

BOSTON GROUNDWATER TRUST (BGwT)
BOARD MEETING
July 13th, 2017

The Board of Trustees of the Boston Groundwater Trust held its meeting in the Patriot Room at the Lenox Hotel located at 710 Boylston Street. The Executive Director electronically distributed the meeting notice and agenda to the City Clerk at Boston City Hall in accordance with the provisions of the Commonwealth of Massachusetts' Open Meeting Law. Mr. Mitchell, co-chair, called the meeting to order at 4:10 pm. The following trustees were present:

Mr. Tim Mitchell, Neighborhood Association of the Back Bay
Mr. Andre Jones, Fenway Community Development Corporation
Ms. Angie Liou, Asian Community Development Corporation
Mr. Greg Galer, the Boston Preservation Alliance
Mr. John Hemenway, Beacon Hill Civic Association
Ms. Janine Commerford, Greater Boston Real Estate Board
Mr. Austin Blackmon, City of Boston, Office of Environment, Energy, & Open Space

Also present:

Mr. Christian Simonelli, Executive Director; Ms. Kathryn Bell, Neighborhood Liaison at the Office of Boston City Councilor Josh Zakim; Patrick Lyons, Legislative Aide for Massachusetts State Representative Aaron Michlewitz; Rory Cuddyer, Chief of Staff, City of Boston, Office of Environment, Energy, & Open Space; Professor Patrick Malone, Brown University

1. Adoption of the minutes of the May 11th, 2017 Meeting

Minutes were previously emailed to Board members for review. Discussion followed. Mr. Galer, Trustee, moved to adopt the minutes. Ms. Commerford, Trustee, seconded the motion.

Voted: To accept the minutes of the May 11th, 2017 meeting.

2. Financial Report

Mr. Hemenway, Trustee, reviewed the BGwT's financial reports. Discussion followed. Mr. Simonelli noted that the Trust received its one-time grant of \$10K from the 303 Columbus Avenue project via the Boston Planning and Development Agency (BPDA). The grant was secured in December, 2003 and designated to be used as a benefit for the South End neighborhood. Discussion followed.

3. Update on Project LightWell

Mr. Simonelli updated the Board on project LightWell. He presented the following information to the Trustees:

- Deployed the first 10 covers at the beginning of June along Beacon Street
- So far 20 people have download the app; 8 since the article ran in the Boston Sun
- 221 readings have been uploaded to the cloud site
- Traffic on our website briefly spiked for about 2 days after the Boston Sun article ran
- We average around 150 unique visitors/day, jumped to around 250 unique visitors/day
- We average about 350 page-views/day, jumped to around 780 page-views/day
- Came in under budget at \$20,300. Board approved \$21,000 at our March Board meeting
- One well cap (at the corner of Beacon Street and David G Mugar Way) was damaged by vandals who tried unsuccessfully to pry up the well cover. The vandals were not able to actually open the well, but they did break off parts of the cover. The cover has since been repaired.

Discussion followed. Mr. Mitchell, co-chair, asked why the reading posted in the app is depth to water from street level instead of Boston City Base (BCB) elevation. Mr. Simonelli noted that the graphic in the app clearly illustrates depth water and felt posting BCB elevation would be confusing to first-time users. Discussion followed. Mr. Mitchell suggested the app be updated to reflect a BCB elevation since the Trust educates the public on the importance of BCB elevation in relation to wood pile BCB cutoff elevations. Mr. Simonelli stated that he will work with team LightWell to update the graphic within the app. Discussion followed.

4. Presentation by Professor Patrick Malone of Brown University on the effects of historical tidal dams and the subsequent filling of the Back Bay on groundwater movement, levels, and recharge

Professor Patrick Malone gave a presentation on the effects tidal dams built in the early 1800's, and the subsequent filling of Back Bay, have had on groundwater movement, levels and recharge. Professor Malone highlighted the following:

- The purpose of tidal dams was to provide power for a variety of industrial purposes, including different types of mills.
- In the early 1800's, a Mill Dam was installed along what is now Beacon Street, for the purpose of providing power for planned industrial expansion in Boston.
- The project was innovative in using a tide-protected receiving basin, which allowed for power generation over an entire 24-hour cycle. Most other tidal dams are capable of producing power only during limited portions of the tidal cycle.
- The project never reached its full potential regarding the number of mills it served, as only three mills were in fact built on the Mill Dam.
- In order to defray the expense of the Mill Dam project, a toll road (now Beacon St.) was built along it.

- The rising value of made land (land created by filling the tidal basins) eventually rendered the mills obsolete.
- The Beacon St. Mill Dam was never removed, and continues to serve as an underground barrier to groundwater movement between the Charles River and the Back Bay.
- Construction of the Commonwealth Avenue underpass in the 1930's unearthed the cross dam running down Hereford Street. This underpass is depicted in the 1986 Aldrich and Lambrechts report on Back Bay Groundwater.

Professor Malone took questions following his presentation. Refer to the attached presentation for additional details.

5. **Executive Director's Report**

BGwT Executive Director Mr. Christian Simonelli distributed his report. Discussion followed. Refer to the attached *Executive Director's Report July 13th, 2017* for a complete list of activities.

6. **Other Business**

Mr. Mitchell, co-chair, updated the Board on a conversation he had with Inspectional Services Department counsel Matthew Fitzgerald regarding notification to abutters. Discussion followed. Mr. Simonelli stated that he had spoken with Mr. Fitzgerald and that Mr. Fitzgerald had stated that he was working with Commissioner Christopher on a mechanism for notification. Discussion followed.

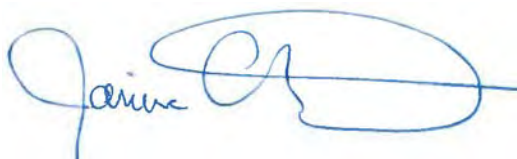
Mr. Simonelli noted that the Trust has been issued a Subpoena, requesting all electronic documents pertaining to the proposed project at 45-53 Hereford Street. Discussion followed.

The meeting adjourned at 5:45 p.m.

NEXT MEETING: September 14th, 2017 @ 4:00 pm at the Lenox Hotel.

Notes submitted by Christian Simonelli, BGwT Executive Director, on 7/17/2017.

Approved 2 August 2017



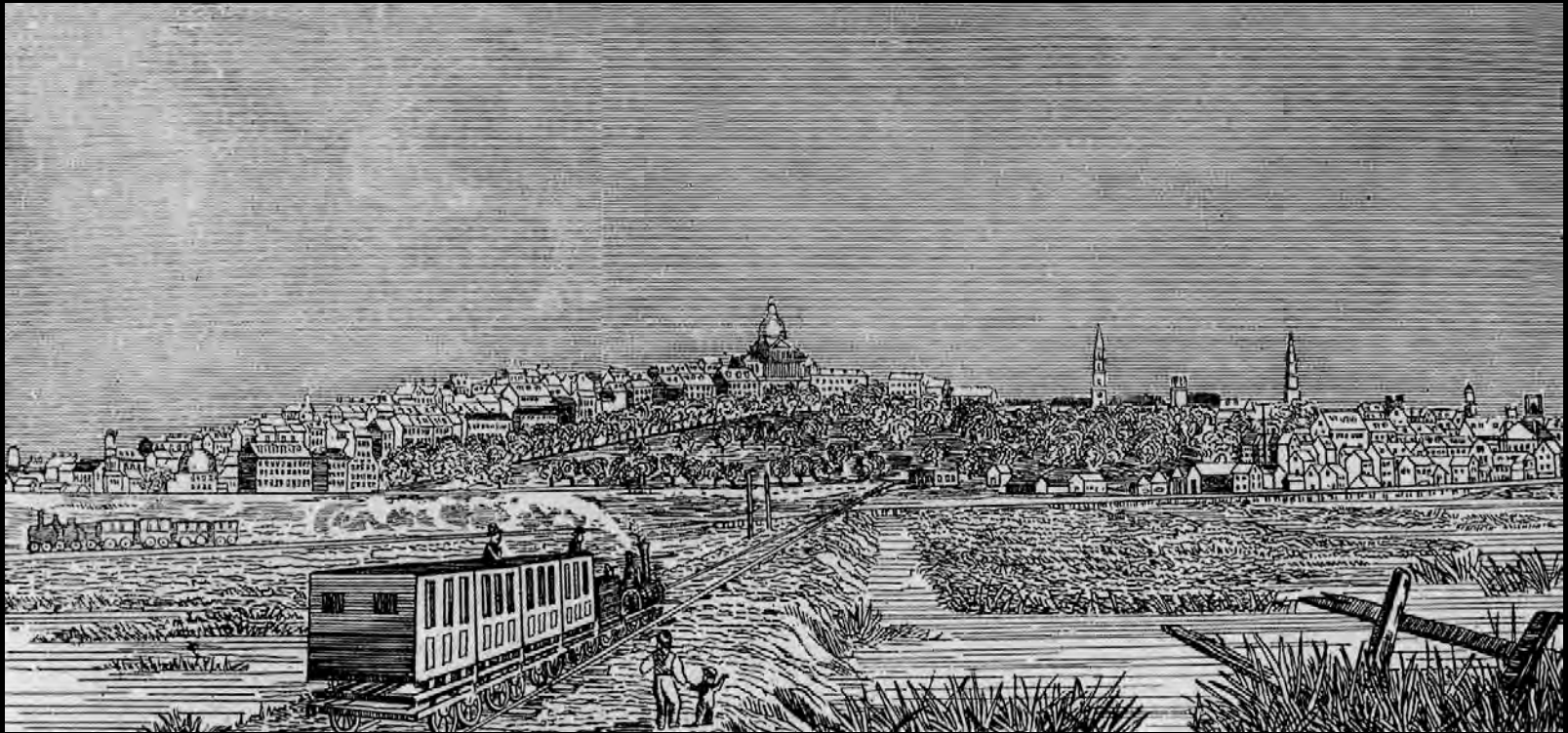
J. Commerford, Secretary

EXECUTIVE DIRECTOR'S REPORT
July 13th, 2017

1. **Readings** – We have started our fifth set of readings for 2017.
2. **Project LightWell** – We installed our first 10 interactive well covers along Beacon Street in June. The plan is to have the 10 well covers on display in each street for a period of four weeks. In the next couple of weeks we will move the 10 well covers from Beacon Street to the next street on our list, Commonwealth Avenue.
3. **Meetings/Presentations** –
 - a. I attended the scoping session and wrote a comment letter for the 99 Sumner Street project in East Boston (5/15).
 - b. I updated the Ellis Neighborhood Association on our efforts at their monthly meeting (5/23).
 - c. I met with Trustee Blackmon to review his ideas and recommendations for the organization (5/24).
 - d. I met with Trustee Jones to review the efforts of the organization (6/1).
 - e. I met with the Melissa Schrock of Boston Properties and Brian Fairbanks of WSP USA to review the GCOD requirements for the Back Bay South End Gateway project (6/6).
 - f. I met with Trustee Saunders and Susan DaSilva of the Saunders Hotel Group to review the Trust's new website (6/8).
 - g. I attended the scoping session and wrote a comment letter for the Boston University Goldman School of Dental Medicine (6/9).
 - h. I supervised the installation of 11 observation wells (6/12-6/16, 6/28).
 - i. I registered and attended permeable pavement webinars on 6/20, 6/27, & 7/11. The remaining webinar will occur on 7/25.
 - j. I attended a pre-file meeting for the Exchange South End project (6/23).
 - k. I met with Zachary Wassmouth, Jeffery Alexis, & Joseph Fleury to review the surface of Public Alley 430 (6/27).
 - l. I spoke & met with residents & developers throughout the GCOD to discuss ZBA procedures and advised them on what they need to provide us to satisfy the zoning.
4. **MBTA** - Approximately 40 gpm is being injected into recharge wells in the area. In addition to our manual monitoring we have 4 wells in the area with dataloggers recording a water level every 60 min. The MBTA has renewed their maintenance contract with their Engineer for 3 years. Going forward the recharge systems will be inspected and adjusted (as needed) on a monthly basis.
5. **DCR** – I have dataloggers installed in 3 wells to monitor the levels along the Storrow Drive tunnel pump station groundwater recharge system. Levels are within their usual range and the system is working as designed. The DCR and their consultants are working with the DOT on traffic studies in support of a redesign effort for the underpass. They hope to have the results of this study by June. Recharge will be part of that plan and will be targeted for possible upgrade.
6. **BWSC** – An update of the following:
 - a. BWSC continues their work in Public Alley No. 430. Sewer and drain line repairs have been completed. In addition, recharge was installed as part of those repairs. The remaining portion of the sewer will be relined in the next couple of weeks.
 - b. BWSC is in the process of awarding the contract for repairs of the sewer along Beacon & Fairfield Street. Approximately 430' of the 72"x78" pipe will be repaired and is expected to be completed before the end of the 2017 construction season.
 - c. BWSC is continuing their investigations in the South End, North End, and Stuart Street area between Berkeley and Dartmouth Streets. An update will be provided at the July City-State Groundwater Working Group meeting.
7. **MWRA** - Inspected the Boston Marginal Conduit (BMC) (approx. 4,000ft.). Minor signs of infiltration at four spots were discovered during the inspection. Those four spots will be repaired. Addi-

tional inspections will be conducted this spring before repairs are made and an update will be provided at the July City-State Groundwater Working Group meeting.

8. **MassDOT** - Repairs were unsuccessful due to obstructions at the beginning of April in the Pru tunnel. A revised scope of work has been requested. An update will be provided at the July City-State Groundwater Working Group meeting.
9. **Website** - I have continued to inventory our website and have almost completed the redesign. The most recent items are posted under the "*Latest News*" tab on our homepage. As always, I would appreciate any feedback you may have.



Perpetual Power in the Back Bay

Patrick Malone, Brown University



№22

CHARLESTOWN.

BOSTON:

SOUTH BOSTON

DORCHESTER.

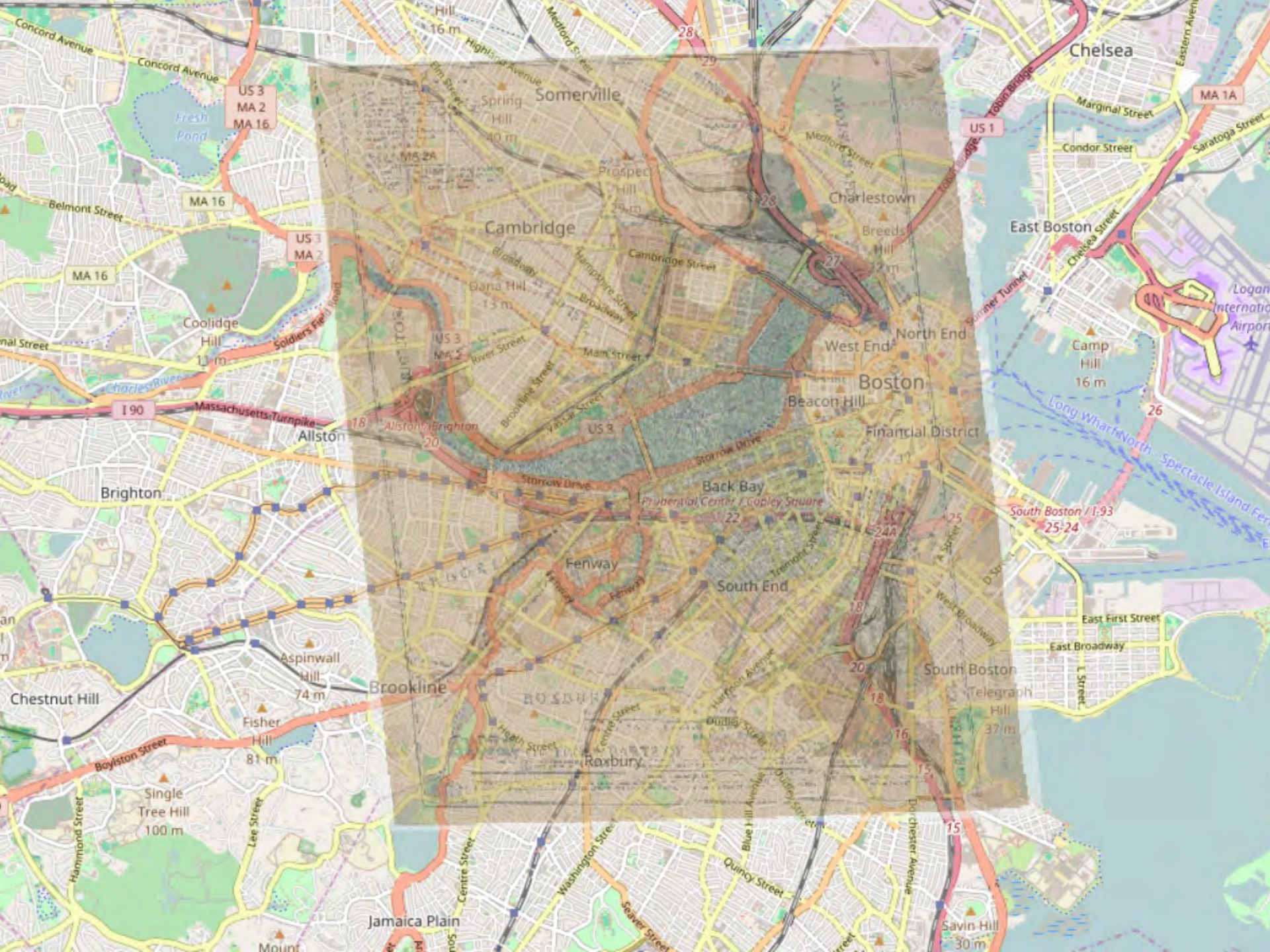
ROXBURY.

Rods 80 160 240 1 Mile.

SCALE Eighty Rods, or one Quarter of a Mile to an Inch.

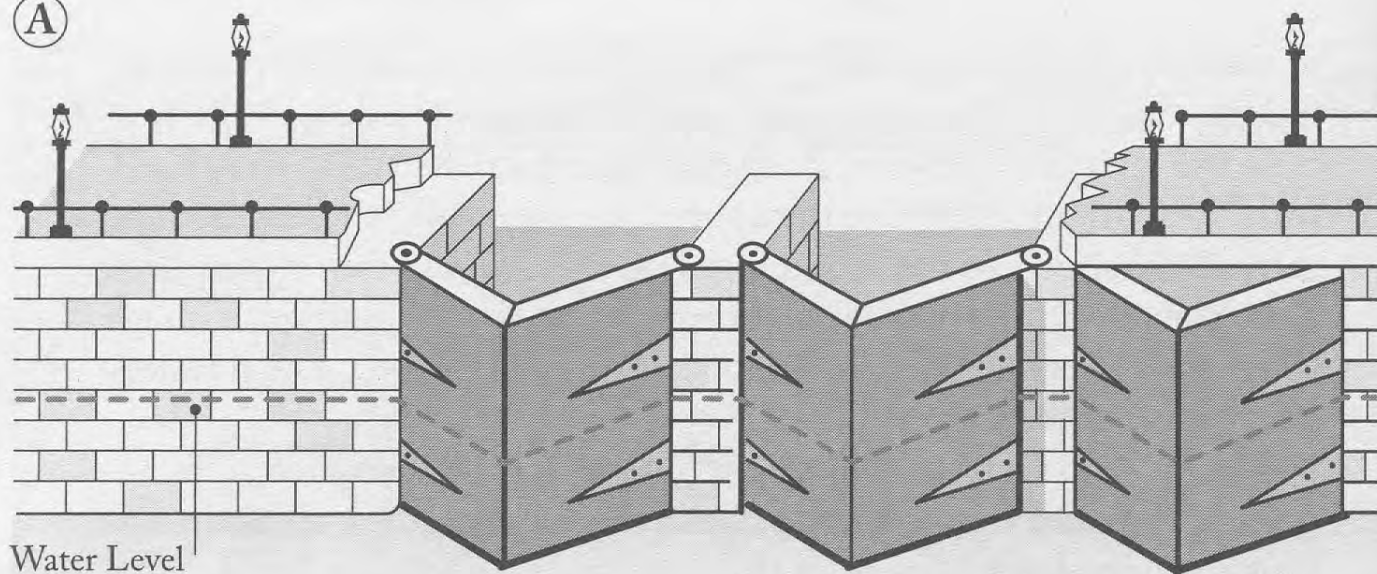
A PLAN of those Parts of BOSTON, and the Towns in its Vicinity,
with the Waters and Flats adjacent, which are immediately or remotely connected with the con-
templated design of erecting PERPETUAL TIDE MILLS.

Printed and coloured Typographically, in the new constructed Letter-Press, lately invented by
BENJAMIN DEARBORN. Boston, February, 1814.

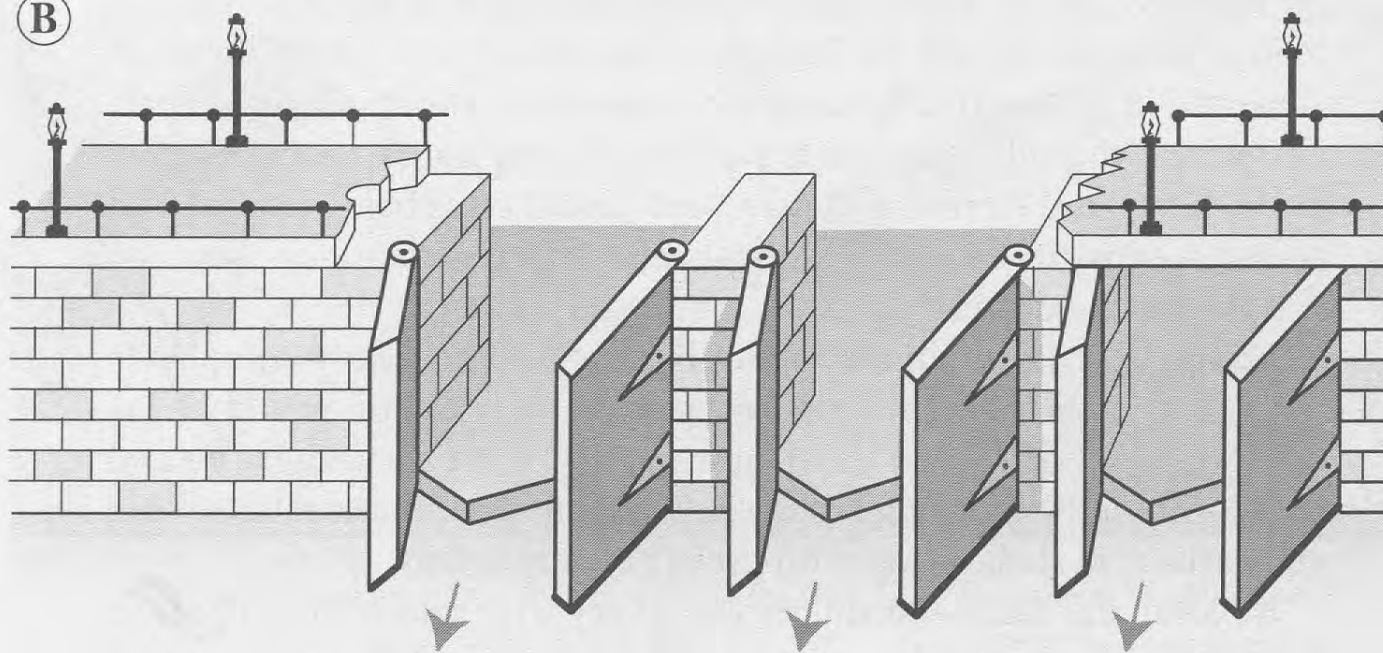


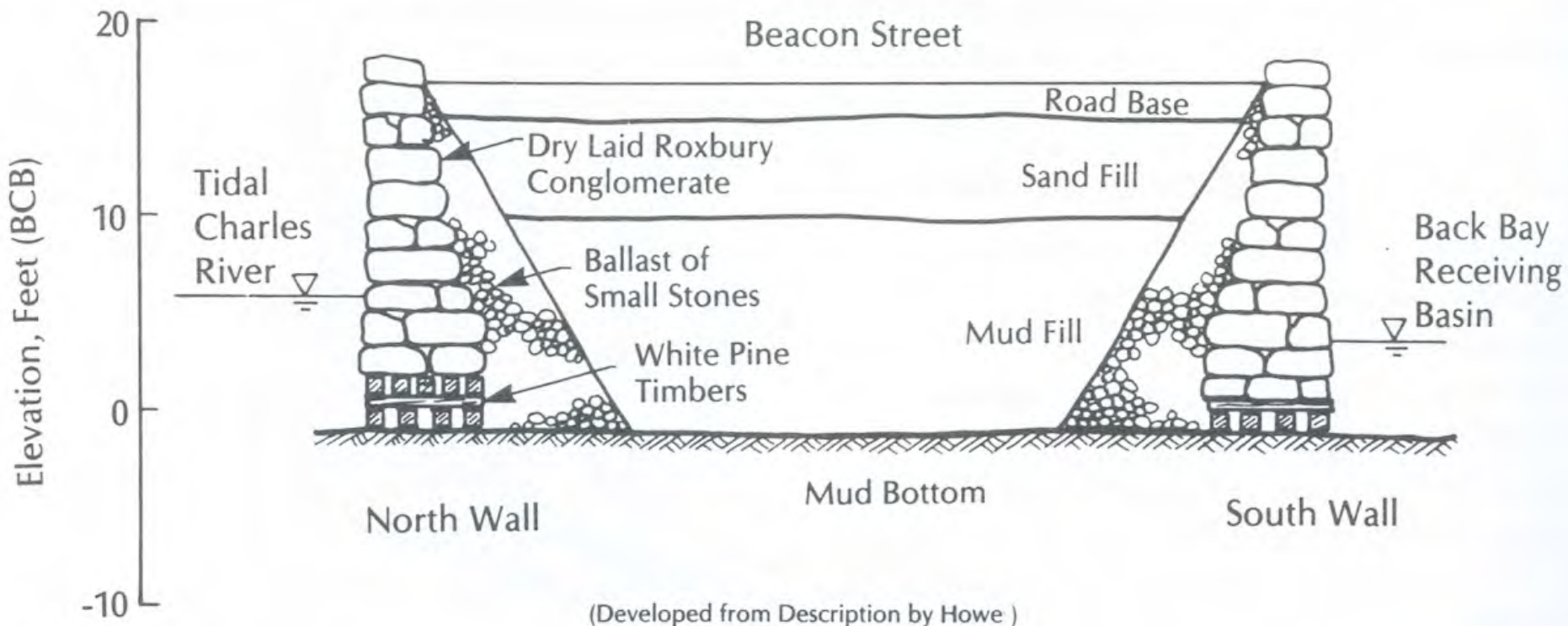


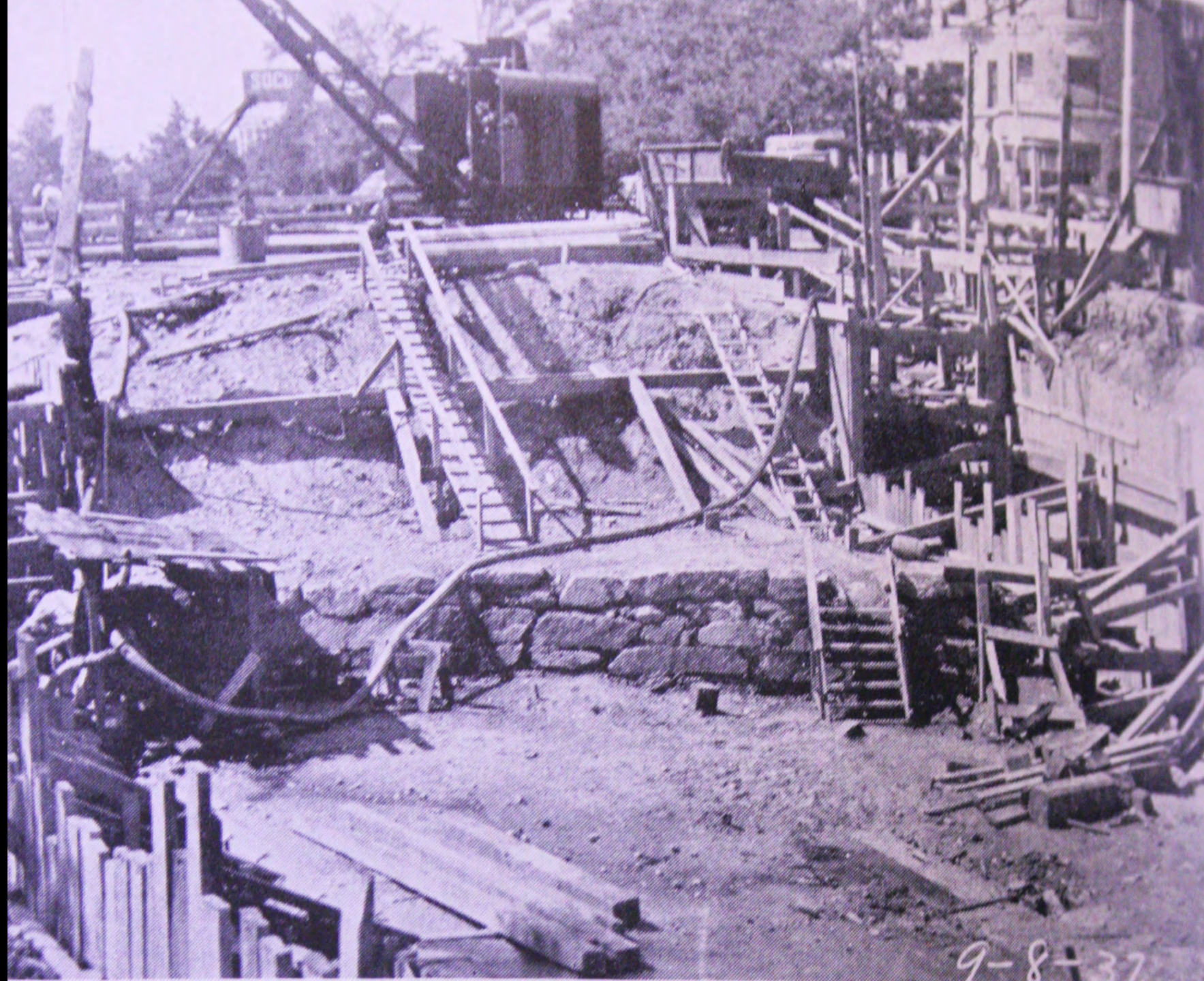
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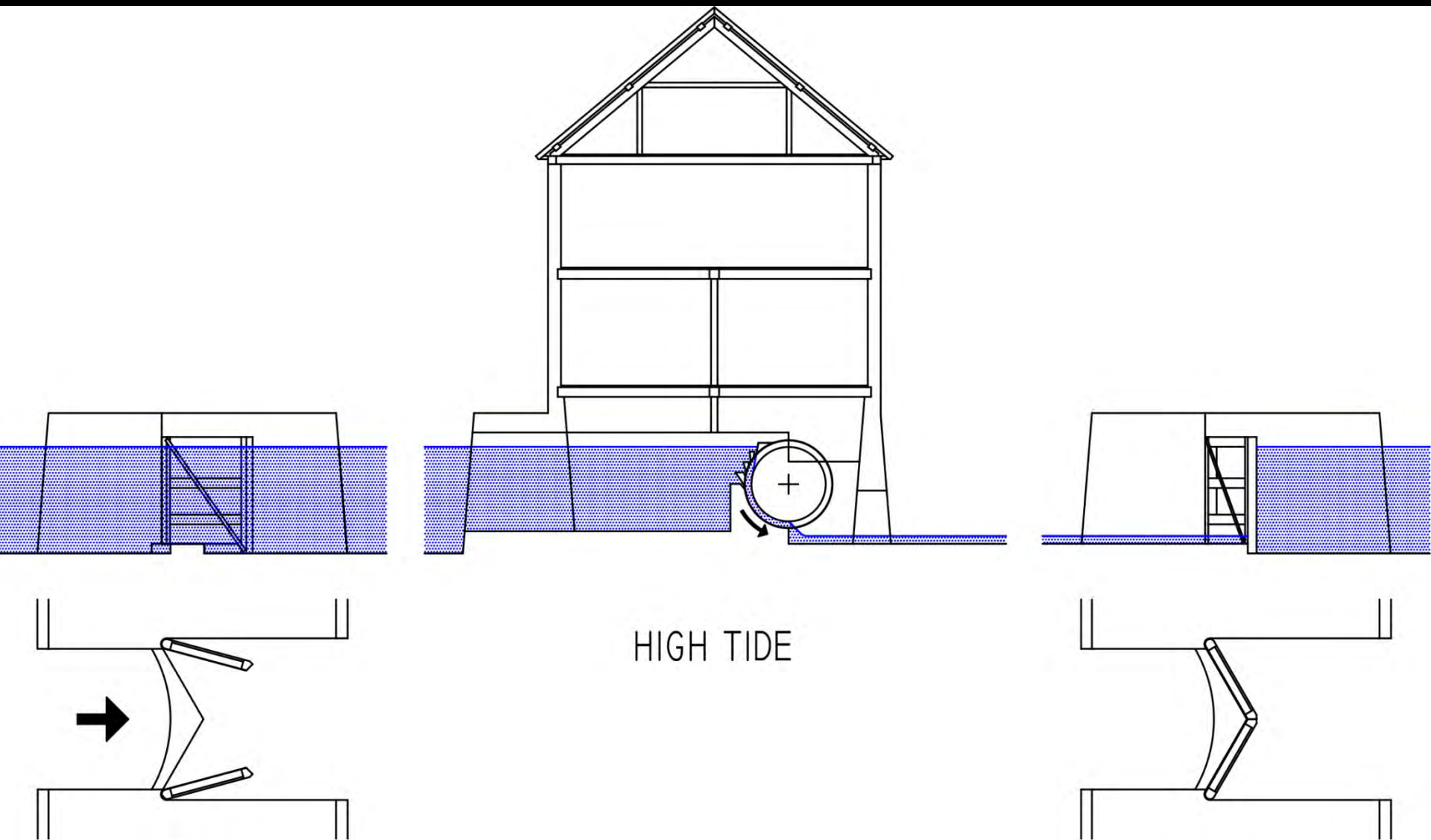


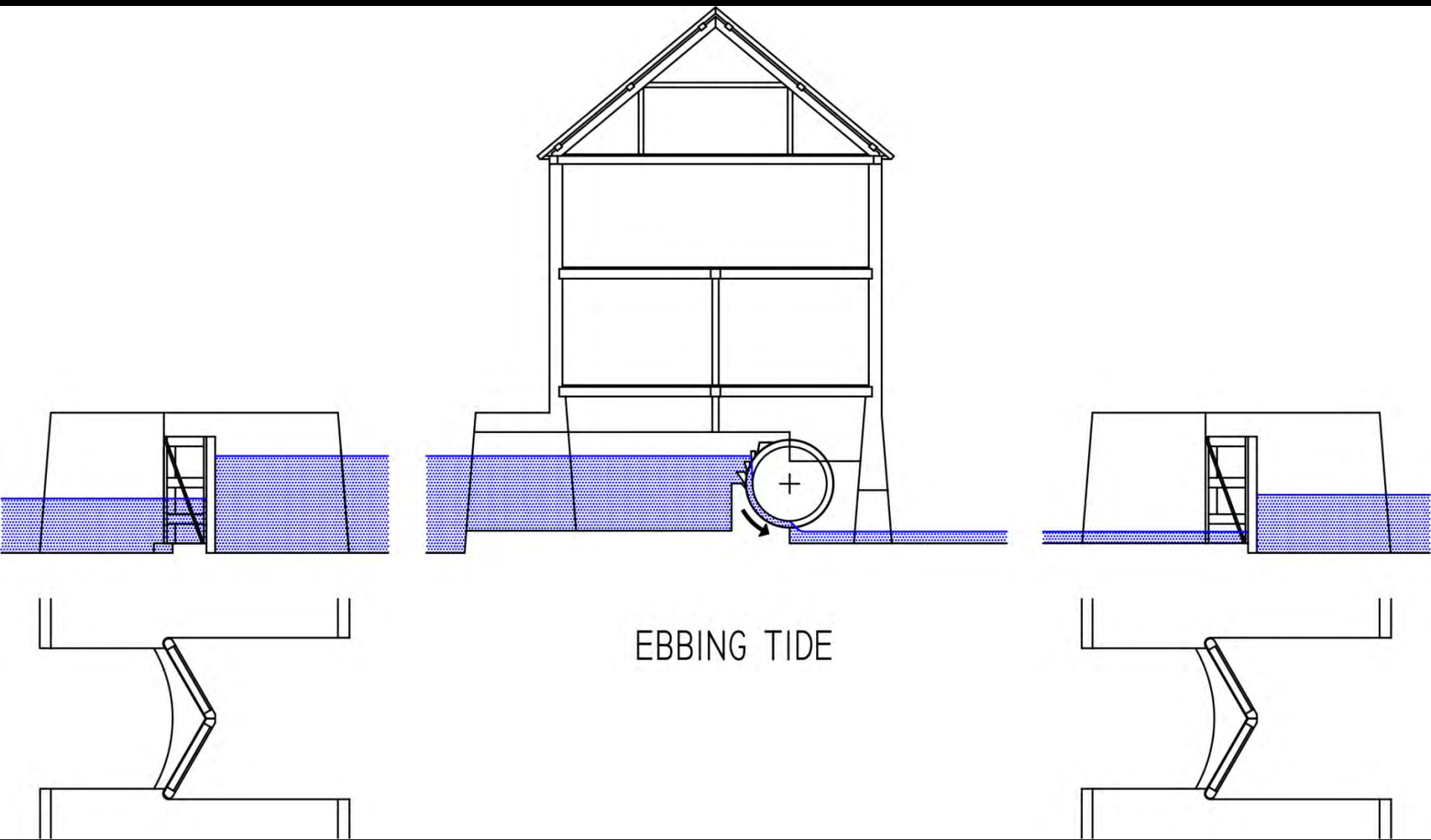
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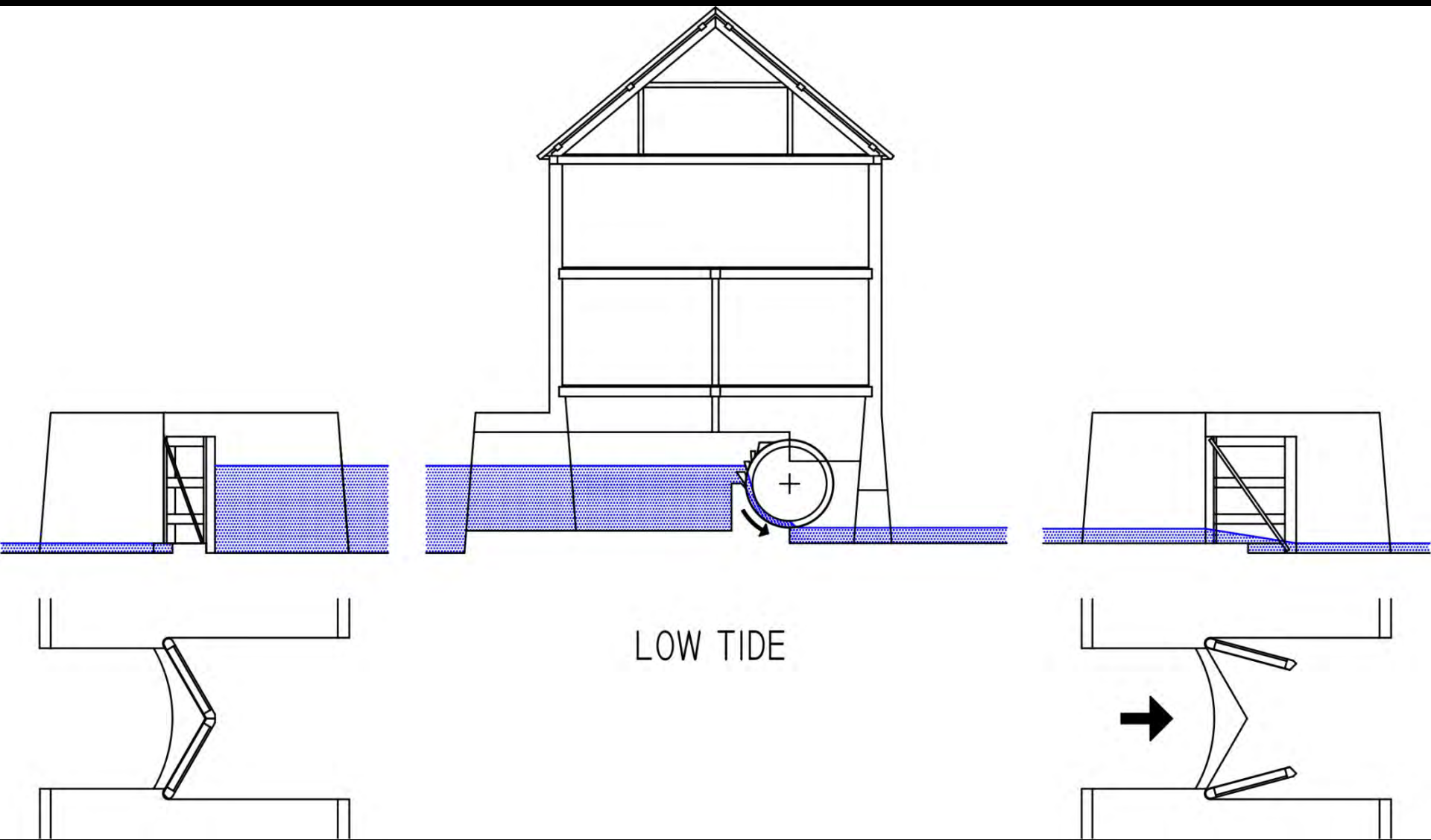


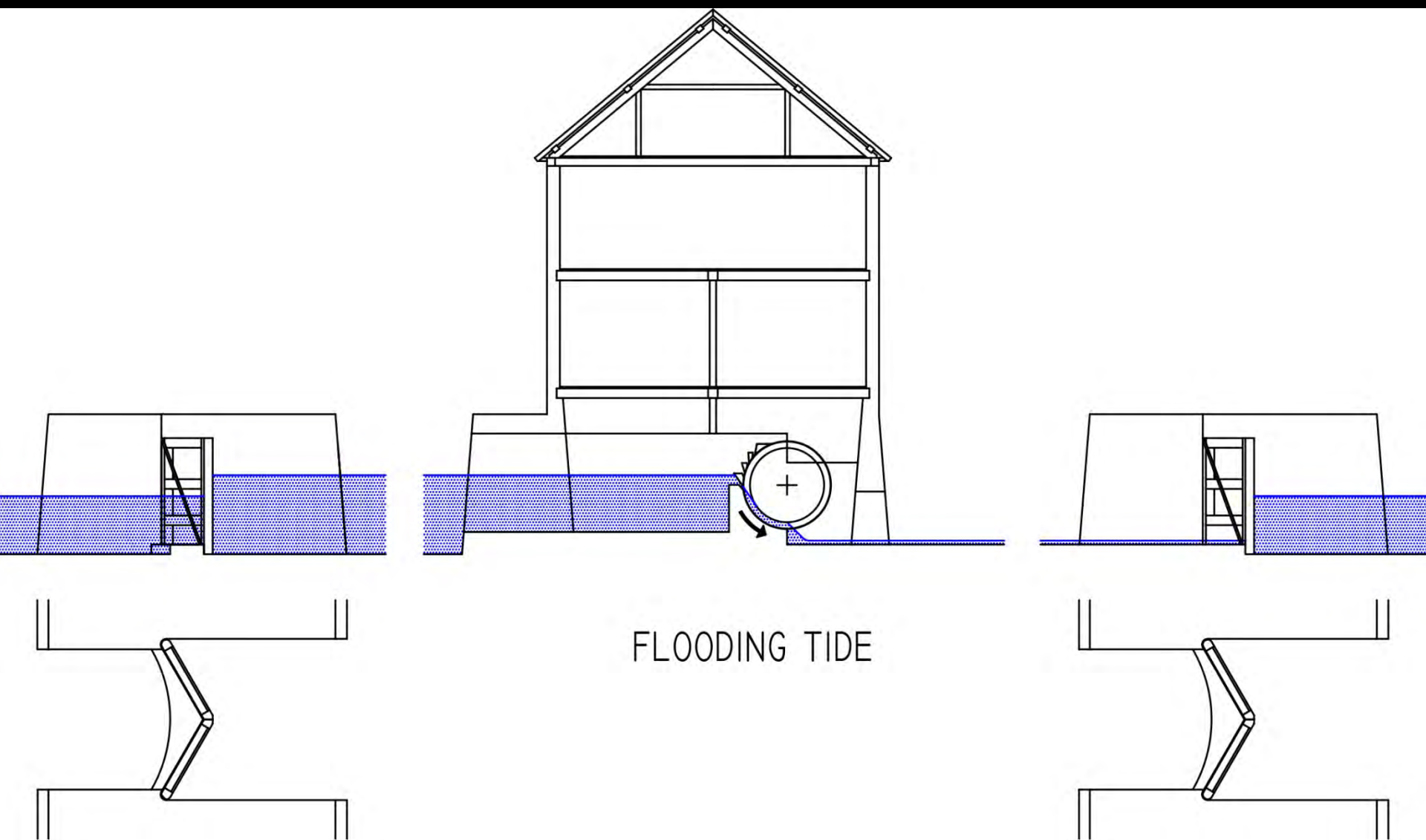






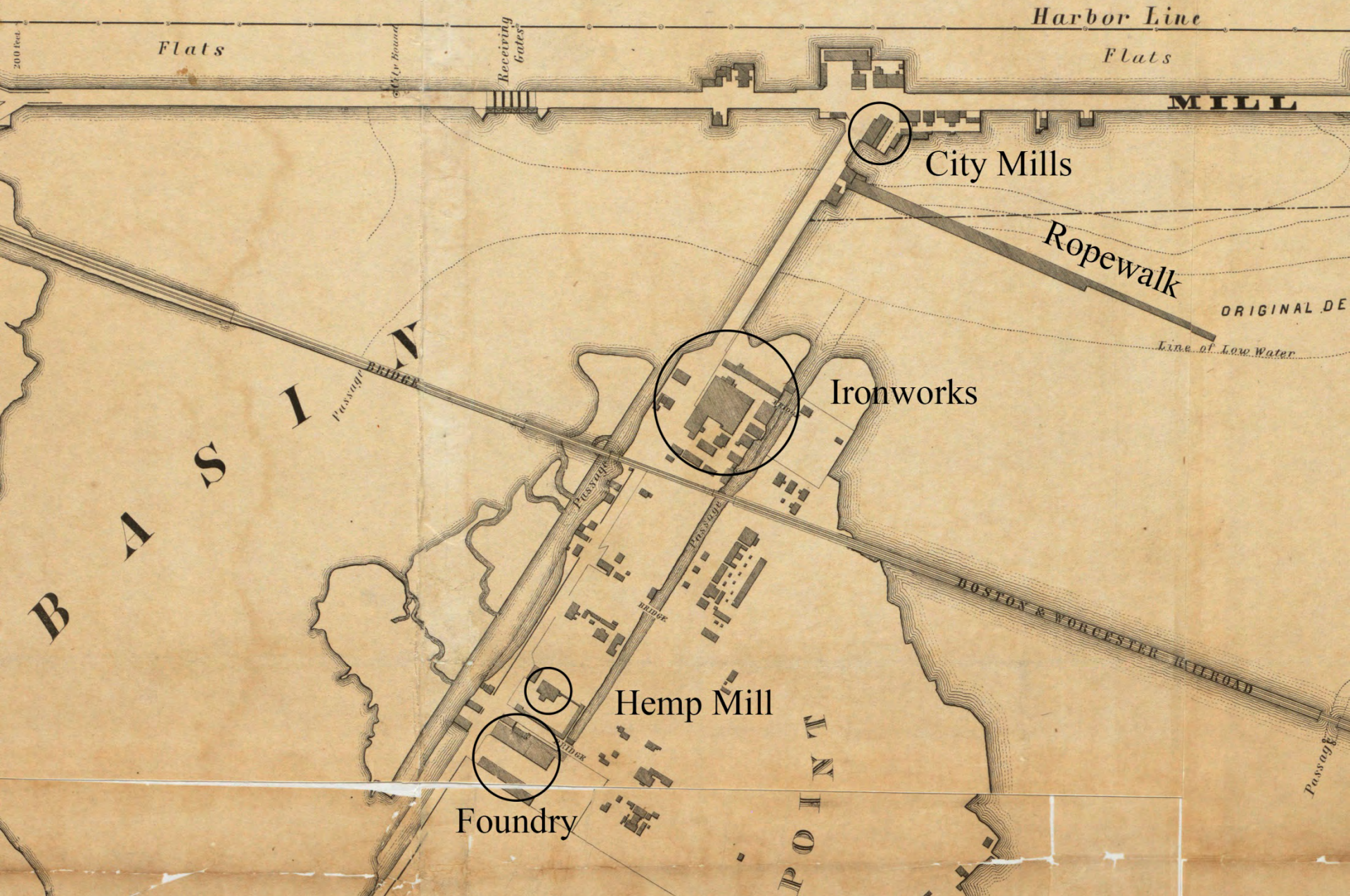








C H A R L E S



Flats

Harbor Line

Flats

MILL

City Mills

Ropewalk

ORIGINAL DE

Line of Low Water

Ironworks

Hemp Mill

Foundry

BOSTON & WORCESTER RAILROAD

B

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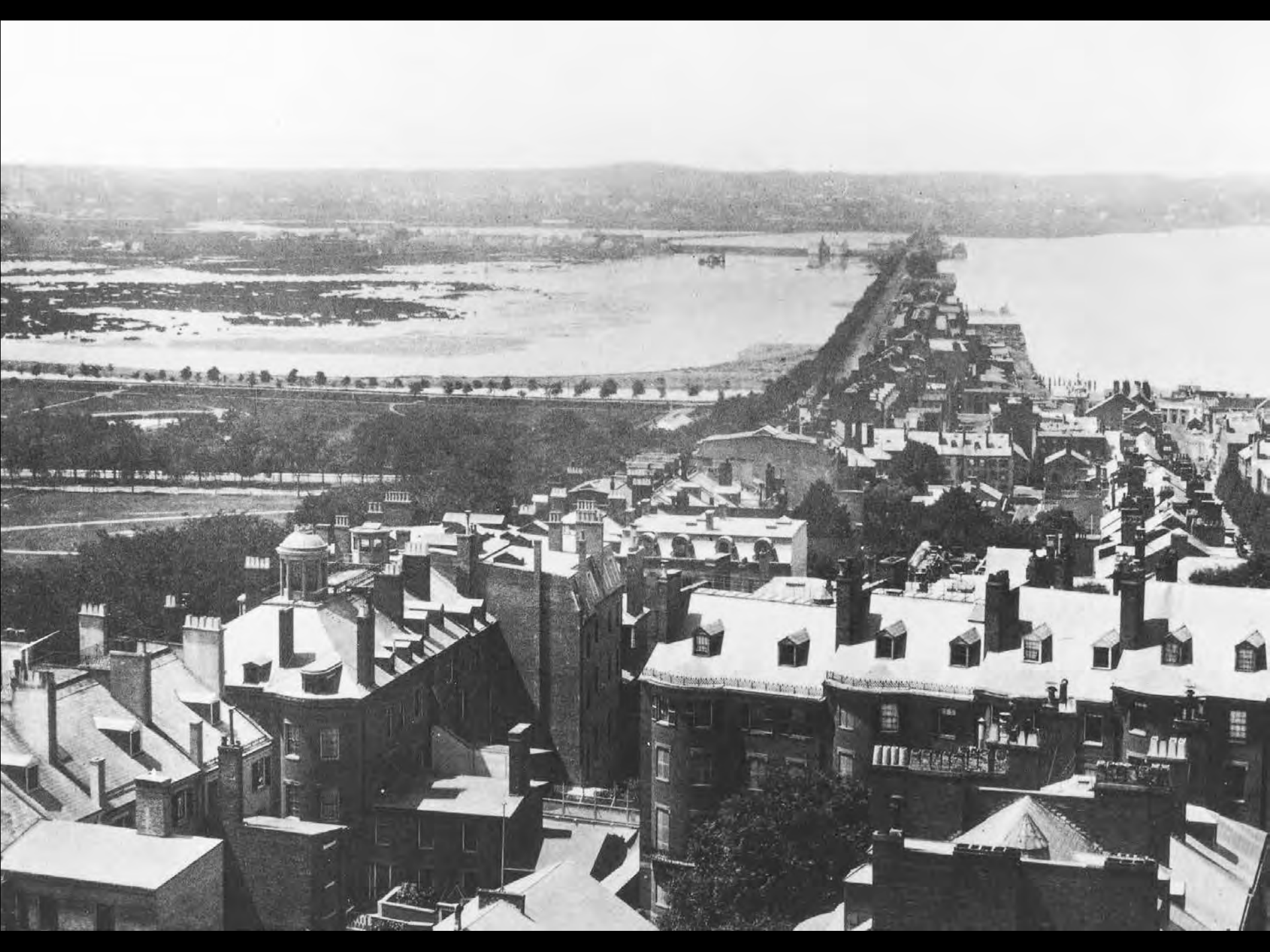
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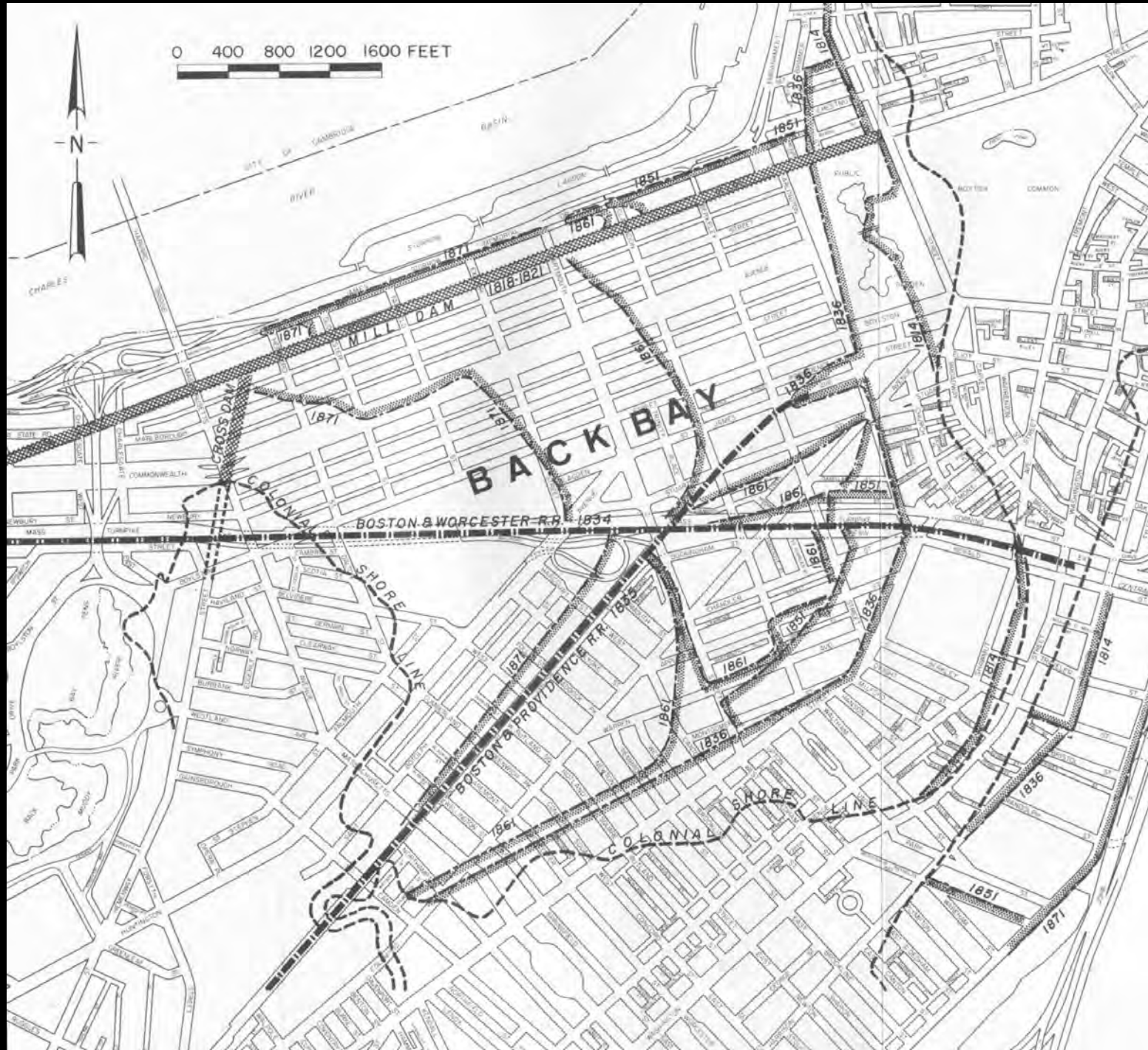
P O I N T

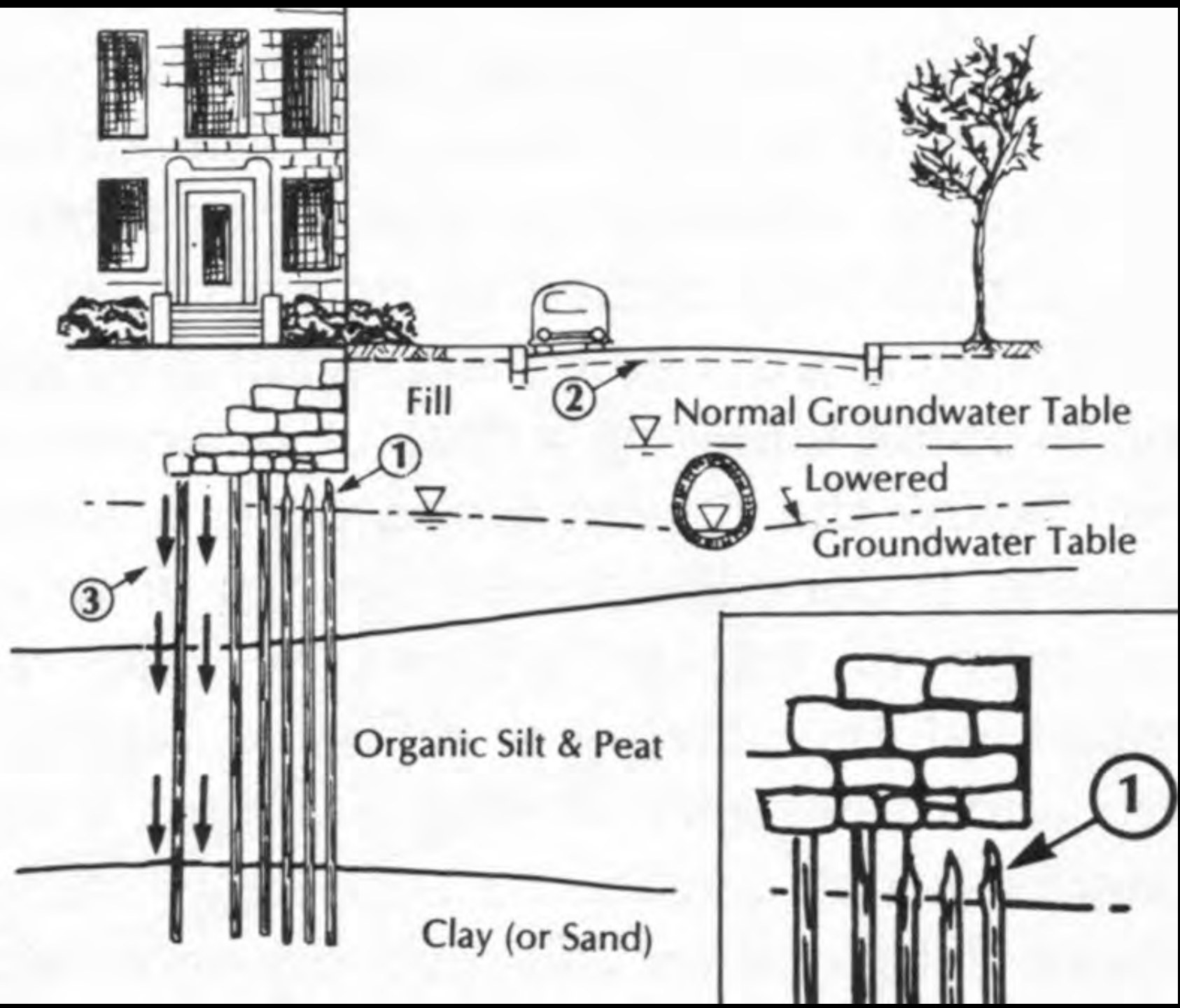


Baldwin Mills









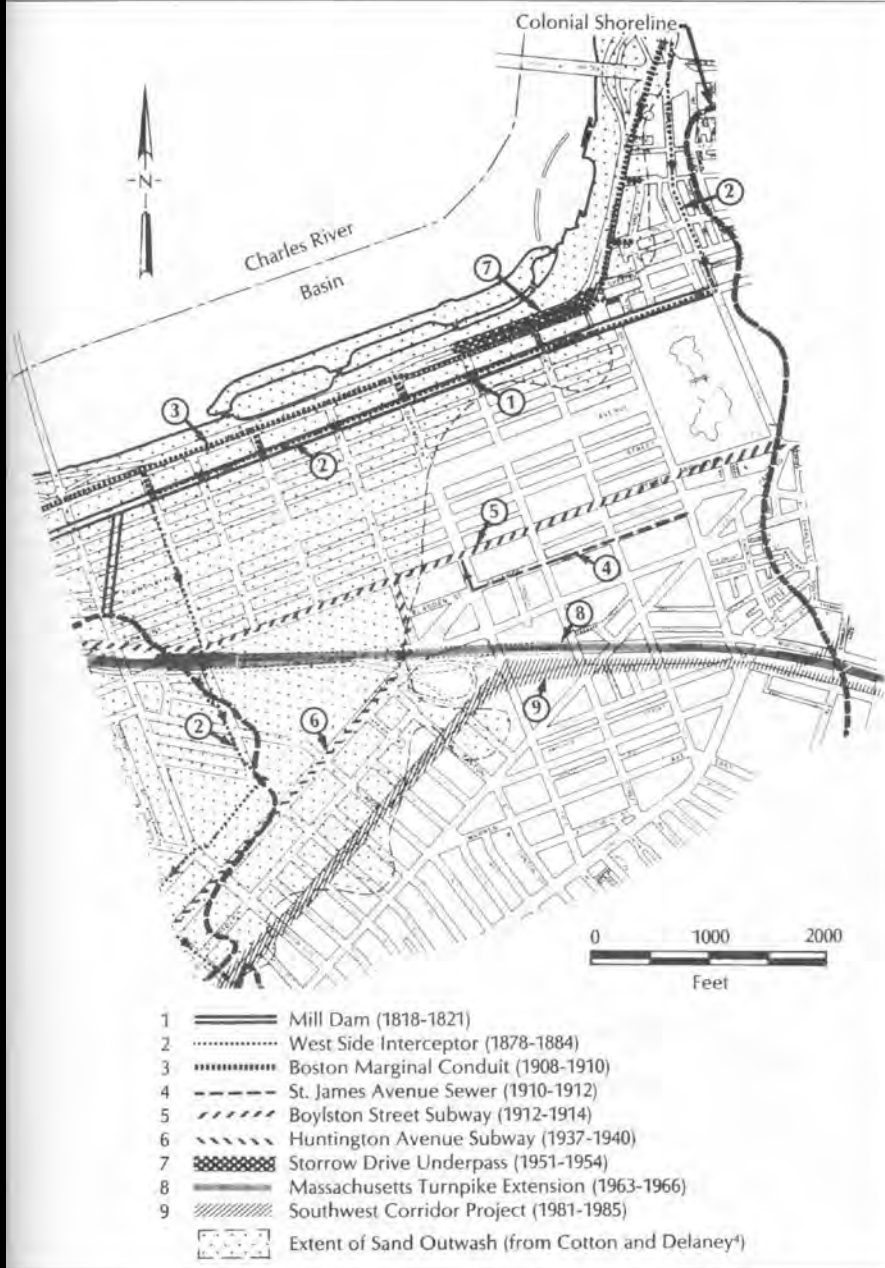


FIGURE 4. The locations of sewers and drains, and major transportation alignments.

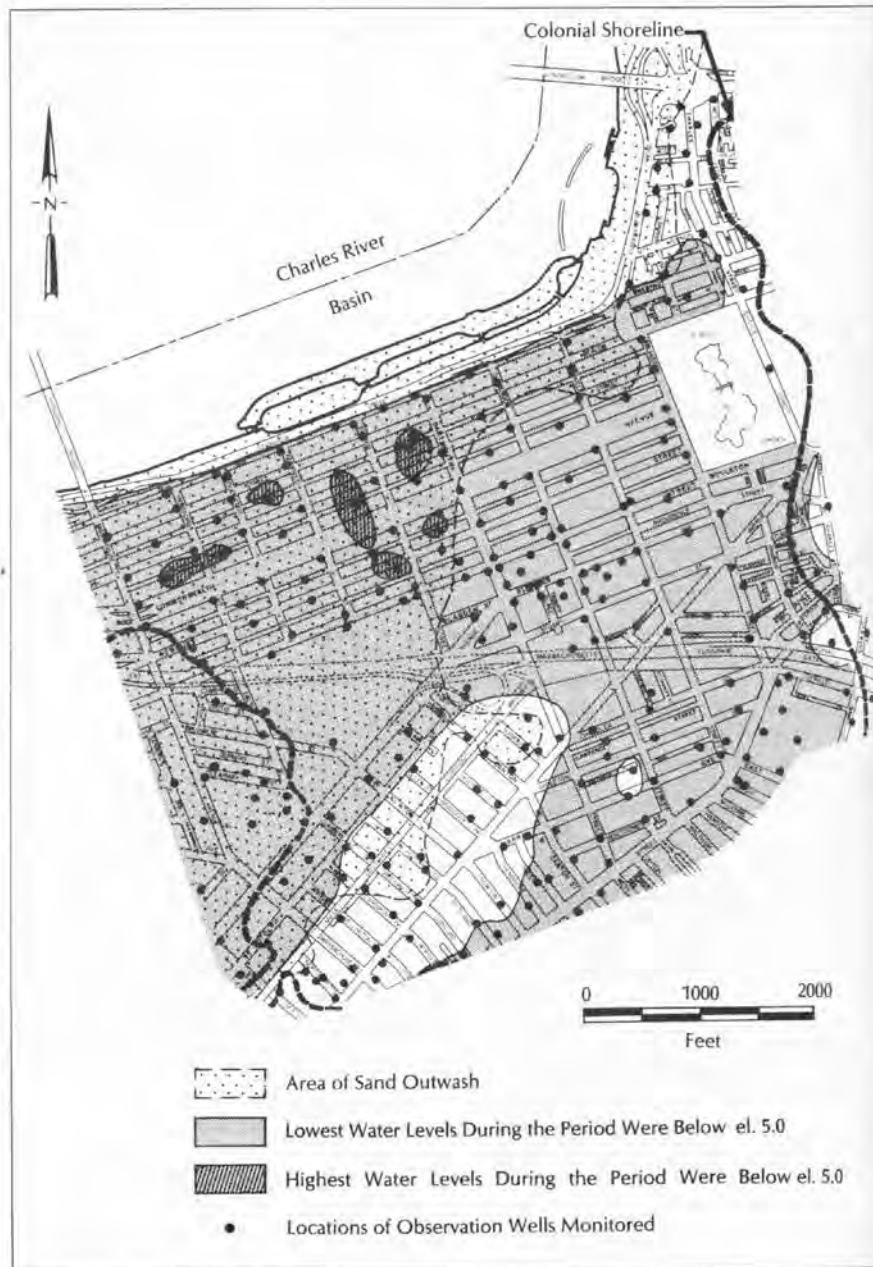


FIGURE 14. Areas of Back Bay having groundwater levels below el. 5.0 during 1936-1940.