off-Site soil disposal. Disposal documentation will be maintained in the project files.

5.5 Groundwater Management

If groundwater is encountered during excavation activities, the Consultant must be notified. Groundwater may be temporarily containerized and reintroduced on-Site using best management practices. Groundwater may be contained within a fractionation tank or other vessel for off-Site transportation and disposal to an appropriate receiving facility. Characterization sampling may be necessary if requested by the receiving facility. See Section 5.4 for documentation and recordkeeping requirements.

5.6 Equipment Decontamination

At minimum, personnel and equipment decontamination will include the following:

- Equipment Decontamination

  All equipment that comes in contact with impacted soil (see Figure 1) or groundwater needs to be decontaminated before it is removed from the Site. To properly decontaminate equipment that comes in contact with contaminated soils that are the following procedure should be followed:

  1. Brush soil off equipment that has come in contact with soil prior to leaving the Site;
  2. A stabilized construction entrance/exit (or similar feature designed to capture soil) should be installed at all access points to the Site to eliminated tracking of soil offsite; and
  3. In situations where soil may be tracked offsite, soil must be removed from equipment. Methods for accomplishing soil removal include brushing off equipment and/or wiping parts of the equipment that came in contact with the contaminated soil down with cloth, rags or heavy-duty paper towel damp with non-phosphate concentrated laboratory-grade soap (e.g., Alconox© or Liquinox©), as appropriate.

  If equipment is visually free of soil and/or groundwater, the decontamination procedures listed above may not be necessary.

  PPE and cloth, rags or heavy-duty paper towels can be disposed of in the regular waste stream.

- Personnel Decontamination

  In general, contamination of personnel shall be prevented through the use of standard PPE. At minimum, nitrile gloves shall be worn during contact with impacted soils or groundwater in addition to other Level D PPE.

Attachments:

Analytical Data Tables
Figure 1 – Subject Property Layout

Table 1 - Summary of Soil Sample Analytical Results
Confirmatory UST Pipe Removal Soil Samples
Best Automotive - 5 Whipple Road, Kittery, Maine
October 2023

							Sample Location:	PIPE-1		PIPE-2	PIPE-3	UST-1	UST-2	UST-3	UST-4	UST-5
							Sample Name:	PIPE-1	DUP	PIPE-2	PIPE-3	UST-1	UST-2	UST-3	UST-4	UST-5
							Lab Sample ID:	L2358251-06	L2358251-08	L2358251-07	L2358580-01	L2358251-01	L2358251-02	L2358251-03	L2358251-04	L2358251-05
							Sample Depth:	2 ft	2 ft	2 ft	2 ft	14 ft	5-7 ft	5-7 ft	5-7 ft	5-7 ft
							Sample Date:	10/03/2023	10/03/2023	10/03/2023	10/04/2023	10/03/2023	10/03/2023	10/03/2023	10/03/2023	10/03/2023
Analysis	Analyte	Unit	Leaching to GW*	Residential*	Commercial Worker*	Construction Worker*	LSNL**		Field Dup							
VPH																
	C9-C10 Aromatics	mg/kg	15	660	3,500	2,600	75	7.88 U	4.94 U	4.98 U	4.72 U	6.78 U	8.37 U	5.28 U	5.96 U	6.63 U
	C5-C8 Aliphatics	mg/kg	92	1,700	11,000	430	1,400	7.88 U	4.94 U	4.98 U	4.72 U	6.78 U	8.37 U	5.28 U	5.96 U	6.63 U
	C9-C12 Aliphatics	mg/kg	5,800	2,500	14,000	2,300	2,700	7.88 U	4.94 U	4.98 U	4.72 U	6.78 U	8.37 U	5.28 U	5.96 U	**7.68**
	Benzene	mg/kg	0.13	17	75	240	0.51	0.158 U	0.099 U	0.10 U	0.094 U	0.136 U	0.167 U	0.106 U	0.119 U	0.132 U
	Toluene	mg/kg	42	750	810	820	8.1	0.158 U	0.099 U	0.10 U	0.094 U	0.136 U	0.167 U	0.106 U	0.119 U	0.132 U
	Ethylbenzene	mg/kg	0.9	86	380	470	0.81	0.158 U	0.099 U	0.10 U	0.094 U	0.136 U	0.167 U	0.106 U	0.119 U	0.132 U
	p/m-Xylene	mg/kg	11^	260^	260^	260^	26^	0.158 U	0.099 U	0.10 U	0.094 U	0.136 U	0.167 U	0.106 U	0.119 U	0.132 U
	o-Xylene	mg/kg	11^	260^	260^	260^	26^	0.158 U	0.099 U	0.10 U	0.094 U	0.136 U	0.167 U	0.106 U	0.119 U	0.132 U
	Methyl tert butyl ether	mg/kg	1.8	690	3,000	8,300	0.19	0.079 U	0.049 U	0.050 U	0.047 U	0.068 U	0.084 U	0.053 U	0.060 U	0.066 U
	Naphthalene	mg/kg	0.21	29	120	130	1.7	0.315 U	0.198 U	0.199 U	0.189 U	0.271 U	0.335 U	0.211 U	0.238 U	0.265 U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NS - No ME RAG standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed one or more of the listed ME DEP criteria.

VPH - Volatile Petroleum Hydrocarbons.

* - Maine DEP Remedial Action Guidelines (RAGs) for Contaminated Sites
Effective November 15, 2023; Table 4: Maine RAGs for the Soil Exposure Pathway.

** - Maine DEP Chapter 691 Appendix Q, Table 1 "Laboratory Soil Notification Levels (LSNL)"; September 26, 2018.

^ - criteria applicable to xylene (total), the sum of the xylene isomers.

Table 1 - Summary of Soil Sample Analytical Results
Confirmatory Lift Removal Soil Samples
Best Automotive - 5 Whipple Road, Kittery, Maine
October 2023

							Sample Location:	LIFT-1		LIFT-2		LIFT-3		LIFT-4		LIFT-5	
							Sample Name:	LIFT-1		LIFT-2		LIFT-3		LIFT-4		LIFT-5	
							Lab Sample ID:	L2359070-05		L2359070-02		L2359070-03		L2359070-01		L2359070-04	
							Sample Depth:	8.5 ft		2 ft		2 ft		2 ft		4 ft	
							Sample Date:	10/05/2023		10/05/2023		10/05/2023		10/05/2023		10/05/2023	
Analysis	Analyte	Unit	Leaching to GW*	Residential*	Commercial Worker*	Construction Worker*											
VOCs																	
	Methylene chloride	mg/kg	1.5	490	2,500	1,900		R	NA		NA		NA		NA	
	1,1-Dichloroethane	mg/kg	0.43	53	230	850		R	NA		NA		NA		NA	
	Chloroform	mg/kg	0.034	4.7	21	75		R	NA		NA		NA		NA	
	Carbon tetrachloride	mg/kg	0.097	9.7	43	160		R	NA		NA		NA		NA	
	1,2-Dichloropropane	mg/kg	0.15	23	99	32		R	NA		NA		NA		NA	
	Dibromochloromethane	mg/kg	0.13	110	530	3,000		R	NA		NA		NA		NA	
	1,1,2-Trichloroethane	mg/kg	0.0074	2.2	9.4	68		R	NA		NA		NA		NA	
	Tetrachloroethene	mg/kg	1	120	160	84	**0.0057**		NA		NA		NA		NA	
	Chlorobenzene	mg/kg	2.9	410	740	740		R	NA		NA		NA		NA	
	Trichlorofluoromethane	mg/kg	180	32,000	100,000	940		R	NA		NA		NA		NA	
	1,2-Dichloroethane	mg/kg	0.027	6.9	30	110		R	NA		NA		NA		NA	
	1,1,1-Trichloroethane	mg/kg	150	640	640	640		R	NA		NA		NA		NA	
	Bromodichloromethane	mg/kg	0.02	4.4	19	70		R	NA		NA		NA		NA	
	trans-1,3-Dichloropropene	mg/kg	0.093(a)	27(a)	120(a)	120(a)		R	NA		NA		NA		NA	
	cis-1,3-Dichloropropene	mg/kg	0.093(a)	27(a)	120(a)	120(a)		R	NA		NA		NA		NA	
	1,3-Dichloropropene, Total	mg/kg	0.093	27	120	120		R	NA		NA		NA		NA	
	1,1-Dichloropropene	mg/kg	NS	NS	NS	NS		R	NA		NA		NA		NA	
	Bromoform	mg/kg	0.48	280	790	890		R	NA		NA		NA		NA	
	1,1,2,2-Tetrachloroethane	mg/kg	0.016	8.9	39	150		R	NA		NA		NA		NA	
	Benzene	mg/kg	0.13	17	75	240	**0.0011**		NA		NA		NA		NA	
	Toluene	mg/kg	42	750	810	820		R	NA		NA		NA		NA	
	Ethylbenzene	mg/kg	0.9	86	380	470		R	NA		NA		NA		NA	
	Chloromethane	mg/kg	2.7	160	690	1,300		R	NA		NA		NA		NA	
	Bromomethane	mg/kg	0.11	10	45	120		R	NA		NA		NA		NA	
	Vinyl chloride	mg/kg	0.0036	0.64	24	80		R	NA		NA		NA		NA	
	Chloroethane	mg/kg	130	2,100	2,100	2,000		R	NA		NA		NA		NA	
	1,1-Dichloroethene	mg/kg	5.6	340	1,200	4.2		R	NA		NA		NA		NA	
	trans-1,2-Dichloroethene	mg/kg	1.2	100	450	1,200		R	NA		NA		NA		NA	
	Trichloroethene	mg/kg	0.056	6.1	28	4.2	**0.0012**		NA		NA		NA		NA	
	1,2-Dichlorobenzene	mg/kg	16	360	380	380		R	NA		NA		NA		NA	
	1,3-Dichlorobenzene	mg/kg	16	290	300	280		R	NA		NA		NA		NA	
	1,4-Dichlorobenzene	mg/kg	0.25	39	170	620		R	NA		NA		NA		NA	
	Methyl tert butyl ether	mg/kg	1.8	690	3,000	8,300		R	NA		NA		NA		NA	
	p/m-Xylene	mg/kg	11(d)	260(d)	260(d)	260(d)	**0.015**		NA		NA		NA		NA	
	o-Xylene	mg/kg	11(d)	260(d)	260(d)	260(d)	**0.0084**		NA		NA		NA		NA	
	Xylenes (Total)	mg/kg	11	260	260	260	**0.023**		NA		NA		NA		NA	
	cis-1,2-Dichloroethene	mg/kg	0.41	90	540	800		R	NA		NA		NA		NA	
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	NS		R	NA		NA		NA		NA	
	Dibromomethane	mg/kg	0.11	35	150	190		R	NA		NA		NA		NA	
	1,4-Dichlorobutane	mg/kg	NS	NS	NS	NS		R	NA		NA		NA		NA	
	1,2,3-Trichloropropane	mg/kg	0.00018	0.07	1.5	4.3		R	NA		NA		NA		NA	
	Styrene	mg/kg	73	830	870	860		R	NA		NA		NA		NA	
	Dichlorodifluoromethane	mg/kg	17	130	550	730		R	NA		NA		NA		NA	
	Acetone	mg/kg	200	96,000	100,000	100,000	**0.13**		NA		NA		NA		NA	
	Carbon disulfide	mg/kg	13	690	740	720		R	NA		NA		NA		NA	
	2-Butanone	mg/kg	64	20,000	28,000	11,000	**0.015**		NA		NA		NA		NA	
	Vinyl Acetate	mg/kg	4.8	1,400	2,700	140		R	NA		NA		NA		NA	
	4-Methyl-2-pentanone	mg/kg	78	3,400	3,400	3,300		R	NA		NA		NA		NA	
	2-Hexanone	mg/kg	0.48	290	2,000	300		R	NA		NA		NA		NA	

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Confirmatory Lift Removal Soil Samples
Best Automotive - 5 Whipple Road, Kittery, Maine
October 2023

						Sample Location:	LIFT-1		LIFT-2		LIFT-3		LIFT-4		LIFT-5	
						Sample Name:	LIFT-1		LIFT-2		LIFT-3		LIFT-4		LIFT-5	
						Lab Sample ID:	L2359070-05		L2359070-02		L2359070-03		L2359070-01		L2359070-04	
						Sample Depth:	8.5 ft		2 ft		2 ft		2 ft		4 ft	
						Sample Date:	10/05/2023		10/05/2023		10/05/2023		10/05/2023		10/05/2023	
Analysis	Analyte	Unit	Leaching to GW*	Residential*	Commercial Worker*	Construction Worker*										
	Ethyl methacrylate	mg/kg	8.1	1,100	1,100	830		R	NA		NA		NA		NA	
	Acrylonitrile	mg/kg	0.0063	3.7	17	14		R	NA		NA		NA		NA	
	Bromochloromethane	mg/kg	1.1	220	940	330		R	NA		NA		NA		NA	
	Tetrahydrofuran	mg/kg	41	27,000	100,000	20,000		R	NA		NA		NA		NA	
	2,2-Dichloropropane	mg/kg	NS	NS	NS	NS		R	NA		NA		NA		NA	
	1,2-Dibromoethane	mg/kg	0.0012	0.54	2.4	8.9		R	NA		NA		NA		NA	
	1,3-Dichloropropane	mg/kg	7.1	2,100	32,000	68,000		R	NA		NA		NA		NA	
	1,1,1,2-Tetrachloroethane	mg/kg	0.12	30	130	480		R	NA		NA		NA		NA	
	Bromobenzene	mg/kg	2.3	380	650	620		R	NA		NA		NA		NA	
	n-Butylbenzene	mg/kg	180	5,400	80,000	34,000	**0.02**		NA		NA		NA		NA	
	sec-Butylbenzene	mg/kg	320	11,000	100,000	34,000	**0.011**		NA		NA		NA		NA	
	tert-Butylbenzene	mg/kg	86	11,000	100,000	34,000		R	NA		NA		NA		NA	
	1,3,5-Trichlorobenzene	mg/kg	NS	NS	NS	NS		R	NA		NA		NA		NA	
	o-Chlorotoluene	mg/kg	13	2,100	32,000	800		R	NA		NA		NA		NA	
	p-Chlorotoluene	mg/kg	13	2,100	32,000	68,000		R	NA		NA		NA		NA	
	1,2-Dibromo-3-chloropropane	mg/kg	7.9E-05	0.078	1	3.5		R	NA		NA		NA		NA	
	Hexachlorobutadiene	mg/kg	0.15	15	16	17		R	NA		NA		NA		NA	
	Isopropylbenzene	mg/kg	41	260	270	270	**0.0058**		NA		NA		NA		NA	
	p-Isopropyltoluene	mg/kg	15(b)	660(b)	3,500(b)	2,600(b)	**0.0061**		NA		NA		NA		NA	
	Naphthalene	mg/kg	0.21	29	120	130	**0.016**		NA		NA		NA		NA	
	n-Propylbenzene	mg/kg	67	260	260	260	**0.019**		NA		NA		NA		NA	
	1,2,3-Trichlorobenzene	mg/kg	1.2	86	1,300	2,700		R	NA		NA		NA		NA	
	1,2,4-Trichlorobenzene	mg/kg	0.64	86	380	400		R	NA		NA		NA		NA	
	1,3,5-Trimethylbenzene	mg/kg	4.8	160	180	180	**0.014**		NA		NA		NA		NA	
	1,2,4-Trimethylbenzene	mg/kg	4.4	180	220	220	**0.071**		NA		NA		NA		NA	
	trans-1,4-Dichloro-2-butene	mg/kg	0.00034	0.11	0.48	1.8		R	NA		NA		NA		NA	
	Ethyl ether	mg/kg	48	21,000	100,000	8,100		R	NA		NA		NA		NA	
	Methyl Acetate	mg/kg	230	100,000	100,000	740		R	NA		NA		NA		NA	
	Ethyl Acetate	mg/kg	NS	NS	NS	NS		R	NA		NA		NA		NA	
	Isopropyl Ether	mg/kg	21	2,300	2,300	2,000		R	NA		NA		NA		NA	
	Cyclohexane	mg/kg	720	120	120	120		R	NA		NA		NA		NA	
	Ethyl-Tert-Butyl-Ether	mg/kg	9.6	1,900	2,900	2,900		R	NA		NA		NA		NA	
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	NS		R	NA		NA		NA		NA	
	1,4-Dioxane	mg/kg	0.052	74	340	1,700		R	NA		NA		NA		NA	
	Methyl cyclohexane	mg/kg	92(c)	1,700(c)	11,000(c)	430(c)		R	NA		NA		NA		NA	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	1,400	910	910	910		R	NA		NA		NA		NA	
	1,4-Diethylbenzene	mg/kg	15(b)	660(b)	3,500(b)	2,600(b)	**0.013**		NA		NA		NA		NA	
	p-Ethyltoluene	mg/kg	15(b)	660(b)	3,500(b)	2,600(b)	**0.033**		NA		NA		NA		NA	
	1,2,4,5-Tetramethylbenzene	mg/kg	15(b)	660(b)	3,500(b)	2,600(b)	**0.026**		NA		NA		NA		NA	
EPH																
	C9-C18 Aliphatics	mg/kg	26,000	2,500	14,000	4,800	**1,280**		**16.5**		7.48	U	7.52	U	7.40	U
	C19-C36 Aliphatics	mg/kg	NS	100,000	100,000	1,200,000	**17,000**		**424**		**21.5**		**36.2**		**78.0**	
	C11-C22 Aromatics	mg/kg	340	2,600	33,000	74,000	**4,080**		**102**		**9.35**		**12.5**		**26.2**	
	Naphthalene	mg/kg	0.21	29	120	130	0.678	U	0.035	U	0.030	U	0.030	U	0.030	U
	2-Methylnaphthalene	mg/kg	10	330	4,100	960	0.678	U	0.035	U	0.030	U	0.030	U	0.030	U
	Acenaphthylene	mg/kg	290	4,900	45,000	48,000	0.678	U	0.035	U	0.030	U	0.030	U	0.030	U
	Acenaphthene	mg/kg	300	4,900	62,000	48,000	0.678	U	0.035	U	0.030	U	0.030	U	0.030	U
	Fluorene	mg/kg	300	3,300	41,000	96,000	0.678	U	0.035	U	0.030	U	0.030	U	0.030	U
	Phenanthrene	mg/kg	320	2,500	23,000	72,000	**1.31**		0.035	U	0.030	U	0.030	U	0.030	U
	Anthracene	mg/kg	3,200	25,000	100,000	100,000	0.678	U	0.035	U	0.030	U	0.030	U	0.030	U

Table 1 - Summary of Soil Sample Analytical Results
Confirmatory Lift Removal Soil Samples
Best Automotive - 5 Whipple Road, Kittery, Maine
October 2023

						Sample Location:	LIFT-1		LIFT-2		LIFT-3		LIFT-4		LIFT-5	
						Sample Name:	LIFT-1		LIFT-2		LIFT-3		LIFT-4		LIFT-5	
						Lab Sample ID:	L2359070-05		L2359070-02		L2359070-03		L2359070-01		L2359070-04	
						Sample Depth:	8.5 ft		2 ft		2 ft		2 ft		4 ft	
						Sample Date:	10/05/2023		10/05/2023		10/05/2023		10/05/2023		10/05/2023	
Analysis	Analyte	Unit	Leaching to GW*	Residential*	Commercial Worker*	Construction Worker*										
	Fluoranthene	mg/kg	4,900	3,300	41,000	24,000	0.678	U	**0.040**		**0.049**		**0.046**		**0.044**	
	Pyrene	mg/kg	720	2,500	31,000	72,000	0.678	U	**0.041**		**0.042**		**0.042**		**0.042**	
	Benzo(a)anthracene	mg/kg	5.8	16	280	1,700	0.678	U	0.035	U	0.030	U	0.030	U	0.030	U
	Chrysene	mg/kg	5,000	1,600	29,000	100,000	0.678	U	0.035	U	0.030	U	**0.031**		**0.030**	
	Benzo(b)fluoranthene	mg/kg	170	16	290	1,700	0.678	U	**0.043**		**0.030**		**0.044**		**0.044**	
	Benzo(k)fluoranthene	mg/kg	1,600	160	2,900	17,000	0.678	U	0.035	U	0.030	U	0.030	U	0.030	U
	Benzo(a)pyrene	mg/kg	16	1.6	29	9.9	0.678	U	0.035	U	0.030	U	**0.030**		**0.031**	
	Indeno(1,2,3-cd)Pyrene	mg/kg	540	16	290	1,700	0.678	U	0.035	U	0.030	U	0.030	U	0.030	U
	Dibenzo(a,h)anthracene	mg/kg	53	1.6	29	170	0.678	U	0.035	U	0.030	U	0.030	U	0.030	U
	Benzo(ghi)perylene	mg/kg	100,000	2,500	23,000	72,000	0.678	U	0.035	U	0.030	U	0.030	U	0.030	U
PCBs																
	Aroclor-1016	mg/kg	7.4	5.6	70	16	0.0597	U	0.0656	U	0.0540	U	0.0544	U	0.0543	U
	Aroclor-1221	mg/kg	NS	NS	NS	NS	0.0597	U	0.0656	U	0.0540	U	0.0544	U	0.0543	U
	Aroclor-1232	mg/kg	NS	NS	NS	NS	0.0597	U	0.0656	U	0.0540	U	0.0544	U	0.0543	U
	Aroclor-1242	mg/kg	NS	NS	NS	NS	0.0597	U	0.0656	U	0.0540	U	0.0544	U	0.0543	U
	Aroclor-1248	mg/kg	NS	NS	NS	NS	0.0597	U	0.0656	U	0.0540	U	0.0544	U	0.0543	U
	Aroclor-1254	mg/kg	NS	NS	NS	NS	0.0597	U	0.0656	U	0.0540	U	0.0544	U	0.0543	U
	Aroclor-1260	mg/kg	NS	NS	NS	NS	0.0597	U	0.0656	U	0.0540	U	**0.136**		0.0543	U
	Aroclor-1262	mg/kg	NS	NS	NS	NS	0.0597	U	0.0656	U	0.0540	U	0.0544	U	0.0543	U
	Aroclor-1268	mg/kg	NS	NS	NS	NS	0.0597	U	0.0656	U	0.0540	U	0.0544	U	0.0543	U
	Total PCBs	mg/kg	3.8	3.1	13	74	0.0597	U	0.0656	U	0.0540	U	**0.136**		0.0543	U
Metals, total																
	Arsenic	mg/kg	0.83	9.3	41	54	**27.3**		NA		NA		NA		NA	
	Barium	mg/kg	8,600	21,000	100,000	20,000	**77.2**		NA		NA		NA		NA	
	Cadmium	mg/kg	7.6	9.8	140	42	0.495	U	NA		NA		NA		NA	
	Chromium	mg/kg	NS	NS	NS	NS	**30.2**		NA		NA		NA		NA	
	Chromium (VI)	mg/kg	0.37	4.2	89	46	1.02	U	NA		NA		NA		NA	
	Lead	mg/kg	50	200	440	460	**18.3**		NA		NA		NA		NA	
	Mercury	mg/kg	1.8	3.1	3.1	3.1	0.089	U	NA		NA		NA		NA	
	Selenium	mg/kg	29	540	8,000	1,700	0.989	U	NA		NA		NA		NA	
	Silver	mg/kg	44	540	8,000	1,700	0.247	U	NA		NA		NA		NA	

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NA - Sample not analyzed for the listed analyte.

NS - No ME RAG standards exist for this analyte.

R - Rejected data point.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed one or more of the listed RAGs.

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

* - Maine DEP Remedial Action Guidelines (RAGs) for Contaminated Sites
Effective November 15, 2023; Table 4: Maine RAGs for the Soil Exposure Pathway.

(a) - RAG for 1,3-Dichloropropene used.

(b) - RAG for C9-C10 Aromatics used.

(c) - RAG for C5-C8 Aliphatics used.

(d) - criteria applicable to xylene (total), the sum of the xylene isomers.

Table 1 - Summary of Soil Sample Analytical Results
Soil Boring Samples
Best Automotive - 5 Whipple Road, Kittery, Maine
October 2023

							Sample Location:	SB/MW-1		SB/MW-2				SB/MW-3	
							Sample Name:	SB/MW-1 (10)		SB/MW-2 (7)		DUP		SB/MW-3 (5)	
							Lab Sample ID:	L2358563-01		L2358563-02		L2358563-04		L2358563-03	
							Sample Depth:	10 ft		7 ft		7 ft		5 ft	
							Sample Date:	10/04/2023		10/04/2023		10/04/2023		10/04/2023	
Analysis	Analyte	Unit	Leaching to GW*	Residential*	Commercial Worker*	Construction Worker*						Field Dup			
VOCs															
	Methylene chloride	mg/kg	1.5	490	2,500	1,900	0.0053	U	0.0042	U	0.0036	U	0.0047	U
	1,1-Dichloroethane	mg/kg	0.43	53	230	850	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	Chloroform	mg/kg	0.034	4.7	21	75	0.0016	U	0.0013	U	0.0011	U	0.0014	U
	Carbon tetrachloride	mg/kg	0.097	9.7	43	160	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	1,2-Dichloropropane	mg/kg	0.15	23	99	32	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	Dibromochloromethane	mg/kg	0.13	110	530	3,000	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	1,1,2-Trichloroethane	mg/kg	0.0074	2.2	9.4	68	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	Tetrachloroethene	mg/kg	1	120	160	84	0.00053	U	0.00042	U	0.00036	U	0.00047	U
	Chlorobenzene	mg/kg	2.9	410	740	740	0.00053	U	0.00042	U	0.00036	U	0.00047	U
	Trichlorofluoromethane	mg/kg	180	32,000	100,000	940	0.0043	U	0.0034	U	0.0029	U	0.0038	U
	1,2-Dichloroethane	mg/kg	0.027	6.9	30	110	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	1,1,1-Trichloroethane	mg/kg	150	640	640	640	0.00053	U	0.00042	U	0.00036	U	0.00047	U
	Bromodichloromethane	mg/kg	0.02	4.4	19	70	0.00053	U	0.00042	U	0.00036	U	0.00047	U
	trans-1,3-Dichloropropene	mg/kg	0.093(a)	27(a)	120(a)	120(a)	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	cis-1,3-Dichloropropene	mg/kg	0.093(a)	27(a)	120(a)	120(a)	0.00053	U	0.00042	U	0.00036	U	0.00047	U
	1,3-Dichloropropene, Total	mg/kg	0.093	27	120	120	0.00053	U	0.00042	U	0.00036	U	0.00047	U
	1,1-Dichloropropene	mg/kg	NS	NS	NS	NS	0.00053	U	0.00042	U	0.00036	U	0.00047	U
	Bromoform	mg/kg	0.48	280	790	890	0.0043	U	0.0034	U	0.0029	U	0.0038	U
	1,1,2,2-Tetrachloroethane	mg/kg	0.016	8.9	39	150	0.00053	U	0.00042	U	0.00036	U	0.00047	U
	Benzene	mg/kg	0.13	17	75	240	0.00053	U	0.00042	U	0.00036	U	0.00047	U
	Toluene	mg/kg	42	750	810	820	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	Ethylbenzene	mg/kg	0.9	86	380	470	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	Chloromethane	mg/kg	2.7	160	690	1,300	0.0043	U	0.0034	U	0.0029	U	0.0038	U
	Bromomethane	mg/kg	0.11	10	45	120	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	Vinyl chloride	mg/kg	0.0036	0.64	24	80	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	Chloroethane	mg/kg	130	2,100	2,100	2,000	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	1,1-Dichloroethene	mg/kg	5.6	340	1,200	4.2	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	trans-1,2-Dichloroethene	mg/kg	1.2	100	450	1,200	0.0016	U	0.0013	U	0.0011	U	0.0014	U
	Trichloroethene	mg/kg	0.056	6.1	28	4.2	0.00053	U	0.00042	U	0.00036	U	0.00047	U
	1,2-Dichlorobenzene	mg/kg	16	360	380	380	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	1,3-Dichlorobenzene	mg/kg	16	290	300	280	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	1,4-Dichlorobenzene	mg/kg	0.25	39	170	620	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	Methyl tert butyl ether	mg/kg	1.8	690	3,000	8,300	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	p/m-Xylene	mg/kg	11(d)	260(d)	260(d)	260(d)	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	o-Xylene	mg/kg	11(d)	260(d)	260(d)	260(d)	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	Xylenes (Total)	mg/kg	11	260	260	260	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	cis-1,2-Dichloroethene	mg/kg	0.41	90	540	800	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	1,2-Dichloroethene (total)	mg/kg	NS	NS	NS	NS	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	Dibromomethane	mg/kg	0.11	35	150	190	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	1,4-Dichlorobutane	mg/kg	NS	NS	NS	NS	0.011	U	0.0084	U	0.0073	U	0.0094	U
	1,2,3-Trichloropropane	mg/kg	0.00018	0.07	1.5	4.3	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	Styrene	mg/kg	73	830	870	860	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	Dichlorodifluoromethane	mg/kg	17	130	550	730	0.011	U	0.0084	U	0.0073	U	0.0094	U
	Acetone	mg/kg	200	96,000	100,000	100,000	**0.042**		0.021	U	0.018	U	0.023	U
	Carbon disulfide	mg/kg	13	690	740	720	0.011	U	0.0084	U	0.0073	U	0.0094	U
	2-Butanone	mg/kg	64	20,000	28,000	11,000	0.011	U	0.0084	U	0.0073	U	0.0094	U
	Vinyl Acetate	mg/kg	4.8	1,400	2,700	140	0.011	U	0.0084	U	0.0073	U	0.0094	U
	4-Methyl-2-pentanone	mg/kg	78	3,400	3,400	3,300	0.011	U	0.0084	U	0.0073	U	0.0094	U
	2-Hexanone	mg/kg	0.48	290	2,000	300	0.011	U	0.0084	U	0.0073	U	0.0094	U
	Ethyl methacrylate	mg/kg	8.1	1,100	1,100	830	0.011	U	0.0084	U	0.0073	U	0.0094	U
	Acrylonitrile	mg/kg	0.0063	3.7	17	14	0.0043	U	0.0034	U	0.0029	U	0.0038	U
	Bromochloromethane	mg/kg	1.1	220	940	330	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	Tetrahydrofuran	mg/kg	41	27,000	100,000	20,000	0.0043	U	0.0034	U	0.0029	U	0.0038	U
	2,2-Dichloropropane	mg/kg	NS	NS	NS	NS	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	1,2-Dibromoethane	mg/kg	0.0012	0.54	2.4	8.9	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	1,3-Dichloropropane	mg/kg	7.1	2,100	32,000	68,000	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	1,1,1,2-Tetrachloroethane	mg/kg	0.12	30	130	480	0.00053	U	0.00042	U	0.00036	U	0.00047	U
	Bromobenzene	mg/kg	2.3	380	650	620	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	n-Butylbenzene	mg/kg	180	5,400	80,000	34,000	**0.0042**		0.00084	U	0.00073	U	0.00094	U
	sec-Butylbenzene	mg/kg	320	11,000	100,000	34,000	**0.053**		0.00084	U	0.00073	U	0.00094	U
	tert-Butylbenzene	mg/kg	86	11,000	100,000	34,000	**0.0085**		0.0017	U	0.0014	U	0.0019	U
	1,3,5-Trichlorobenzene	mg/kg	NS	NS	NS	NS	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	o-Chlorotoluene	mg/kg	13	2,100	32,000	800	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	p-Chlorotoluene	mg/kg	13	2,100	32,000	68,000	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	1,2-Dibromo-3-chloropropane	mg/kg	7.9E-05	0.078	1	3.5	0.0032	U	0.0025	U	0.0022	U	0.0028	U
	Hexachlorobutadiene	mg/kg	0.15	15	16	17	0.0043	U	0.0034	U	0.0029	U	0.0038	U
	Isopropylbenzene	mg/kg	41	260	270	270	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	p-Isopropyltoluene	mg/kg	15(b)	660(b)	3,500(b)	2,600(b)	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	Naphthalene	mg/kg	0.21	29	120	130	**0.0082**		0.0034	U	0.0029	U	0.0038	U
	n-Propylbenzene	mg/kg	67	260	260	260	0.0011	U	0.00084	U	0.00073	U	0.00094	U
	1,2,3-Trichlorobenzene	mg/kg	1.2	86	1,300	2,700	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	1,2,4-Trichlorobenzene	mg/kg	0.64	86	380	400	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	1,3,5-Trimethylbenzene	mg/kg	4.8	160	180	180	0.0021	U	0.0017	U	0.0014	U	0.0019	U
	1,2,4-Trimethylbenzene	mg/kg	4.4	180	220	220	0.0021	U	0.0017	U	0.0014	U	0.0019	U

Table 1 - Summary of Soil Sample Analytical Results
Soil Boring Samples
Best Automotive - 5 Whipple Road, Kittery, Maine
October 2023

						Sample Location:	SB/MW-1		SB/MW-2					SB/MW-3	
						Sample Name:	SB/MW-1 (10)		SB/MW-2 (7)		DUP			SB/MW-3 (5)	
						Lab Sample ID:	L2358563-01		L2358563-02		L2358563-04			L2358563-03	
						Sample Depth:	10 ft		7 ft		7 ft			5 ft	
						Sample Date:	10/04/2023		10/04/2023		10/04/2023			10/04/2023	
Analysis	Analyte	Unit	Leaching to GW*	Residential*	Commercial Worker*	Construction Worker*					Field Dup				
	trans-1,4-Dichloro-2-butene	mg/kg	0.00034	0.11	0.48	1.8	0.0053	U	0.0042	U	0.0036	U		0.0047	U
	Ethyl ether	mg/kg	48	21,000	100,000	8,100	0.0021	U	0.0017	U	0.0014	U		0.0019	U
	Methyl Acetate	mg/kg	230	100,000	100,000	740	0.0043	U	0.0034	U	0.0029	U		0.0038	U
	Ethyl Acetate	mg/kg	NS	NS	NS	NS	0.011	U	0.0084	U	0.0073	U		0.0094	U
	Isopropyl Ether	mg/kg	21	2,300	2,300	2,000	0.0021	U	0.0017	U	0.0014	U		0.0019	U
	Cyclohexane	mg/kg	720	120	120	120	0.011	U	0.0084	U	0.0073	U		0.0094	U
	Ethyl-Tert-Butyl-Ether	mg/kg	9.6	1,900	2,900	2,900	0.0021	U	0.0017	U	0.0014	U		0.0019	U
	Tertiary-Amyl Methyl Ether	mg/kg	NS	NS	NS	NS	0.0021	U	0.0017	U	0.0014	U		0.0019	U
	1,4-Dioxane	mg/kg	0.052	74	340	1,700	0.086	U	0.067	U	0.058	U		0.075	U
	Methyl cyclohexane	mg/kg	92(c)	1,700(c)	11,000(c)	430(c)	0.0043	U	0.0034	U	0.0029	U		0.0038	U
	1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	1,400	910	910	910	0.0043	U	0.0034	U	0.0029	U		0.0038	U
	1,4-Diethylbenzene	mg/kg	15(b)	660(b)	3,500(b)	2,600(b)	**0.0079**		0.0017	U	0.0014	U		0.0019	U
	p-Ethyltoluene	mg/kg	15(b)	660(b)	3,500(b)	2,600(b)	0.0021	U	0.0017	U	0.0014	U		0.0019	U
	1,2,4,5-Tetramethylbenzene	mg/kg	15(b)	660(b)	3,500(b)	2,600(b)	0.0021	U	0.0017	U	0.0014	U		0.0019	U
EPH															
	C9-C18 Aliphatics	mg/kg	26,000	2,500	14,000	4,800	**92.0**		8.66	U	8.01	U		7.07	U
	C19-C36 Aliphatics	mg/kg	NS	100,000	100,000	1,200,000	**275**		8.66	U	8.01	U		7.07	U
	C11-C22 Aromatics	mg/kg	340	2,600	33,000	74,000	**76.8**		8.66	U	8.01	U		**12.2**	
	Naphthalene	mg/kg	0.21	29	120	130	0.030	U	0.035	U	0.032	U		0.028	U
	2-Methylnaphthalene	mg/kg	10	330	4,100	960	0.030	U	0.035	U	0.032	U		0.028	U
	Acenaphthylene	mg/kg	290	4,900	45,000	48,000	0.030	U	0.035	U	0.032	U		**0.062**	
	Acenaphthene	mg/kg	300	4,900	62,000	48,000	0.030	U	0.035	U	0.032	U		0.028	U
	Fluorene	mg/kg	300	3,300	41,000	96,000	0.030	U	0.035	U	0.032	U		0.028	U
	Phenanthrene	mg/kg	320	2,500	23,000	72,000	0.030	U	0.035	U	0.032	U		**0.072**	
	Anthracene	mg/kg	3,200	25,000	100,000	100,000	0.030	U	0.035	U	0.032	U		0.028	U
	Fluoranthene	mg/kg	4,900	3,300	41,000	24,000	**0.075**		0.035	U	0.032	U		**0.429**	
	Pyrene	mg/kg	720	2,500	31,000	72,000	**0.072**		0.035	U	0.032	U		**0.433**	
	Benzo(a)anthracene	mg/kg	5.8	16	280	1,700	**0.039**		0.035	U	0.032	U		**0.382**	
	Chrysene	mg/kg	5,000	1,600	29,000	100,000	**0.046**		0.035	U	0.032	U		**0.395**	
	Benzo(b)fluoranthene	mg/kg	170	16	290	1,700	**0.041**		0.035	U	0.032	U		**0.642**	
	Benzo(k)fluoranthene	mg/kg	1,600	160	2,900	17,000	0.030	U	0.035	U	0.032	U		**0.218**	
	Benzo(a)pyrene	mg/kg	16	1.6	29	9.9	0.030	U	0.035	U	0.032	U		**0.495**	
	Indeno(1,2,3-cd)Pyrene	mg/kg	540	16	290	1,700	0.030	U	0.035	U	0.032	U		**0.408**	
	Dibenzo(a,h)anthracene	mg/kg	53	1.6	29	170	0.030	U	0.035	U	0.032	U		**0.093**	
	Benzo(ghi)perylene	mg/kg	100,000	2,500	23,000	72,000	0.030	U	0.035	U	0.032	U		**0.298**	
PCBs															
	Aroclor-1016	mg/kg	7.4	5.6	70	16	0.0547	U	0.0664	U	0.0576	U		0.0534	U
	Aroclor-1221	mg/kg	NS	NS	NS	NS	0.0547	U	0.0664	U	0.0576	U		0.0534	U
	Aroclor-1232	mg/kg	NS	NS	NS	NS	0.0547	U	0.0664	U	0.0576	U		0.0534	U
	Aroclor-1242	mg/kg	NS	NS	NS	NS	0.0547	U	0.0664	U	0.0576	U		0.0534	U
	Aroclor-1248	mg/kg	NS	NS	NS	NS	0.0547	U	0.0664	U	0.0576	U		0.0534	U
	Aroclor-1254	mg/kg	NS	NS	NS	NS	0.0547	U	0.0664	U	0.0576	U		0.0534	U
	Aroclor-1260	mg/kg	NS	NS	NS	NS	0.0547	U	0.0664	U	0.0576	U		0.0534	U
	Aroclor-1262	mg/kg	NS	NS	NS	NS	0.0547	U	0.0664	U	0.0576	U		0.0534	U
	Aroclor-1268	mg/kg	NS	NS	NS	NS	0.0547	U	0.0664	U	0.0576	U		0.0534	U
	Total PCBs	mg/kg	3.8	3.1	13	74	0.0547	U	0.0664	U	0.0576	U		0.0534	U
Metals, total															
	Arsenic	mg/kg	0.83	9.3	41	54	**16.8**		**18.6**		**8.92**			**8.24**	
	Barium	mg/kg	8,600	21,000	100,000	20,000	**68.4**		**25.7**		**16.8**			**15.3**	
	Cadmium	mg/kg	7.6	9.8	140	42	0.456	U	0.510	U	0.461	U		0.421	U
	Chromium	mg/kg	NS	NS	NS	NS	**37.5**		**15.0**		**16.9**			**20.4**	
	Chromium (VI)	mg/kg	0.37	4.2	89	46	0.957	U	1.08	U	0.970	U		0.877	U
	Lead	mg/kg	50	200	440	460	**11.0**		**3.84**		**3.30**			**7.63**	
	Mercury	mg/kg	1.8	3.1	3.1	3.1	0.077	U	0.085	U	0.076	U		0.070	U
	Selenium	mg/kg	29	540	8,000	1,700	0.912	U	1.02	U	0.922	U		0.843	U
	Silver	mg/kg	44	540	8,000	1,700	0.228	U	**0.276**		0.231	U		0.211	U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NS - No ME RAG standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed one or more of the listed RAGs.

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

* - Maine DEP Remedial Action Guidelines (RAGs) for Contaminated Sites
Effective November 15, 2023; Table 4: Maine RAGs for the Soil Exposure Pathway.

(a) - RAG for 1,3-Dichloropropene used.

(b) - RAG for C9-C10 Aromatics used.

(c) - RAG for C5-C8 Aliphatics used.

(d) - criteria applicable to xylene (total), the sum of the xylene isomers.

Table 1 - Summary of Soil Sample Analytical Results
Best Automotive - 5 Whipple Road, Kittery, Maine
October 2023

							Sample Location:	PIPE-1				PIPE-2		PIPE-3		UST-1		UST-2		UST-3		UST-4		UST-5	
							Sample Name:	PIPE-1		DUP		PIPE-2		PIPE-3		UST-1		UST-2		UST-3		UST-4		UST-5	
							Lab Sample ID:	L2358251-06		L2358251-08		L2358251-07		L2358580-01		L2358251-01		L2358251-02		L2358251-03		L2358251-04		L2358251-05	
							Sample Depth:	2 ft		2 ft		2 ft		2 ft		14 ft		5-7 ft		5-7 ft		5-7 ft		5-7 ft	
							Sample Date:	10/03/2023		10/03/2023		10/03/2023		10/04/2023		10/03/2023		10/03/2023		10/03/2023		10/03/2023		10/03/2023	
Analysis	Analyte	Unit	Leaching to GW*	Residential*	Commercial Worker*	Construction Worker*	LSNL**			Field Dup															
VPH																									
	C9-C10 Aromatics	mg/kg	15	660	3,500	2,600	75	7.88	U	4.94	U	4.98	U	4.72	U	6.78	U	8.37	U	5.28	U	5.96	U	6.63	U
	C5-C8 Aliphatics	mg/kg	92	1,700	11,000	430	1,400	7.88	U	4.94	U	4.98	U	4.72	U	6.78	U	8.37	U	5.28	U	5.96	U	6.63	U
	C9-C12 Aliphatics	mg/kg	5,800	2,500	14,000	2,300	2,700	7.88	U	4.94	U	4.98	U	4.72	U	6.78	U	8.37	U	5.28	U	5.96	U	**7.68**	
	Benzene	mg/kg	0.13	17	75	240	0.51	0.158	U	0.099	U	0.10	U	0.094	U	0.136	U	0.167	U	0.106	U	0.119	U	0.132	U
	Toluene	mg/kg	42	750	810	820	8.1	0.158	U	0.099	U	0.10	U	0.094	U	0.136	U	0.167	U	0.106	U	0.119	U	0.132	U
	Ethylbenzene	mg/kg	0.9	86	380	470	0.81	0.158	U	0.099	U	0.10	U	0.094	U	0.136	U	0.167	U	0.106	U	0.119	U	0.132	U
	p/m-Xylene	mg/kg	11^	260^	260^	260^	26^	0.158	U	0.099	U	0.10	U	0.094	U	0.136	U	0.167	U	0.106	U	0.119	U	0.132	U
	o-Xylene	mg/kg	11^	260^	260^	260^	26^	0.158	U	0.099	U	0.10	U	0.094	U	0.136	U	0.167	U	0.106	U	0.119	U	0.132	U
	Methyl tert butyl ether	mg/kg	1.8	690	3,000	8,300	0.19	0.079	U	0.049	U	0.050	U	0.047	U	0.068	U	0.084	U	0.053	U	0.060	U	0.066	U
	Naphthalene	mg/kg	0.21	29	120	130	1.7	0.315	U	0.198	U	0.199	U	0.189	U	0.271	U	0.335	U	0.211	U	0.238	U	0.265	U

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NS - No ME RAG standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed one or more of the listed ME DEP criteria.

VPH - Volatile Petroleum Hydrocarbons.

* - Maine DEP Remedial Action Guidelines (RAGs) for Contaminated Sites
Effective November 15, 2023; Table 4: Maine RAGs for the Soil Exposure Pathway.

** - Maine DEP Chapter 691 Appendix Q, Table 1 "Laboratory Soil Notification Levels (LSNL)"; September 26, 2018.

^ - criteria applicable to xylene (total), the sum of the xylene isomers.

Table 2 - Summary of Groundwater Sample Analytical Results
Best Automotive - 5 Whipple Road, Kittery, Maine
October 2023

				Sample Location:	**MW-01**				**MW-02**		**MW-03**	
				Sample Name:	MW-01		DUP		MW-02		MW-03	
				Lab Sample ID:	L2360793-01		L2360793-04		L2360793-02		L2360793-03	
				Sample Date:	10/13/2023		10/13/2023		10/13/2023		10/13/2023	
Analysis	Analyte	Unit	Residential*	Construction Worker*			Field Dup					
VOCs												
	Methylene chloride	ug/L	110	4,900	3.0	U	3.0	U	3.0	U	3.0	U
	1,1-Dichloroethane	ug/L	28	2,200	0.75	U	0.75	U	0.75	U	0.75	U
	Chloroform	ug/L	2.2	170	0.75	U	0.75	U	0.75	U	0.75	U
	Carbon tetrachloride	ug/L	4.6	700	0.50	U	0.50	U	0.50	U	0.50	U
	1,2-Dichloropropane	ug/L	8.3	51	1.0	U	1.0	U	1.0	U	1.0	U
	Dibromochloromethane	ug/L	8.7	53,000	0.50	U	0.50	U	0.50	U	0.50	U
	1,1,2-Trichloroethane	ug/L	0.42	68	0.75	U	0.75	U	0.75	U	0.75	U
	Tetrachloroethene	ug/L	41	250	0.50	U	0.50	U	0.50	U	0.50	U
	Chlorobenzene	ug/L	78	2,600	0.50	U	0.50	U	0.50	U	0.50	U
	Trichlorofluoromethane	ug/L	5,200	5,900	1.0	U	1.0	U	1.0	U	1.0	U
	1,2-Dichloroethane	ug/L	1.7	140	0.50	U	0.50	U	0.50	U	0.50	U
	1,1,1-Trichloroethane	ug/L	8,000	29,000	0.50	U	0.50	U	0.50	U	0.50	U
	Bromodichloromethane	ug/L	1.3	130	0.50	U	0.50	U	0.50	U	0.50	U
	trans-1,3-Dichloropropene	ug/L	4.7(a)	200(a)	0.50	U	0.50	U	0.50	U	0.50	U
	cis-1,3-Dichloropropene	ug/L	4.7(a)	200(a)	0.50	U	0.50	U	0.50	U	0.50	U
	1,3-Dichloropropene, Total	ug/L	4.7	200	0.50	U	0.50	U	0.50	U	0.50	U
	1,1-Dichloropropene	ug/L	NS	NS	1.0	U	1.0	U	1.0	U	1.0	U
	Bromoform	ug/L	33	5,500	1.0	U	1.0	U	1.0	U	1.0	U
	1,1,2,2-Tetrachloroethane	ug/L	0.76	90	0.50	U	0.50	U	0.50	U	0.50	U
	Benzene	ug/L	4.6	350	0.50	U	0.50	U	0.50	U	0.50	U
	Toluene	ug/L	1,100	24,000	0.75	U	0.75	U	0.75	U	0.75	U
	Ethylbenzene	ug/L	15	1,400	0.50	U	0.50	U	0.50	U	0.50	U
	Chloromethane	ug/L	190	11,000	2.0	U	2.0	U	2.0	U	2.0	U
	Bromomethane	ug/L	7.6	490	1.0	U	1.0	U	1.0	U	1.0	U
	Vinyl chloride	ug/L	0.19	0.22	0.20	U	0.20	U	0.20	U	0.20	U
	Chloroethane	ug/L	8,300	16,000	1.0	U	1.0	U	1.0	U	1.0	U
	1,1-Dichloroethene	ug/L	290	20	0.50	U	0.50	U	0.50	U	0.50	U
	trans-1,2-Dichloroethene	ug/L	68	3,900	0.75	U	0.75	U	0.75	U	0.75	U
	Trichloroethene	ug/L	2.8	12	0.50	U	0.50	U	0.50	U	0.50	U
	1,2-Dichlorobenzene	ug/L	300	12,000	1.0	U	1.0	U	1.0	U	1.0	U
	1,3-Dichlorobenzene	ug/L	300	6,200	1.0	U	1.0	U	1.0	U	1.0	U
	1,4-Dichlorobenzene	ug/L	4.8	400	1.0	U	1.0	U	1.0	U	1.0	U
	Methyl tert butyl ether	ug/L	140	14,000	1.0	U	1.0	U	1.0	U	1.0	U
	p/m-Xylene	ug/L	190(d)	2,100(d)	1.0	U	1.0	U	1.0	U	1.0	U
	o-Xylene	ug/L	190(d)	2,100(d)	1.0	U	1.0	U	1.0	U	1.0	U
	Xylenes (Total)	ug/L	190	2,100	1.0	U	1.0	U	1.0	U	1.0	U
	cis-1,2-Dichloroethene	ug/L	25	1,900	0.50	U	0.50	U	0.50	U	0.50	U
	1,2-Dichloroethene (total)	ug/L	NS	NS	0.50	U	0.50	U	0.50	U	0.50	U
	Dibromomethane	ug/L	8.3	280	1.0	U	1.0	U	1.0	U	1.0	U
	1,4-Dichlorobutane	ug/L	NS	NS	5.0	U	5.0	U	5.0	U	5.0	U
	1,2,3-Trichloropropane	ug/L	0.0075	2.1	1.0	U	1.0	U	1.0	U	1.0	U
	Styrene	ug/L	1,200	15,000	1.0	U	1.0	U	1.0	U	1.0	U
	Dichlorodifluoromethane	ug/L	200	5,400	2.0	U	2.0	U	2.0	U	2.0	U
	Acetone	ug/L	18,000	100,000	5.0	U	5.0	U	**5.0**		5.0	U
	Carbon disulfide	ug/L	810	3,100	1.0	U	1.0	U	1.0	U	1.0	U
	2-Butanone	ug/L	5,600	9,000	5.0	U	5.0	U	5.0	U	5.0	U
	Vinyl Acetate	ug/L	410	180	5.0	U	5.0	U	5.0	U	5.0	U
	4-Methyl-2-pentanone	ug/L	6,300	5,800	5.0	U	5.0	U	5.0	U	5.0	U
	2-Hexanone	ug/L	38	240	5.0	U	5.0	U	5.0	U	5.0	U
	Ethyl methacrylate	ug/L	630	12000	5.0	U	5.0	U	5.0	U	5.0	U
	Acrylonitrile	ug/L	0.52	11	5.0	U	5.0	U	5.0	U	5.0	U
	Bromochloromethane	ug/L	83	600	1.0	U	1.0	U	1.0	U	1.0	U

Table 2 - Summary of Groundwater Sample Analytical Results
Best Automotive - 5 Whipple Road, Kittery, Maine
October 2023

					Sample Location:		MW-01		MW-02		MW-03	
					Sample Name:		MW-01	DUP	MW-02		MW-03	
					Lab Sample ID:		L2360793-01	L2360793-04	L2360793-02		L2360793-03	
					Sample Date:		10/13/2023	10/13/2023	10/13/2023		10/13/2023	
Analysis	Analyte	Unit	Residential*	Construction Worker*				Field Dup				
	Tetrahydrofuran	ug/L	3,400	16,000	2.0	U	2.0	U	2.0	U	2.0	U
	2,2-Dichloropropane	ug/L	NS	NS	1.0	U	1.0	U	1.0	U	1.0	U
	1,2-Dibromoethane	ug/L	0.075	8.7	1.0	U	1.0	U	1.0	U	1.0	U
	1,3-Dichloropropane	ug/L	370	100,000	1.0	U	1.0	U	1.0	U	1.0	U
	1,1,1,2-Tetrachloroethane	ug/L	5.7	620	0.50	U	0.50	U	0.50	U	0.50	U
	Bromobenzene	ug/L	62	1,200	1.0	U	1.0	U	1.0	U	1.0	U
	n-Butylbenzene	ug/L	1,000	100,000	0.50	U	0.50	U	0.50	U	0.50	U
	sec-Butylbenzene	ug/L	2,000	100,000	**0.77**		**0.84**		0.50	U	0.50	U
	tert-Butylbenzene	ug/L	690	25,000	1.0	U	1.0	U	1.0	U	1.0	U
	1,3,5-Trichlorobenzene	ug/L	NS	NS	1.0	U	1.0	U	1.0	U	1.0	U
	o-Chlorotoluene	ug/L	240	3,300	1.0	U	1.0	U	1.0	U	1.0	U
	p-Chlorotoluene	ug/L	250	100,000	1.0	U	1.0	U	1.0	U	1.0	U
	1,2-Dibromo-3-chloropropane	ug/L	0.0033	1.2	1.0	U	1.0	U	1.0	U	1.0	U
	Hexachlorobutadiene	ug/L	1.4	230	0.50	U	0.50	U	0.50	U	0.50	U
	Isopropylbenzene	ug/L	450	500	0.50	U	0.50	U	0.50	U	0.50	U
	p-Isopropyltoluene	ug/L	71(b)	2,700(b)	0.50	U	0.50	U	0.50	U	0.50	U
	Naphthalene	ug/L	1.2	19	1.0	U	1.0	U	1.0	U	1.0	U
	n-Propylbenzene	ug/L	660	4,900	0.50	U	0.50	U	0.50	U	0.50	U
	1,2,3-Trichlorobenzene	ug/L	7	2,900	1.0	U	1.0	U	1.0	U	1.0	U
	1,2,4-Trichlorobenzene	ug/L	4	140	1.0	U	1.0	U	1.0	U	1.0	U
	1,3,5-Trimethylbenzene	ug/L	60	1,100	1.0	U	1.0	U	1.0	U	1.0	U
	1,2,4-Trimethylbenzene	ug/L	56	1,000	1.0	U	1.0	U	1.0	U	1.0	U
	trans-1,4-Dichloro-2-butene	ug/L	0.013	1	2.5	U	2.5	U	2.5	U	2.5	U
	Ethyl ether	ug/L	3,900	14,000	1.0	U	1.0	U	1.0	U	1.0	U
	Methyl Acetate	ug/L	20,000	670	10	U	10	U	10	U	10	U
	Ethyl Acetate	ug/L	NS	NS	10	U	10	U	10	U	10	U
	Isopropyl Ether	ug/L	1,500	3,700	1.0	U	1.0	U	1.0	U	1.0	U
	Cyclohexane	ug/L	13,000	83,000	10	U	10	U	10	U	10	U
	Ethyl-Tert-Butyl-Ether	ug/L	700	100,000	1.0	U	1.0	U	1.0	U	1.0	U
	Tertiary-Amyl Methyl Ether	ug/L	NS	NS	1.0	U	1.0	U	1.0	U	1.0	U
	1,4-Dioxane	ug/L	4.6	8,600	250	U	250	U	250	U	250	U
	Methyl cyclohexane	ug/L	180(c)	960(c)	10	U	10	U	10	U	10	U
	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/L	10,000	100,000	10	U	10	U	10	U	10	U
	1,4-Diethylbenzene	ug/L	71(b)	2,700(b)	2.0	U	2.0	U	2.0	U	2.0	U
	p-Ethyltoluene	ug/L	71(b)	2,700(b)	2.0	U	2.0	U	2.0	U	2.0	U
	1,2,4,5-Tetramethylbenzene	ug/L	71(b)	2,700(b)	2.0	U	2.0	U	2.0	U	2.0	U
EPH												
	C9-C18 Aliphatics	ug/L	350	3,900	100	U	**198**		100	U	100	U
	C19-C36 Aliphatics	ug/L	40,000	100,000	100	U	**370**		100	U	100	U
	C11-C22 Aromatics	ug/L	600	100,000	100	U	**212**		100	U	100	U
	Naphthalene	ug/L	1.2	19	0.400	U	0.400	U	0.400	U	0.400	U
	2-Methylnaphthalene	ug/L	36	1,500	0.400	U	0.400	U	**0.418**		0.400	U
	Acenaphthylene	ug/L	520	71,000	0.400	U	0.400	U	**1.47**		0.400	U
	Acenaphthene	ug/L	540	74,000	0.400	U	0.400	U	0.400	U	0.400	U
	Fluorene	ug/L	290	100,000	0.400	U	0.400	U	**1.17**		0.400	U
	Phenanthrene	ug/L	180	58,000	0.400	U	0.400	U	**5.37**		0.400	U
	Anthracene	ug/L	1,800	100,000	0.400	U	0.400	U	**0.832**		0.400	U
	Fluoranthene	ug/L	800	100,000	0.400	U	0.400	U	**10.6**		0.400	U
	Pyrene	ug/L	120	36,000	0.400	U	0.400	U	**9.50**		0.400	U
	Benzo(a)anthracene	ug/L	0.3	470	0.400	U	0.400	U	**7.03**		0.400	U
	Chrysene	ug/L	250	100,000	0.400	U	0.400	U	**5.60**		0.400	U
	Benzo(b)fluoranthene	ug/L	2.5	100,000	0.400	U	0.400	U	**6.33**		0.400	U
	Benzo(k)fluoranthene	ug/L	25	100,000	0.400	U	0.400	U	**2.24**		0.400	U

Table 2 - Summary of Groundwater Sample Analytical Results
Best Automotive - 5 Whipple Road, Kittery, Maine
October 2023

					Sample Location:		MW-01		MW-02		MW-03	
					Sample Name:		MW-01	DUP	MW-02		MW-03	
					Lab Sample ID:		L2360793-01	L2360793-04	L2360793-02		L2360793-03	
					Sample Date:		10/13/2023	10/13/2023	10/13/2023		10/13/2023	
Analysis	Analyte	Unit	Residential*	Construction Worker*				Field Dup				
	Benzo(a)pyrene	ug/L	0.25	11,000	0.200	U	0.200	U	**5.04**		0.200	U
	Indeno(1,2,3-cd)Pyrene	ug/L	2.5	100,000	0.400	U	0.400	U	**3.47**		0.400	U
	Dibenzo(a,h)anthracene	ug/L	0.25	26,000	0.400	U	0.400	U	**0.948**		0.400	U
	Benzo(ghi)perylene	ug/L	600	100,000	0.400	U	0.400	U	**2.79**		0.400	U
PCBs												
	Aroclor-1016	ug/L	1.4	350	0.250	U	0.250	U	0.250	U	0.250	U
	Aroclor-1221	ug/L	NS	NS	0.250	U	0.250	U	0.250	U	0.250	U
	Aroclor-1232	ug/L	NS	NS	0.250	U	0.250	U	0.250	U	0.250	U
	Aroclor-1242	ug/L	NS	NS	0.250	U	0.250	U	0.250	U	0.250	U
	Aroclor-1248	ug/L	NS	NS	0.250	U	0.250	U	0.250	U	0.250	U
	Aroclor-1254	ug/L	NS	NS	0.250	U	0.250	U	0.250	U	0.250	U
	Aroclor-1260	ug/L	NS	NS	0.250	U	0.250	U	0.250	U	0.250	U
	Aroclor-1262	ug/L	NS	NS	0.250	U	0.250	U	0.250	U	0.250	U
	Aroclor-1268	ug/L	NS	NS	0.250	U	0.250	U	0.250	U	0.250	U
	Total PCBs	ug/L	0.44	67	0.250	U	0.250	U	0.250	U	0.250	U
Metals, total												
	Arsenic	ug/L	0.52	5,800	**54.00**		**53.57**		**34.06**		**3.45**	
	Barium	ug/L	3,800	100,000	**30.67**		**30.56**		**77.17**		**159.2**	
	Cadmium	ug/L	1.8	940	0.20	U	0.20	U	0.20	U	**0.28**	
	Chromium	ug/L	0.35(e)	690(e)	1.00	U	1.00	U	**17.02**		**3.55**	
	Lead	ug/L	1	NS	1.00	U	1.00	U	**8.07**		**4.92**	
	Mercury	ug/L	0.63	2.1	0.20	U	0.20	U	0.20	U	0.20	U
	Selenium	ug/L	100	96,000	5.00	U	5.00	U	5.00	U	5.00	U
	Silver	ug/L	94	12,000	0.40	U	0.40	U	0.40	U	0.40	U

Notes:

ug/L - micrograms per liter.

NS - No ME RAG standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed one or more of the listed RAGs.

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

* - Maine DEP Remedial Action Guidelines (RAGs) for Contaminated Sites
Effective November 15, 2023; Table 6: Maine RAGs for the Groundwater Exposure Pathway.

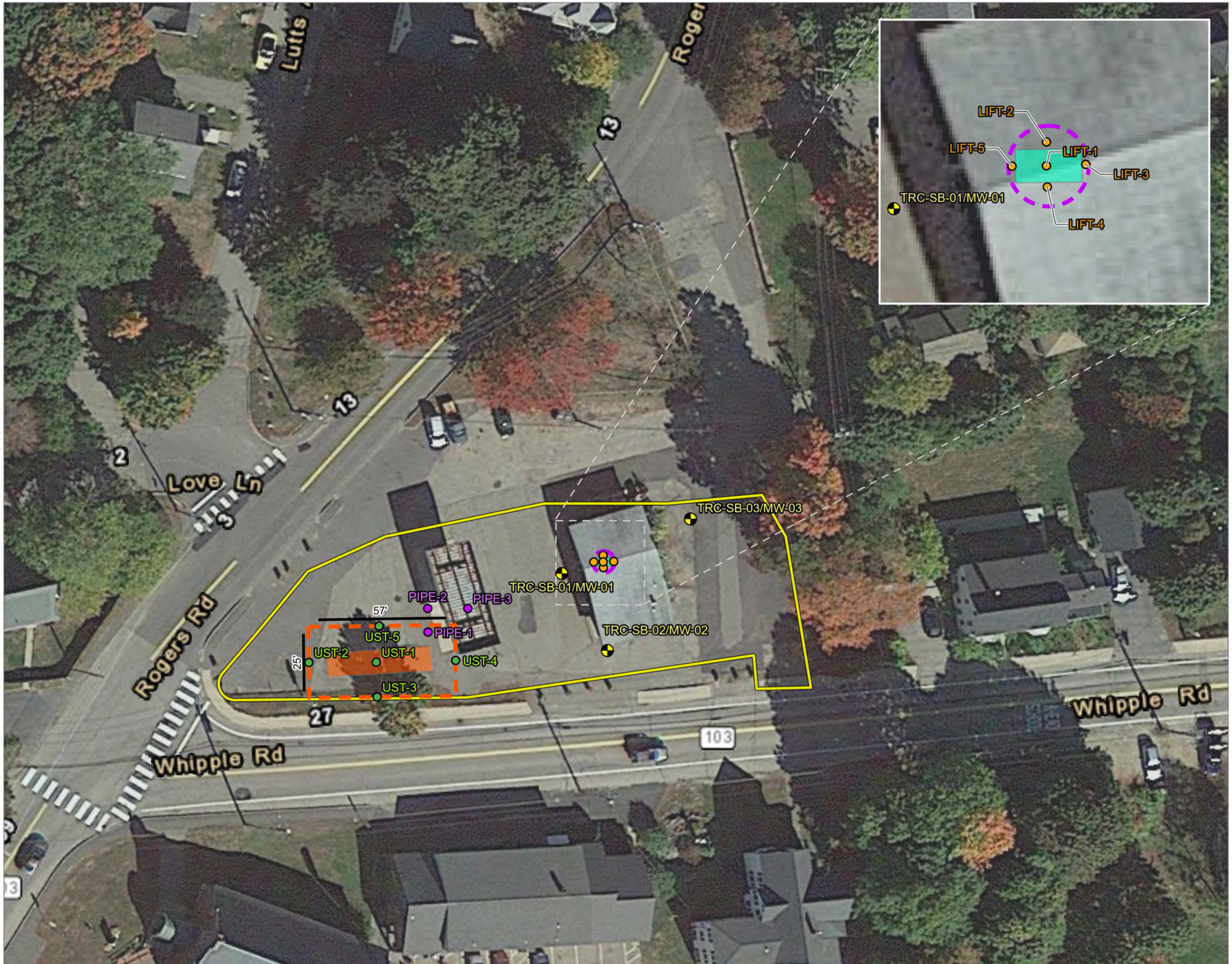
(a) - RAG for 1,3-Dichloropropene used.

(b) - RAG for C9-C10 Aromatics used.

(c) - RAG for C5-C8 Aliphatics used.

(d) - criteria applicable to xylene (total), the sum of the xylene isomers.

(e) - RAG for chromium(VI) used.



LIFT SAMPLE LOCATION
PIPE SAMPLE LOCATION
UST SAMPLE LOCATION
SOIL BORING AND MONITORING WELL
HYDRAULIC LIFT
UNDERGROUND STORAGE TANK
HYRDAULIC LIFT EXCAVATION AREA
UST EXCAVATION AREA
SUBJECT PROPERTY BOUNDARY

BASE MAP: GOOGLE IMAGERY SERVICE
DATA SOURCES: USGS, ESRI, TRC

N

1:480
1" = 40'

0 40 80 FEET

PROJECT:
BEST AUTOMOTIVE
5 WHIPPLE ROAD,
KITTERY, ME

TITLE:
SUBJECT PROPERTY LAYOUT

DRAWN BY:	R. BARBER	PROJ. NO.:	493517.0000.0000
CHECKED BY:	J. FREDENBURG	**FIGURE 1**	
APPROVED BY:	L. VOLK		
DATE:	NOVEMBER 2023		

TRC

63 MARGINAL WAY
4TH FLOOR
PORTLAND, ME 04101
PHONE: 207.879.1930

FILE: BestAuto_Kittery.aprx

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T. MILLS
GOVERNOR

MELANIE LOYZIM
COMMISSIONER

February 2, 2024

NANCY E HAMMOND, REGISTER OF DEEDS
Bk 19400 PG 141
Instr # 2024006977
03/11/2024 12:29:27 PM
Pages 7 YORK CO

Maine Meat
ATTN: Jarrod Spangler
7 Wallingford Square, Unit 104
Kittery, ME 03904

Re: Best Automotive Site, 5 Whipple Road, Kittery, Maine
No Further Action Assurance Letter - Voluntary Response Action Program

Dear Jarrod Spangler:

The Maine Department of Environmental Protection ("Department") has reviewed your application to the Department's Voluntary Response Action Program ("VRAP"). The application and associated reports were submitted to the Department with the request that the property referred to as "Best Automotive" in the Department's VRAP records (#REM01058), located at 5 Whipple Road in **Kittery**, identified on the Town of Kittery's Tax Map 9 as Lot 134, further described in **Book 14313, Page 749,** at the York County Registry of Deeds, and generally depicted in the figure included as Attachment A to this letter ("Site") participate in the VRAP, and Maine Meat ("Applicant"), as applicant to the VRAP, receive the protections provided by the *Voluntary Response Action Program* law, 38 M.R.S. § 343-E (1993).

Department staff has reviewed the following reports and supporting documents for the Site (hereinafter collectively referred to as the "Reports"):

- Phase I Environmental Site Assessment, TRC, August 17, 2023
- Sampling and Analysis Plan, TRC, September 19, 2023
- Limited Phase II Environmental Site Assessment, TRC, December 2023
- UST Facility Closure Site Assessment Report, TRC, December 2023
- Maine Voluntary Response Action Program Application Package, TRC, December 28, 2023
- Environmental Media Management Plan, TRC, January 2024
- Vapor Intrusion Assessment, TRC, January 26, 2024

The Site consists of 1 lot, is approximately 0.59 acres, and has historically and currently been used as an automotive filling station and repair facility. The Site is adjacent to the Piscataqua River in an area of mixed commercial and residential development. The proposed future development of the Site includes use as a restaurant and food grocer.

Maine Meat
7 Wallingford Square #104
Kittery ME 03904

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

website: www.maine.gov/dep

On January 6, 2003, The Department's VRAP issued a no further action assurance ("NFAA") letter for the Site. This current NFAA is intended to update and revise the one previously issued.

The Reports document the history of use at the Site as a railroad depot as early as 1919, followed by a filling station and automotive repair facility as early as 1931. In 1993, a release of approximately 2,000 gallons of gasoline was discovered from leaking Site underground storage tanks ("USTs"), which entered a storm drain and discharged into a nearby wetland adjacent to the Piscataqua River. Subsequent remedial actions included removal of free phase petroleum product from the wetland and storm drain system, the installation of a soil vapor extraction system around the UST area to improve soil quality, and the installation and sampling of monitoring wells. Based on correspondence dated November 2, 1995, the Department was satisfied with these remedial actions and later issued the January 6, 2003 NFAA referenced above.

The Reports document the historical and current use of the Site as a recognized environmental condition.

The Reports document the 2023 removal of an empty 15,000-gallon gasoline UST, which was the only remaining UST left on-Site. The tank, associated piping, and approximately five cubic yards of petroleum-impacted soil was removed in accordance with Department Chapter 691. The Reports also document the removal of an in-ground hydraulic lift located in the Site garage. Liquid associated with the lift system was sampled and submitted for laboratory analysis of polychlorinated biphenyls ("PCBs"). No PCBs were detected in this sample. Materials from all removal actions were properly disposed of at a licensed facility.

The Reports document the 2023 advancement of three soil borings which were converted to monitoring wells, and sampling of soils associated with the in-ground hydraulic lift. Potentially accessible soil samples were collected and analyzed from each boring and groundwater samples were collected from each monitoring well. Several contaminants were detected in site soils, but at concentrations below the applicable Commercial Worker Exposure Scenario in the Department's "Remedial Action Guidelines for Contaminated Sites" ("RAGs"), effective November 15, 2023. Extractable petroleum hydrocarbons, chromium and lead were detected above the Residential RAGs in one monitoring well (MW-2), and arsenic was detected above the Residential RAG in all three monitoring wells. The area is served by public water with the exception of three private wells located within 2,500 feet of the Site. Based on the physical/chemical characteristics of Site contaminants, and the locations and depths of the private wells identified, it is unlikely Site contaminants will impact these wells.

The Reports include the "Environmental Media Management Plan" ("EMMP"), approved by the Department, which outlines proper notification as well as environmental media handling and disposal procedures for the Site.

The Reports include a memo documenting a risk assessment of vapor intrusion into the on-Site building by using the United States Environmental Protection Agency's 2015 vapor intrusion guidance. Based on the findings of this memo, a complete on-Site vapor intrusion pathway is highly unlikely.

No recognized environmental conditions other than those described in the Reports were reported to the Department in the Applicant's VRAP application.

Based on the information presented in the Reports, the Department considers no further investigations or remedial actions are necessary at the Site at this time, provided the conditions of approval listed below are followed:

1. The extraction of groundwater at the Site is prohibited without the express written permission of the Department.

2. The Site must only be used for industrial and/or commercial purposes, and must not be used for residences, schools, childcare facilities, or long-term health care facilities unless the express written permission of the Department is obtained to use the Site for those purposes.

3. Soils and groundwater that remain located *in situ* at the Site and that may be disturbed during future redevelopment activities (e.g., future construction, additions, utility work, emergency repairs, etc.) may not be moved off-Site without the express written permission of the Department. In order to minimize soil disturbance and limit potential dermal and oral contact, Site soils and groundwater must be managed in accordance with the most recent Department-approved environmental media management plan.

4. In order to minimize soil disturbance and limit potential dermal and oral contact with soil, either the existing paved area and buildings at the Site must be maintained or future development must provide for an appropriate Department-approved engineered cover system.

5. New buildings constructed at the Site must include a Department-approved vapor barrier that is installed according to the manufacturer's specifications and maintained in the future, unless the express written permission of the Department is obtained to exclude such a system from the design of a new building or to terminate its use once installed.

6. A Declaration of Environmental Covenants, in accordance with the *Maine Uniform Environmental Covenants Act*, 38 M.R.S. §§ 3001–3013 (2005), incorporating conditions 1 through 5 above, and that is subject to Department review and approval, must be executed for the Site and must be recorded at the York County Registry of Deeds. A copy of the recorded Declaration of Environmental Covenants must be supplied to the Department's VRAP within thirty (30) days of being recorded.

7. A copy of this letter must be recorded at the York County Registry of Deeds. A copy of the recorded document must be supplied to the Department's VRAP within thirty (30) days of being recorded.

The VRAP's evaluation of the environmental risks present at the Site was based on the conditions listed above. Prior to undertaking any activity or land use that would alter the

conditions of approval listed above, the Applicant, their successors, assigns and/or affiliates must obtain the VRAP's written approval and must obtain the Department's written consent to amend or terminate the Declaration of Environmental Covenants described above, if needed to complete the proposed activity.

The VRAP will not require further remedial actions by the Applicant, or their successors, assigns and/or affiliates, and the persons qualified for protection under 38 M.R.S. § 343-E(6), provided they comply with the conditions of this letter.

Therefore, the Applicant, their successors, assigns and/or affiliates, and the persons qualified for protection under 38 M.R.S. § 343-E(6) are entitled to protection from liability to the extent provided by 38 M.R.S. § 343-E, except that the protection from liability conferred by the VRAP is not granted to or assignable to any person, entity, or government agency that caused or is otherwise responsible for a release of petroleum, hazardous wastes, or hazardous substances at the Site or that has a Hazardous Waste Generator Closure obligation associated with the Site. This protection from liability will be limited to the matters addressed by and identified by the Reports, including the extent and concentration of existing contamination by petroleum and/or hazardous constituents described in the Reports, and is subject to the qualifications and conditions set forth in this letter and in 38 M.R.S. § 343-E. VRAP liability protections under 38 M.R.S. § 343-E do not limit the Department's enforcement authorities for non-compliance with other laws administered by the Department, including, but not limited to, lead abatement and asbestos regulations.

Given the age of the structure located at the Site, it must be assessed for the presence of asbestos containing material ("ACM") and lead-based paint prior to demolition or renovation. In the event that ACM and/or lead-based paint are identified, these materials must be handled, abated, removed, or disposed of in accordance with all applicable regulations. For more information please contact the Department's Asbestos and Lead Hazard Prevention Program staff at (207) 287-7688.

If you have any questions regarding this letter, please feel free to call David Chapman of my staff at (207) 287-7688.

Sincerely,

Victoria Eleftheriou
Deputy Director, BRWM

for Victoria Eleftheriou
Melanie Loyzim
Commissioner
Maine Department of Environmental Protection

cc: TRC, Attn: Emily Wassmer
Seven Rivers Law Office, Attn: Sam Harkinson
Chris Redmond, Department VRAP Coordinator

STATE OF MAINE
KENNEBEC, ss.,

February 5th, 2024

Then personally appeared the above-named Victoria Eleftheriou, the Deputy Director, BRWM of the Bureau of Remediation & Waste Management and duly authorized delegee for the Commissioner, and acknowledged the foregoing instrument to be his/her free act and deed, and the free act and deed of the Department of Environmental Protection.

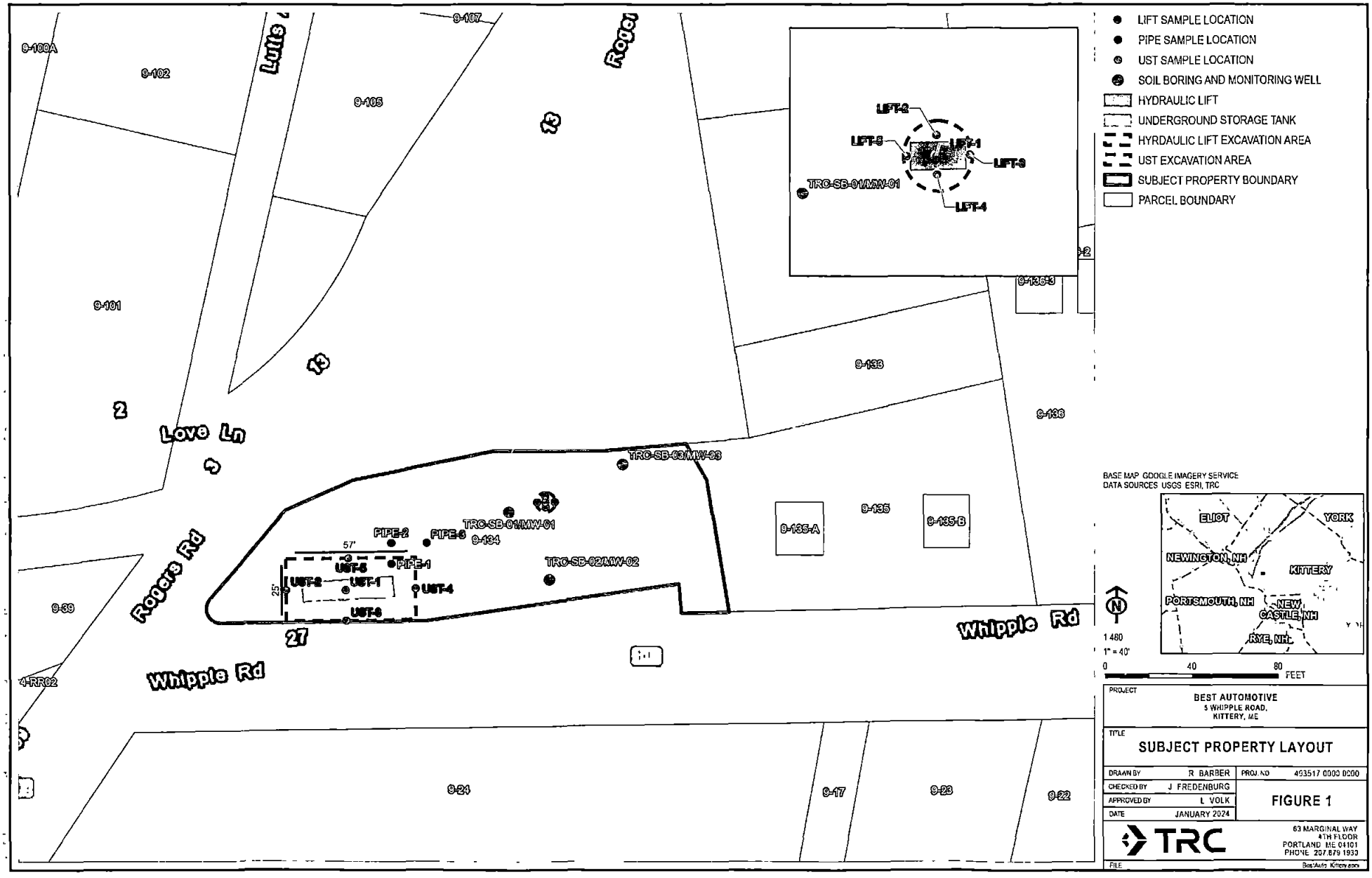
Gina Dubord
Notary Public

Gina Dubord
(Print name)

My commission expires: 5/22/2026

SEAL

Attachment A



PROJECT
BEST AUTOMOTIVE
5 WHIPPLE ROAD,
KITTERY, ME

TITLE
SUBJECT PROPERTY LAYOUT

DRAWN BY	R. BARBER	PROJ. NO	493517.0000.0000
CHECKED BY	J. FREDENBURG		
APPROVED BY	L. VOLK		FIGURE 1
DATE	JANUARY 2024		

TRC
63 MARGINAL WAY
4TH FLOOR
PORTLAND, ME 04101
PHONE: 207.879.1930

FILE: Best Auto Kittery.aprx

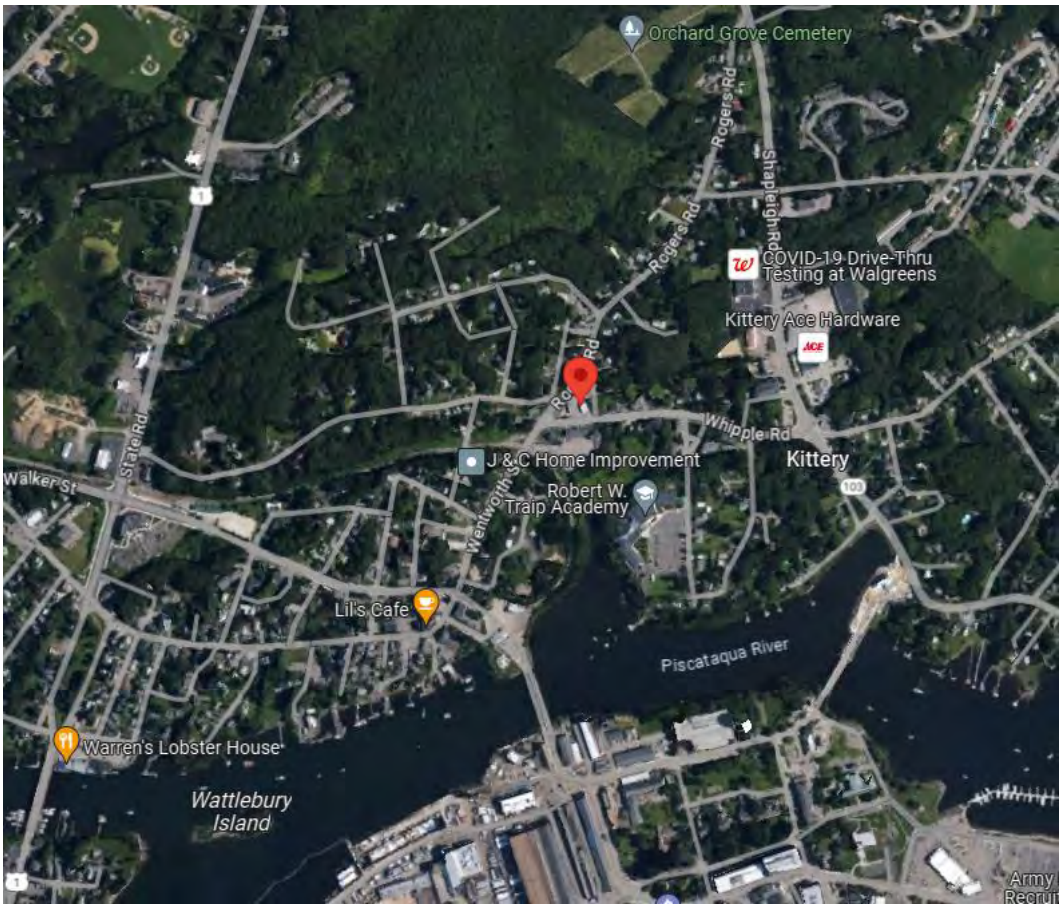
JOHN TURNER CONSULTING

JTC Project No.: 24-50-256
March 21, 2024

PRE-RENOVATION HAZARDOUS BUILDING MATERIALS ASSESSMENT

Maine Meats

5 Whipple Road
Kittery, Maine



Conducted for:
TRC Engineering
650 Suffolk Stret
Lowell, MA 01854

Prepared by:
John Turner Consulting, Inc.
19 Dover Street
Dover, NH 03860

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ATTACHMENTS:

Attachment A: Laboratory Analytical and Chain of Custody's

1.0 INTRODUCTION

John Turner Consulting, Inc., (JTC) conducted a pre-renovation hazardous building survey including an asbestos-containing materials (ACM) survey, lead based paint survey, polychlorinated biphenyls (PCB) material survey, and a hazardous building materials inventory of the accessible interior and exterior of the building located at 5 Whipple Road, Kittery, Maine. The field activities described in this report were performed in accordance with applicable Federal and State regulatory agency requirements.

2.0 PROJECT OBJECTIVES

JTC understands that the survey was requested to identify and quantify ACM, lead based paints, PCB containing materials, and hazardous materials that may be present and potentially affected by planned renovation or demolition of the site building.

3.0 ASBESTOS SURVEY

3.1 Regulatory

The asbestos survey was conducted by JTC representatives, Mr. Graham Chag, a Maine Department of Environmental Protection licensed asbestos inspector. His Asbestos Inspector License No. is AI-0893 and expires October 31, 2024.

The pre-renovation asbestos survey was conducted in general accordance with the sample collection protocols established in United State Environmental Protection Agency (USEPA) regulation 40 CFR 763; Maine Department of Environmental Protection (Maine DEP): Title 38, Chapter 12-A: Asbestos and Chapter 425 – Asbestos Management Regulations. A summary of the limited asbestos survey activities is provided below.

In accordance with the Federal and State regulations, the materials present in the inaccessible areas must be assumed as ACM until access is provided and by additional sampling and laboratory analysis such materials can be proven non-asbestos containing.

3.2 Sample Collection/Analysis

JTC collected fifty-one (51) asbestos bulk samples which were submitted to EMSL Analytical, Inc., located in South Portland, Maine for analysis by Polarized Light Microscopy (PLM) with dispersion staining techniques using the USEPA Method for the Determination of Asbestos in Bulk Building Materials (600/R-93-116) and PLM USEPA Method for the Determination of Asbestos in Non-Friable Organically Bond (NOB) Materials. Confirmatory analysis using transmission electron microscopy (TEM) for trace (less than 1 percent asbestos) non-friable samples results can be performed at the request of the Client.

EMSL is accredited under the National Voluntary Laboratory Accreditation Program. The percentage of asbestos, where present, was determined by a microscopic visual estimation.

3.3 Results

Suspect building material samples were collected from the interior and exterior of the entire building located at 5 Whipple Road in Kittery, Maine. Samples collected consisted of the following:

- Mastics,
- Cove Base,
- Mortar,
- Grout,
- Window Caulk,
- Adhesives,
- Floor Tile,
- Joint Compound,
- Drywall,
- Roofing material.

Asbestos Containing Material (ACM) was detected in one sample at 3.6% to 6.1% Chrysolite. Asbestos was detected in the third layer of roofing material. The ACM is listed in Table 1 below.

Table 1: Asbestos Materials

Sample Number	Sample Description/Location	Percent Asbestos (%)	Location	Quantity
3A	Third Layer of Roofing Material (Black)	3.6	Roof	1,500-SF
3B		5.8		
3C		6.1		

The materials are considered ACM by MEDEP, EPA Regulations, and OSHA. As a result of such, appropriate removal and handling of the material is required including best available technology which would include Tyvek suits, respirators, HEPA vacuums, etc." No ACM was detected in the remaining suspect materials that were sampled and analyzed. A copy of the laboratory analytical results and chain-of-custody documentation are contained in Appendix A.

4.0 LEAD BASED PAINT SURVEY

The lead based paint (LBP) survey was conducted to identify the presence of lead-containing paint (LCP) in the site building prior to renovation in consideration of OSHA's Lead Standard for the Construction Industry, Title 29 Code of Federal Regulations 1926.62. This survey was completed in general accordance with Maine Department of Environmental Protection (DEP) Chapter 424: Lead Management Regulations, revised October 19, 2021 (Maine DEP Chapter 424), which is a residential standard; however, provides the appropriate means and methods for conducting and reporting lead inspections, as wells as the required training for personnel certified to conduct lead inspections.

A total of 5 independent points were sampled within/on the Site building. Samples were submitted to EMSL in South Portland, Maine by analysis method SW-846-7000B, Flame Atomic Absorption by chip weight (% wt). Screening locations were based on unique testing combinations of building component, substrate, and paint color. The survey was generally performed on painted surfaces throughout the entire Site building with particular focus on areas planned for renovation. Results of the Lead Paint Survey are included in Table 3 below.

Table 2: Lead Materials

Sample Number	Sample Description/Location	Lead (% wt)	Location	Quantity
1	Light Blue Exterior CMU Wall	0.095%	Eastern Exterior wall of Building	610-SF
2	Light Blue Men/Women's Bathroom Doors	0.31%	South side of Building	42-SF
3	Yellow Interior Concrete Walls	0.086%	South side of Building	376-SF
4	Gray Interior CMU Wall	0.15%	Eastern Interior wall of Building	960-SF
5	Gray Interior Ceiling	0.096%	S.E. Corner of Garage Ceiling	750-SF

Lead-containing paint means paint or other surface coatings that contain lead in excess of 0.0 milligram per square centimeter (mg/cm2) but not exceeding 1.0 mg/cm2, or in excess of 0.0% by weight but not exceeding 0.5% by weight. "Lead-based paint" means paint or other surface coatings that contain lead equal to or in excess of 1.0 mg/cm2 or equal to or in excess of 0.5% by weight.

Results indicate that all sampled surfaces had minor amounts of lead detected. All detected lead samples were below the Maine DEP standard, 0.5% by weight. A copy of the laboratory analytical results and chain-of-custody documentation are contained in Appendix A.

5.0 POLYCHLROINATED BIPHENYLS

The PCB survey was conducted to identify the presence of polychlorinated biphenyls (PCB) materials. Suspect PCB materials include expansion joint caulking, door caulking, window caulking, and tile mastics, etc. Bulk PCB solid sampling was executed per 40 CFR 7261.265 and 761.286 to collect all samples. Two PCB samples were submitted to EMSL in South Portland, Maine by analysis method SW846-3540C/SW845-8082A. All detected PCB analytes are listed in Table 4 below.

Table 3: PCB Materials

Sample Number	Sample Description/Location	PCB (mg/kg)	Analyte	Quantity
1	Wall Tile Adhesive – Men and Women' Bathroom	2.7	Aroclor-1254	272-SF
2	Exterior Window Caulking – North side of building	3.3	Aroclor-1254	136-LF

Both the wall tile adhesive and window caulking were found to contain concentrations of total Aroclors (Aroclor-1254) that exceeded the Toxic Substance Control Act (TSCA) PCB Cleanup level of 1.0 mg/kg. As a result of such, appropriate removal and handling of the material is required including the best available equipment, tools, and technology. A copy of the laboratory analytical results and chain-of-custody documentation are contained in Appendix A.

6.0 HAZARDOUS BUILDING MATERIAL INVENTORY

JTC reviewed the building and took an inventory of universal waste which will need proper disposal or recycling. The inventory included mercury in fluorescent light bulbs, PCB light ballasts, automotive chemicals, and petroleum products were present at the time of the survey. Universal waste was identified by visual observation, no disassembly of equipment or sampling was performed. A representative number of ballasts, fluorescent tubes etc. were visually observed to determine the presence of universal waste. The identified universal waste and its estimated quantities are contained in Table 2. The developer/contractor should comply with applicable state and federal regulations for the segregation, management, removal of these materials from the building and disposal.

Table 4: Hazardous Materials

Type	Size	Quantity
Light Fixture	2 bulbs (8’ in length)	13
Light Fixture	2 Bulbs (4’ in length)	8
Light Fixture	1 Bulb (8’ in length)	7
Light Fixture	1 Bulb (4’ in length)	3
Petroleum Products	55-gallon metal drum (AW-32 Hydraulic oil)	1
Petroleum Products	55-gallon metal drum (Synthetic AFT oil)	2
Hazardous Chemicals	55 -gallon metal drum (unknown chemicals)	2
Petroleum Products	Waste oil AST	1
Miscellaneous	Thermostat	1

In addition to items listed above, there are other miscellaneous items which may be able to be recycled. There were various miscellaneous automotive parts such as motor oils, oil filters, tires, etc.

If you have any questions regarding this report, please contact us at (603) 475-5376 or email the project manager: matthewp@fgscmt.com.

Sincerely,

John Turner Consulting, INC

Matthew Pellerin
Operations Manager
matthewp@consultjtc.com
19 Dover Street
Dover, NH 03820

Benjamin J. Grigas, PG, CG
Senior Vice President
bgrigas@consultjtc.com
19 Dover Street
Dover, NH 03820

ATTAR
ENGINEERING, INC
CIVIL STRUCTURAL MARINE

MAINE MEAT BUTCHER & RESTAURANT
5 WHIPPLE ROAD, KITTERY, MAINE
STORMWATER MANAGEMENT STUDY

Project No.: 23088 March 22nd, 2024

- **Scope**

This stormwater management plan has been prepared for PB Real Estate Investments, LLC.'s proposed redevelopment of an existing commercial development (former gas station use) into a butcher shop, restaurant, and bar located at the corner of Whipple Road and Rogers Road. The entire parcel contains approximately 0.51 acres; the site development will include the retention and renovation of the existing commercial building, construction of a 2,076 square-foot building addition, associated parking, egress, and utility services. The existing condition of the subject parcel is almost entirely impervious, and this redevelopment will reduce the overall amount by 5,314 square feet (~23.9% of total parcel area).

- **Site and Watershed Description**

The project site is located in the Portsmouth Harbor watershed, which empties to the Atlantic Ocean. A 7½ minute series U.S.G.S. map of the project area is attached.

The existing site is heavily developed with asphalt parking areas, concrete underground storage tanks (since remediated and removed), fueling canopy, and the existing 1,328 sq. ft. commercial building. The remainder of the lot contains small strips of grassed area that abut the curbed sidewalks along Whipple Road and that abut the neighboring residential uses along Whipple Road. The site contains in-line portions of the Town of Kittery closed stormwater system, including several catch basins and culverted drainage ways which have existed for over 100 years. These catch basins collect impervious runoff and directs it eastward before ultimately crossing Whipple Road and being received by the harbor.

- **Soils/Hydrologic Soil Groups**

Soil types and their respective Hydrologic Soil Groups (HSG) were determined from the Soil Survey of York County, Maine. The site consists predominantly of Urban Fill, with some Hydrologic Soil Group D soils. Specifics are included in the attached stormwater analysis plan sheets.

- **Methodology**

The stormwater quantity analysis will be conducted using the HydroCAD Stormwater Modeling System by Applied Microcomputer Systems. The analysis determines the "Existing Condition" and "Developed Condition" stormwater flows. Both cases are analyzed for the 2, 10, 25, and 50-year, 24-hour frequency storm events. The Existing Condition analyzes the site as it currently exists, and the Developed Condition models the site with the proposed improvements described above.

- **Water Quantity Analysis**

Existing Condition

The site was analyzed with four subcatchments (SC), each being comprised of the surface runoff which is dedicated to a different existing catch basin within the municipal closed system. SC 1 represents runoff which flows to the western existing catch basin, which does not connect to the remaining closed system, remains a private drainageway, and which exits the site heading south towards the church across the street on Whipple Road.

SCs 2 & 3 represent runoff which flows to the northern and southern on-site catch basins, respectively. SC 4 represents runoff which flows to the off-site catch basin abutting the curbed sidewalk in the northern shoulder of Whipple Road. The catch basins described in SCs 2, 3, and 4 are all connected to one another, with accumulated culverted flows being received by the catch basin of SC 3 before exiting the site to the east with the remaining downstream closed system. Two analysis points (AP) are assigned for where the separate portions of the existing closed system exit the area of the site; southerly from SC 1 and easterly from SCs 2, 3, and 4. These APs were selected to provide convenient points to compare the Existing Condition flows to Developed Condition flows.

Developed Condition

The Developed Condition analysis consists of four total subcatchments as well, but with adjustments from the proposed site improvements. SC 1 and SC 4 represent the same structures as the Existing Condition. The existing northern and southern on-site catch basins are not proposed to be removed, but instead have their rim grates replaced with solid covers. This change combined with impervious surface regrading allows runoff to bypass these structures to reach the proposed detention and bioretention areas and allow for groundwater recharge and treatment to occur, respectively. The development proposes to construct a small detention pond and overflow control structure to receive runoff from the western half of the site (SC 2). The eastern half (SC 3) will be directed to and routed through a Filterra treebox bioretention vault to be sited along the Whipple Road frontage and ultimately tie-in to the existing municipal closed system.

Changes in Stormwater Flows

Tables showing Existing Condition peak flows, Developed Condition peak flows and the change in peak flow from Existing Condition to Developed Condition are presented on a separate page.

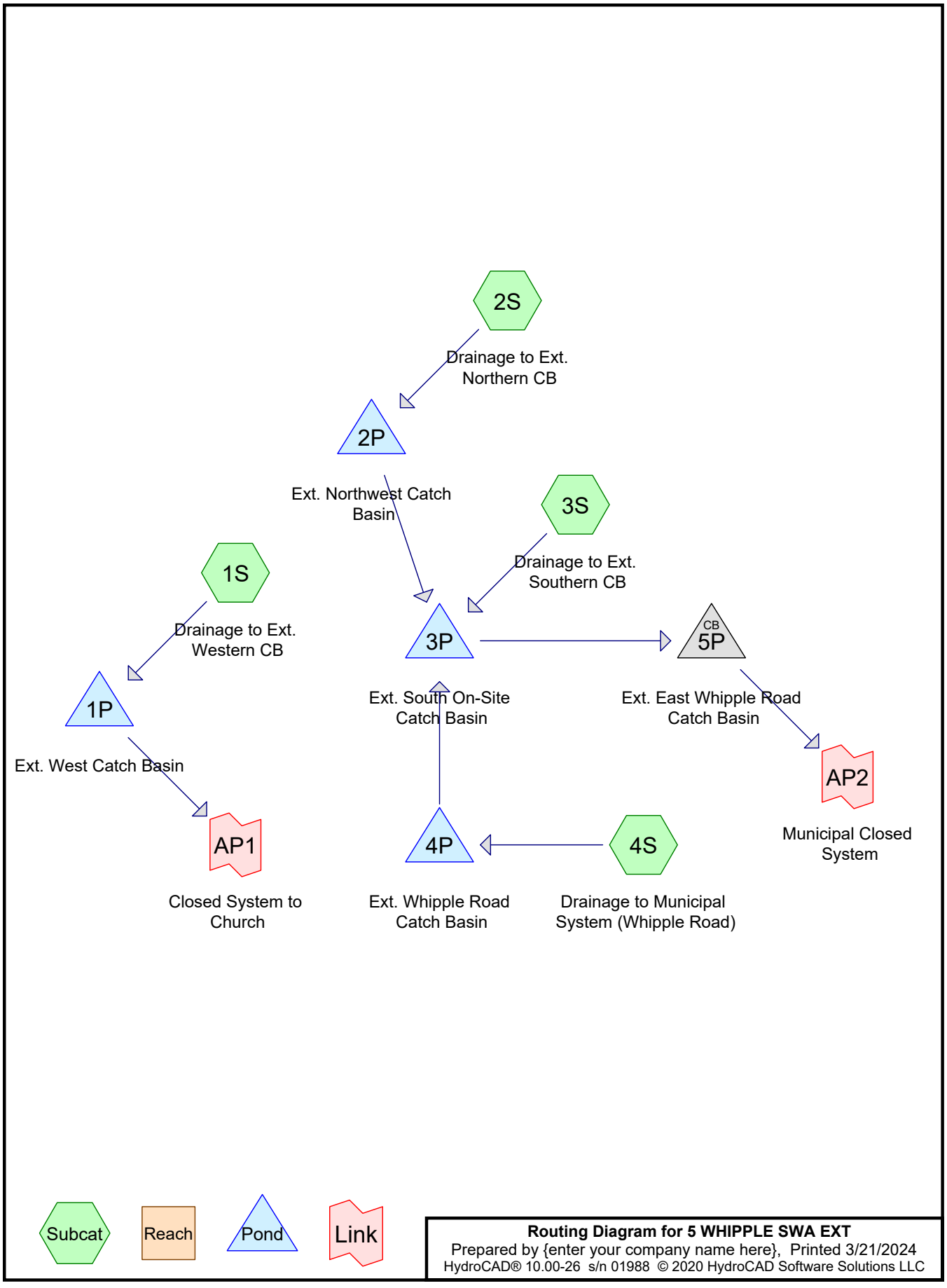
The analysis indicates decreases in peak flow at both APs for all storm events (2-, 10- , 25- and 50-year).

- **Summary**

The use of a detention basin, overflow control structure, and Filterra bioretention vault will retain, attenuate, treat portions of on-site stormwater flows, and allow for some groundwater recharge to occur. The proposed development will result in lower volumes of runoff being re-dedicated to the existing municipal closed system in comparison to the existing condition. No adverse effects are anticipated on any downstream properties or drainage structures for all analyzed storm events.

Sincerely;

Michael J. Sudak, E.I.
Staff Engineer



Routing Diagram for 5 WHIPPLE SWA EXT

Prepared by {enter your company name here}, Printed 3/21/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.146	80	>75% Grass cover, Good, HSG D (1S, 2S, 3S, 4S)
0.700	98	Paved parking, HSG D (1S, 2S, 3S, 4S)
0.015	98	Roofs, HSG D (4S)
0.033	98	Unconnected roofs, HSG D (3S)
0.894	**95**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage to Ext. Western Runoff Area=1,965 sf 99.80% Impervious Runoff Depth>2.81"
Flow Length=41' Tc=6.0 min CN=WQ Runoff=0.14 cfs 0.011 af

Subcatchment 2S: Drainage to Ext. Runoff Area=1,623 sf 96.49% Impervious Runoff Depth>2.76"
Flow Length=67' Tc=6.0 min CN=WQ Runoff=0.11 cfs 0.009 af

Subcatchment 3S: Drainage to Ext. Runoff Area=13,029 sf 80.08% Impervious Runoff Depth>2.51"
Flow Length=202' Tc=5.3 min CN=WQ Runoff=0.84 cfs 0.063 af

Subcatchment 4S: Drainage to Municipal Runoff Area=22,347 sf 83.43% Impervious Runoff Depth>2.56"
Flow Length=309' Tc=3.4 min CN=WQ Runoff=1.59 cfs 0.110 af

Pond 1P: Ext. West Catch Basin Peak Elev=29.74' Storage=28 cf Inflow=0.14 cfs 0.011 af
12.0" Round Culvert n=0.013 L=130.0' S=0.0697 '/' Outflow=0.14 cfs 0.010 af

Pond 2P: Ext. Northwest Catch Basin Peak Elev=24.28' Storage=28 cf Inflow=0.11 cfs 0.009 af
24.0" Round Culvert n=0.013 L=69.0' S=0.0457 '/' Outflow=0.11 cfs 0.008 af

Pond 3P: Ext. South On-Site Catch Basin Peak Elev=21.58' Storage=36 cf Inflow=2.53 cfs 0.180 af
30.0" Round Culvert n=0.013 L=152.0' S=0.0026 '/' Outflow=2.53 cfs 0.179 af

Pond 4P: Ext. Whipple Road Catch Basin Peak Elev=25.68' Storage=36 cf Inflow=1.59 cfs 0.110 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0217 '/' Outflow=1.59 cfs 0.109 af

Pond 5P: Ext. East Whipple Road Catch Basin Peak Elev=20.53' Inflow=2.53 cfs 0.179 af
30.0" Round Culvert n=0.013 L=50.0' S=0.0070 '/' Outflow=2.53 cfs 0.179 af

Link AP1: Closed System to Church Inflow=0.14 cfs 0.010 af
Primary=0.14 cfs 0.010 af

Link AP2: Municipal Closed System Inflow=2.53 cfs 0.179 af
Primary=2.53 cfs 0.179 af

Total Runoff Area = 0.894 ac Runoff Volume = 0.191 af Average Runoff Depth = 2.57"
16.32% Pervious = 0.146 ac 83.68% Impervious = 0.748 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage to Ext. Western Runoff Area=1,965 sf 99.80% Impervious Runoff Depth>4.36"
Flow Length=41' Tc=6.0 min CN=WQ Runoff=0.21 cfs 0.016 af

Subcatchment 2S: Drainage to Ext. Runoff Area=1,623 sf 96.49% Impervious Runoff Depth>4.30"
Flow Length=67' Tc=6.0 min CN=WQ Runoff=0.17 cfs 0.013 af

Subcatchment 3S: Drainage to Ext. Runoff Area=13,029 sf 80.08% Impervious Runoff Depth>4.02"
Flow Length=202' Tc=5.3 min CN=WQ Runoff=1.34 cfs 0.100 af

Subcatchment 4S: Drainage to Municipal Runoff Area=22,347 sf 83.43% Impervious Runoff Depth>4.08"
Flow Length=309' Tc=3.4 min CN=WQ Runoff=2.52 cfs 0.174 af

Pond 1P: Ext. West Catch Basin Peak Elev=29.78' Storage=29 cf Inflow=0.21 cfs 0.016 af
12.0" Round Culvert n=0.013 L=130.0' S=0.0697 '/' Outflow=0.21 cfs 0.016 af

Pond 2P: Ext. Northwest Catch Basin Peak Elev=24.31' Storage=28 cf Inflow=0.17 cfs 0.013 af
24.0" Round Culvert n=0.013 L=69.0' S=0.0457 '/' Outflow=0.17 cfs 0.013 af

Pond 3P: Ext. South On-Site Catch Basin Peak Elev=21.79' Storage=39 cf Inflow=4.00 cfs 0.287 af
30.0" Round Culvert n=0.013 L=152.0' S=0.0026 '/' Outflow=4.00 cfs 0.286 af

Pond 4P: Ext. Whipple Road Catch Basin Peak Elev=25.95' Storage=39 cf Inflow=2.52 cfs 0.174 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0217 '/' Outflow=2.52 cfs 0.174 af

Pond 5P: Ext. East Whipple Road Catch Basin Peak Elev=20.72' Inflow=4.00 cfs 0.286 af
30.0" Round Culvert n=0.013 L=50.0' S=0.0070 '/' Outflow=4.00 cfs 0.286 af

Link AP1: Closed System to Church Inflow=0.21 cfs 0.016 af
Primary=0.21 cfs 0.016 af

Link AP2: Municipal Closed System Inflow=4.00 cfs 0.286 af
Primary=4.00 cfs 0.286 af

Total Runoff Area = 0.894 ac Runoff Volume = 0.305 af Average Runoff Depth = 4.09"
16.32% Pervious = 0.146 ac 83.68% Impervious = 0.748 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage to Ext. Western Runoff Area=1,965 sf 99.80% Impervious Runoff Depth>5.58"
Flow Length=41' Tc=6.0 min CN=WQ Runoff=0.27 cfs 0.021 af

Subcatchment 2S: Drainage to Ext. Runoff Area=1,623 sf 96.49% Impervious Runoff Depth>5.52"
Flow Length=67' Tc=6.0 min CN=WQ Runoff=0.22 cfs 0.017 af

Subcatchment 3S: Drainage to Ext. Runoff Area=13,029 sf 80.08% Impervious Runoff Depth>5.23"
Flow Length=202' Tc=5.3 min CN=WQ Runoff=1.74 cfs 0.130 af

Subcatchment 4S: Drainage to Municipal Runoff Area=22,347 sf 83.43% Impervious Runoff Depth>5.29"
Flow Length=309' Tc=3.4 min CN=WQ Runoff=3.25 cfs 0.226 af

Pond 1P: Ext. West Catch Basin Peak Elev=29.81' Storage=29 cf Inflow=0.27 cfs 0.021 af
12.0" Round Culvert n=0.013 L=130.0' S=0.0697 '/' Outflow=0.27 cfs 0.020 af

Pond 2P: Ext. Northwest Catch Basin Peak Elev=24.33' Storage=28 cf Inflow=0.22 cfs 0.017 af
24.0" Round Culvert n=0.013 L=69.0' S=0.0457 '/' Outflow=0.22 cfs 0.017 af

Pond 3P: Ext. South On-Site Catch Basin Peak Elev=21.93' Storage=41 cf Inflow=5.16 cfs 0.372 af
30.0" Round Culvert n=0.013 L=152.0' S=0.0026 '/' Outflow=5.16 cfs 0.372 af

Pond 4P: Ext. Whipple Road Catch Basin Peak Elev=26.22' Storage=43 cf Inflow=3.25 cfs 0.226 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0217 '/' Outflow=3.24 cfs 0.225 af

Pond 5P: Ext. East Whipple Road Catch Basin Peak Elev=20.86' Inflow=5.16 cfs 0.372 af
30.0" Round Culvert n=0.013 L=50.0' S=0.0070 '/' Outflow=5.16 cfs 0.372 af

Link AP1: Closed System to Church Inflow=0.27 cfs 0.020 af
Primary=0.27 cfs 0.020 af

Link AP2: Municipal Closed System Inflow=5.16 cfs 0.372 af
Primary=5.16 cfs 0.372 af

Total Runoff Area = 0.894 ac Runoff Volume = 0.394 af Average Runoff Depth = 5.29"
16.32% Pervious = 0.146 ac 83.68% Impervious = 0.748 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage to Ext. Western Runoff Area=1,965 sf 99.80% Impervious Runoff Depth>6.72"
Flow Length=41' Tc=6.0 min CN=WQ Runoff=0.33 cfs 0.025 af

Subcatchment 2S: Drainage to Ext. Runoff Area=1,623 sf 96.49% Impervious Runoff Depth>6.66"
Flow Length=67' Tc=6.0 min CN=WQ Runoff=0.27 cfs 0.021 af

Subcatchment 3S: Drainage to Ext. Runoff Area=13,029 sf 80.08% Impervious Runoff Depth>6.36"
Flow Length=202' Tc=5.3 min CN=WQ Runoff=2.11 cfs 0.159 af

Subcatchment 4S: Drainage to Municipal Runoff Area=22,347 sf 83.43% Impervious Runoff Depth>6.42"
Flow Length=309' Tc=3.4 min CN=WQ Runoff=3.94 cfs 0.275 af

Pond 1P: Ext. West Catch Basin Peak Elev=29.84' Storage=30 cf Inflow=0.33 cfs 0.025 af
12.0" Round Culvert n=0.013 L=130.0' S=0.0697 '/' Outflow=0.33 cfs 0.025 af

Pond 2P: Ext. Northwest Catch Basin Peak Elev=24.35' Storage=29 cf Inflow=0.27 cfs 0.021 af
24.0" Round Culvert n=0.013 L=69.0' S=0.0457 '/' Outflow=0.27 cfs 0.020 af

Pond 3P: Ext. South On-Site Catch Basin Peak Elev=22.06' Storage=42 cf Inflow=6.25 cfs 0.453 af
30.0" Round Culvert n=0.013 L=152.0' S=0.0026 '/' Outflow=6.25 cfs 0.452 af

Pond 4P: Ext. Whipple Road Catch Basin Peak Elev=26.51' Storage=47 cf Inflow=3.94 cfs 0.275 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0217 '/' Outflow=3.93 cfs 0.274 af

Pond 5P: Ext. East Whipple Road Catch Basin Peak Elev=20.97' Inflow=6.25 cfs 0.452 af
30.0" Round Culvert n=0.013 L=50.0' S=0.0070 '/' Outflow=6.25 cfs 0.452 af

Link AP1: Closed System to Church Inflow=0.33 cfs 0.025 af
Primary=0.33 cfs 0.025 af

Link AP2: Municipal Closed System Inflow=6.25 cfs 0.452 af
Primary=6.25 cfs 0.452 af

Total Runoff Area = 0.894 ac Runoff Volume = 0.479 af Average Runoff Depth = 6.43"
16.32% Pervious = 0.146 ac 83.68% Impervious = 0.748 ac

Summary for Subcatchment 1S: Drainage to Ext. Western CB

Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.025 af, Depth> 6.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR STORM Rainfall=7.54"

Area (sf)	CN	Description
1,961	98	Paved parking, HSG D
4	80	>75% Grass cover, Good, HSG D
1,965		Weighted Average
4		0.20% Pervious Area
1,961		99.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	41		0.11		**Direct Entry, SF 1**

Summary for Subcatchment 2S: Drainage to Ext. Northern CB

Runoff = 0.27 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 6.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR STORM Rainfall=7.54"

Area (sf)	CN	Description
1,566	98	Paved parking, HSG D
57	80	>75% Grass cover, Good, HSG D
1,623		Weighted Average
57		3.51% Pervious Area
1,566		96.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	67		0.19		**Direct Entry, SF 1 & 2**

Summary for Subcatchment 3S: Drainage to Ext. Southern CB

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.11 cfs @ 12.08 hrs, Volume= 0.159 af, Depth> 6.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR STORM Rainfall=7.54"

Area (sf)	CN	Description
8,985	98	Paved parking, HSG D
1,449	98	Unconnected roofs, HSG D
2,595	80	>75% Grass cover, Good, HSG D
13,029		Weighted Average
2,595		19.92% Pervious Area
10,434		80.08% Impervious Area
1,449		13.89% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.5	63	0.0516	0.23		**Sheet Flow, SF 1** Grass: Short n= 0.150 P2= 3.33"
0.8	139	0.0209	2.93		**Shallow Concentrated Flow, SCF 1** Paved Kv= 20.3 fps
5.3	202	Total			

Summary for Subcatchment 4S: Drainage to Municipal System (Whipple Road)

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.94 cfs @ 12.05 hrs, Volume= 0.275 af, Depth> 6.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR STORM Rainfall=7.54"

Area (sf)	CN	Description
17,979	98	Paved parking, HSG D
664	98	Roofs, HSG D
3,704	80	>75% Grass cover, Good, HSG D
22,347		Weighted Average
3,704		16.57% Pervious Area
18,643		83.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	29	0.1520	0.30		**Sheet Flow, SF 1** Grass: Short n= 0.150 P2= 3.33"
0.6	71	0.0563	1.98		**Sheet Flow, SF 2** Smooth surfaces n= 0.011 P2= 3.33"
1.2	209	0.0213	2.96		**Shallow Concentrated Flow, SCF 1** Paved Kv= 20.3 fps
3.4	309	Total			

Summary for Pond 1P: Ext. West Catch Basin

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.045 ac, 99.80% Impervious, Inflow Depth > 6.72" for 50 YEAR STORM event
Inflow = 0.33 cfs @ 12.09 hrs, Volume= 0.025 af
Outflow = 0.33 cfs @ 12.09 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.1 min
Primary = 0.33 cfs @ 12.09 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 29.84' @ 12.09 hrs Surf.Area= 13 sf Storage= 30 cf

Plug-Flow detention time= 20.4 min calculated for 0.025 af (98% of inflow)
Center-of-Mass det. time= 9.8 min (743.1 - 733.3)

Volume	Invert	Avail.Storage	Storage Description
#1	27.56'	187 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
27.56	13	0	0
29.56	13	26	26
32.06	13	33	59
32.56	500	128	187

Device	Routing	Invert	Outlet Devices
#1	Primary	29.56'	**12.0" Round CMP_Round 12"** L= 130.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.56' / 20.50' S= 0.0697 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.32 cfs @ 12.09 hrs HW=29.84' (Free Discharge)
1=CMP_Round 12" (Inlet Controls 0.32 cfs @ 1.79 fps)

Summary for Pond 2P: Ext. Northwest Catch Basin

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.037 ac, 96.49% Impervious, Inflow Depth > 6.66" for 50 YEAR STORM event
Inflow = 0.27 cfs @ 12.09 hrs, Volume= 0.021 af
Outflow = 0.27 cfs @ 12.09 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.1 min
Primary = 0.27 cfs @ 12.09 hrs, Volume= 0.020 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 24.35' @ 12.09 hrs Surf.Area= 13 sf Storage= 29 cf

Plug-Flow detention time= 24.2 min calculated for 0.020 af (97% of inflow)
Center-of-Mass det. time= 11.6 min (745.9 - 734.3)

Volume	Invert	Avail.Storage	Storage Description
#1	22.15'	261 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.15	13	0	0
24.15	13	26	26
32.35	13	107	133
32.85	500	128	261

Device	Routing	Invert	Outlet Devices
#1	Primary	24.15'	**24.0" Round CMP_Round 24"** L= 69.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.15' / 21.00' S= 0.0457 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.24 cfs @ 12.09 hrs HW=24.35' (Free Discharge)
└**1=CMP_Round 24"** (Inlet Controls 0.24 cfs @ 1.52 fps)

Summary for Pond 3P: Ext. South On-Site Catch Basin

[82] Warning: Early inflow requires earlier time span
[79] Warning: Submerged Pond 2P Primary device # 1 OUTLET by 1.05'

Inflow Area = 0.849 ac, 82.82% Impervious, Inflow Depth > 6.39" for 50 YEAR STORM event
Inflow = 6.25 cfs @ 12.06 hrs, Volume= 0.453 af
Outflow = 6.25 cfs @ 12.06 hrs, Volume= 0.452 af, Atten= 0%, Lag= 0.0 min
Primary = 6.25 cfs @ 12.06 hrs, Volume= 0.452 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 22.06' @ 12.06 hrs Surf.Area= 13 sf Storage= 42 cf

Plug-Flow detention time= 1.4 min calculated for 0.452 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (739.0 - 738.3)

Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	288 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.80	13	0	0
20.80	13	26	26
31.10	13	134	160
31.60	500	128	288

Device	Routing	Invert	Outlet Devices
#1	Primary	20.80'	**30.0" Round CMP_Round 30"** L= 152.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.80' / 20.41' S= 0.0026 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=6.06 cfs @ 12.06 hrs HW=22.04' (Free Discharge)
└**1=CMP_Round 30"** (Barrel Controls 6.06 cfs @ 3.66 fps)

Summary for Pond 4P: Ext. Whipple Road Catch Basin

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.513 ac, 83.43% Impervious, Inflow Depth > 6.42" for 50 YEAR STORM event
Inflow = 3.94 cfs @ 12.05 hrs, Volume= 0.275 af
Outflow = 3.93 cfs @ 12.05 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.1 min
Primary = 3.93 cfs @ 12.05 hrs, Volume= 0.274 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 26.51' @ 12.05 hrs Surf.Area= 13 sf Storage= 47 cf

Plug-Flow detention time= 2.4 min calculated for 0.273 af (99% of inflow)
Center-of-Mass det. time= 1.1 min (737.5 - 736.4)

Volume	Invert	Avail.Storage	Storage Description
#1	22.93'	227 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.93	13	0	0
24.93	13	26	26
30.55	13	73	99
31.05	500	128	227

Device	Routing	Invert	Outlet Devices
#1	Primary	24.93'	**12.0" Round CMP_Round 12"** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.93' / 24.80' S= 0.0217 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.90 cfs @ 12.05 hrs HW=26.49' (Free Discharge)
↑**1=CMP_Round 12"** (Inlet Controls 3.90 cfs @ 4.96 fps)

Summary for Pond 5P: Ext. East Whipple Road Catch Basin

[57] Hint: Peaked at 20.97' (Flood elevation advised)
[79] Warning: Submerged Pond 3P Primary device # 1 INLET by 0.17'

Inflow Area = 0.849 ac, 82.82% Impervious, Inflow Depth > 6.39" for 50 YEAR STORM event
Inflow = 6.25 cfs @ 12.06 hrs, Volume= 0.452 af
Outflow = 6.25 cfs @ 12.06 hrs, Volume= 0.452 af, Atten= 0%, Lag= 0.0 min
Primary = 6.25 cfs @ 12.06 hrs, Volume= 0.452 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 20.97' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	19.85'	**30.0" Round CMP_Round 30"** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.85' / 19.50' S= 0.0070 '/' Cc= 0.900

n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=6.07 cfs @ 12.06 hrs HW=20.95' (Free Discharge)
↑—**1=CMP_Round 30"** (Barrel Controls 6.07 cfs @ 4.29 fps)

Summary for Link AP1: Closed System to Church

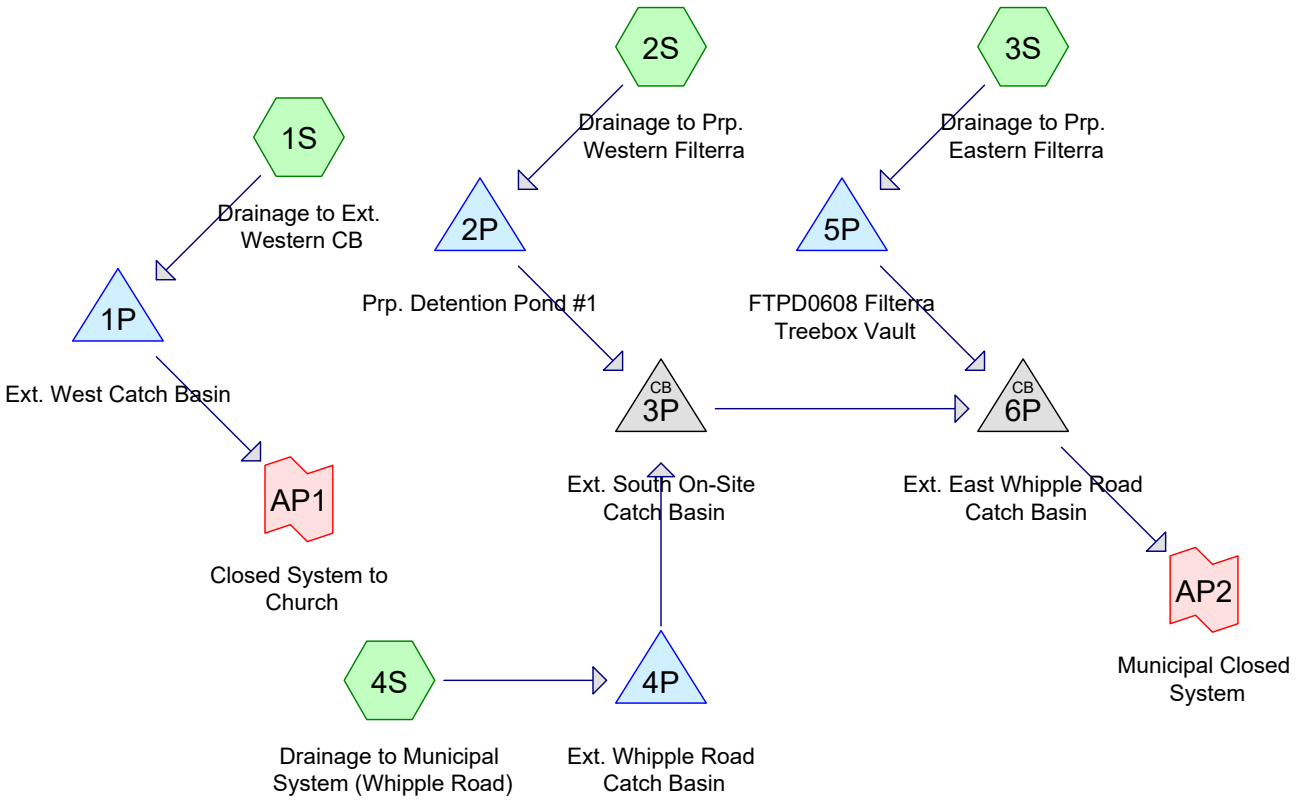
Inflow Area = 0.045 ac, 99.80% Impervious, Inflow Depth > 6.56" for 50 YEAR STORM event
Inflow = 0.33 cfs @ 12.09 hrs, Volume= 0.025 af
Primary = 0.33 cfs @ 12.09 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP2: Municipal Closed System

Inflow Area = 0.849 ac, 82.82% Impervious, Inflow Depth > 6.39" for 50 YEAR STORM event
Inflow = 6.25 cfs @ 12.06 hrs, Volume= 0.452 af
Primary = 6.25 cfs @ 12.06 hrs, Volume= 0.452 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



Subcat Reach Pond Link

Routing Diagram for 5 WHIPPLE SWA DEV

Prepared by {enter your company name here}, Printed 3/21/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.269	80	>75% Grass cover, Good, HSG D (1S, 2S, 3S, 4S)
0.544	98	Paved parking, HSG D (1S, 2S, 3S, 4S)
0.082	98	Roofs, HSG D (2S, 3S)
0.894	**93**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage to Ext. Western Runoff Area=941 sf 18.70% Impervious Runoff Depth>1.60"
Flow Length=29' Slope=0.0150 '/' Tc=4.0 min CN=WQ Runoff=0.04 cfs 0.003 af

Subcatchment 2S: Drainage to Prp. Runoff Area=13,874 sf 62.57% Impervious Runoff Depth>2.25"
Flow Length=205' Tc=6.1 min CN=WQ Runoff=0.80 cfs 0.060 af

Subcatchment 3S: Drainage to Prp. Runoff Area=14,564 sf 71.74% Impervious Runoff Depth>2.39"
Flow Length=178' Tc=5.8 min CN=WQ Runoff=0.89 cfs 0.067 af

Subcatchment 4S: Drainage to Municipal Runoff Area=9,585 sf 82.89% Impervious Runoff Depth>2.56"
Flow Length=196' Tc=6.0 min CN=WQ Runoff=0.62 cfs 0.047 af

Pond 1P: Ext. West Catch Basin Peak Elev=29.66' Storage=27 cf Inflow=0.04 cfs 0.003 af
12.0" Round Culvert n=0.013 L=130.0' S=0.0697 '/' Outflow=0.05 cfs 0.002 af

Pond 2P: Prp. Detention Pond #1 Peak Elev=31.09' Storage=452 cf Inflow=0.80 cfs 0.060 af
Discarded=0.03 cfs 0.020 af Primary=0.55 cfs 0.036 af Outflow=0.58 cfs 0.056 af

Pond 3P: Ext. South On-Site Catch Basin Peak Elev=21.32' Inflow=1.12 cfs 0.082 af
30.0" Round Culvert n=0.013 L=152.0' S=0.0026 '/' Outflow=1.12 cfs 0.082 af

Pond 4P: Ext. Whipple Road Catch Basin Peak Elev=25.35' Storage=31 cf Inflow=0.62 cfs 0.047 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0217 '/' Outflow=0.62 cfs 0.046 af

Pond 5P: FTPD0608 Filterra Treebox Vault Peak Elev=31.61' Storage=0.001 af Inflow=0.89 cfs 0.067 af
Outflow=0.88 cfs 0.067 af

Pond 6P: Ext. East Whipple Road Catch Basin Peak Elev=20.45' Inflow=2.00 cfs 0.150 af
30.0" Round Culvert n=0.013 L=50.0' S=0.0070 '/' Outflow=2.00 cfs 0.150 af

Link AP1: Closed System to Church Inflow=0.05 cfs 0.002 af
Primary=0.05 cfs 0.002 af

Link AP2: Municipal Closed System Inflow=2.00 cfs 0.150 af
Primary=2.00 cfs 0.150 af

Total Runoff Area = 0.894 ac Runoff Volume = 0.176 af Average Runoff Depth = 2.36"
30.06% Pervious = 0.269 ac 69.94% Impervious = 0.626 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage to Ext. Western Runoff Area=941 sf 18.70% Impervious Runoff Depth>2.97"
Flow Length=29' Slope=0.0150 '/' Tc=4.0 min CN=WQ Runoff=0.08 cfs 0.005 af

Subcatchment 2S: Drainage to Prp. Runoff Area=13,874 sf 62.57% Impervious Runoff Depth>3.72"
Flow Length=205' Tc=6.1 min CN=WQ Runoff=1.33 cfs 0.099 af

Subcatchment 3S: Drainage to Prp. Runoff Area=14,564 sf 71.74% Impervious Runoff Depth>3.88"
Flow Length=178' Tc=5.8 min CN=WQ Runoff=1.45 cfs 0.108 af

Subcatchment 4S: Drainage to Municipal Runoff Area=9,585 sf 82.89% Impervious Runoff Depth>4.07"
Flow Length=196' Tc=6.0 min CN=WQ Runoff=0.98 cfs 0.075 af

Pond 1P: Ext. West Catch Basin Peak Elev=29.70' Storage=28 cf Inflow=0.08 cfs 0.005 af
12.0" Round Culvert n=0.013 L=130.0' S=0.0697 '/' Outflow=0.08 cfs 0.005 af

Pond 2P: Prp. Detention Pond #1 Peak Elev=31.52' Storage=695 cf Inflow=1.33 cfs 0.099 af
Discarded=0.04 cfs 0.023 af Primary=0.78 cfs 0.072 af Outflow=0.82 cfs 0.094 af

Pond 3P: Ext. South On-Site Catch Basin Peak Elev=21.44' Inflow=1.68 cfs 0.146 af
30.0" Round Culvert n=0.013 L=152.0' S=0.0026 '/' Outflow=1.68 cfs 0.146 af

Pond 4P: Ext. Whipple Road Catch Basin Peak Elev=25.49' Storage=33 cf Inflow=0.98 cfs 0.075 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0217 '/' Outflow=0.98 cfs 0.074 af

Pond 5P: FTPD0608 Filterra Treebox Vault Peak Elev=31.73' Storage=0.001 af Inflow=1.45 cfs 0.108 af
Outflow=1.43 cfs 0.108 af

Pond 6P: Ext. East Whipple Road Catch Basin Peak Elev=20.61' Inflow=3.10 cfs 0.254 af
30.0" Round Culvert n=0.013 L=50.0' S=0.0070 '/' Outflow=3.10 cfs 0.254 af

Link AP1: Closed System to Church Inflow=0.08 cfs 0.005 af
Primary=0.08 cfs 0.005 af

Link AP2: Municipal Closed System Inflow=3.10 cfs 0.254 af
Primary=3.10 cfs 0.254 af

Total Runoff Area = 0.894 ac Runoff Volume = 0.287 af Average Runoff Depth = 3.85"
30.06% Pervious = 0.269 ac 69.94% Impervious = 0.626 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage to Ext. Western Runoff Area=941 sf 18.70% Impervious Runoff Depth>4.12"
Flow Length=29' Slope=0.0150 '/' Tc=4.0 min CN=WQ Runoff=0.11 cfs 0.007 af

Subcatchment 2S: Drainage to Prp. Runoff Area=13,874 sf 62.57% Impervious Runoff Depth>4.91"
Flow Length=205' Tc=6.1 min CN=WQ Runoff=1.74 cfs 0.130 af

Subcatchment 3S: Drainage to Prp. Runoff Area=14,564 sf 71.74% Impervious Runoff Depth>5.08"
Flow Length=178' Tc=5.8 min CN=WQ Runoff=1.88 cfs 0.141 af

Subcatchment 4S: Drainage to Municipal Runoff Area=9,585 sf 82.89% Impervious Runoff Depth>5.28"
Flow Length=196' Tc=6.0 min CN=WQ Runoff=1.27 cfs 0.097 af

Pond 1P: Ext. West Catch Basin Peak Elev=29.72' Storage=28 cf Inflow=0.11 cfs 0.007 af
12.0" Round Culvert n=0.013 L=130.0' S=0.0697 '/' Outflow=0.11 cfs 0.007 af

Pond 2P: Prp. Detention Pond #1 Peak Elev=31.81' Storage=893 cf Inflow=1.74 cfs 0.130 af
Discarded=0.04 cfs 0.024 af Primary=1.06 cfs 0.102 af Outflow=1.10 cfs 0.125 af

Pond 3P: Ext. South On-Site Catch Basin Peak Elev=21.52' Inflow=2.14 cfs 0.198 af
30.0" Round Culvert n=0.013 L=152.0' S=0.0026 '/' Outflow=2.14 cfs 0.198 af

Pond 4P: Ext. Whipple Road Catch Basin Peak Elev=25.58' Storage=34 cf Inflow=1.27 cfs 0.097 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0217 '/' Outflow=1.27 cfs 0.096 af

Pond 5P: FTPD0608 Filterra Treebox Vault Peak Elev=31.82' Storage=0.001 af Inflow=1.88 cfs 0.141 af
Outflow=1.87 cfs 0.142 af

Pond 6P: Ext. East Whipple Road Catch Basin Peak Elev=20.72' Inflow=3.98 cfs 0.339 af
30.0" Round Culvert n=0.013 L=50.0' S=0.0070 '/' Outflow=3.98 cfs 0.339 af

Link AP1: Closed System to Church Inflow=0.11 cfs 0.007 af
Primary=0.11 cfs 0.007 af

Link AP2: Municipal Closed System Inflow=3.98 cfs 0.339 af
Primary=3.98 cfs 0.339 af

Total Runoff Area = 0.894 ac Runoff Volume = 0.376 af Average Runoff Depth = 5.04"
30.06% Pervious = 0.269 ac 69.94% Impervious = 0.626 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Drainage to Ext. Western Runoff Area=941 sf 18.70% Impervious Runoff Depth>5.23"
Flow Length=29' Slope=0.0150 '/' Tc=4.0 min CN=WQ Runoff=0.14 cfs 0.009 af

Subcatchment 2S: Drainage to Prp. Runoff Area=13,874 sf 62.57% Impervious Runoff Depth>6.04"
Flow Length=205' Tc=6.1 min CN=WQ Runoff=2.14 cfs 0.160 af

Subcatchment 3S: Drainage to Prp. Runoff Area=14,564 sf 71.74% Impervious Runoff Depth>6.21"
Flow Length=178' Tc=5.8 min CN=WQ Runoff=2.30 cfs 0.173 af

Subcatchment 4S: Drainage to Municipal Runoff Area=9,585 sf 82.89% Impervious Runoff Depth>6.41"
Flow Length=196' Tc=6.0 min CN=WQ Runoff=1.54 cfs 0.118 af

Pond 1P: Ext. West Catch Basin Peak Elev=29.74' Storage=28 cf Inflow=0.14 cfs 0.009 af
12.0" Round Culvert n=0.013 L=130.0' S=0.0697 '/' Outflow=0.14 cfs 0.009 af

Pond 2P: Prp. Detention Pond #1 Peak Elev=32.07' Storage=1,090 cf Inflow=2.14 cfs 0.160 af
Discarded=0.05 cfs 0.025 af Primary=1.26 cfs 0.130 af Outflow=1.31 cfs 0.155 af

Pond 3P: Ext. South On-Site Catch Basin Peak Elev=21.60' Inflow=2.65 cfs 0.247 af
30.0" Round Culvert n=0.013 L=152.0' S=0.0026 '/' Outflow=2.65 cfs 0.247 af

Pond 4P: Ext. Whipple Road Catch Basin Peak Elev=25.66' Storage=36 cf Inflow=1.54 cfs 0.118 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0217 '/' Outflow=1.54 cfs 0.117 af

Pond 5P: FTPD0608 Filterra Treebox Vault Peak Elev=31.88' Storage=0.001 af Inflow=2.30 cfs 0.173 af
Outflow=2.28 cfs 0.173 af

Pond 6P: Ext. East Whipple Road Catch Basin Peak Elev=20.83' Inflow=4.90 cfs 0.420 af
30.0" Round Culvert n=0.013 L=50.0' S=0.0070 '/' Outflow=4.90 cfs 0.420 af

Link AP1: Closed System to Church Inflow=0.14 cfs 0.009 af
Primary=0.14 cfs 0.009 af

Link AP2: Municipal Closed System Inflow=4.90 cfs 0.420 af
Primary=4.90 cfs 0.420 af

Total Runoff Area = 0.894 ac Runoff Volume = 0.460 af Average Runoff Depth = 6.17"
30.06% Pervious = 0.269 ac 69.94% Impervious = 0.626 ac

Summary for Subcatchment 1S: Drainage to Ext. Western CB

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.14 cfs @ 12.06 hrs, Volume= 0.009 af, Depth> 5.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR STORM Rainfall=7.54"

Area (sf)	CN	Description
765	80	>75% Grass cover, Good, HSG D
176	98	Paved parking, HSG D
941		Weighted Average
765		81.30% Pervious Area
176		18.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	29	0.0150	0.12		**Sheet Flow, SF 1** Grass: Short n= 0.150 P2= 3.33"

Summary for Subcatchment 2S: Drainage to Prp. Western Filterra

Runoff = 2.14 cfs @ 12.09 hrs, Volume= 0.160 af, Depth> 6.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR STORM Rainfall=7.54"

Area (sf)	CN	Description
7,583	98	Paved parking, HSG D
1,098	98	Roofs, HSG D
5,193	80	>75% Grass cover, Good, HSG D
13,874		Weighted Average
5,193		37.43% Pervious Area
8,681		62.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	63	0.0396	0.21		**Sheet Flow, SF 1** Grass: Short n= 0.150 P2= 3.33"
1.0	142	0.0150	2.49		**Shallow Concentrated Flow, SCF 1** Paved Kv= 20.3 fps
6.1	205	Total			

Summary for Subcatchment 3S: Drainage to Prp. Eastern Filterra

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.30 cfs @ 12.08 hrs, Volume= 0.173 af, Depth> 6.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR STORM Rainfall=7.54"

Area (sf)	CN	Description
7,991	98	Paved parking, HSG D
2,457	98	Roofs, HSG D
4,116	80	>75% Grass cover, Good, HSG D
14,564		Weighted Average
4,116		28.26% Pervious Area
10,448		71.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	63	0.0357	0.20		**Sheet Flow, SF 1** Grass: Short n= 0.150 P2= 3.33"
0.5	115	0.0300	3.52		**Shallow Concentrated Flow, SCF 1** Paved Kv= 20.3 fps
5.8	178	Total			

Summary for Subcatchment 4S: Drainage to Municipal System (Whipple Road)

Runoff = 1.54 cfs @ 12.09 hrs, Volume= 0.118 af, Depth> 6.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YEAR STORM Rainfall=7.54"

Area (sf)	CN	Description
7,945	98	Paved parking, HSG D
1,640	80	>75% Grass cover, Good, HSG D
9,585		Weighted Average
1,640		17.11% Pervious Area
7,945		82.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	196		0.54		**Direct Entry, SF 1 & SCF 1**

Summary for Pond 1P: Ext. West Catch Basin

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.022 ac, 18.70% Impervious, Inflow Depth > 5.23" for 50 YEAR STORM event
Inflow = 0.14 cfs @ 12.06 hrs, Volume= 0.009 af
Outflow = 0.14 cfs @ 12.06 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.1 min
Primary = 0.14 cfs @ 12.06 hrs, Volume= 0.009 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 29.74' @ 12.06 hrs Surf.Area= 13 sf Storage= 28 cf

Plug-Flow detention time= 41.2 min calculated for 0.009 af (93% of inflow)
Center-of-Mass det. time= 18.3 min (780.2 - 761.9)

Volume	Invert	Avail.Storage	Storage Description
#1	27.56'	187 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
27.56	13	0	0
29.56	13	26	26
32.06	13	33	59
32.56	500	128	187

Device	Routing	Invert	Outlet Devices
#1	Primary	29.56'	**12.0" Round CMP_Round 12"** L= 130.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.56' / 20.50' S= 0.0697 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.14 cfs @ 12.06 hrs HW=29.74' (Free Discharge)
↑—**1=CMP_Round 12"** (Inlet Controls 0.14 cfs @ 1.43 fps)

Summary for Pond 2P: Prp. Detention Pond #1

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.319 ac, 62.57% Impervious, Inflow Depth > 6.04" for 50 YEAR STORM event
Inflow = 2.14 cfs @ 12.09 hrs, Volume= 0.160 af
Outflow = 1.31 cfs @ 12.20 hrs, Volume= 0.155 af, Atten= 39%, Lag= 6.7 min
Discarded = 0.05 cfs @ 12.20 hrs, Volume= 0.025 af
Primary = 1.26 cfs @ 12.20 hrs, Volume= 0.130 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 32.07' @ 12.20 hrs Surf.Area= 814 sf Storage= 1,090 cf

Plug-Flow detention time= 30.6 min calculated for 0.155 af (97% of inflow)
Center-of-Mass det. time= 17.5 min (762.9 - 745.4)

Volume	Invert	Avail.Storage	Storage Description
#1	26.60'	1,481 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
26.60	13	0	0
29.90	13	43	43
30.00	236	12	55
31.00	469	353	408
32.00	780	625	1,032
32.50	1,016	449	1,481

Device	Routing	Invert	Outlet Devices
#1	Discarded	26.60'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	28.62'	**12.0" Round CMP_Round 12"** L= 68.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 28.62' / 28.20' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	30.50'	**4.0" Vert. Orifice/Grate X 2.00** C= 0.600
#4	Device 2	31.50'	**4.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=0.05 cfs @ 12.20 hrs HW=32.07' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=1.26 cfs @ 12.20 hrs HW=32.07' (Free Discharge)
└**2=CMP_Round 12"** (Passes 1.26 cfs of 5.13 cfs potential flow)
  └**3=Orifice/Grate** (Orifice Controls 1.00 cfs @ 5.71 fps)
  └**4=Orifice/Grate** (Orifice Controls 0.27 cfs @ 3.07 fps)

Summary for Pond 3P: Ext. South On-Site Catch Basin

[57] Hint: Peaked at 21.60' (Flood elevation advised)

Inflow Area = 0.539 ac, 70.87% Impervious, Inflow Depth > 5.51" for 50 YEAR STORM event
Inflow = 2.65 cfs @ 12.11 hrs, Volume= 0.247 af
Outflow = 2.65 cfs @ 12.11 hrs, Volume= 0.247 af, Atten= 0%, Lag= 0.0 min
Primary = 2.65 cfs @ 12.11 hrs, Volume= 0.247 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 21.60' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	20.80'	**30.0" Round CMP_Round 30"** L= 152.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.80' / 20.41' S= 0.0026 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=2.61 cfs @ 12.11 hrs HW=21.60' (Free Discharge)
└**1=CMP_Round 30"** (Barrel Controls 2.61 cfs @ 2.90 fps)

Summary for Pond 4P: Ext. Whipple Road Catch Basin

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.220 ac, 82.89% Impervious, Inflow Depth > 6.41" for 50 YEAR STORM event
Inflow = 1.54 cfs @ 12.09 hrs, Volume= 0.118 af
Outflow = 1.54 cfs @ 12.09 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.1 min
Primary = 1.54 cfs @ 12.09 hrs, Volume= 0.117 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 25.66' @ 12.09 hrs Surf.Area= 13 sf Storage= 36 cf

Plug-Flow detention time= 5.0 min calculated for 0.117 af (99% of inflow)
Center-of-Mass det. time= 2.4 min (740.8 - 738.4)

Volume	Invert	Avail.Storage	Storage Description
#1	22.93'	227 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.93	13	0	0
24.93	13	26	26
30.55	13	73	99
31.05	500	128	227

Device	Routing	Invert	Outlet Devices
#1	Primary	24.93'	**12.0" Round CMP_Round 12"** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.93' / 24.80' S= 0.0217 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.50 cfs @ 12.09 hrs HW=25.65' (Free Discharge)
└**1=CMP_Round 12"** (Barrel Controls 1.50 cfs @ 3.45 fps)

Summary for Pond 5P: FTPD0608 Filterra Treebox Vault

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.334 ac, 71.74% Impervious, Inflow Depth > 6.21" for 50 YEAR STORM event
Inflow = 2.30 cfs @ 12.08 hrs, Volume= 0.173 af
Outflow = 2.28 cfs @ 12.09 hrs, Volume= 0.173 af, Atten= 1%, Lag= 0.0 min
Primary = 2.28 cfs @ 12.09 hrs, Volume= 0.173 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 31.88' @ 12.08 hrs Surf.Area= 0.001 ac Storage= 0.001 af

Plug-Flow detention time= 1.4 min calculated for 0.172 af (100% of inflow)
Center-of-Mass det. time= 0.9 min (742.9 - 742.0)

Volume	Invert	Avail.Storage	Storage Description
#1	30.58'	0.002 af	**8.00'W x 6.00'L x 1.50'H Prismatoid**

Device	Routing	Invert	Outlet Devices
#1	Primary	28.42'	**12.0" Round CMP_Round 12"** L= 65.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.42' / 28.00' S= 0.0065 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	30.58'	**140.000 in/hr Exfiltration over Surface area**
#3	Device 1	31.33'	**1.7' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.22 cfs @ 12.09 hrs HW=31.87' (Free Discharge)
└**1=CMP_Round 12"** (Passes 2.22 cfs of 5.68 cfs potential flow)
├**2=Exfiltration** (Exfiltration Controls 0.16 cfs)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 2.06 cfs @ 2.24 fps)

Summary for Pond 6P: Ext. East Whipple Road Catch Basin

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 20.83' (Flood elevation advised)
[79] Warning: Submerged Pond 3P Primary device # 1 INLET by 0.03'

Inflow Area = 0.873 ac, 71.20% Impervious, Inflow Depth > 5.77" for 50 YEAR STORM event
Inflow = 4.90 cfs @ 12.10 hrs, Volume= 0.420 af
Outflow = 4.90 cfs @ 12.10 hrs, Volume= 0.420 af, Atten= 0%, Lag= 0.0 min
Primary = 4.90 cfs @ 12.10 hrs, Volume= 0.420 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 20.83' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	19.85'	**30.0" Round CMP_Round 30"** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 19.85' / 19.50' S= 0.0070 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=4.86 cfs @ 12.10 hrs HW=20.82' (Free Discharge)
↑—**1=CMP_Round 30"** (Barrel Controls 4.86 cfs @ 4.08 fps)

Summary for Link AP1: Closed System to Church

Inflow Area = 0.022 ac, 18.70% Impervious, Inflow Depth > 4.90" for 50 YEAR STORM event
Inflow = 0.14 cfs @ 12.06 hrs, Volume= 0.009 af
Primary = 0.14 cfs @ 12.06 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP2: Municipal Closed System

Inflow Area = 0.873 ac, 71.20% Impervious, Inflow Depth > 5.77" for 50 YEAR STORM event
Inflow = 4.90 cfs @ 12.10 hrs, Volume= 0.420 af
Primary = 4.90 cfs @ 12.10 hrs, Volume= 0.420 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Maine Meat Butcher & Restaurant - Existing Condition Peak Flows

Analysis Point	2 Year Storm (cfs)	10 Year Storm (cfs)	25 Year Storm (cfs)	50 Year Storm (cfs)
AP1	0.14	0.21	0.27	0.33
AP2	2.53	4.00	5.16	6.25

Rainfall Event Totals (in.)	
2-Year	3.24
10-Year	4.94
25-Year	6.28
50-Year	7.54

Maine Meat Butcher & Restaurant - Developed Condition Peak Flows

Analysis Point	2 Year Storm (cfs)	10 Year Storm (cfs)	25 Year Storm (cfs)	50 Year Storm (cfs)
AP1	0.05	0.08	0.11	0.14
AP2	2.00	3.10	3.98	4.90

Maine Meat Butcher & Restaurant - Change in Peak Flows

Analysis Point	2 Year Storm (cfs)	10 Year Storm (cfs)	25 Year Storm (cfs)	25 Year Storm (cfs)
AP1	-0.09	-0.13	-0.16	-0.19
AP2	-0.53	-0.90	-1.18	-1.35

ATTAR
ENGINEERING, INC
CIVIL STRUCTURAL MARINE

MAINE MEAT BUTCHER & RESTAURANT
5 WHIPPLE ROAD, KITTERY, MAINE

OPERATION AND MAINTENANCE PROGRAM STORMWATER MANAGEMENT BMP's

This project contains specific Best Management Practices (BMP's) for the conveyance, storage, and treatment of stormwater and the prevention of erosion. These BMP's consist of a detention pond and treebox bioretention vault. All components should be inspected quarterly, and after every significant rain event of 1" in any 24-hour period.

The party responsible for implementing this Operation and Maintenance Program (O&M Program) shall be the property owner or owner's representative. Procedures shall be consistent with guidelines presented in the Town of Kittery Municipal Code of Ordinances, §16.7.11.D., Post-Construction Stormwater Management performance standards.

Stormwater Detention Areas
The Stormwater Detention Area shall be inspected to ensure that there is no channeling of stormwater and that no debris accumulates within the detention area. The vegetative cover conditions shall be maintained. The outlets shall be inspected for erosion and any evidence of debris that could clog the orifices and culvert. Side slopes shall be inspected for any evidence of rilling and channeling and shall be maintained to prevent sediment transport and/or loss of vegetation.

Treebox Bioretention Vaults (Contech/Filterra Product)
Operation & Maintenance guidelines specific to the Filterra Peak Diversion Bioretention Vault are provided in the attached Filterra Vault Owner's Manual, a Contech Engineered Solutions product.

Catch Basins
All catch basin grates, sumps, and inlets/outlets should be inspected for accumulation of debris, which could adversely affect the function of this BMP. Additionally, the basin inverts shall be inspected for clogging and material soundness. Sumps shall always be clear to a depth of 1' below the outlet invert. Inlet structures shall be inspected and cleaned of debris at least twice annually, once in the spring following snow melt and once in the autumn after leaf fall.

Parking Lots
The entire parking areas shall be swept, by mechanical or vacuum sweepers, to remove grit, debris, and trash from the travelways, parking areas, and sidewalks, and to overall reduce the export of sand to receiving stormwater structures. Sweeping frequency shall be monthly, and large debris shall be removed by hand prior to all sweeping actions.

Snow Removal
Snow shall be stockpiled only in the approved snow storage areas. Plowing of snow into non-perennial landscaped areas or detention ponds is prohibited. Additionally, a mostly

sand mix (reduced salt) shall be applied during winter months to prevent excessive salt from leaching into wetland areas. Excess sand shall be removed from the storage areas, all paved surfaces, and adjacent areas each spring.

Seeding, Fertilizing and Mulching
All exposed soil materials and stockpiles must be either temporarily or permanently seeded, fertilized and mulched in accordance with plan specifications. This is one of the most important features of the Erosion Control Plan, which will provide both temporary and permanent stabilization. Eroded or damaged lawn areas must be repaired until a 75% effective growth of vegetation is established and permanently maintained.

Record Keeping (During Construction)
The construction inspector shall maintain documentation of all inspections as well as maintenance or corrective actions that were taken in response to the inspection. This documentation shall be maintained for at least three years after the site is permanently stabilized. The scope of construction inspections shall include, but not be limited to, the inspection of the sediment and erosion control measures as well as material storage areas and all points at which vehicles access the site.

Record Keeping (Post Construction)
Routine maintenance and inspections will be accomplished by the owner or a third party contracted by the owner. The inspector shall have knowledge of erosion and stormwater control, including the standards and conditions of the permit.

All inspections accomplished in accordance with this program shall be documented on the attached Inspection & Maintenance Log. Copies of the Log shall be kept by the property owner or owner's representative, and be made available to the Department (Maine Department of Environmental Protection) or Town of Kittery, upon request.

All post-construction documentation, such as inspection and cleaning logs shall be maintained for at least five years.

Additional responsibilities to include, on or by July 1 of each year, providing a completed and signed certification to the Code Enforcement Officer in a form provided by the Town, if requested, certifying that the person has inspected the stormwater management facilities and that they are adequately maintained and functioning as intended by the stormwater management plan, or that they require maintenance or repair, describing any required maintenance and any deficiencies found during inspection of the stormwater management facilities and, if the stormwater management facilities require maintenance or repair of deficiencies in order to function as intended by the approved stormwater management plan, the person must provide a record of the required maintenance or deficiency and corrective action(s) taken.

Re-certification (as noted in Appendix B. of Chapter 500 Stormwater Management)
Submit a certification of the following to the Department within three months of the expiration of each five-year interval from the date of issuance of the permit noting the following;

(a) **Identification and repair of erosion problems**. All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

(b) **Inspection and repair of stormwater control system**. All aspects of the stormwater control system have been inspected for damage, wear, and

malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system.

(c) **Maintenance**. The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the Department, and the maintenance log is being maintained.

Municipalities with separate storm sewer systems regulated under the Maine Pollutant Discharge Elimination System (MPDES) Program may report on all regulated systems under their control as part of their required annual reporting in lieu of separate certification of each system. Municipalities not regulated by the MPDES Program, but that are responsible for maintenance of permitted stormwater systems, may report on multiple stormwater systems in one report.

INSPECTION & MAINTENANCE LOG
MAINE MEAT BUTCHER & RESTAURANT

Date	BMP[1]	Purpose[2]	Maintenance Done[3]	By

1. "BMP" refers to which site feature is being maintained. For example; Catch Basin, Culvert, Swale, Underdrained Soil Filter (USF) etc.
2. "Purpose" is the reason for the inspection. For example; "quarterly' or "after a significant rain event."
3. "Maintenance Done" means any maintenance required as a result of the inspection, such as trash removal or re-seeding of areas.

Filterra Vault Owner's Manual

(Precast Vault Configurations)

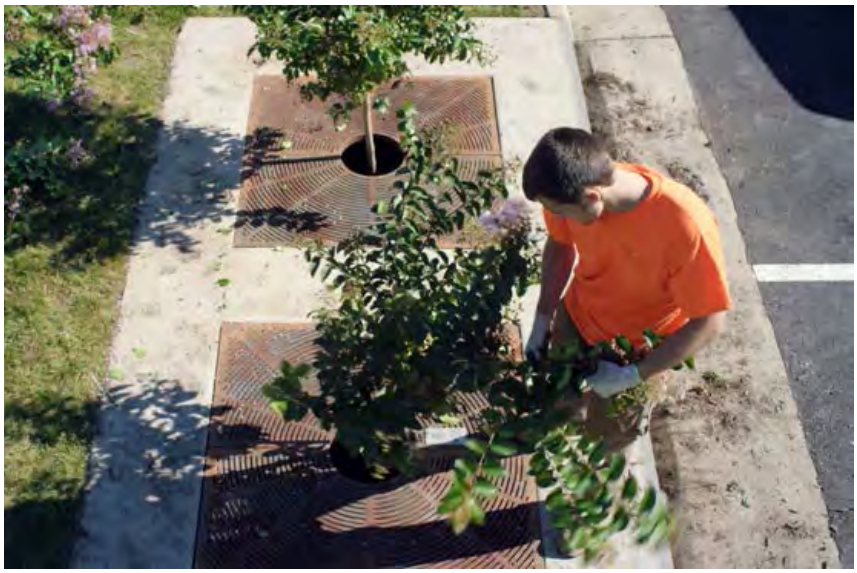
filterra®

Bioretention Systems

CONTECH®

ENGINEERED SOLUTIONS

This Owner's Manual applies to all precast Filterra Configurations, including Filterra Bioscape Vault and Filterra HC.



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CONTECH®
ENGINEERED SOLUTIONS

Introduction

Thank you for your purchase of the Filterra® Bioretention System. Filterra is a specially engineered stormwater treatment system incorporating high performance biofiltration media to remove pollutants from stormwater runoff. The system's biota (vegetation and soil microorganisms) then further breakdown and absorb captured pollutants. All components of the system work together to provide a sustainable long-term solution for treating stormwater runoff.

The Filterra system has been delivered to you with protection in place to resist intrusion of construction related sediment which can contaminate the biofiltration media and result in inadequate system performance. These protection devices are intended as a best practice and cannot fully prevent contamination. It is the purchaser's responsibility to provide adequate measures to prevent construction related runoff from entering the Filterra system.

Included with your purchase is Activation of the Filterra system by the manufacturer as well as a 1-year warranty from delivery of the system and a final site assessment of unit condition (mulch replacement, debris removal, and pruning of vegetation) scheduled between 6 and 12 months after activation, upon request.

Design and Installation

Each project presents different scopes for the use of Filterra systems. Information and help may be provided to the design engineer during the planning process. Correct Filterra box sizing (by rainfall region) is essential to predict pollutant removal rates for a given area. The engineer shall submit calculations for approval by the local jurisdiction. The contractor is responsible for the correct installation of Filterra units as shown in approved plans. A comprehensive installation manual is available at www.ContechES.com.

Activation Overview

Activation of the Filterra system is a procedure completed by the manufacturer to place the system into working condition. This involves the following items:

- Removal of construction runoff protection devices.
- Planting of the system's vegetation (provided by the purchaser).
- Placement of pretreatment mulch layer using mulch acceptable for use in Filterra systems.

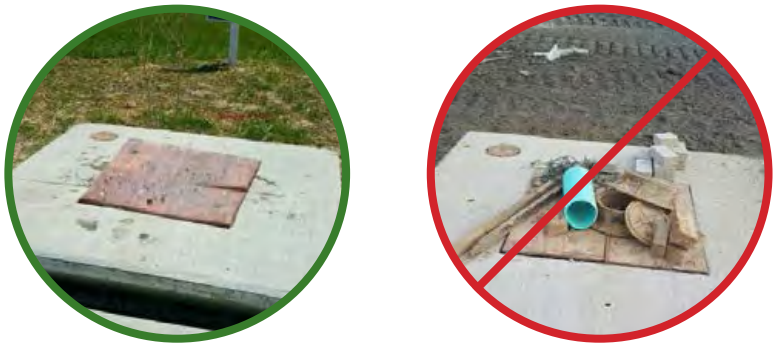
Activation MUST be provided by the manufacturer to ensure proper site conditions are met for Activation, proper installation of the vegetation, and use of pretreatment mulch acceptable for use in Filterra systems. More information is available in the Filterra Activation Package.

Minimum Requirements

The minimum requirements for Filterra Activation are as follows:

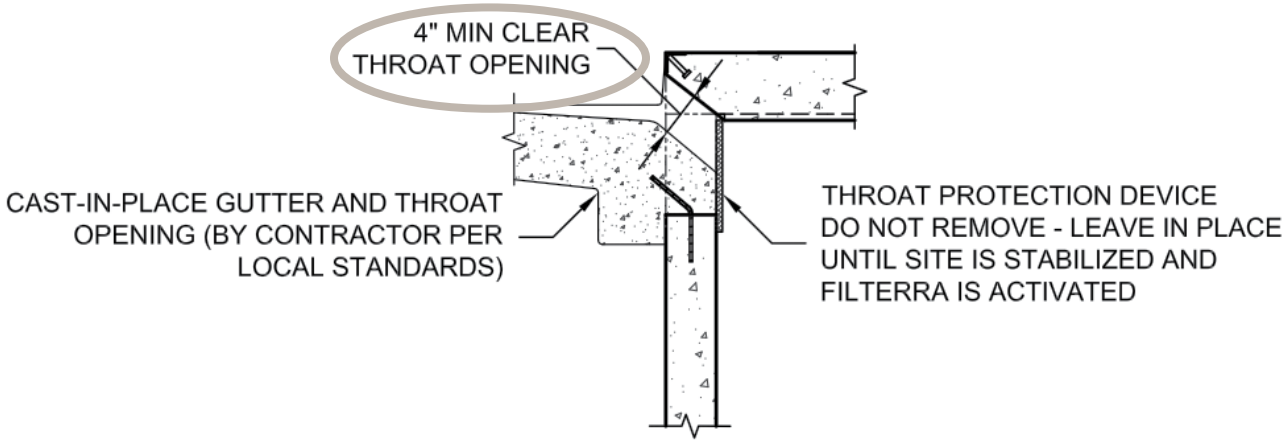
1. **The purchaser must have procured vegetation meeting the requirements outlined in the Filterra Activation Package.**

2. The site landscaping must be fully stabilized, i.e. full landscaping installed and some grass cover (not just straw and seed) is required to reduce sediment transport. Construction debris and materials should be removed from surrounding area.



3. Final paving must be completed. Final paving ensures that paving materials will not enter and contaminate the Filterra system during the paving process, and that the plant will receive runoff from the drainage area, assisting with plant survival for the Filterra system.

4. Filterra throat opening should be at least 4" in order to ensure adequate capacity for inflow and debris.



The Filterra Activation Package is available on the Contech website (www.ContechES.com/filterra) and ensures that the proper conditions are met for Contech to perform the Activation service. Vegetation meeting Contech's requirements must be provided at time of Activation. If the site does not meet the conditions required for Activation, or acceptable vegetation is not provided by the purchaser at time of Activation, a charge of $1,500 will be invoiced to the purchaser.

Filterra Plant Selection Overview

A Plant List is available on the Contech website highlighting recommended plants for Filterra systems in your area. Keep in mind that plants are subject to availability due to seasonality and required minimum size for the Filterra system. Plants installed in the Filterra system are container plants (max 15 gallon) from nursery stock and will be immature in height and spread at Activation.

It is the responsibility of the owner to provide adequate irrigation when necessary to the plant of the Filterra system.

More information is available in the Filterra Activation Package.

Warranty Overview

Refer to the Contech Engineered Solutions LLC Stormwater Treatment System LIMITED WARRANTY for further information. The following conditions may void the Filterra system's warranty and waive the manufacturer provided Activation and Final Site Assessment services:

- Unauthorized activation or performance of any of the items listed in the activation overview
- Any tampering, modifications or damage to the Filterra system or runoff protection devices
- Removal of any Filterra system components
- Failure to prevent construction related runoff from entering the Filterra system
- Failure to properly store and protect any Filterra components (including media and underdrain stone) that may be shipped separately from the vault

Final Site Assessment

With proper routine maintenance, the biofiltration media within the Filterra system should last as long as traditional bioretention media. A final site assessment is included by the manufacturer, upon request, on all Filterra systems between 6 and 12 months after activation. This includes a final assessment of unit condition, debris removal, mulch replacement, and pruning of vegetation. More information is provided in the Operations and Maintenance Guidelines. Some Filterra systems also contain pretreatment or outlet bays. Depending on site pollutant loading, these bays may require periodic removal of debris, however this is not included in the final site assessment, and would likely not be required within the first year of operation.

These services, as well as routine maintenance outside of the included first year, can be provided by certified maintenance providers listed on the Contech website. Training can also be provided to other stormwater maintenance or landscape providers.

Why Maintain?

All stormwater treatment systems require maintenance for effective operation. This necessity is often incorporated in your property's permitting process as a legally binding BMP maintenance agreement. Other reasons to maintain are:

- Avoiding legal challenges from your jurisdiction's maintenance enforcement program.
- Prolonging the expected lifespan of your Filterra media.
- Avoiding more costly media replacement.
- Helping reduce pollutant loads leaving your property.

Simple maintenance of the Filterra is required to continue effective pollutant removal from stormwater runoff before discharge into downstream waters. This procedure will also extend the longevity of the living biofilter system. The unit will recycle and accumulate pollutants within the biomass, but is also subjected to other materials entering the inlet. This may include trash, silt and leaves etc. which will be contained above the mulch layer. Too much silt may inhibit the Filterra's flow rate, which is the reason for site stabilization before activation. Regular replacement of the mulch stops accumulation of such sediment.

When to Maintain?

Maintenance visits are scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands while the fall visit helps the system by removing excessive leaf litter.

It has been found that in regions which receive between 30-50 inches of annual rainfall, (2) two visits are generally required; in regions with less rainfall often only (1) one visit per annum is sufficient. Varying land uses can affect maintenance frequency. Contributing drainage areas which are subject to new development wherein the recommended erosion and sediment control measures have not been implemented may require additional maintenance visits.

Some sites may be subjected to extreme sediment or trash loads, requiring more frequent maintenance visits. This is the reason for detailed notes of maintenance actions per unit, helping the Supplier and Owner predict future maintenance frequencies, reflecting individual site conditions.

Owners must promptly notify the maintenance provider of any damage to the plant(s), which constitute(s) an integral part of the bioretention technology.

Exclusion of Services

Clean up due to major contamination such as oils, chemicals, toxic spills, etc. will result in additional costs and are not included as part of the final site assessment. Should a major contamination event occur the Owner must block off the outlet pipe of the Filterra (where the cleaned runoff drains to, such as drop inlet) and block off the throat of the Filterra. The Supplier should be informed immediately.

Maintenance Visit Summary

Each maintenance visit consists of the following simple tasks (detailed instructions below).

1. Inspection of Filterra and surrounding area
2. Removal of tree grate and erosion control stones
3. Removal of debris, trash and mulch
4. Mulch replacement
5. Plant health evaluation and pruning or replacement as necessary
6. Clean area around Filterra
7. Complete paperwork

Maintenance Tools, Safety Equipment and Supplies

Ideal tools include: camera, bucket, shovel, broom, pruners, hoe/rake, and tape measure. Appropriate Personal Protective Equipment (PPE) should be used in accordance with local or company procedures. This may include impervious gloves where the type of trash is unknown, high visibility clothing and barricades when working in close proximity to traffic and also safety hats and shoes. A T-Bar or crowbar should be used for moving the tree grates (up to 170 lbs ea.). Most visits require minor trash removal and a full replacement of mulch. See below for actual number of bagged mulch that is required in each media bay size. Mulch should be a double shredded, hardwood variety. Some visits may require additional Filterra engineered soil media available from the Supplier.

Box Length	Box Width	Filter Surface Area (ft^2)	Volume at 3" (ft^3)	# of 2 ft^3 Mulch Bags
4	4	16	4	2
6	4	24	6	3
8	4	32	8	4
6	6	36	9	5
8	6	48	12	6
10	6	60	15	8
12	6	72	18	9
13	7	91	23	12

Other sizes not listed - 1 bag per 8 ft^2 of media.

Maintenance Visit Procedure

Keep sufficient documentation of maintenance actions to predict location specific maintenance frequencies and needs. An example Maintenance Report is included in this manual.

1. Inspection of Filterra and surrounding area

- Record individual unit before maintenance with photograph (numbered). Record on Maintenance Report (see example in this document) the following:

Record on Maintenance Report the following:

Standing Water	yes | no
Damage to Box Structure	yes | no
Damage to Grate	yes | no
Is Bypass Clear	yes | no

If yes answered to any of these observations, record with close-up photograph (numbered).

2. Removal of tree grate and erosion control stones

- Remove cast iron grates for access into Filterra box.
- Dig out silt (if any) and mulch and remove trash & foreign items.

3. Removal of debris, trash and mulch

Record on Maintenance Report the following:

Silt/Clay	yes | no
Cups/ Bags	yes | no
Leaves	yes | no
Buckets Removed	_____

- After removal of mulch and debris, measure distance from the top of the Filterra engineered media soil to the top of the top slab. Compare the measured distance to the distance shown on the approved Contract Drawings for the system. Add Filterra media (not top soil or other) to bring media up as needed to distance indicated on drawings.

Record on Maintenance Report the following:

Distance to Top of Top Slab (inches)	_____
Inches of Media Added	_____

4. Mulch replacement

- Add double shredded mulch evenly across the entire unit to a depth of 3".
- Refer to Filterra Mulch Specifications for information on acceptable sources.
- Ensure correct repositioning of erosion control stones by the Filterra inlet to allow for entry of trash during a storm event.
- Replace Filterra grates correctly using appropriate lifting or moving tools, taking care not to damage the plant.

5. Plant health evaluation and pruning or replacement as necessary

- Examine the plant's health and replace if necessary.
- Prune as necessary to encourage growth in the correct directions

Record on Maintenance Report the following:

Height above Grate	_____ (ft)
Width at Widest Point	_____ (ft)
Health	healthy | unhealthy
Damage to Plant	yes | no
Plant Replaced	yes | no

6. Clean area around Filterra

- Clean area around unit and remove all refuse to be disposed of appropriately.

7. Complete paperwork

- Deliver Maintenance Report.
- Some jurisdictions may require submission of maintenance reports in accordance with approvals. It is the responsibility of the Owner to comply with local regulations.

Plant Care for Filterra® Systems

After Activation, the Contractor is responsible for proper care of the vegetation until the site is handed over to the Owner. After that, it is the Site Owner's responsibility to care for the vegetation. Contech recommends the following care for the plants:

1. To prevent transplant shock (especially if planting takes place in the hot season), it may be necessary to prune some of the foliage to compensate for reduced root uptake capacity. This is accomplished by pruning away some of the smaller secondary branches or a main scaffold branch if there are too many. Too much foliage relative to the root ball can dehydrate and damage the plant.
2. Plant staking may be required.
3. With all trees/shrubs, remove dead, diseased, crossed/rubbing, sharply crotched branches or branches growing excessively long or in wrong direction compared to majority of branches.
4. Contech recommends irrigation of the Filterra® Vegetation. The following guidance will help to ensure the vegetation is properly irrigated.

Irrigation Recommendations:

- Each Filterra® system must receive adequate irrigation to ensure survival of the living system during periods of drier weather.
- Irrigation sources include rainfall runoff from downspouts and/or gutter flow, applied water through the tree grate or in some cases from an irrigation system with emitters installed during construction.
- At Activation: Apply about one (cool climates) to two (warm climates) gallons of water per inch of trunk diameter over the root ball.
- During Establishment: In common with all plants, each Filterra® plant will require more frequent watering during the establishment period. One inch of applied water per week for the first three months is recommended for cooler climates (2 to 3 inches for warmer climates). If the system is receiving rainfall runoff from the drainage area, then irrigation may not be needed. Inspection of the soil moisture content can be evaluated by gently brushing aside the mulch layer and feeling the soil. Be sure to replace the mulch when the assessment is complete. Irrigate as needed**.
- Established Plants: Established plants have fully developed root systems and can access the entire water column in the media. Therefore irrigation is less frequent but requires more applied water when performed. For a mature system assume 3.5 inches of available water within the media matrix. Irrigation demand can be estimated as 1" of irrigation demand per week. Therefore if dry periods exceed 3 weeks, irrigation may be required.

*** Five gallons per square yard approximates 1 inch of water. Therefore for a 6' x 6 foot Filterra® approximately 20-60 gallons of applied water is needed. To ensure even distribution of water it needs to be evenly sprinkled over the entire surface of the filter bed, with special attention to make sure the root ball is completely wetted. NOTE: if needed, measure the time it takes to fill a five gallon bucket to estimate the applied water flow rate. Then calculate the time needed to irrigate the Filterra®, For example is the flow rate of the sprinkler is 5 gallons/minute then it would take 12 minutes to irrigate a 6'x6' filter.*

Plant Replacement:

In some cases, plants will require replacement. Please follow the procedures below to ensure a properly functioning Filterra® system.

1. Remove the existing plant, and leave as much of the Filterra® media in place as possible.
2. Select a replacement per the Filterra® Activation Package.
3. Prior to removing the plant from the container, ensure the soil moisture is sufficient to maintain the integrity of the root ball. If needed, pre-wet the container plant.
4. Cut away any roots which are growing out of the container drain holes.
5. Plant(s) should be carefully removed from the pot by gently pounding on the sides of the container with the fist to loosen root ball. Then carefully slide out. Do not lift plant(s) by trunk as this can break roots and cause soil to fall off. Extract the root ball in a horizontal position and support it to prevent it from breaking apart. Alternatively, the pot can be cut away to minimize root ball disturbance.
6. Excavate a hole with a diameter 4" greater than the root ball, gently place the plant(s).
7. Plant the tree/shrub/grass with the top of the root ball 1" above surrounding media to allow for settling.
8. All plants should have the main stem centered in the tree grate (where applicable) upon completion of installation.
9. Reinstall or add mulch to a depth of 3" per Contech's mulch specifications for Filterra® systems.

Maintenance Checklist

Drainage System Failure	Problem	Conditions to Check	Condition that Should Exist	Actions
Inlet	Excessive sediment or trash accumulation.	Accumulated sediments or trash impair free flow of water into Filterra.	Inlet should be free of obstructions allowing free distributed flow of water into Filterra.	Sediments and/or trash should be removed.
Mulch Cover	Trash and floatable debris accumulation.	Excessive trash and/or debris accumulation.	Minimal trash or other debris on mulch cover.	Trash and debris should be removed and mulch cover raked level. Ensure bark nugget mulch is not used.
Mulch Cover	"Ponding" of water on mulch cover.	"Ponding" in unit could be indicative of clogging due to excessive fine sediment accumulation or spill of petroleum oils.	Stormwater should drain freely and evenly through mulch cover.	Recommend contact manufacturer and replace mulch as a minimum.
Vegetation	Plants not growing or in poor condition.	Soil/mulch too wet, evidence of spill. Incorrect plant selection. Pest infestation. Vandalism to plants.	Plants should be healthy and pest free.	Contact manufacturer for advice.
Vegetation	Plant growth excessive.	Plants should be appropriate to the species and location of Filterra.		Trim/prune plants in accordance with typical landscaping and safety needs.
Structure	Structure has visible cracks.	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through the cracks.		Vault should be repaired.
Maintenance is ideally to be performed twice annually.				

Filterra Inspection & Maintenance Log

Filterra System Size/Model:_____ **Location:** _____

Date	Mulch & Debris Removed	Depth of Mulch Added	Mulch Brand	Height of Vegetation Above Grate	Vegetation Species	Issues with System	Comments
1/1/17	*5 – 5 gal Buckets*	*3″*	*Lowe's Premium Brown Mulch*	*4′*	*Galaxy Magnolia*	*- Standing water in downstream structure*	*- Removed blockage in downstream structure*

Appendix 1 – Filterra® Vault Activation Package

FILTERRA® VAULT ACTIVATION PACKAGE

CONTECH® ENGINEERED SOLUTIONS

The Filterra system will be (or has been) delivered to you with protection in place to resist intrusion of construction related sediment which can contaminate the biofiltration media and result in inadequate system performance. These protection devices are intended as a best practice and cannot fully prevent contamination. It is the purchaser's responsibility to provide adequate measures to prevent construction related runoff from entering the Filterra system.

Included with your purchase is Activation of the Filterra system by the manufacturer as well as a 1-year warranty from delivery of the system and a Final Site Assessment (assessment of unit condition, mulch replacement, debris removal, and pruning of vegetation) scheduled between 6 months and 1 year after Activation, upon request.

Activation of the Filterra system is a procedure completed by the manufacturer to place the system into working condition. This involves the following items:

- Removal of construction runoff protection devices
- Planting of the system's vegetation (provided by the purchaser)
- Placement of pretreatment mulch layer using mulch acceptable for use in Filterra systems.

Activation MUST be provided by the manufacturer to ensure proper site conditions are met for Activation, proper installation of the vegetation, and use of pretreatment mulch acceptable for use in Filterra systems. The purchaser should request Activation from Contech after the site is stabilized, but prior to turning over the site to the owner. Please allow 1-2 weeks to schedule Activation.

The purchaser must ensure that the site is acceptable for Filterra Activation. A checklist (included as page 3 of this document must be completed and submitted to the Contech Activation Coordinator. The minimum 4 requirements for Filterra Activation are as follows:

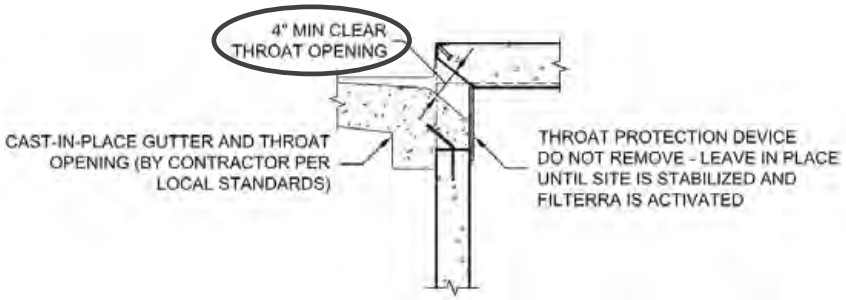
1. The purchaser must have sourced vegetation meeting the requirements outlined in "Plant Selection for Filterra Systems" starting on page 4 of this document.

* *UNPREPARED SITE FEE NOTE: A charge of $1500.00 will be invoiced for each activation visit requested by customer where Contech determines that the site does not meet the conditions required for Activation AND/OR acceptable plants are not provided by the contractor. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized activations will void the system warranty and waive manufacturer supplied activation and final inspection.*

2. The site landscaping must be fully stabilized, i.e. full landscaping installed and some grass cover (not just straw and seed) is required to reduce sediment transport. Construction debris and materials should be removed from surrounding area.

3. Final paving must be completed. Final paving ensures that paving materials will not enter and contaminate the Filterra system during the paving process, and that the plant will receive runoff from the drainage area, assisting with plant survival for the Filterra system.

4. Where curb inlets are included as part of the Filterra system, Filterra throat opening should be at least 4" clear in order to ensure adequate capacity for inflow and debris.



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Filterra® Vault Activation Checklist

CONTECH ENGINEERED SOLUTIONS

Project Name:______________________________________Company:____

Site Contact Name: _____________________________________ Site Contact Phone/Email: ___________________________

Site Owner/End User Name:________________________Site Owner/End User Phone/Email: ___________________________

Preferred Activation Date: _________________________________(provide 2 weeks minimum from date this form is submitted)

Site Designation	Top Opening Type	Final Pavement Complete	Landscaping Complete / Grass Emerging	Construction materials / Piles / Debris Removed	Throat Opening Measures 4" Min. Height (where applicable)	Vegetation Sourced by Contractor
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4' Tall Min. (Tree grate units only) ____ Qty provided
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4' Tall Min. (Tree grate units only) ____ Qty provided
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4' Tall Min. (Tree grate units only) ____ Qty provided
	☐ Tree Grate ☐ Full Grate (No tree opening) ☐ Bioscape Vault (Open Planter)	☐ Verified	☐ Verified	☐ Verified	☐ Verified	☐ Species on FT Plant List ☐ Container Grown (15 gal. max) ☐ 4' Tall Min. (Tree grate units only) ____ Qty provided

Attach additional sheets as necessary.

NOTE: A charge of $1500.00 will be invoiced for each activation visit requested by customer where Contech determines that the site does not meet the conditions required for activation AND/OR acceptable plants are not provided by the contractor. ONLY Contech authorized representatives can perform activation of Filterra systems; unauthorized activations will void the system warranty and waive manufacturer supplied activation and final inspection.

____ ________________________

Signature Date

* *UNPREPARED SITE FEE NOTE: A charge of $1500.00 will be invoiced for each activation visit requested by customer where Contech determines that the site does not meet the conditions required for Activation AND/OR acceptable plants are not provided by the contractor. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized activations will void the system warranty and waive manufacturer supplied activation and final inspection.*

filterra®

Planting Selection for Filterra® Vault Systems

All Filterra systems require vegetation for proper long-term performance. As indicated in the Activation Package, the Contractor is responsible for sourcing the proper vegetation prior to Activation. Contech or a Contech representative will install the vegetation during the Activation process.

Contractors should identify the Top Opening style for each Filterra requiring Activation on the Activation Checklist. Contech offers three types, which are detailed on page 5 of this document:

- Vault with Tree Grate
- Vault with Full Grate
- Bioscape / Open Planter

Contractors must ensure the vegetation meets the following 4 requirements:

1. Select plant(s) as specified in the engineering plans and specifications AND that are listed on Contech's Configuration Specific Plant Lists**.
2. All plants MUST be container-grown in nursery containers no larger than 15 gallons. Crated and/or Ball/Burlap plants are NOT permitted.
3. For Vaults with Tree Grates, plant height must be 4' Minimum, from soil surface to top of plant.
4. Provide plant quantities per the following guidance:
   - Vault with Tree Grate – 1 per Tree Grate
   - Vault with Full Grate – 4-5 Small or Extra Small Grasses per Full Grate
   - Bioscape – Quantities should be selected based on plant palette options found starting on page 6 of this document.

If Contech or Contech's representative shows up for Activation and any of the 4 requirements above are not met, Activation cannot be performed and the Contractor will be billed a $1,500 Unprepared Site fee*.

Some additional vegetation recommendations for the best possible Activation and Installation are as follows:

- Select plant(s) with full root development but not to the point where root bound.
- For Filterra systems with a Tree Grate, select plants with taller trunks. Lower branches can be pruned away provided there are sufficient branches above the grate for tree or shrub development.
- For Filterra systems with a Tree Grate, plant(s) should have a single trunk at installation.
- Plant species shall not have a mature height greater than 30 feet.

** In some cases, Contech may consider alternate plant species as approved by the Product Manager. Please list the plant name in the space below and submit this sheet to your Contech Activation Coordinator. If the plant species is approved, either the Product Manager or the Activation Coordinator will sign the form and return to you for inclusion with your Activation Checklist.

Requested Plant Species: _____ Approved: _____

Date: _____

** UNPREPARED SITE FEE NOTE: A charge of $1500.00 will be invoiced for each activation visit requested by customer where Contech determines that the site does not meet the conditions required for Activation AND/OR acceptable plants are not provided by the contractor. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized activations will void the system warranty and waive manufacturer supplied activation and final inspection.*

Filterra® Top Opening Examples

Filterra® Vault with Tree Grate

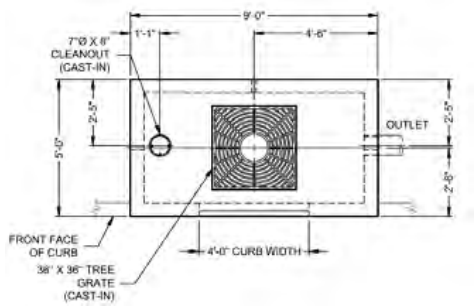


Figure 1a. Filterra with Tree Grate Drawing

Figure 1b. Filterra with Tree Grate Photo (not yet planted)

Filterra® Vault with Full Grate

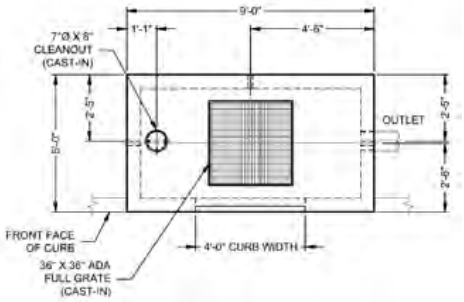


Figure 2a. Filterra with Full Grate Drawing

Figure 2b. Filterra with Full Grate Photo

Filterra® Bioscape Vault

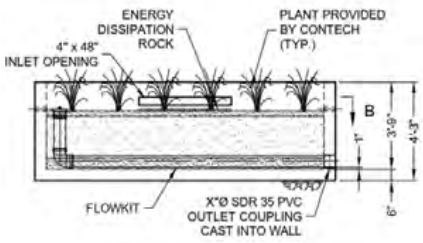


Figure 3a. Filterra Bioscape Vault Drawing

Figure 3b. Filterra Bioscape Vault Photo

** UNPREPARED SITE FEE NOTE: A charge of $1500.00 will be invoiced for each activation visit requested by customer where Contech determines that the site does not meet the conditions required for Activation AND/OR acceptable plants are not provided by the contractor. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized activations will void the system warranty and waive manufacturer supplied activation and final inspection.*

Filterra® Bioscape Vault Plant Palettes

KEY: (refer to plant lists for species sizing)

A. EXTRA SMALL GRASS
- Up to 2' mature spread
- 1-2 gallon typical (1 gal. minimum)

B. SMALL GRASS/SHRUB
- 2'-4' mature spread
- 1-7 gallon typical

C. MEDIUM SHRUB
- 4'-6' mature spread
- 1-7 gallon typical

D. LARGE SHRUB OR EXTRA LARGE SHRUB OR TREE
- 6' mature spread and greater, 30' max. mature height
- Up to 15 gallon maximum

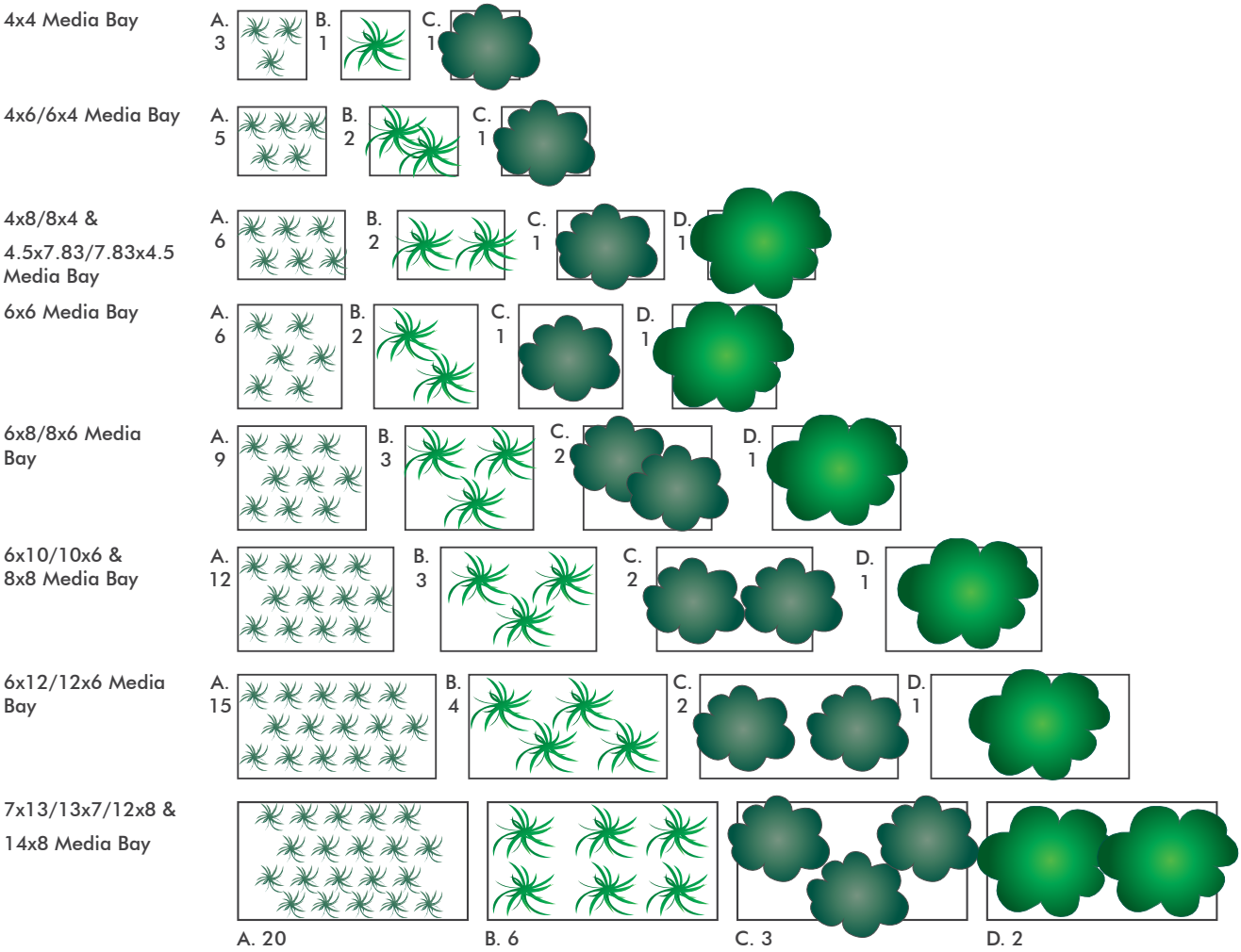
NOTE: *For larger vaults and in-ground Filterra Bioscape systems, palettes can be scaled (i.e. Qty 6 of the 22x8 Palette can be used for a 1056 sf Filterra Bioscape).*

MIX & MATCH SUBSTITUTION OPTIONS:

1 Large Shrub or Extra Large Shrub or Tree
- 2 Medium Shrubs
- 4 Small Grass/SHrubs
- 12 Extra Small Grasses

1 Medium Shrub
- 2 Small Grass/Shrubs
- 6 Extra Small Grasses

1 Small Grass/Shrub
- 3 Extra Small Grasses



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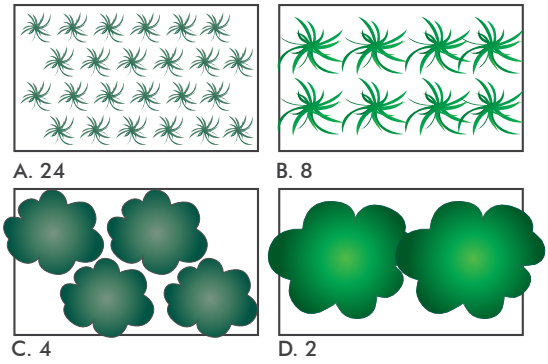
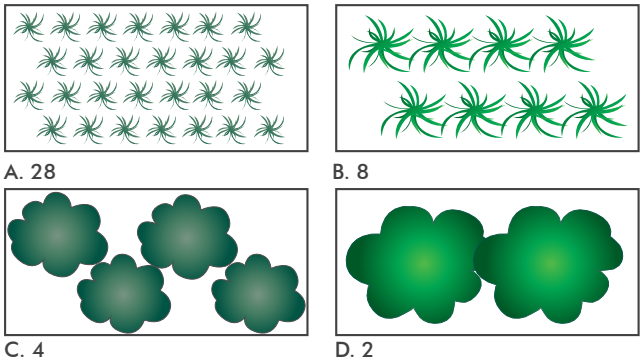
16x8 & 15x9 Media Bay



A. 24 B. 8

C. 4 D. 2

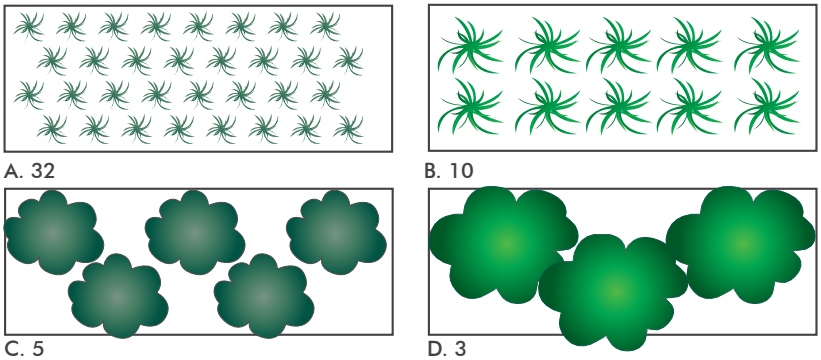
18x8 Media Bay



A. 28 B. 8

C. 4 D. 2

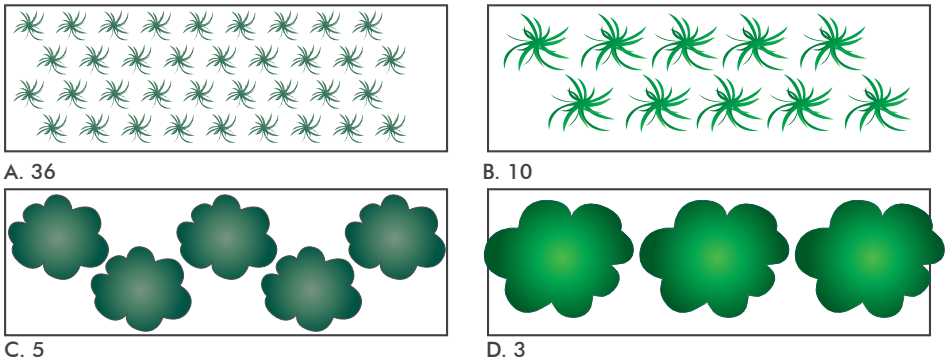
20x8 Media Bay



A. 32 B. 10

C. 5 D. 3

22x8 Media Bay



A. 36 B. 10

C. 5 D. 3

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Appendix 2 – Filterra® Tree Grate Opening Expansion Procedure

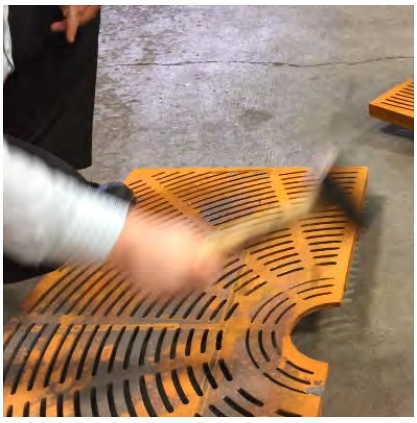
The standard grates used on all Filterra configurations that employ Tree Grates are fabricated with a 6″ opening that is designed with a breakaway section that can be removed, allowing the grate opening to be expanded to 12″ as the tree matures and the trunk widens.

The following tools are required to expand the opening:

- Mini sledgehammer (3 lb. or greater)
- Safety Glasses / Goggles

The following guidelines should be followed to properly expand the tree opening from 6″ to 12″:

1. Remove the grate from the Filterra frame, place it flat on a hard surface, and support the grate by stepping on the edge or using other weighted items such as a few mulch bags if this is being done during a Filterra maintenance event. Put on safety glasses/goggles. Align the mini sledgehammer as shown in the figure to the left. The head of the sledgehammer should be aimed just inside the wide cast iron bar between the larger grate section and the breakaway section.



2. Repeatedly hit the grate at this spot with the mini sledgehammer.

3. After several hits, the breakaway section should snap cleanly off of the larger grate section. Reinstall the grate into the Filterra grate frame. Recycle or dispose of the breakaway section per local guidelines.

Notes

Notes

Notes

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9100 Centre Pointe Drive, Suite 400
West Chester, OH 45069
info@conteches.com | 800-338-1122
www.ContechES.com

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63 Marginal Way, 4th Floor
Portland, ME 04101

T 207.879.1930
TRCcompanies.com

MEMORANDUM

To: Raegan Young (SMPDC)

From: Emily Wassmer (TRC)
Kara Parker (TRC)

cc: Ms. Shannon Hill

Re: Limited Pre-Renovation Hazardous Building Materials Assessment
Best Automotive, 5 Whipple Road, Kittery, Maine

Dear Raegan:

TRC is pleased to present to the Southern Maine Planning and Development Commission (SMPDC, Client) the enclosed above-referenced limited Pre-Renovation Hazardous Building Materials Assessment (HBMA) Report for the Best Automotive Site at 5 Whipple Road in Kittery, Maine (the Site). This work is intended to be a preliminary investigation into potential hazardous building materials (HBMs) prior to planned renovation/redevelopment.

TRC subcontracted John Turner Consulting, Inc. (JTC) to complete this HBMA work. JTC collected samples at the Site on February 27, 2024. This cover letter summarizes the attached HBMA Report.

Asbestos Containing Materials (ACM) Survey

A total of 51 bulk samples of suspect ACM were collected and analyzed by polarized light microscopy (PLM). As presented in Table 1 in the attached HBMA Report, asbestos was identified in the third layer of roofing material.

Lead-Containing Paint (LCP) Screening

A total of 5 paint samples were collected from areas that will be disturbed during renovations and analyzed for total lead by chip weight. As presented in Table 2, lead levels meeting or exceeding the U.S. Department of Housing and Urban Development (HUD) published level identified as being potentially dangerous (0.5% by weight or 1.0 mg/cm^2) were not identified.

Polychlorinated Biphenyl (PCB) Survey

A total of 2 bulk samples were collected and analyzed for PCBs. As presented in Table 3, concentrations of PCBs were detected above 1 milligram per kilogram (mg/kg) and below 50 mg/kg. Fluorescent light ballasts present at the Site are assumed to contain PCBs. No other suspect PCB materials were observed.

Other Hazardous and Regulated Materials Survey

As a result of the survey, and as presented in Table 4, several potentially hazardous and regulated materials were identified at the Site, including fluorescent lamps and ballasts, automotive chemicals, petroleum products, and mercury-containing thermostats.

Closing

The limited Pre-Renovation HBMA Report is enclosed, which contains additional information and recommendations. TRC recommends a thorough destructive/intrusive HBMS survey be conducted should the building be demolished as there may be additional regulated materials identified that were not accessible or targeted during this limited HBMA survey.

Please feel free to contact me at (207) 298-0785 if you have any questions or require additional information.

Sincerely,

Emily Wassmer, LG, LSP
Project Manager/Sr. Geologist

Kara Sweeney Parker
Senior Project Manager

Enclosure – Pre-Renovation Hazardous Building Materials Assessment Report, 5 Whipple Road, Kittery, Maine

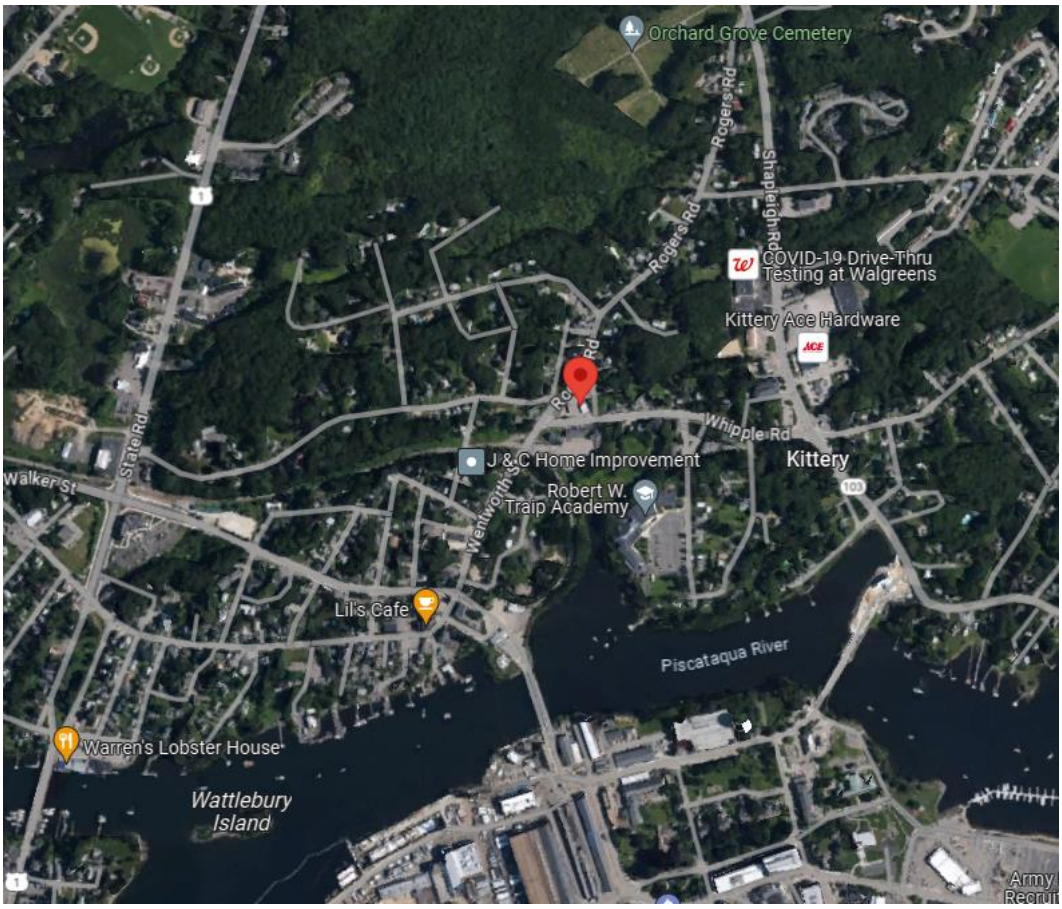
JOHN TURNER CONSULTING

JTC Project No.: 24-50-256
March 21, 2024

PRE-RENOVATION HAZARDOUS BUILDING MATERIALS ASSESSMENT

Maine Meats

5 Whipple Road
Kittery, Maine



Conducted for:
TRC Engineering
650 Suffolk Stret
Lowell, MA 01854

Prepared by:
John Turner Consulting, Inc.
19 Dover Street
Dover, NH 03860

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3.2 Sample Collection/Analysis 3
3.3 Results 4

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7.0 CONCLUSION AND RECOMMENDATIONS 7

ATTACHMENTS:

Attachment A: Laboratory Analytical and Chain of Custody's

1.0 INTRODUCTION

John Turner Consulting, Inc., (JTC) conducted a pre-renovation hazardous building survey including an asbestos-containing materials (ACM) survey, lead based paint survey, polychlorinated biphenyls (PCB) material survey, and a hazardous building materials inventory of the accessible interior and exterior of the building located at 5 Whipple Road, Kittery, Maine. The field activities described in this report were performed in accordance with applicable Federal and State regulatory agency requirements.

2.0 PROJECT OBJECTIVES

JTC understands that the survey was requested to identify and quantify ACM, lead based paints, PCB containing materials, and hazardous materials that may be present and potentially affected by planned renovation or demolition of the site building.

3.0 ASBESTOS SURVEY

3.1 Regulatory

The asbestos survey was conducted by JTC representatives, Mr. Graham Chag, a Maine Department of Environmental Protection licensed asbestos inspector. His Asbestos Inspector License No. is AI-0893 and expires October 31, 2024.

The pre-renovation asbestos survey was conducted in general accordance with the sample collection protocols established in United State Environmental Protection Agency (USEPA) regulation 40 CFR 763; Maine Department of Environmental Protection (Maine DEP): Title 38, Chapter 12-A: Asbestos and Chapter 425 – Asbestos Management Regulations. A summary of the limited asbestos survey activities is provided below.

In accordance with the Federal and State regulations, the materials present in the inaccessible areas must be assumed as ACM until access is provided and by additional sampling and laboratory analysis such materials can be proven non-asbestos containing.

3.2 Sample Collection/Analysis

JTC collected fifty-one (51) asbestos bulk samples which were submitted to EMSL Analytical, Inc., located in South Portland, Maine for analysis by Polarized Light Microscopy (PLM) with dispersion staining techniques using the USEPA Method for the Determination of Asbestos in Bulk Building Materials (600/R-93-116) and PLM USEPA Method for the Determination of Asbestos in Non-Friable Organically Bond (NOB) Materials. Confirmatory analysis using transmission electron microscopy (TEM) for trace (less than 1 percent asbestos) non-friable samples results can be performed at the request of the Client.

EMSL is accredited under the National Voluntary Laboratory Accreditation Program. The percentage of asbestos, where present, was determined by a microscopic visual estimation.

3.3 Results

Suspect building material samples were collected from the interior and exterior of the entire building located at 5 Whipple Road in Kittery, Maine. Samples collected consisted of the following:

- Mastics,
- Cove Base,
- Mortar,
- Grout,
- Window Caulk,
- Adhesives,
- Floor Tile,
- Joint Compound,
- Drywall,
- Roofing material.

Asbestos Containing Material (ACM) was detected in one sample at 3.6% to 6.1% Chrysolite. Asbestos was detected in the third layer of roofing material. The ACM is listed in Table 1 below.

Table 1: Asbestos Materials

Sample Number	Sample Description/Location	Percent Asbestos (%)	Location	Quantity
3A	Third Layer of Roofing Material (Black)	3.6	Roof	1,500-SF
3B		5.8		
3C		6.1		

The materials are considered ACM by MEDEP, EPA Regulations, and OSHA. As a result of such, appropriate removal and handling of the material is required including best available technology which would include Tyvek suits, respirators, HEPA vacuums, etc." No ACM was detected in the remaining suspect materials that were sampled and analyzed. A copy of the laboratory analytical results and chain-of-custody documentation are contained in Appendix A.

4.0 LEAD BASED PAINT SURVEY

The lead based paint (LBP) survey was conducted to identify the presence of lead-containing paint (LCP) in the site building prior to renovation in consideration of OSHA's Lead Standard for the Construction Industry, Title 29 Code of Federal Regulations 1926.62. This survey was completed in general accordance with Maine Department of Environmental Protection (DEP) Chapter 424: Lead Management Regulations, revised October 19, 2021 (Maine DEP Chapter 424), which is a residential standard; however, provides the appropriate means and methods for conducting and reporting lead inspections, as wells as the required training for personnel certified to conduct lead inspections.

A total of 5 independent points were sampled within/on the Site building. Samples were submitted to EMSL in South Portland, Maine by analysis method SW-846-7000B, Flame Atomic Absorption by chip weight (% wt). Screening locations were based on unique testing combinations of building component, substrate, and paint color. The survey was generally performed on painted surfaces throughout the entire Site building with particular focus on areas planned for renovation. Results of the Lead Paint Survey are included in Table 3 below.

Table 2: Lead Materials

Sample Number	Sample Description/Location	Lead (% wt)	Location	Quantity
1	Light Blue Exterior CMU Wall	0.095%	Eastern Exterior wall of Building	610-SF
2	Light Blue Men/Women's Bathroom Doors	0.31%	South side of Building	42-SF
3	Yellow Interior Concrete Walls	0.086%	South side of Building	376-SF
4	Gray Interior CMU Wall	0.15%	Eastern Interior wall of Building	960-SF
5	Gray Interior Ceiling	0.096%	S.E. Corner of Garage Ceiling	750-SF

Lead-containing paint means paint or other surface coatings that contain lead in excess of 0.0 milligram per square centimeter (mg/cm2) but not exceeding 1.0 mg/cm2, or in excess of 0.0% by weight but not exceeding 0.5% by weight. "Lead-based paint" means paint or other surface coatings that contain lead equal to or in excess of 1.0 mg/cm2 or equal to or in excess of 0.5% by weight.

Results indicate that all sampled surfaces had minor amounts of lead detected. All detected lead samples were below the Maine DEP standard, 0.5% by weight. A copy of the laboratory analytical results and chain-of-custody documentation are contained in Appendix A.

5.0 POLYCHLROINATED BIPHENYLS

The PCB survey was conducted to identify the presence of polychlorinated biphenyls (PCB) materials. Suspect PCB materials include expansion joint caulking, door caulking, window caulking, and tile mastics, etc. Bulk PCB solid sampling was executed per 40 CFR 7261.265 and 761.286 to collect all samples. Two PCB samples were submitted to EMSL in South Portland, Maine by analysis method SW846-3540C/SW845-8082A. All detected PCB analytes are listed in Table 4 below.

Table 3: PCB Materials

Sample Number	Sample Description/Location	PCB (mg/kg)	Analyte	Quantity
1	Wall Tile Adhesive – Men and Women' Bathroom	2.7	Aroclor-1254	272-SF
2	Exterior Window Caulking – North side of building	3.3	Aroclor-1254	136-LF

Both the wall tile adhesive and window caulking were found to contain concentrations of total Aroclors (Aroclor-1254) that exceeded the Toxic Substance Control Act (TSCA) PCB Cleanup level of 1.0 mg/kg. As a result of such, appropriate removal and handling of the material is required including the best available equipment, tools, and technology. A copy of the laboratory analytical results and chain-of-custody documentation are contained in Appendix A.

6.0 HAZARDOUS BUILDING MATERIAL INVENTORY

JTC reviewed the building and took an inventory of universal waste which will need proper disposal or recycling. The inventory included mercury in fluorescent light bulbs, PCB light ballasts, automotive chemicals, and petroleum products were present at the time of the survey. Universal waste was identified by visual observation, no disassembly of equipment or sampling was performed. A representative number of ballasts, fluorescent tubes etc. were visually observed to determine the presence of universal waste. The identified universal waste and its estimated quantities are contained in Table 2. The developer/contractor should comply with applicable state and federal regulations for the segregation, management, removal of these materials from the building and disposal.

Table 4: Hazardous Materials

Type	Size	Quantity
Light Fixture	2 bulbs (8’ in length)	13
Light Fixture	2 Bulbs (4’ in length)	8
Light Fixture	1 Bulb (8’ in length)	7
Light Fixture	1 Bulb (4’ in length)	3
Petroleum Products	55-gallon metal drum (AW-32 Hydraulic oil)	1
Petroleum Products	55-gallon metal drum (Synthetic AFT oil)	2
Hazardous Chemicals	55 -gallon metal drum (unknown chemicals)	2
Petroleum Products	Waste oil AST	1
Miscellaneous	Thermostat	1

In addition to items listed above, there are other miscellaneous items which may be able to be recycled. There were various miscellaneous automotive parts such as motor oils, oil filters, tires, etc.

If you have any questions regarding this report, please contact us at (603) 475-5376 or email the project manager: matthewp@fgscmt.com.

Sincerely,

John Turner Consulting, INC

Matthew Pellerin
Operations Manager
matthewp@consultjtc.com
19 Dover Street
Dover, NH 03820

Benjamin J. Grigas, PG, CG
Senior Vice President
bgrigas@consultjtc.com
19 Dover Street
Dover, NH 03820

APPENDIX A

Analytical Laboratory Reports and COC

EMSL Analytical, Inc.

161 John Roberts Road South Portland, ME 04106
Phone/Fax: (207) 517-6921 / (207) 517-6922
http://www.EMSL.com / portlandlab@emsl.com

EMSL Order ID:	622400182
Customer ID:	JHNT75
Customer PO:	24-50-256
Project ID:	

Attn: Graham Chag
John Turner Consulting
19 Dover Street
Dover, NH 03820

Phone:	(603) 749-1841
Fax:	
Collected:	
Received:	2/28/2024
Analyzed:	3/04/2024

Proj: 24-50-256 - 5 Whipple Rd. Kittery, ME.

Summary Test Report for Asbestos Analysis of Bulk Material

Client Sample ID: 1A **Lab Sample ID:** 622400182-0001
Sample Description: ROOF, SOUTH SIDE/LAYER 1, ASPHALT SHINGLES - ASPHALT SHINGLES

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Black	0.0%	100%	None Detected	

Client Sample ID: 1B **Lab Sample ID:** 622400182-0002
Sample Description: ROOF, SOUTH SIDE/LAYER 1, ASPHALT SHINGLES - ASPHALT SHINGLES

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Black	0.0%	100%	None Detected	

Client Sample ID: 1C **Lab Sample ID:** 622400182-0003
Sample Description: ROOF, SOUTH SIDE/LAYER 1, ASPHALT SHINGLES - ASPHALT SHINGLES

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Black	0.0%	100%	None Detected	

Client Sample ID: 2A **Lab Sample ID:** 622400182-0004
Sample Description: ROOF, SOUTH SIDE/LAYER 2, ROOFING PAPER - ROOFING PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Black	0.0%	100%	None Detected	

Client Sample ID: 2B **Lab Sample ID:** 622400182-0005
Sample Description: ROOF, SOUTH SIDE/LAYER 2, ROOFING PAPER - ROOFING PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Black	0.0%	100%	None Detected	

Client Sample ID: 2C **Lab Sample ID:** 622400182-0006
Sample Description: ROOF, SOUTH SIDE/LAYER 2, ROOFING PAPER - ROOFING PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Black	0.0%	100%	None Detected	

Client Sample ID: 3A **Lab Sample ID:** 622400182-0007
Sample Description: ROOF, SOUTH SIDE/LAYER 3, ROOFING MATERIAL - ROOFING MATERIAL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Black	0.0%	96.4%	**3.6% Chrysotile**	

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EMSL Order ID:	622400182
Customer ID:	JHNT75
Customer PO:	24-50-256
Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material

Client Sample ID: 3B ***Lab Sample ID:*** **622400182-0008**

Sample Description: ROOF, SOUTH SIDE/LAYER 3, ROOFING MATERIAL - ROOFING MATERIAL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Black	0.0%	94.2%	**5.8% Chrysotile**	

Client Sample ID: 3C ***Lab Sample ID:*** **622400182-0009**

Sample Description: ROOF, SOUTH SIDE/LAYER 3, ROOFING MATERIAL - ROOFING MATERIAL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Black	0.0%	93.9%	**6.1% Chrysotile**	

Client Sample ID: 4A ***Lab Sample ID:*** **622400182-0010**

Sample Description: MEN'S BATHROOM/4"X4" LIGHT BLUE WALL TILE ADHESIVE - WALL TILE ADHESIVE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Brown	0.0%	100%	None Detected	

Client Sample ID: 4B ***Lab Sample ID:*** **622400182-0011**

Sample Description: WOMEN'S BATHROOM/4"X4" LIGHT BLUE WALL TILE ADHESIVE - WALL TILE ADHESIVE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Brown	0.0%	100%	None Detected	

Client Sample ID: 4C ***Lab Sample ID:*** **622400182-0012**

Sample Description: WOMEN'S BATHROOM/4"X4" LIGHT BLUE WALL TILE ADHESIVE - WALL TILE ADHESIVE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Brown	0.0%	100%	None Detected	

Client Sample ID: 5A ***Lab Sample ID:*** **622400182-0013**

Sample Description: MEN'S BATHROOM/4"X4" LIGHT BLUE WALL TILE GROUT

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Blue	0.0%	100.0%	None Detected	

Client Sample ID: 5B ***Lab Sample ID:*** **622400182-0014**

Sample Description: WOMEN'S BATHROOM/4"X4" LIGHT BLUE WALL TILE GROUT

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Blue	0.0%	100.0%	None Detected	

Client Sample ID: 5C ***Lab Sample ID:*** **622400182-0015**

Sample Description: WOMEN'S BATHROOM/4"X4" LIGHT BLUE WALL TILE GROUT

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Blue	0.0%	100.0%	None Detected	

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Customer ID:	JHNT75
Customer PO:	24-50-256
Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material

Client Sample ID: 6A ***Lab Sample ID:*** **622400182-0016**

Sample Description: ROOF VENT CAULKING/GRAY VENT CAULKING - CAULK

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Gray	0.0%	100%	None Detected	

Client Sample ID: 6B ***Lab Sample ID:*** **622400182-0017**

Sample Description: ROOF VENT CAULKING/GRAY VENT CAULKING - CAULK

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Gray	0.0%	100%	None Detected	

Client Sample ID: 6C ***Lab Sample ID:*** **622400182-0018**

Sample Description: ROOF VENT CAULKING/GRAY VENT CAULKING - CAULK

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Gray	0.0%	100%	None Detected	

Client Sample ID: 7A ***Lab Sample ID:*** **622400182-0019**

Sample Description: MEN'S BATHROOM/1"X1" FLOOR TILE GROUT

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 7B ***Lab Sample ID:*** **622400182-0020**

Sample Description: MEN'S BATHROOM/1"X1" FLOOR TILE GROUT

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 7C ***Lab Sample ID:*** **622400182-0021**

Sample Description: WOMEN'S BATHROOM/1"X1" FLOOR TILE GROUT

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 8A ***Lab Sample ID:*** **622400182-0022**

Sample Description: MEN'S BATHROOM/1"X1" FLOOR TILE MORTAR

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 8B ***Lab Sample ID:*** **622400182-0023**

Sample Description: MEN'S BATHROOM/1"X1" FLOOR TILE MORTAR

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

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EMSL Order ID: 622400182
Customer ID: JHNT75
Customer PO: 24-50-256
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Material

Client Sample ID: 8C ***Lab Sample ID:*** **622400182-0024**
Sample Description: WOMEN'S BATHROOM/1"X1" FLOOR TILE MORTAR

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 9A ***Lab Sample ID:*** **622400182-0025**
Sample Description: MEN'S BATHROOM/DRYWALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	5.0%	95.0%	None Detected	

Client Sample ID: 9B ***Lab Sample ID:*** **622400182-0026**
Sample Description: WOMEN'S BATHROOM/DRYWALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	5.0%	95.0%	None Detected	

Client Sample ID: 9C ***Lab Sample ID:*** **622400182-0027**
Sample Description: GARAGE STORE ROOM/DRYWALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	5.0%	95.0%	None Detected	

Client Sample ID: 10A ***Lab Sample ID:*** **622400182-0028**
Sample Description: MEN'S BATHROOM/JOINT COMPOUND (WALLS)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 10B ***Lab Sample ID:*** **622400182-0029**
Sample Description: WOMEN'S BATHROOM/JOINT COMPOUND (WALLS)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 10C ***Lab Sample ID:*** **622400182-0030**
Sample Description: MEN'S BATHROOM/JOINT COMPOUND (WALLS)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	White	0.0%	100.0%	None Detected	

Client Sample ID: 11A ***Lab Sample ID:*** **622400182-0031**
Sample Description: WAITING ROOM/BROWN COVE BASE - COVE BASE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Brown	0.0%	100%	None Detected	

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Customer ID:	JHNT75
Customer PO:	24-50-256
Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material

Client Sample ID: 11B ***Lab Sample ID:*** **622400182-0032**

Sample Description: WAITING ROOM/BROWN COVE BASE - COVE BASE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Brown	0.0%	100%	None Detected	

Client Sample ID: 11C ***Lab Sample ID:*** **622400182-0033**

Sample Description: WAITING ROOM/BROWN COVE BASE - COVE BASE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Brown	0.0%	100%	None Detected	

Client Sample ID: 12A ***Lab Sample ID:*** **622400182-0034**

Sample Description: WAITING ROOM/BROWN COVE BASE ADHESIVE (YELLOW) - COVE BASE ADHESIVE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Yellow	0.0%	100%	None Detected	

Client Sample ID: 12B ***Lab Sample ID:*** **622400182-0035**

Sample Description: WAITING ROOM/BROWN COVE BASE ADHESIVE (YELLOW) - COVE BASE ADHESIVE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Yellow	0.0%	100%	None Detected	

Client Sample ID: 12C ***Lab Sample ID:*** **622400182-0036**

Sample Description: WAITING ROOM/BROWN COVE BASE ADHESIVE (YELLOW) - COVE BASE ADHESIVE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Yellow	0.0%	100%	None Detected	

Client Sample ID: 13A ***Lab Sample ID:*** **622400182-0037**

Sample Description: MEN'S BATHROOM DOOR FRAME/DOOR FRAME MORTAR

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 13B ***Lab Sample ID:*** **622400182-0038**

Sample Description: MEN'S BATHROOM DOOR FRAME/DOOR FRAME MORTAR

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 13C ***Lab Sample ID:*** **622400182-0039**

Sample Description: MEN'S BATHROOM DOOR FRAME/DOOR FRAME MORTAR

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

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Customer ID:	JHNT75
Customer PO:	24-50-256
Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material

Client Sample ID: 14A ***Lab Sample ID:*** **622400182-0040**

Sample Description: N. SIDE OF BUILDING/EXTERIOR WINDOW CAULKING - CAULK

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	White	0.0%	100%	None Detected	

Client Sample ID: 14B ***Lab Sample ID:*** **622400182-0041**

Sample Description: N. SIDE OF BUILDING/EXTERIOR WINDOW CAULKING - CAULK

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	White	0.0%	100%	None Detected	

Client Sample ID: 14C ***Lab Sample ID:*** **622400182-0042**

Sample Description: N. SIDE OF BUILDING/EXTERIOR WINDOW CAULKING - CAULK

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	White	0.0%	100%	None Detected	

Client Sample ID: 15A ***Lab Sample ID:*** **622400182-0043**

Sample Description: N. SIDE OF BUILDING/EXTERIOR WINDOW GLAZE - GLAZE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Clear	0.0%	100%	None Detected	

Client Sample ID: 15B ***Lab Sample ID:*** **622400182-0044**

Sample Description: N. SIDE OF BUILDING/EXTERIOR WINDOW GLAZE - GLAZE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Clear	0.0%	100%	None Detected	

Client Sample ID: 15C ***Lab Sample ID:*** **622400182-0045**

Sample Description: N. SIDE OF BUILDING/EXTERIOR WINDOW GLAZE - GLAZE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/04/2024	Clear	0.0%	100%	None Detected	

Client Sample ID: 16A ***Lab Sample ID:*** **622400182-0046**

Sample Description: GARAGE AREA/CEILING PLASTER BOARD

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 16B ***Lab Sample ID:*** **622400182-0047**

Sample Description: GARAGE AREA/CEILING PLASTER BOARD

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

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EMSL Order ID:	622400182
Customer ID:	JHNT75
Customer PO:	24-50-256
Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material

Client Sample ID: 16C ***Lab Sample ID:*** **622400182-0048**

Sample Description: GARAGE AREA/CEILING PLASTER BOARD

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 17A ***Lab Sample ID:*** **622400182-0049**

Sample Description: GARAGE AREA/CEILING JOINT COMP.

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	White	0.0%	100.0%	**<1% Chrysotile**	

Client Sample ID: 17B ***Lab Sample ID:*** **622400182-0050**

Sample Description: GARAGE AREA/CEILING JOINT COMP.

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	White	0.0%	100.0%	**<1% Chrysotile**	

Client Sample ID: 17C ***Lab Sample ID:*** **622400182-0051**

Sample Description: GARAGE AREA/CEILING JOINT COMP.

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/04/2024	White	0.0%	100.0%	**<1% Chrysotile**	

PLM: ME CERT # BA-0178

PLM EPA NOB: ME CERT # BA-0178

Analyst(s):

Stephen Severn PLM (24)
PLM Grav. Reduction (27)

Reviewed and approved by:

Stephen Severn, Technical Manager
or Other Approved Signatory

Samples analyzed by EMSL Analytical, Inc. South Portland, ME NVLAP Lab Code 500094-0, VT AL197271, ME LM-0039, CT PH-0346, AZ AZ-0959, MA AA000236

Initial report from: 03/04/202417:48:29

OrderID: 622400182

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only

622400182

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	John Turner Consulting (JTC)	Company Name:	JTC
Contact Name:	Graham Chay	Billing Contact:	Matthew Pellerin
Street Address:	19 Dover St. Fl	Street Address:	19 Dover St
City, State, Zip:	Dover, NH 03820	City, State, Zip:	Dover NH
Country:		Country:	
Phone:	603-828-9322	Phone:	603-828-9322
Email(s) for Report:	gchay@consultjtc.com	Email(s) for Invoice:	Matthewp@consultjtc.com

Project Information

Project Name/No:	24-50-256 - 5 Whipple Rd. Kittery, ME	Purchase Order:	
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected: ME	State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Graham Chay	Sampled By Signature:	Date Sampled: / No. of Samples in Shipment

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☒ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

Test Selection

PLM - Bulk (reporting limit)

- ☒ PLM EPA 600/R-93/116 (<1%)
- ☒ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Bulk

- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable - NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Tests (please specify)

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Sample Number	HA Number	Sample Location	Material Description
Samples on Next Page			

RECEIVED
FEB 28 2024
BY: AR

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

PLM or NOB as required

Method of Shipment:	Prior	Sample Condition Upon Receipt:	
Relinquished by: Graham Chay	Date/Time: 2/27 16:45	Received by: AR	Date/Time: 2/28/24 09:30
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - Asbestos Bulk R7 9/14/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	HA Number	Sample Location	Material Description
1A		Roof, South Side	Layer 1, Asphalt Shingles
1B		↓	↓
1C		↓	↓
2A		↓	Layer 2, Roofing Paper
2B		↓	↓
2C		↓	↓
3A		↓	Layer 3, Roofing Material
3B		↓	↓
3C		↓	↓
4A		Men's Bathroom	4"x4" Light Blue Wall Tile Adhesive
4B		Women's Bathroom	↓
4C		Women's Bathroom	↓
5A		Men's Bathroom	4"x4" Light Blue Wall Tile Grout
5B		Women's Bathroom	4"x4" Light Blue Wall Tile Grout
5C		Women's Bathroom	↓
6A		Roof Vent Caulking	Gray Vent Caulking
6B		↓	↓
6C		↓	↓
7A		Men's Bathroom	1"x1" Floor Tile Grout
7B		Men's Bathroom	↓
7C		Women's Bathroom	↓
8A		Men's Bathroom	1"x1" Floor Tile Mortar
8B		Men's Bathroom	↓
8C		Women's Bathroom	↓

RECEIVED
FEB 28 2024
BY: AR

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Relinquished by:	Date/Time:	Received by: AR	Date/Time: 2/28/24 09:30
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - Asbestos Bulk R5 03/18/2021

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OrderID: 622400182

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only

622400182

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	HA Number	Sample Location	Material Description
9A		Men's Bathroom	Drywall
9B		Men's/Women's Bathroom	
9C		Garage Storage room	
10A		Men's Bathroom	Joint Compound (walls)
10B		Women's Bathroom	
10C		Men's Bathroom	
11A		Waiting room	Brown Cove Base
11B			
11C			
12A			Brown Cove Base Adhesive (Yellow)
12B			
12C			
13A		Men's Bathroom Door Frame	Door Frame Mortar
13B		Men's Bathroom Door Frame	
13C		Women's Bathroom Door Frame	
14A		N. Side of Building	Exterior Window Caulking
14B			
14C			
15A			Exterior Window Glaze
15B			
15C			
16A		Garage Area	Ceiling Plaster board
16B			RECEIVED
16C			FEB 28 2024
			BY: AR

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time:	Received by: AR	Date/Time 2/28/24 09:30
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - Asbestos Bulk R5 03/18/2021

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TESTING LABS • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only

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200 Route 130 North
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PHONE: (800) 220-3675
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Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	HA Number	Sample Location	Material Description
17A		Garage Area	Ceiling Joint Comp.
17B		↓	
17C			

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Relinquished by:	Date/Time:	Received by: AR	Date/Time: 2/28/24 09:30
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - Asbestos Bulk R5 03/18/2021

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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012409199
LIMS Reference ID: AC09199
EMSL Customer ID: JHNT75

Attention: Graham Chag
John Turner Consulting [JHNT75]
19 Dover Street
Dover, NH 03820
(603) 828-9322
gchag@consultjtc.com

Project Name: 24-50-256 / 5 Whipple Rd., Kittery, ME

Customer PO:
EMSL Sales Rep: Jason McDonald
Received: 02/29/2024 10:35
Reported: 03/04/2024 10:51

Analytical Results

Analyte	Results	RL	Weight(g)	Prep Date & Tech	Prep Method	Analysis Date & Analyst	Analytical Method	Q	DF
Client Sample ID: 1/Light Blue - Exterior CMU Wall - East Side of Bld									**Date Sampled: 02/27/24**
Matrix: Chips									**LIMS Reference ID: AC09199-01**
Lead	0.095 % wt	0.008 % wt	0.26	02/29/24 NP2	SW-846 3050B	03/01/24 MAC	SW846-7000B		1
	Sample Comments:								
Client Sample ID: 2/Light Blue - Men/Women Bathroom Door's									**Date Sampled: 02/27/24**
Matrix: Chips									**LIMS Reference ID: AC09199-02**
Lead	0.31 % wt	0.008 % wt	0.2831	02/29/24 NP2	SW-846 3050B	03/01/24 MAC	SW846-7000B		1
	Sample Comments:								
Client Sample ID: 3/Yellow - Men's Bathroom Wall									**Date Sampled: 02/27/24**
Matrix: Chips									**LIMS Reference ID: AC09199-03**
Lead	0.086 % wt	0.008 % wt	0.2639	02/29/24 NP2	SW-846 3050B	03/01/24 MAC	SW846-7000B		1
	Sample Comments:								
Client Sample ID: 4/Gray - Interior CMU Wall - East Side of Bld									**Date Sampled: 02/27/24**
Matrix: Chips									**LIMS Reference ID: AC09199-04**
Lead	0.15 % wt	0.008 % wt	0.2635	02/29/24 NP2	SW-846 3050B	03/01/24 MAC	SW846-7000B		1
	Sample Comments:								
Client Sample ID: 5/Gray - Interior Garage Ceiling - SE Corner									**Date Sampled: 02/27/24**
Matrix: Chips									**LIMS Reference ID: AC09199-05**
Lead	0.096 % wt	0.008 % wt	0.28	02/29/24 NP2	SW-846 3050B	03/01/24 MAC	SW846-7000B		1
	Sample Comments:								

EMSL Analytical, Inc.

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Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012409199
LIMS Reference ID: AC09199
EMSL Customer ID: JHNT75

Attention: Graham Chag
John Turner Consulting [JHNT75]
19 Dover Street
Dover, NH 03820
(603) 828-9322
gchag@consultjtc.com

Project Name: 24-50-256 / 5 Whipple Rd., Kittery, ME

Customer PO:
EMSL Sales Rep: Jason McDonald
Received: 02/29/2024 10:35
Reported: 03/04/2024 10:51

Certified Analyses included in this Report

Analyte	Certifications
SW846-7000B in Chips	
Lead	AIHA LAP

List of Certifications

Code	Description	Number	Expires
NJDEP	New Jersey Department of Environmental Protection	03036	06/30/2024
AIHA LAP	EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-ELLAP Accredited	100194	01/01/2025
NYSDOH	New York State Department of Health	10872	04/01/2024
California ELAP	California Water Boards	1877	06/30/2024
A2LA	A2LA Environmental Certificate	2845.01	07/31/2024
PADEP	Pennsylvania Department of Environmental Protection	68-00367	11/30/2024
MADEP	Massachusetts Department of Environmental Protection	M-NJ337	06/30/2024
CTDPH	Connecticut Department of Public Health	PH-0270	06/23/2024

Please see the specific Field of Testing (FOT) on www.emsl.com <http://www.emsl.com> for a complete listing of parameters for which EMSL is certified.

EMSL Analytical, Inc.

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Attention: Graham Chag
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Dover, NH 03820
(603) 828-9322
gchag@consultjtc.com

Project Name: 24-50-256 / 5 Whipple Rd., Kittery, ME

Customer PO:
EMSL Sales Rep: Jason McDonald
Received: 02/29/2024 10:35
Reported: 03/04/2024 10:51

Notes and Definitions

Item	Definition
(Dig)	For metals analysis, sample was digested.
[2C]	Reported from the second channel in dual column analysis.
DF	Dilution Factor
MDL	Method Detection Limit.
ND	Analyte was NOT DETECTED at or above the detection limit.
Q	Qualifier
RL	Reporting Limit

For paint chips, the RL is 0.008% by wt. (equiv. to 80 mg/kg, or ppm) based upon a minimum sample weight of 0.25 grams.

For soils, the RL is 40 mg/kg (ppm) based upon a minimum sample weight of 0.5 grams.

For dust wipes, the RL is 10 µg/wipe; reporting units of µg/sq. ft. are not validated by the lab based upon data provided by non-lab personnel.

Measurement of uncertainty and any applicable definitions of method modifications are available upon request. Per EPA NLLAP policy, sample results are not blank corrected.

Owen McKenna Laboratory Manager or other approved signatory

Analysis following EMSL SOP for the Determination of Environmental Lead by FLAA. The laboratory has a reporting limit of 0.008% by wt., based upon a minimum sample weight of 0.25g submitted to the lab, and is not responsible for any result or reporting limit provided in mg/cm2 since it is dependent upon an area value provided by non-lab personnel. A "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty and definitions of modifications are available upon request. Results in this report are not blank corrected unless specified.

Lead Chain of Custody

EMSL Order Number / Lab Use Only: AC09199

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnaminsonLeadLab@emsl.com

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	John Turner Con. (JTC)	Company Name:	John Turner Consulting (JTC)
Contact Name:	Graham Chag	Billing Contact:	Matthew Pellerin
Street Address:	14 Dover St.	Street Address:	14 Dover St.
City, State, Zip:	Dover, NH 03820	City, State, Zip:	Dover, NH 03820
Country:		Country:	—
Phone:	603-828-9322	Phone:	603-828-9322
Email(s) for Report:	gChag@Consultjtc.com	Email(s) for Invoice:	Matthewp@Consultjtc.com

Project Information

Project Name/No:	24-50-256 - 5 Whipple Rd, Kittery, ME	Purchase Order:	
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	ME
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Graham Chag	Sampled By Signature:	
No. of Samples in Shipment			

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☒ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

MATRIX	METHOD	INSTRUMENT	REPORTING LIMIT	SELECTION
CHIPS ☐ % by wt. ☐ ppm (mg/kg) ☐ mg/cm² *Reporting Limit based on a minimum 0.25g sample weight. **Not appropriate for Ceramic Tiles - XRF is recommended	SW 846-7000B	Flame Atomic Absorption	0.008% (80ppm)	☐
	SW 846-6010D*	ICP-OES	0.0004% (4ppm)	☐
AIR	NIOSH 7082	Flame Atomic Absorption	4µg/filter	☐
	NIOSH 7300M / NIOSH 7303M	ICP-OES	0.5µg/filter	☐
	NIOSH 7300M / NIOSH 7303M	ICP-MS	0.05µg/filter	☐
WIPE ☐ ASTM ☐ NON-ASTM *If no box is checked, non-ASTM Wipe is assumed	SW 846-7000B	Flame Atomic Absorption	10µg/wipe	☐
	SW 846-6010D*	ICP-OES	1.0µg/wipe	☐
TCLP	SW 846-1311 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW 846-1311 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	☐
SPLP	SW 846-1312 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW 846-1312 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	☐
TTLC	22 CCR App. II, 7000B	Flame Atomic Absorption	40mg/kg (ppm)	☐
	22 CCR App. II, SW 846-6010D*	ICP-OES	2mg/kg (ppm)	☐
STLC	22 CCR App. II, 7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	22 CCR App. II, SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	☐
Soil	SW 846-7000B	Flame Atomic Absorption	40mg/kg (ppm)	☐
	SW 846-6010D*	ICP-OES	2mg/kg (ppm)	☐
Wastewater	SM 3111B / SW 846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
Unpreserved ☐ / Preserved with HNO3 ☐ PH<2	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	☐
Drinking Water	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	☐
Unpreserved ☐ / Preserved with HNO3 ☐ PH<2	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	☐
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	☐
Other:				☐

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
1	light Blue, Exterior CMU Wall, East side of BLD	610-SF	2/27/24
2	light Blue, Men/Women Bathroom Door's	2-Door's (42SF)	
3	Yellow, Men's Bathroom Wall	376SF	
4	Gray, Interior CMU Wall, East side of BLD	960.SF	
5	Gray, Interior Garage Ceiling, S.E corner	750.SF	

RECEIVED FEB 28 2024 BY: AR

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by: Graham Chag	Date/Time: 2/27 - 16:45	Received by: AR	Date/Time: 2/28/24 09:30
Relinquished by:	Date/Time:	Received by: EFX	Date/Time: 2/29/24 935 AM

Controlled Document - COC-25 Lead R17 05/09/2022

*6010C Available Upon Request

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(5) AS

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Lead Chain of Custody

EMSL Order Number / Lab Use Only: AC09199

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnaminsonLeadLab@emsl.com

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	John Turner Con. (JTC)	Company Name:	John Turner Consulting (JTC)
Contact Name:	Graham Chag	Billing Contact:	Matthew Pellerin
Street Address:	14 Dover St.	Street Address:	14 Dover St.
City, State, Zip:	Dover, NH 03820	City, State, Zip:	Dover, NH 03820
Country:		Country:	—
Phone:	603-828-9322	Phone:	603-828-9322
Email(s) for Report:	gChag@Consultjtc.com	Email(s) for Invoice:	Matthewp@Consultjtc.com

Project Information

Project Name/No:	24-50-256 - 5 Whipple Rd, Kittery, ME	Purchase Order:	
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	ME
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Graham Chag	Sampled By Signature:	
No. of Samples in Shipment			

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☒ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

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MATRIX	METHOD	INSTRUMENT	REPORTING LIMIT	SELECTION
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	SW 846-6010D*	ICP-OES	0.0004% (4ppm)	☐
AIR	NIOSH 7082	Flame Atomic Absorption	4µg/filter	☐
	NIOSH 7300M / NIOSH 7303M	ICP-OES	0.5µg/filter	☐
	NIOSH 7300M / NIOSH 7303M	ICP-MS	0.05µg/filter	☐
WIPE ☐ ASTM ☐ NON-ASTM *If no box is checked, non-ASTM Wipe is assumed	SW 846-7000B	Flame Atomic Absorption	10µg/wipe	☐
	SW 846-6010D*	ICP-OES	1.0µg/wipe	☐
TCLP	SW 846-1311 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW 846-1311 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	☐
SPLP	SW 846-1312 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW 846-1312 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	☐
TTLC	22 CCR App. II, 7000B	Flame Atomic Absorption	40mg/kg (ppm)	☐
	22 CCR App. II, SW 846-6010D*	ICP-OES	2mg/kg (ppm)	☐
STLC	22 CCR App. II, 7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	22 CCR App. II, SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	☐
Soil	SW 846-7000B	Flame Atomic Absorption	40mg/kg (ppm)	☐
	SW 846-6010D*	ICP-OES	2mg/kg (ppm)	☐
Wastewater	SM 3111B / SW 846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
Unpreserved ☐ / Preserved with HNO3 ☐ PH<2	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	☐
Drinking Water	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	☐
Unpreserved ☐ / Preserved with HNO3 ☐ PH<2	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	☐
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	☐
Other:				☐

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
1	light Blue, Exterior CMU Wall, East side of BLD	610-SF	2/27/24
2	light Blue, Men/Women Bathroom Door's	2-Door's (42SF)	
3	Yellow, Men's Bathroom Wall	376 SF	
4	Gray, Interior CMU Wall, East side of BLD	960 SF	
5	Gray, Interior Garage Ceiling, S.E corner	750 SF	

RECEIVED FEB 28 2024 BY:

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by: Graham Chag	Date/Time: 2/27 - 16:45	Received by: AR	Date/Time: 2/28/24 09:30
Relinquished by:	Date/Time:	Received by: EFX	Date/Time: 2/29/24 9:35 AM

Controlled Document - COC-25 Lead R17 05/09/2022

*6010C Available Upon Request

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(5)

EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012409262
LIMS Reference ID: AC09262
EMSL Customer ID: JHNT75

March 07, 2024

Graham Chag
John Turner Consulting [JHNT75]
19 Dover Street
Dover, NH 03820

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 2/29/2024. The results are tabulated on the attached pages for the following client designated project:

24-50-256 - 5 Whipple Rd., Kittery, ME

The reference number for these samples is EMSL Order #: AC09262 . Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact the lab at 856-858-4800.

Owen McKenna Laboratory Manager or other approved signatory

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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012409262
LIMS Reference ID: AC09262
EMSL Customer ID: JHNT75

Attention: Graham Chag
John Turner Consulting [JHNT75]
19 Dover Street
Dover, NH 03820
(603) 828-9322
gchag@consultjtc.com

Project Name: 24-50-256 - 5 Whipple Rd., Kittery, ME

Customer PO:
EMSL Sales Rep: Jason McDonald
Received: 02/29/2024 09:35
Reported: 03/07/2024 12:24

Sample Condition on Receipt

Cooler ID: Default Cooler **Temperature: 18.4 °C**

Custody Seals	Y
Containers Intact	Y
COC/Labels Agree	Y
Preservation Confirmed	Y

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Customer PO:
EMSL Sales Rep: Jason McDonald
Received: 02/29/2024 09:35
Reported: 03/07/2024 12:24

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
AC09262-01	1	Solid	02/27/2024	02/29/2024
AC09262-02	2	Solid	02/27/2024	02/29/2024

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Project Name: 24-50-256 - 5 Whipple Rd., Kittery, ME

Customer PO:
EMSL Sales Rep: Jason McDonald
Received: 02/29/2024 09:35
Reported: 03/07/2024 12:24

Positive Hits Summary

SW846-8082A	Aroclor-1016	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1016	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1221	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1221	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1232	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1232	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1242	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1242	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1248	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1248	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1254	2.7	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1254	2.7	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1260	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1260	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1262	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1262	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1268	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1268	<0.25	mg/kg	03/05/2024 02:34
SW846-8082A	Aroclor-1016	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1016	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1221	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1221	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1232	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1232	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1242	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1242	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1248	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1248	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1254	3.3	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1254	3.3	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1260	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1260	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1262	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1262	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1268	<0.24	mg/kg	03/05/2024 03:59
SW846-8082A	Aroclor-1268	<0.24	mg/kg	03/05/2024 03:59

EMSL Analytical, Inc.

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Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012409262
LIMS Reference ID: AC09262
EMSL Customer ID: JHNT75

Attention: Graham Chag
John Turner Consulting [JHNT75]
19 Dover Street
Dover, NH 03820
(603) 828-9322
gchag@consultjtc.com

Project Name: 24-50-256 - 5 Whipple Rd., Kittery, ME

Customer PO:
EMSL Sales Rep: Jason McDonald
Received: 02/29/2024 09:35
Reported: 03/07/2024 12:24

Sample Results

Sample: 1/Bathroom Wall Tile Adhesive
AC09262-01 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	0.25	mg/kg	03/01/24 12:35	03/05/24 02:34	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	0.25	mg/kg	03/01/24 12:35	03/05/24 02:34	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	0.25	mg/kg	03/01/24 12:35	03/05/24 02:34	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	0.25	mg/kg	03/01/24 12:35	03/05/24 02:34	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	0.25	mg/kg	03/01/24 12:35	03/05/24 02:34	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1254	**2.7**		1	0.25	mg/kg	03/01/24 12:35	03/05/24 02:34	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	0.25	mg/kg	03/01/24 12:35	03/05/24 02:34	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	0.25	mg/kg	03/01/24 12:35	03/05/24 02:34	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	0.25	mg/kg	03/01/24 12:35	03/05/24 02:34	MxB/AxJ	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*27%*			*10-112*		03/01/24 12:35	03/05/24 02:34	MxB/AxJ	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*28%*			*10-123*		03/01/24 12:35	03/05/24 02:34	MxB/AxJ	SW846 3540C	*SW846-8082A*

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John Turner Consulting [JHNT75]
19 Dover Street
Dover, NH 03820
(603) 828-9322
gchag@consultjtc.com

Project Name: 24-50-256 - 5 Whipple Rd., Kittery, ME

Customer PO:
EMSL Sales Rep: Jason McDonald
Received: 02/29/2024 09:35
Reported: 03/07/2024 12:24

Sample Results
(Continued)

Sample: 2/Exterior Window Caulking
AC09262-02 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	0.24	mg/kg	03/01/24 12:35	03/05/24 03:59	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	0.24	mg/kg	03/01/24 12:35	03/05/24 03:59	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	0.24	mg/kg	03/01/24 12:35	03/05/24 03:59	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	0.24	mg/kg	03/01/24 12:35	03/05/24 03:59	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	0.24	mg/kg	03/01/24 12:35	03/05/24 03:59	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1254	**3.3**		1	0.24	mg/kg	03/01/24 12:35	03/05/24 03:59	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	0.24	mg/kg	03/01/24 12:35	03/05/24 03:59	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	0.24	mg/kg	03/01/24 12:35	03/05/24 03:59	MxB/AxJ	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	0.24	mg/kg	03/01/24 12:35	03/05/24 03:59	MxB/AxJ	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*35%*			*10-112*		03/01/24 12:35	03/05/24 03:59	MxB/AxJ	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*63%*			*10-123*		03/01/24 12:35	03/05/24 03:59	MxB/AxJ	SW846 3540C	*SW846-8082A*

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Dover, NH 03820
(603) 828-9322
gchag@consultjtc.com

Project Name: 24-50-256 - 5 Whipple Rd., Kittery, ME

Customer PO:
EMSL Sales Rep: Jason McDonald
Received: 02/29/2024 09:35
Reported: 03/07/2024 12:24

Quality Control

GC-SVOA

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCC0038 - SW846 3540C										
Blank (BCC0038-BLK1)					Prepared: 3/1/2024 Analyzed: 3/4/2024					
Aroclor-1016	ND		0.25	mg/kg						
Aroclor-1221	ND		0.25	mg/kg						
Aroclor-1232	ND		0.25	mg/kg						
Aroclor-1242	ND		0.25	mg/kg						
Aroclor-1248	ND		0.25	mg/kg						
Aroclor-1254	ND		0.25	mg/kg						
Aroclor-1260	ND		0.25	mg/kg						
Aroclor-1262	ND		0.25	mg/kg						
Aroclor-1268	ND		0.25	mg/kg						
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*68*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*83*	*10-123*		
LCS (BCC0038-BS1)					Prepared: 3/1/2024 Analyzed: 3/4/2024					
Aroclor-1016	3.77		0.25	mg/kg	5.000		75	23-111		
Aroclor-1260	4.23		0.25	mg/kg	5.000		85	29-119		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*71*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*86*	*10-123*		
Matrix Spike (BCC0038-MS1)		**Source: AC08622-06**			Prepared: 3/1/2024 Analyzed: 3/4/2024					
Aroclor-1016	3.24		0.25	mg/kg	4.902	ND	66	10-111		
Aroclor-1260	3.98		0.25	mg/kg	4.902	ND	81	10-132		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.4902*		*59*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.4902*		*70*	*10-123*		
Matrix Spike Dup (BCC0038-MSD1)		**Source: AC08622-06**			Prepared: 3/1/2024 Analyzed: 3/4/2024					
Aroclor-1016	3.31		0.24	mg/kg	4.831	ND	69	10-111	2	28
Aroclor-1260	3.85		0.24	mg/kg	4.831	ND	80	10-132	3	28
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.4831*		*59*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.4831*		*68*	*10-123*		

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Certified Analyses included in this Report

Analyte	CAS #	Certifications
SW846-8082A in Solid		
Aroclor-1016	12674-11-2	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1221	11104-28-2	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1232	11141-16-5	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1242	53469-21-9	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1248	12672-29-6	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1254 [2C]	11097-69-1	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1260	11096-82-5	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1262	37324-23-5	NJDEP,NYSDOH,PADEP
Aroclor-1268	11100-14-4	NJDEP,NYSDOH,PADEP

List of Certifications

Code	Description	Number	Expires
PADEP	Pennsylvania Department of Environmental Protection	68-00367	11/30/2024
NYSDOH	New York State Department of Health	10872	04/01/2024
NJDEP	New Jersey Department of Environmental Protection	03036	06/30/2024
MADEP	Massachusetts Department of Environmental Protection	M-NJ337	06/30/2024
CTDPH	Connecticut Department of Public Health	PH-0270	06/23/2024
California ELAP	California Water Boards	1877	06/30/2024
AIHA LAP	EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-ELLAP Accredited	100194	01/01/2025
A2LA	A2LA Environmental Certificate	2845.01	07/31/2024

Please see the specific Field of Testing (FOT) on www.emsl.com <http://www.emsl.com> for a complete listing of parameters for which EMSL is certified.

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Customer PO:
EMSL Sales Rep: Jason McDonald
Received: 02/29/2024 09:35
Reported: 03/07/2024 12:24

Notes and Definitions

Item	Definition
(Dig)	For metals analysis, sample was digested.
[2C]	Reported from the second channel in dual column analysis.
DF	Dilution Factor
MDL	Method Detection Limit.
ND	Analyte was NOT DETECTED at or above the detection limit.
Q	Qualifier
RL	Reporting Limit
%REC	Percent Recovery
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated

Measurement of uncertainty and any applicable definitions of method modifications are available upon request. Per EPA NLLAP policy, sample results are not blank corrected.

PCB

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

EMSL Chain of Custody - One Chain

EMSL Order Number / Lab Use Only

AC09262

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	John Turner Consulting (JTC)	Company Name:	John Turner (JTC)
Contact Name:	Graham Chag	Billing Contact:	Matthew Pellerin
Street Address:	19 Dover St.	Street Address:	19 Dover St
City, State, Zip:	Dover, NH 03820 Country:	City, State, Zip:	Dover, NH 03820 Country:
Phone:	603-828-4322	Phone:	603-828-4322
Email(s) for Report:	gChag@consultjtc.com	Email(s) for Invoice:	matthewp@consultjtc.com

Project Information

Project Name/No:	24-50-256, — 5 Whipple Rd, Kittery, ME	Purchase Order:	
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected: ME	State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Graham Chag	Sampled By Signature: [signature]	No. of Samples in Shipment

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

ASBESTOS

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

*Please call with your project-specific requirements.

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

☐ **Positive Stop - Clearly Identified Homogeneous Areas (HA)** **Filter Pore Size (Air Samples)** ☐ **0.8um** ☐ **0.45um**

LEAD (PB)

Flame Atomic Absoprtion
- ☐ Chips SW846-7000B or AOAC 974.2
- ☐ Soil SW846-7000B/7420
- ☐ Air NIOSH 7082
- ☐ Wastewater SM3111B or SW846-7000B/7420
- ☐ ASTM Wipe SW846-7000B/7420
- ☐ non-ASTM Wipe SW846-7000B/7420
- ☐ TCLP SW846-1311/ 7420/ SM3111B

ICP
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)
- ☐ Chatfield SOP

MICROBIOLOGY

Swab and Bulk Samples
- ☐ Mold & Fungi - Direct Examination
- ☐ Mold & Fungi Culture (Genus Only)
- ☐ Mold & Fungi Culture (Genus & Species)
- ☐ Bacterial Count & ID (Up to 3 Types)
- ☐ Bacterial Count & ID (Up to 5 Types)

Sewage Screen
- ☐ Sewage Screen (P/A)
- ☐ Sewage Screen (Membrane Filtration)

Water Samples
- ☐ Total Coliform & E. Coli (P/A, SM 9223B)
- ☐ Heterotrophic Plate Count (PP, SM 9251B)
- ☐ Fecal Coliform (SM 9222D)

Air Samples
- ☐ Mold & Fungi (Spore Trap)
- ☐ Mold & Fungi Culture (Genus Only)
- ☐ Mold & Fungi Culture (Genus & Species)
- ☐ Bacterial Count & ID (Up to 3 Types)
- ☐ Bacterial Count & ID (Up to 5 Types)

DNA & PCR Testing: (See Analytical Guide for Code)
Test Code:

Legionella: (See Analytical Guide for Code)
Test Code:

P/A= Presence/Absence, PP= Pour Plate

MAT-SCI (TAT End of Business Day)

- ☐ Common Particle ID (large particles)
- ☐ Full Particle ID (environmental dust)
- ☐ Basic Mateiral ID (solids)
- ☐ Advanced Material ID
- ☐ Physical Testing (Tensile, Compression)
- ☐ Combustion-By-Products (Soot, Char, Etc.)
- ☐ X-Ray Flourescence (elem. Analysis)
- ☐ X-Ray Diffraction (Crystalline Part.)
- ☐ MMVF's (Fibrous Glass, RCF's)
- ☐ Particle Size (Sieve, Microscopy, Laser)
- ☐ Combustible Dust
- ☐ Petrographic Examination

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IAQ (TAT End of Business Day)

- ☐ Nuisance Dust ☐ NIOSH 0500 ☐ NIOSH 0600
- ☐ Airborne Dust ☐ PM10 ☐ TSP
- Silica Analysis: ☐ All Species
- Silica Analysis - Single Species
  - ☐ Alpha Quartz ☐ Cristobalite ☐ Tridymite
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborn Oil Mist
- Radon Testing: Call for Kit and COC

Other Test (please specify) Bulk PCB via EPA SW-846 3540C / 8082A

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

18.4°C rec'd in plastic

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time:	Received by: AR	Date/Time: 2/28/24 09:30
Relinquished by:	Date/Time:	Received by: Colleen Palladino	Date/Time: 2/29/24 9:35

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EMSL Order Number / Lab Use Only

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EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
1	Bathroom Wall Tile Adhesive	160. SF	2/27/24
2	Exterior Window Caulking	40-LF	↓

RECEIVED
FEB 28 2024
BY: AR

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time:	Received by: AR	Date/Time 2/28/24 09:30
Relinquished by:	Date/Time:	Received by:	Date/Time

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200 Route 130 North
Cinnaminson, NJ 08077

EMSL Order Number / Lab Use Only: 0C09262

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If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID		Billing ID	
Company Name	John Turner Consulting (JTC)	Company Name	John Turner (JTC)
Contact Name	Graham Chag	Billing Contact	Matthew Pellerin
Street Address	19 Dover St.	Street Address	19 Dover St
City, State, Zip	Dover, NH 03820 Country:	City, State, Zip	Dover, NH 03820 Country:
Phone	603-828-4322	Phone	603-828-4322
Email(s) for Report	gChag@consultjtc.com	Email(s) for Invoice	Matthew7@consultjtc.com

Project Information

Project Name/No: 24-50-256 — 5 Whipple Rd, Kittery, ME

Purchase Order:

EMSL LIMS Project ID (If applicable, EMSL will provide):

US State where samples collected: ME

State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)

Sampled By Name: Graham Chag

Sampled By Signature: [signature]

No. of Samples in Shipment:

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

ASBESTOS

PCM Air

☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)

☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air

☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☐ ISO 10312*

TEM - Bulk

☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

*Please call with your project-specific requirements

TEM - Settled Dust

☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*

☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) — Filter Pore Size (Air Samples) ☐ 0.8um ☐ 0.45um

LEAD (PB)

Flame Atomic Absorption

☐ Chips SW846-7000B or AOAC 974.2
☐ Soil SW846-7000B/7420
☐ Air NIOSH 7082
☐ Wastewater SM3111B or SW846-7000B/7420
☐ ASTM Wipe SW846-7000B/7420
☐ non-ASTM Wipe SW846-7000B/7420
☐ TCLP SW846-1311/ 7420/ SM3111B

ICP

☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)
☐ Chatfield SOP

MAT-SCI (TAT End of Business Day)

☐ Common Particle ID (large particles)
☐ Full Particle ID (environmental dust)
☐ Basic Mateiral ID (solids)
☐ Advanced Material ID
☐ Physical Testing (Tensile, Compression)
☐ Combustion-By-Products (Soot, Char, Etc.)
☐ X-Ray Flourescence (elem. Analysis)
☐ X-Ray Diffraction (Crystalline Part.)
☐ MMVF's (Fibrous Glass, RCF's)
☐ Particle Size (Sieve, Microscopy, Laser)
☐ Combustible Dust
☐ Petrographic Examination

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MICROBIOLOGY

Swab and Bulk Samples

☐ Mold & Fungi - Direct Examination
☐ Mold & Fungi Culture (Genus Only)
☐ Mold & Fungi Culture (Genus & Species)
☐ Bacterial Count & ID (Up to 3 Types)
☐ Bacterial Count & ID (Up to 5 Types)

Sewage Screen

☐ Sewage Screen (P/A)
☐ Sewage Screen (Membrane Filtration)

Water Samples

☐ Total Coliform & E. Coli (P/A, SM 9223B)
☐ Heterotrophic Plate Count (PP, SM 9251B)
☐ Fecal Coliform (SM 9222D)

Air Samples

☐ Mold & Fungi (Spore Trap)
☐ Mold & Fungi Culture (Genus Only)
☐ Mold & Fungi Culture (Genus & Species)
☐ Bacterial Count & ID (Up to 3 Types)
☐ Bacterial Count & ID (Up to 5 Types)

DNA & PCR Testing: (See Analytical Guide for Code)
Test Code:

Legionella: (See Analytical Guide for Code)
Test Code:

P/A= Presence/Absence, PP= Pour Plate

IAQ (TAT End of Business Day)

☐ Nuisance Dust ☐ NIOSH 0500 ☐ NIOSH 0600
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Silica Analysis: ☐ All Species
Silica Analysis - Single Species
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☐ HVAC Efficiency
☐ Carbon Black
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Radon Testing: Call for Kit and COC

Other Test (please specify): Bulk PCB via EPA SW-846 3540C / 8082A

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

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EMSL Order Number / Lab Use Only: AC09262

EMSL Analytical, Inc
200 Route 130 North
Cinnaminson, NJ 08077

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Customer Information		Billing Information	
Customer ID		Billing ID	
Company Name	John Turner Consulting (JTC)	Company Name	John Turner (JTC)
Contact Name	Graham Chag	Billing Contact	Matthew Pellerin
Street Address	14 Dover St.	Street Address	14 Dover St
City, State, Zip	Dover, NH 03820	City, State, Zip	Dover, NH 03820
Country		Country	
Phone	603-828-9322	Phone	603-828-9322 work cell
Email(s) for Report	gChag@consultjtc.com	Email(s) for Invoice	Matthew2@consultjtc.com

Project Information

Project Name/No	24-50-256 – 5 Whipple Rd, Kittery, ME
Purchase Order	
EMSL LIMS Project ID (if applicable, EMSL will provide)	
US State where samples collected	ME
State of Connecticut (CT) must select project location	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name	Graham Chag
Sampled By Signature	
No. of Samples in Shipment	

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

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- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
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  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
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- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

*Please call with your project-specific requirements

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) Filter Pore Size (Air Samples) ☐ 0.8um ☐ 0.45um

LEAD (PB)

Flame Atomic Absorption
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- ☐ Soil SW846-7000B/7420
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- ☐ Wastewater SM3111B or SW846-7000B/7420
- ☐ ASTM Wipe SW846-7000B/7420
- ☐ non-ASTM Wipe SW846-7000B/7420
- ☐ TCLP SW846-1311/7420/SM3111B

ICP
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)
- ☐ Chatfield SOP

MICROBIOLOGY

Swab and Bulk Samples
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- ☐ Mold & Fungi Culture (Genus & Species)
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DNA & PCR Testing: (See Analytical Guide for Code)
Test Code:

Legionella: (See Analytical Guide for Code)
Test Code:

P/A= Presence/Absence, PP= Pour Plate

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- ☐ Full Particle ID (environmental dust)
- ☐ Basic Mateiral ID (solids)
- ☐ Advanced Material ID
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- ☐ Combustion-By-Products (Soot, Char, Etc.)
- ☐ X-Ray Flourescence (elem. Analysis)
- ☐ X-Ray Diffraction (Crystalline Part.)
- ☐ MMVF's (Fibrous Glass, RCF's)
- ☐ Particle Size (Sieve, Microscopy, Laser)
- ☐ Combustible Dust
- ☐ Petrographic Examination

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IAQ (TAT End of Business Day)
- ☐ Nuisance Dust ☐ NIOSH 0500 ☐ NIOSH 0600
- ☐ Airborne Dust ☐ PM10 ☐ TSP
- Silica Analysis ☐ All Species
- Silica Analysis - Single Species
  - ☐ Alpha Quartz ☐ Cristobalite ☐ Tridymite
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborn Oil Mist
- Radon Testing: Call for Kit and COC

Other Test (please specify): Bulk PCB via EPA SW-846 3540C / 8082A

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

18.4°C received in plastic

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Relinquished by	Date/Time 3/5/24	Received by: AR	Date/Time 3/28/24 09:30
Relinquished by	Date/Time:	Received by: Colleen Pallaske	Date/Time 2/29/24 9:35

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EMSL Analytical, Inc
200 Route 130 North
Cinnaminson, NJ 08077

PHONE (800) 220-3675
EMAIL [illegible]

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
1	Bathroom Wall Tile Adhesive	160. SF	2/27/24
2	Exterior Window Caulking	40-LF	↓

RECEIVED
FEB 28 2024
BY: AR

Method of Shipment		Sample Condition Upon Receipt	
Relinquished by	Date/Time 3/5/24	Received by AR	Date/Time 2/28/24 09:30
Relinquished by	Date/Time	Received by	Date/Time

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CMA ENGINEERS, INC.
CIVIL | ENVIRONMENTAL | STRUCTURAL

35 Bow Street
Portsmouth, New Hampshire
03801-3819

P: 603|431|6196
www.cmaengineers.com

April 3, 2024

Maxim Zakian, Town Planner
Town of Kittery
200 Rogers Road
Kittery, Maine 03904

RE: Town of Kittery, Planning Board Services
Maine Meat Butcher & Restaurant, 5 Whipple Road Review #3
Tax Map 9, Lot 134
CMA #591.175

Dear Max:

CMA Engineers has received the following information for Assignment #175, review #3 of the proposed retail and restaurant at 5 Whipple Road (Tax Map 9, Lot 134):

1) "Maine Meat Butcher & Restaurant, 5 Whipple Road, Kittery, Me 03904" by Attar Engineering, Inc., dated 12/28/2023 revised 3/22/2024.
2) Preliminary & Final Site Plan Review Application and supporting materials, dated March 22, 2024.
3) "Pre-Renovation Hazardous Building Materials Assessment, Maine Meats, 5 Whipple Road, Kittery, Maine" by John Turner Consulting dated March 21, 2024.

The project consists of one lot (Map 9, Lot 134) with an area of approximately 0.33 acres; several conveyances grant land to the applicant for a total new area of the subject parcel of 0.51 acres. The lot is located in the Business Local (B-L) district. There are no wetlands on site. The project includes the redevelopment and expansion of the existing single-story building and the removal of elements associated with the former use as a gas station – concrete storage tanks, fueling island and canopy.

The development will be served by the existing public sewer and Kittery Water District will provide water with size upgrades as necessary. An existing closed stormwater system that crosses the site will be retained and tied into. On-site stormwater management is proposed as infiltration through a detention pond, and conveyance to the Town's MS4 system via a treebox bioretention vault.

The applicant has requested waivers for modifications to the Vegetated Landscape Plante Strip (16.4.17.D.(4)(a), Street-side Tree Requirement (16.4.17.D.(4)(a)[2} and On-site Stormwater Management (16.4.17.D.(1)(l)&(m).

We have reviewed the information submitted for conformance with the Kittery Land Use and Development Code (LUDC) and general engineering practices and offer the comments below that correspond directly to the Town's Ordinances.

16.7 General Development Requirements

16.7.11 Performance Standards and Approval Criteria

16.7.11.A. Water supply

The applicant has not developed the details for the proposed water service but indicates that the existing ¾" copper water service will be shared between the two businesses and upsized as required. We reiterate our comment that the Kittery Water District should comment on and approve the proposed water plan.

16.7.11.B. Sewage disposal

The existing sewer service (size, material, and location) and existing sewer main material should be shown on the plan.

The applicant proposes to reuse the existing sewer service for the proposed butcher and grocer use. A 6" service with a 1,500-gallon grease interceptor is proposed for the commercial kitchen for the restaurant use. The applicant should secure approval of the proposed sewer service(s) from Kittery sewer services.

16.7.11.C. Stormwater and surface drainage

The proposed stormwater management system uses a detention pond for infiltration, and a treebox bioretention vault that ties into the Town's off-site closed drainage system.

In addition, there is existing drainage that crosses the lot. The applicant is proposing to change the existing catch basin covers to drain manhole covers.

We have the following remaining comment on the drainage analysis and design:

1. The developed conditions still use the description "Drainage to Prp. Western Filterra" for subcatchment 2S. We note this has no effect on the calculations.

2. The calculations use an infiltration rate for the detention pond of 2.4"/hr. How was this number derived?

3. How was the infiltration elevation of 26.60' chosen?

16.7.11.F. Parking and loading

16.7.11.G Utilities

The applicant is proposing to reuse the existing overhead utilities. Is a waiver required?

General Comments

The applicant has provided the Limited Phase II Environmental Site Assessment. All soil disturbance or excavation cannot be undertaken without adherence to the Environmental Media Management Plan.

The applicant has also provided the Pre-Renovation Hazardous Building Materials Assessment. The conclusion is missing from the report, but we assume there are recommendations that should be followed during renovation.

There should be notes regarding these two documents on the plans.

In addition, there is a letter from Maine DEP dated February 2, 2024 with requirements that should be indicated on the plans.

We have the following comments on the plans:

1. A cover page that is separate from the Overall Site Plan would be helpful.
2. The plans should be signed by a licensed engineer.

Sheet 1 - Overall Site Plan

1. General Note 3, Tree Planting Obligations shows 12 trees required and 8 proposed. The Applicant has requested a waiver from the streetside tree standard (which is part of the total tree planting requirement).
2. The pavement hatching should be clarified to match the legend.
3. Show the locations of the proposed service areas and fencing referenced in Note 13.

Sheet 2 - Existing Conditions Plan

1. The sewer service, including material and size, should be shown on the plan.
2. The pipe materials and inverts of the sewer main should be shown on the plan.
3. The material of the existing water main should be shown on the plan.
4. Existing gate valves for the water main should be shown on the plan.

Sheet 3 – Grading and Utilities Plan

1. The existing sewer services should be shown on the plan (size, materials, etc.). Include notes on reuse, etc.
2. Proposed utilities should be shown.
3. The vertical distance between the Filterra pipe and the existing sewer should be verified.
4. Provide notes/information on reusing the overhead electric.
5. Provide notes/information on the existing sewer service.

Sheet 5 – Site Details

1. The Utility Trench Patch Detail should be updated to include Kittery DPW specs instead of referencing them. This comment remains unaddressed.
2. Are silt sacks proposed for existing catch basins on Whipple Road? These should be shown on the plan.

Sheet 7 – Stormwater: Existing Conditions

1. The inverts of the catch basin downstream of Pond 1P should be shown on the plan.
2. The inverts of the catch basin downstream of Pond 5P should be shown on the plan.

Sheet 8 – Stormwater: Developed Conditions

1. The Legend erroneously indicates that the pond symbol is for level spreaders.
2. Pond 5P should be labelled on the plan.
3. The inverts of the catch basin downstream of Pond 1P should be shown on the plan.
4. The inverts of the catch basin downstream of Pond 5P should be shown on the plan.

Should you have any questions, please do not hesitate to call.

Very truly yours,

CMA ENGINEERS, INC.

Jodie Bray Strickland, P.E.
Senior Project Engineer

Philip A. Corbett, P.E.
Project Manager

cc: Mike Sudak, Attar Engineering