

Lake Auburn Water Quality Ad-Hoc Committee

MEMO

To: Auburn Water District, Lewiston Water Division

From: The desk of the Lake Auburn Water Quality Ad-Hoc Committee

Date: 9.26.23

Subject: Lake Auburn Watershed Overlay District Text and Map Amendments


The Lake Auburn Water Quality Ad-Hoc Committee has reviewed the following documents and recommends the adoption of zoning amendments for the protection of Lake Auburn. The attached text and map amendments have been reviewed, and consensus has been reached to support the changes based on peer-reviewed science. The Ad Hoc Committee recommends that the Auburn Water District and Lewiston Water Division forward the proposed changes to the Maine Drinking Water Program for review. The Committee further recommends that the Stakeholders represented on the Committee plan and execute an engagement with upper watershed towns to explore application of improved watershed protections in those towns, with legal advice on the authority of Auburn Water District to implement watershed protections.

The Summary of Changes Include:

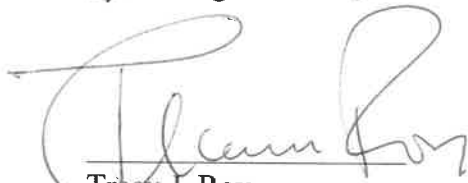
- 1.) Proposed zoning text amendments, Sec 60-950 through 1065 (Exhibit A)
- 2.) Proposed Lake Auburn Watershed Boundary, As recommended by the Maine DWP (Exhibit B)
- 3.) Map Amendment; Changing 1-acre residential areas (Rural Residential) to 3-acres residential areas minimums (Low-Density Country Residential).

Committee Members:


Kevin Gagne


Mike Broadbent


Eric Cousens


Tracy J. Roy


Steve Milks


Rick R. LaChapelle


Alan Holbrook


John Blais


Matthew Waite

ARTICLE XII. - ENVIRONMENTAL REGULATIONS

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DIVISION 4. LAKE AUBURN WATERSHED OVERLAY DISTRICT

Sec. 60-950. Purpose.

The Lake Auburn Watershed Overlay District is intended to maintain safe and healthful environmental conditions; prevent and control water pollution; protect spawning ground for fish, aquatic life, bird and other wildlife habitats; control building sites; provide visual and physical points of access to waters and natural beauty; and protect and maintain the present quality and volume of potable water supplied from the Lake Auburn Watershed to the population of the Auburn-Lewiston area.

(Ord. of 9-21-2009, § 5.3A)

Sec. 60-951. Boundaries and definitions.

(a) Boundaries. The Lake Auburn Watershed Overlay District is that section of the city in which surface and subsurface waters ultimately flow or drain into Lake Auburn as such section is delineated on a watershed map and survey by the Auburneity Wwater Delistrict on file in the office of the Auburneity Wwater Delistrict, the city department of planning and permitting services and the city clerk. The Lake Auburn Watershed Overlay District shall be superimposed over underlying districts within such section. Permitted uses in the underlying districts shall continue subject to compliance with the provisions of the Lake Auburn Watershed Overlay District.

(b) Definitions. For purposes of this Division 4, the following words and terms as used herein shall have the meanings or limitations of meaning hereby defined, explained or assigned:

Curtain drain means a trench to intercept laterally moving ground water and divert it away from a septic system disposal field.

Hobby agricultural use means uses of land for chicken farms, cattle farms, horse farms, egg farms, piggeries, sheep farms, stables, crop farming and other agricultural purposes where (i) the products produced through such use of the land is for personal consumption, pleasure or sustenance by those occupying the land and does not involve the sale of the products produced through such use of the land for profit, and (ii) the allowances set forth in Sec. 60-2 regarding "farm, livestock" of this chapter and the allowances set forth in Article VII, Division 4 of Chapter 8 of the City Code of Ordinances are not exceeded.

Lake Auburn Watershed Protection Commission or LAWPC means the commission formed through an interlocal cooperation agreement between the City of Lewiston, Auburn Water District, and Town of Turner, *minot/Hebron/Buckfield.*

Non-hobby agricultural use means uses of land for chicken farms, cattle farms, horse farms, egg farms, piggeries, sheep farms, stables, crop farming and other agricultural purposes where the products produced through such use of the land are sold for profit.

Soil horizon means a layer within a soil profile differing from the soil above or below it in one or more soil morphological characteristics. The characteristics of the layer include the color, texture, rock-fragment content, and consistence of each parent soil material.

Soil horizon, limiting or limiting soil horizon means any soil horizon or combination of soil horizons, within the soil profile or any parent material below the soil profile, that limits the ability of the soil to provide treatment or disposal of septic tank effluent. Limiting horizons include bedrock, hydraulically restrictive soil horizons and parent material, excessively coarse soil horizons and parent material, and the seasonal groundwater table. Also sometimes referred to as a "limiting factor."

Soil profile means a vertical cross section of the undisturbed soil showing the characteristic soil horizontal layers or soil horizons that have formed as a result of the combined effects of parent material, topography, climate, biological activity, and time.

(Ord. of 9-21-2009, § 5.3B)

Sec. 60-952. Use and environmental regulations.

- (a) Agricultural uses. All uses of land for chicken farms, cattle farms, horse farms, egg farms, piggeries, sheep farms, stables, crop farming and other agricultural purposes shall be subject to the approval of the city water district. Such approval shall be granted upon a showing that such uses will not cause groundwater contamination or contaminate or disturb the normal course of surface water runoff. Non-hobby agricultural uses not in existence as of January 1, 2024 are prohibited, and expansions of non-hobby agricultural uses in existence as of December 31, 2023 are prohibited. As of January 1, 2024, new hobby agricultural uses or expansions of hobby agricultural uses in existence as of December 31, 2023 are only allowed if (i) the owner or operator first demonstrates to LAWPC's Watershed Manager that such use or expansion will not cause groundwater contamination and will not contaminate or disturb the normal course of surface water runoff, and (ii) LAWPC's Watershed Manager approves such use or expansion in writing and so notifies the code enforcement officer.
- (b) Residential dwellings in the agriculture and resource protection zoning district. Notwithstanding the provisions of Secs. subsections 60-145(a)(1), 60-145(b)(18) and 60-146(1)(c), new one-family detached dwellings units are only permitted prohibited in the Lake Auburn Watershed Overlay District on parcels containing no less than ten acres, provided that the dwelling is accessory to farming operations and subject to the following restriction: at least 50 percent of the total annual household income of the farm occupants living in the farm residence will be derived from farm uses. Pursuant to 30-A M.R.S. § 4364(9), 30-A M.R.S. § 4364-A(1-A), and 30-A M.R.S. § 4364-B(1-A), each as may be amended from time to time, the affordable housing density, residential density and accessory dwelling unit provisions of P.L. 2021, ch. 672, "An Act To Implement the Recommendations of the Commission To Increase Housing Opportunities in Maine by Studying Zoning and Land Use Restrictions" and any related State regulations do not apply in the Lake Auburn Watershed Overlay District.
- (c) Agricultural buffer strip. Where land adjoining Lake Auburn or its perennial tributaries (as depicted on a 7.5 minute series USGS topographic map, dated 1981) is tilled for agricultural purposes, an untilled buffer strip 10050 feet wide shall be retained between the tilled area and the normal high-water mark. This subsection (c) shall not be interpreted as permitting agricultural tillage in any zoning district in which it is not otherwise permitted.
- (d) Municipal and m~~anure~~ and sludge disposal. ~~All s~~Spreading and disposal of municipal sludge is prohibited. shall be accomplished in conformance with the Rules of Municipal Sludge Utilization on Land, published by the department of environmental protection in September, 1980. All spreading and disposal of manure shall be accomplished in conformance with the then-current edition of the Maine Department of Agriculture, Conservation and Forestry's rules, regulations and guidelines for manure spreading and disposal Maine Guidelines for Manure and Manure Sludge Disposal on Land, published by the Life Sciences and Agriculture Experiment Station and the Cooperative Extension Service, University of Maine at Orono, and the Maine Soil and Water Conservation Commission in July, 1972.

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- (e) *Erosion control.* The following provisions shall be observed for the control of erosion in the Lake Auburn Watershed:
- (1) Any earth cutting, moving or removal activities that will result in erosion or runoff which is likely to increase sedimentation of Lake Auburn, or any tributaries or other water bodies in the watershed are prohibited.
 - (2) Vegetative cover shall not be removed except in a manner which will minimize erosion. Harvesting of trees shall be permitted only after a plan prepared by a qualified forester is submitted to and approved by the [Auburn Wwater Ddistrict](#). Such plan will be approved or disapproved on the basis of its conformance with good watershed management practice for domestic water supplies.
 - (3) Trees may be cleared, provided the cleared areas are covered with other vegetation, for approved construction and landscaping. Where such clearing is extended to the shoreline, a cleared opening or openings not greater than 30 feet in width for every 100 feet of shoreline (measured along the high-water mark) may be created in the strip extending 50 feet inland from the normal high-water mark. For purposes of this section, clearing is the removal of adjacent dominant trees which extend into the canopy and shrubs within ten feet of the shoreline. Where natural vegetation is removed, it shall be replaced with other vegetation which is equally effective in retarding erosion and preserving natural beauty. When the vegetative cover is changed in areas greater than three acres, a plan shall be filed with the [Auburncity Wwater Ddistrict](#) indicating the changes so that a record can be maintained of watershed water yields to the system.
- (f) *Private [subsurface wastewatersewage](#) disposal systems.* The following regulations shall be adhered to in the development of private [subsurface wastewatersewage](#) disposal systems in the Lake Auburn Watershed [Overlay District](#):
- (1) ~~Subsurface absorption areas shall not be permitted on sites on which the highest seasonal groundwater table, bedrock, or other impervious layer is less than 36 inches below the bottom of the organic horizon. Not less than 24 inches of suitable soil shall be present below the bottom of the subsurface absorption area. The bottom of such subsurface absorption area shall not be less than 12 inches below the bottom of the organic horizon measured from the lowest point on the subsurface absorption area. Disposal fields are prohibited on sites with less than 12 inches to the limiting soil horizon. In addition to having at least 12 inches to the limiting soil horizon, disposal fields shall have at least 24 inches of suitable natural soil or fill material below the bottom of the disposal field, such that there is at least a 36-inch separation between the bottom of the disposal field and the limiting soil horizon. The local plumbing inspector shall require that a Maine licensed site evaluator affirm that these design criteria are met before the LPI finds the design or installation of the system to comply with this ordinance.~~
 - (2) ~~Within areas containing soils described as deep, loose and sandy or gravelly and which contain more than 70 percent sand as shown on table 9-3 of the state plumbing code, part II (April 25, 1975), nNo new disposal fieldsubsurface absorption area shall be installed closer than 400300 feet to the normal high-water mark of any lake, pond, or year-round or intermittent stream (as depicted on a 7.5 minute series USGS topographic map, dated 1981). Where the daily wastewatersewage flow is or is reasonably likely to be in excess of 2,000 gallons, the system shall be located at least 1,000 feet from the normal high-water mark of any lake, pond or year-round or intermittent stream.~~
 - (3) ~~All disposal fields, replacement or new, shall meet the design criteria set forth in subsection (f)(1) above, except that if a replacement system disposal field cannot meet the design criteria set forth in subsection (f)(1) above, the local plumbing inspector must, in consultation with and the concurrence of the Auburn Water District, evaluate the design and then require the disposal field to meet as much of the design criteria as is physically possible under the site-specific circumstances.~~
 - (4) ~~All private subsurface wastewater disposal systems, replacement or new, shall either have (a) a curtain drain installed per Section 11(H) of the Maine Subsurface Wastewater Disposal Rules, 10-144 C.M.R.~~
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ch. 241 (2015), as may be amended from time to time, or (b) a diversion ditch, upslope of the disposal field, installed for the disposal field's entire length (including fill extensions), whichever installation is determined to be most appropriate based on the evaluation of groundwater conditions on the site by a Maine licensed site evaluator. The local plumbing inspector shall require that a Maine licensed site evaluator affirm that one of these two types of installation is part of the design of the system before the LPI finds the design or installation of the system to comply with this ordinance.

- (5) All private subsurface wastewater disposal systems, replacement or new, shall be installed on the same lot as the dwelling unit being served by the system, unless the system can be developed outside of the Lake Auburn Watershed Overlay District or, in the case of a replacement system, the property owner can demonstrate to the local plumbing inspector that it is physically impossible for the replacement system to be located on the same lot, in which case the local plumbing inspector may approve all or a portion of the replacement system's location on adjacent lots.
- (6) Commencing July 1, 2024, all private subsurface wastewater disposal systems in the Lake Auburn Watershed Overlay District shall be inspected by LAWPC, or its designee, every 5 years or at the time that a property sold, whichever date is sooner.
- (73) The Auburn city Wwater Deistrict shall have the right to inspect any subsurface wastewater disposal system within the Lake Auburn Watershed Overlay District during its construction and operation and may notify the health officer, police chief, local plumbing inspector or housing inspector of any observed defects or malfunctions that who shall require the abatement action by the property owner or operator of such defects or malfunctions.
- (84) The local plumbing inspector shall furnish a copy of all site investigation-evaluation reports in the Lake Auburn Watershed Overlay District to the Auburncity Wwater Deistrict.
- (5) Replacement or reconstruction of private residential sewage disposal systems in existence and in use on December 17, 1983 shall not be subject to the requirements of this section but shall be required to comply with the current state plumbing code.

(Ord. of 9-21-2009, § 5.3C; Ord. No. 19-12022019, 12-9-2019)

Sec. 60-953. Dimensional regulations; building setbacks.

All buildings and structures, except those requiring direct access to the water as an operational necessity, shall be constructed not less than 75 feet inland from the normal high-water mark. Operational necessity shall include private docks, but shall not include boathouses, storage sheds, garages or other structures. Marinas and boat rental facilities shall not be permitted within 75 feet of the normal high-water mark of Lake Auburn.

(Ord. of 9-21-2009, § 5.3D)

Sec. 60-954. Conflicts.

In any case in which a provision of this section conflicts with a provision of any other section of this chapter, the provision which establishes the more stringent standard shall apply.

(Ord. of 9-21-2009, § 5.3E)

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ARTICLE XIII. ENVIRONMENTAL PERFORMANCE STANDARDS

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DIVISION 2. PHOSPHORUS CONTROL

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Sec. 60-1065. Definitions.

The following words, terms and phrases, when used in this division, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Acceptable increase in lake phosphorus concentration (C) is based upon water quality and the city's selected level of protection. For Taylor Pond the number is 0.75; for Lake Auburn the number is 0.5.

Direct watershed means any land area which contributes storm-water runoff by either surface or subsurface flow to Taylor Pond or Lake Auburn without such runoff first passing through an upstream lake.

Future area to be developed (D) means an estimate of the acreage in the city's share of the direct watersheds that will be developed during the planning period of 50 years. For Taylor Pond, the estimated future developed acreage is 715.3; for Lake Auburn, the estimated future developed acreage is 1,180.0.

Lake Auburn means the Lake Auburn Watershed regulated by this chapter, [which](#) is all land areas within the direct watershed of Lake Auburn as defined on the attached map entitled Lake Auburn Watershed [Overlay District Map](#).

Per-acre phosphorus allocation (P) means the acceptable increase of phosphorus export per acre in the watershed as determined by solving the following equation $(P) = (FC)/(D)$. For Taylor Pond, the phosphorus allocation is 0.036; for Lake Auburn, the phosphorus allocation is 0.047.

Phosphorus export coefficient (F) means the amount of phosphorus export from the watershed each year that will produce a one ppb increase in the lake's phosphorus concentration. For Taylor Pond, the phosphorus coefficient is 35.26 lbs/ppb/year; for Lake Auburn, the phosphorus coefficient is 109.9 lbs/ppb/year.

Taylor Pond means the Taylor Pond Watershed regulated by this chapter, [which](#) is all land areas within the direct watershed of Taylor Pond as defined on the attached map entitled "Taylor Pond Watershed Map".

(Ord. of 9-21-2009, § 5.7B)

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ARTICLE XV. BOARD OF APPEALS

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DIVISION 6. SPECIAL APPEAL

Sec. 60-1237. Lake Auburn Watershed ~~Overlay District zone~~ variance.

When by reason of extraordinary physical conditions peculiar to the land or buildings under appeal but not to other land or buildings adjoining or nearby, an owner of land would be subject to unusual difficulty or special hardships (not mere financial hardship or hardships caused by rigid ~~subsurface wastewater~~sewage disposal regulations) by reason of the literal application and rigorous enforcement of the terms of this chapter, the board of zoning appeals may grant a variance from strict compliance with the requirements of division 4 of article XII of this chapter after notice and public hearing as provided in this article. No such variance shall be granted unless the board is satisfied that the variance applied for will not adversely affect the quality of the Lake Auburn water supply. When an application for a variance is filed, it shall be forwarded to the ~~Auburn City Wwater~~ District with a request for an informational report and a recommendation to the board regarding the disposition of the requested variance application. In any case in which a variance request is granted, despite the recommendation of the ~~Auburn Wwater~~ District that it be denied, the board of appeals shall make part of its permanent records a written statement of its reasons for taking such action. In granting any such variance application, the board may also impose reasonable conditions upon the use of the land in question which shall be reduced to writing and made a part of the permanent records of the board.

(Ord. of 9-21-2009, § 6.5C)

Janet T. Mills
Governor

Jeanne M. Lambrew, Ph.D.
Commissioner



Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention
11 State House Station
286 Water Street
Augusta, Maine 04333-0011
Tel; (207) 287-8016; Fax (207) 287-9058
TTY: Dial 711 (Maine Relay)

September 5, 2023

Mike Broadbent, Superintendent
Auburn Water District (PWSID# ME0090070)
268 Court Street
Auburn, ME 04210

Kevin Gagne, Deputy Director of Public Works
City of Lewiston
Lewiston Water & Sewer Division (PWSID# ME0090830)
103 Adams Avenue
Lewiston, ME 04240

**Subject: Approved - Lake Auburn Source Water Protection Area Boundary Re-Delineation,
Gracelawn Parcel area, Auburn, ME**

Dear Mr. Broadbent and Mr. Gagne:

On August 7, 2023, you jointly submitted to the Maine CDC Drinking Water Program (DWP) a proposed Lake Auburn source water protection area boundary re-delineation for the Gracelawn Parcel area. The proposed delineation and supporting information are located in the July 31, 2023, CDM Smith technical memorandum Watershed Delineation Rezoning Review – Gracelawn Pit “Area of Uncertainty” (CDM Smith Report). Figure 1 from the CDM Smith report is included below for reference.

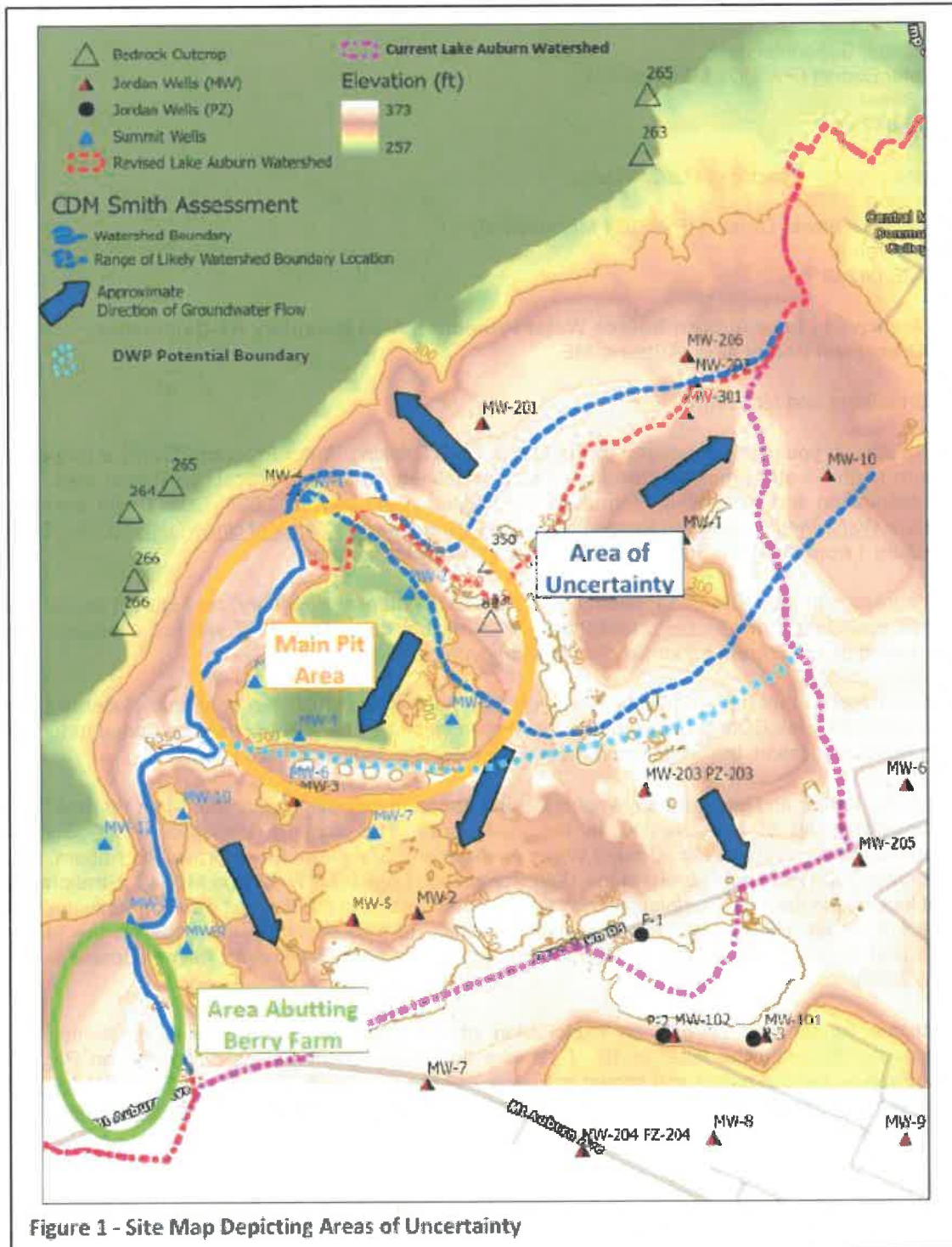
The DWP agrees with the CDM Smith finding that the “DWP Potential Boundary” on Figure 1 below is a conservative boundary that can be established with available data. The DWP will not challenge this boundary, based on our current understanding of local hydrogeology.

The DWP also agrees that further investigation would be needed to establish a boundary closer to Lake Auburn. In addition to the CDM Smith Report’s recommendations that additional data be added to further refine the boundary location, the DWP recommends the following additional action items:

- Investigate further and integrate any impacts of the apparent clay-silt layer in the “Main Pit Area” into the understanding of bedrock flow in the study area. This layer is identified in the Summit Environmental Consultants Inc., Ground Water Assessment, Gracelawn Road Gravel Pit, Auburn, ME, September 2007 (Summit Report) in the Well Completion Logs for MW-11 and MW-12. Stratigraphy is not included in the Well Completion Logs for the other borings in the Summit Report. Additionally, a clay-silt layer identified as the Presumpscot Formation is also shown in this area on the Maine Geological Survey Surficial Geology Map of the Lake Auburn East Quadrangle, Maine (Open-File No. 08-72 2008).
- Investigate further and provide an explanation of the apparent “upward head gradients, i.e., groundwater flow into the lake” in 10 of 12 lake bottom sediment probes discussed on Page 7 (Paragraph A, second bullet) and shown in Figure 7 of the October 5, 2022, CDM Smith Watershed Delineation Rezoning Review – Gravel Pit Parcel, Lake Auburn Watershed Protection Commission memorandum.

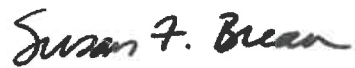
It is possible that additional information may be required to establish a boundary closer to Lake Auburn, as determined by the DWP at the time of that investigation.

CDM Smith Report, Figure 1:



Feel free to contact me regarding our feedback within this letter, and thank you for your good work providing safe drinking water.

Sincerely,

A handwritten signature in black ink that reads "Susan F. Breau". The signature is written in a cursive, flowing style.

Susan Breau, LG
Hydrogeologist, Water Resources Team Leader
Maine CDC Drinking Water Program
207.592.6981, susan.breau@maine.gov

cc Kevin Reilly, EPA Region 1
Denise Douin, DWP Public Water System Inspector; DWP file

