

Lovett Brook Land Use Plan

DRAFT November 2021

City of Brockton • Brockton Redevelopment Authority • MassDevelopment
Innes Associates • Tighe & Bond • RKG Associates



Acknowledgments

Mayor Robert F. Sullivan

City Council

Winthrop Farwell Jr.
Moises M. Rodrigues
Rita Mendes
Tina Cardoso
Thomas Monahan
Dennis Eaniri
Susan Nicaastro
Jeffrey A. Thompson
John Lally
Shirley Asack

Rob May, Director
Department of Planning and Economic Development

Brockton Redevelopment Authority

Mr. Philip Griffin, Chairman
Mr. Richard Johnson, Vice Chairman
Ms. Suzanne Fernandes, Treasurer
Mr. Eugene Marrow, Clerk
Ms. Tiffanie Ellis-Niles, Member

Robert Jenkins, Executive Director
Patricia Jackson, Housing Development Manager

Citizens Advisory Council

MassDevelopment

Ed Starzec, Director of Land Planning & Permitting
Amanda Gregoire, VP Real Estate Services

Special Thanks to

Jay Ash, MACP
Teresa Lynch, MassEconomics
Jason Cordeiro, MassBio
Joseph Casey, Harbor One Bank
Jeanne LeClair, Mass Life Sciences

Consultant Team

Innes Associates Ltd.
RKG Associates
Tighe & Bond

Contents

1 Executive Summary6

2 Buildings, Sites, and Ownership..... 16

3 Market Context26

4 Physical Context.....34

5 Future Land Uses and Implications46

6 Implementation Plan.....59

7 Justification for Urban Renewal.....73

Appendices

- A Market Report
- B Traffic Study
- C Environmental Study and Permitting Requirements
- D Property Inventory
- E Maps Required under 760 CMR 12.00
- F Results of Public Surveys

Figures

Figure 1: The Study Area	7
Table 1: Comparison of Land Uses	16
Figure 2: Existing Conditions	17
Table 2: Comparison of Land Use Valuations	18
Figure 3: Timeline.....	21
Table 3: Transfer of Properties 2016-2020.....	22
Figure 4: Ownership.....	23
Figure 5: Land Uses	25
Table 4: 10-year Projections for Demand	33
Figure 6: Roads and Bus Routes	37
Figure 7: Lovett Brook and Flood Zones.....	43
Figure 8: Physical Challenges.....	45
Figure 9: Existing Conditions	47
Figure 10: Development Scenario 1A.....	50
Figure 11: Development Scenario 1A.....	51
Figure 12: Development Scenario 1B	52

Figure 13: Development Scenario 1B	53
Figure 14: Development Scenario 1C	54
Figure 15: Development Scenario 1C	55
Figure 16: Development Scenario 2	56
Figure 17: Development Scenario 3	57
Table 5: Potential Development Volumes (Difference in Square Footage from Existing).....	58
Figure 18: Potential Public Amenities	65
Figure 19: Impact of Access Management	67
Table 6: Pro forma Scenario 1A	70
Table 7: Pro forma Scenario 1B	71
Table 8: Pro forma Scenario 1C.....	72
Figure 20: 1937 Street Patterns	76
Figure 21: 1954 Sanborn Fire Map	77
Figure 22: Site of Former Theater	78
Figure 23: Key Parcels (Landlocked, R-O-W remnants).....	79

1 Executive Summary

The Lovett Brook area is located at the intersection of Routes 24 and 27 in northwest Brockton. The site is anchored by the Good Samaritan Medical Center and includes the headquarters of Harbor One Bank and the Original Tommy Doyle's Pub and Grill. Lovett Brook bisects the site, which contains a broad mix of office, retail, residential, and auto-oriented uses. Oak Street and North Pearl Street are lined with active businesses, although one is located directly over the brook. However, the interior of the site on the west side contains a single house, a small strip mall, and the concrete pad and parking lot of a former movie theater (closed in 1999, demolished in 2015).¹

Multifamily residential lines Oak Street to the north, and regional shopping is both north of the multifamily housing and east – Westgate Mall is on the other side of Route 24. To the southwest, on the other side of North Pearl Street, is the Brockton Historical Society, the Brockton Fire Museum, Melrose Cemetery, and (further south) a small neighborhood of single-family houses. Transit is available through the regional bus systems, which links the site to commuter rail stations in Brockton and Stoughton.

The Good Samaritan Medical Center is the central land use of the site, although it is mostly invisible from the street.

Over time, scattered uses have developed along the border with Oak Street, Oak Street Extension, and North Pearl Street. Small single-family houses dating from the early 1900s are still on site, but they and two later houses are no longer connected to a neighborhood. Other businesses fit into available sites and, in some cases, ignored the original road layout for the area. Vestiges of the original Oak Street remain as do two paper streets and fragments of two or three other planned streets.

Plan Genesis

The genesis of this project was a series of research reports led by MIT's Department of Urban Studies and Planning (DUSP) in partnership with the City of Brockton, the Massachusetts Life Sciences Center and MassDevelopment. The students at DUSP examined the expansion of life sciences to Gateway Cities and used Brockton and Worcester as the subjects for their investigation.

Life Sciences is a sector rather than an industry, with a variety of related activities by businesses, educational institutions, and nonprofits. The Massachusetts Life Sciences Center (MLSC) describes these relationships as an ecosys-

Figure 1: The Study Area



¹ Source: <http://cinematreasures.org/theaters/25127>; last accessed September 11, 2021.

tem and Massachusetts as the hub of the global ecosystem. The Commonwealth of Massachusetts has made life sciences a priority since the signing of the Life Sciences Act in 2008.

Much of the focus in the media has been on the spillover of lab space from Kendall Square to the Seaport District and beyond. A recent article in *Banker & Tradesman* refers to 18 million square feet of projected lab space that is scheduled for completion in Greater Boston in 2023.² Lab and R&D prefers to remain close to the cluster of universities and hospitals in the Greater Boston area.

However, related Life Science industries, such as medical device and biomedical manufacturing, can be located further from the lab cluster. This allows firms to capitalize on lower land prices and a wider base of potential employees. Given recent changes in employment preferences as a result of the COVID-19 pandemic, locating manufacturing facilities in Gateway Cities and towns provides opportunities for a shorter commute for workers and a higher quality of life.

The report from MIT, *Nodal Economic Development: Building Life Sciences Capabilities in Gateway Cities* (2018), iden-

tified sub-clusters within the Life Sciences sector. These sub-clusters provide an opportunity to consider vertically-integrated and geographically distributed industries to support the Cambridge-Boston lab/R&D hub. Existing examples include Pfizer’s manufacturing facility in Andover’s Industrial Park (49.5 acres), Bristol-Myers Squibb Biologics Manufacturing Facility at Devens, and Beeken Biomedical (industrial condo) in Stoughton, MA.

Planning Process

MassDevelopment sponsored this planning process with a grant from its Site Readiness Program. The consultant team is Innes Associates with Tighe & Bond and RKG Associates; they are assisting the City of Brockton, the Brockton Redevelopment Authority, and MassDevelopment.

The first phase of this project is this land use plan for the underutilized area around the Good Samaritan Medical Center. The focus of this plan is to take advantage of the existing medical center with appropriate uses related to the life sciences sector and add other uses that are complementary to the existing neighborhood and provide amenities to attract employers and employees.

The plan for the second phase of this planning process is to turn this land use plan into an urban renewal plan under M.G.L. Ch. 121B and create a parallel District Improvement Financing (DIF) program. Other recommendations include zoning and other regulatory changes and a transportation/traffic improvement plan.

The planning process included outreach to local residents, employees, and businesses via an online survey and public meeting; this information is summarized in the appendices and contributed to the recommendations. The planning process also included interviews with stakeholders, property owners, real estate brokers with expertise in life sciences, and representatives of state agencies with expertise in the focus industries. Input from the public and stakeholders informed the development of the test development scenarios, the final scenario, and the recommendations of this plan.

Case for an Urban Renewal Plan

The Lovett Brook area is a Blighted open area from a combination of conditions, as defined by Massachusetts General Laws Chapter 121B (see call-out box to right). For the purposes of this land use plan, the critical components of the definition are as follows:

- unduly costly to develop it soundly through the ordi-

BLIGHTED OPEN AREA: a predominantly open area which is detrimental to the safety, health, morals, welfare or sound growth of a community because it is unduly costly to develop it soundly through the ordinary operations of private enterprise by reason of the existence of ledge, rock, unsuitable soil, or other physical conditions, or by reason of the necessity for unduly expensive excavation, fill or grading, or by reason of the need for unduly expensive foundations, retaining walls or unduly expensive measures for waterproofing structures or for draining the area or for the prevention of the flooding thereof or for the protection of adjacent properties and the water table therein or for unduly expensive measures incident to building around or over rights-of-way through the area, or for otherwise making the area appropriate for sound development, or by reason of obsolete, inappropriate or otherwise faulty platting or subdivision, deterioration of site improvements or facilities, division of the area by rights-of-way, diversity of ownership of plots, or inadequacy of transportation facilities or other utilities, or by reason of tax and special assessment delinquencies, or because there has been a substantial change in business or economic conditions or practices, or an abandonment or cessation of a previous use or of work on improvements begun but not feasible to complete without the aids provided by this chapter, or by reason of any combination of the foregoing or other condition; or a predominantly open area which by reason of any condition or combination of conditions which are not being remedied by the ordinary operations of private enterprise is of such a character that in essence it is detrimental to the safety, health, morals, welfare or sound growth of the community in which it is situated.

² Adams, Steve, “No Lab Rent Relief Seen Before 2023,” *Banker & Tradesman*, June 8, 2021.

nary operations of private enterprise by reason of... obsolete, inappropriate or otherwise faulty platting or subdivision, deterioration of site improvements or facilities, division of the area by rights-of-way, diversity of ownership of plots

- or because there has been a substantial change in business or economic conditions or practices
- or because there has been an abandonment or cessation of a previous use

As shown in Figures 4 and 23, the irregular parcelization of the Lovett Brook area contributes to an inability of the private market to fully develop the area, in part to the uncoordinated development of uses over time and in part because of the abandonment of planned streets. 2.54 acres of the interior of the area is the site of a former movie theater; the irregular shape of this parcel and the fact that it has no visibility to either of the adjacent roads makes development a challenge. In addition, other buildings, including the strip mall, were built around the movie theater and its need for parking; the orientation of these buildings and the quantity of asphalt no longer makes sense given the closure and demolition of the theater. A similar use is

unlikely to return – the movie theater at Westgate Mall on the other side of Route 24 was demolished in 2005.³

In addition, a series of residential lots was laid out, probably in the late 1800s, but never built. As noted earlier, the houses that were built are not part of a neighborhood; the housing across the street is primarily multifamily and the closest single-family neighborhood is southeast of the Melrose Cemetery. While it may be possible for a single person to assemble some of these small lots for redevelopment; the likelihood of one entity gaining control of all the parcels is low. Redevelopment without all these small parcels, most of them less than a quarter-acre in size, would contribute to the fragmented development and ownership of these lots.

Note that this area would also qualify as a Decadent area for many of the same reasons listed above: diversity of ownership, irregular lot sizes or obsolete street patterns; and also for excessive land coverage, based on the amount of asphalt once used for the movie theater that is no longer needed for that purpose and the sheer quantity of asphalt used for parking needs in the area. The area is also bordered by two Environmental Justice areas.

Although this underutilized site contains active, economically viable uses, private enterprise has been unable to address the interior of the site. The site is divided into parcels that are irregular in shape and size; some are landlocked with frontage on paper streets that have never been developed. Lovett Brook and its associated wetlands and a drainage culvert complicate reparcelization as does the single house in the center of the parcel.

Redevelopment of this underutilized site over the twenty-year life of an urban renewal plan is not improbable; however, it is clear that such development will be a challenge given current market trends. There are other factors that could modify the market dynamics, including motivated property owners, focused public investment, and a carefully considered mix of complementary land uses.

The focus of this land use plan will be to create the most competitive approach to redevelopment of the area. **Without public intervention to address the physical infrastructure of the area and reparcelize the vacant and underutilized parcels, the Lovett Brook area is unlikely to realize its full potential.** This site has an excellent regional positioning for transportation via truck and is able to draw from a regional workforce. At least a portion of the site would be suitable for 21st century manufacturing, including life sciences manufacturing. **Reorganization of the parcels would allow for a combination of uses on the site that could retain**

some existing businesses; add well-paying jobs that draw on Brockton’s strength in the health care and STEM sectors; and create a neighborhood amenity that revitalizes an impaired brook and addresses both public health and the impacts of climate change. Without a vision for the Lovett Brook area, and an urban renewal plan to implement that vision, this area will remain underutilized.

Findings and Recommendations

This site is underutilized relative to its geographic position, but it has the potential to become a vibrant mixed-use district that supports manufacturing related to life sciences, continued use by the Good Samaritan Medical Center and Harbor One Bank, additional multifamily to support Brockton’s housing needs, and amenities for public open space, restaurant, and retail that will attract employers, employees, and residents, both current and future.

Scenario planning for the site incorporated market studies that projected the impact of current trends and fit studies that investigated potential land uses and development volumes. Of the three scenarios, Scenarios 2 and 3 are clearly aspirational and unlikely to be achieved in the next twenty years, based on the technical work for this plan. They are retained in this plan only to show potential methods for full build-out of the site.

³ <http://cinematreasures.org/theaters/8463>; last accessed September 12, 2021.

However, Scenario 1, shown in three phases, could begin to be developed within the next three to five years. The recommendations that would help achieve this phased plan are as follows:

Continued Outreach to Critical Partners

Critical to the success of this plan is the ability for the **City of Brockton and the Brockton Redevelopment Authority to build relationships with the other partners that can support this vision**. MassDevelopment, as a sponsor of this planning process is a critical partner. Other local partners include Harbor One Bank, Good Samaritan Medical Center, Brockton High School’s STEM program, and Massasoit College. Stage agencies, including Mass Life Sciences, MassBio, and Mass Economics will continue to be critical to the effort to reframe this site as the center of a south-eastern life sciences cluster to rival those to the north and west of Boston. Finally, the City should continue to engage the relevant brokers, developers, and companies in the target industries.

The topics for this engagement are the following:

- Incorporate specific aspects of the Life Sciences sector into the City’s overall economic development plan.

- Integrate this site and the Downtown into a package that offers future employers opportunities for start-up (Downtown) and expansion (Lovett Brook).
- Identify training and workforce development needs for Brockton’s current and future workforce and partnerships to provide and promote those options.

New Development

This plan envisions a significant change to the land uses of the Lovett Brook area, and one that is not feasible if current market trends continue. In order to accomplish the vision defined by this land use plan, the City needs to undertake the following actions:

- Identify and engage critical partners in actively marketing this site. Target companies in the Life Sciences sector that provide well-paying jobs and opportunities for Brockton residents.
- Market the area, using this plan, to companies who may wish to expand or relocate their operations to this site.
- Continue discussions with brokers and company officials about appropriate amenities that would

attract the employers necessary for this vision and demonstrate how those amenities can be incorporated into the development of this site.

- Create an urban renewal plan to give the Brockton Redevelopment Authority the tools for the redevelopment of the site, including acquisition, disposition, the ability to make public improvements, and the ability to set standards for the redevelopment of the site. The urban renewal plan should include design standards and recommend the specific changes to zoning required for implementation of this vision.
- Change zoning to allow for the mix of uses envisioned by this land use plan. Development standards should help address community concerns about negative impacts of development, as expressed in the comments from the online surveys.
- Create a District Improvement Financing (DIF) program to help fund the public infrastructure improvements and leverage that financing with available grants for traffic improvements, stream restoration, climate resiliency, public parks, and other funding sources applicable to the goals of this plan.

Lovett Brook

Daylighting Lovett Brook and restoring the existing wetlands to productive use as flood and stormwater control will require additional studies for feasibility as at least part of the brook is under a building and much of the rest is within a culvert. This recommendation is the base of the key assets for existing and future residents and employees. Key actions to be addressed in this study are as follows:

- Daylight Lovett Brook; remove it from its culvert.
- Develop publicly-accessible shared use paths through the wetland area, connecting businesses, residences, and the Good Samaritan Medical Center to the wider sidewalk proposed for Oak Street/ Oak Street Extension.
- Include wayfinding and informational signage to help guide people through the area and inform them about natural habitats.
- Restore the wetlands so they can act as appropriate stormwater storage during increased precipitation events.

- Develop a revegetation plan for areas impacted by past and future construction.
- Evaluate the potential to better link bus routes and other connections to commuter rail to ensure access to the site by a regional workforce that reduces single-occupancy vehicles.

Transportation Improvement Plan

A full traffic/transportation study is required to understand the implications of development on the current and future traffic of the area. This study should include the following recommendations and identify the development thresholds for the anticipated improvements:

- Expand the Pearl Street/Oak Street Extension intersection.
- Consolidate driveway entrances.
- Install a new signal at Lyndall Avenue when that area begins to develop.
- Improve the intersections and signalization at the site entrances off North Pearl Street and across from Reservoir Street.
- Plant trees along the sidewalk on both sides of Oak Street and Oak Street Extension to create a safer and more attractive environment for walking, and address heat island effect from the current unshaded pavement.

The Land Use Plan

The remaining chapters in this report are as follows:

2 Buildings, Sites, and Ownership: Discussion of the existing buildings and sites, including recent ownership changes and valuation.

3 Market Context: Summary of the market context and projections and the implication on future uses for the site.

4 Physical Context: Summary of physical, environmental, regulatory, and circulation conditions and the implication on future uses for the site.

5 Future Land Uses and Implications: Discussion of the scenario planning process and the proposed scenario for the redevelopment of the site.

6 Implementation Plan: Recommendations for future actions to redevelop the site.

7 Urban Renewal Justification: Additional information about the history of the site relative to the private market's ability to develop and the determination of blighted conditions.

Appendices

A Market Report: The full report from RKG Associates on the market context and trends.

B Traffic Study: The full traffic study from Tighe & Bond.

C Environmental Study: The full environmental study from Tighe & Bond and a description of the permitting processes required.

D Property Inventory: Information about each parcel in the area, with documentation of conditions from a site walk and information from the City of Brockton's Assessors Office.

E Maps Required under 760 CMR 12.00: Maps of existing conditions required by the Department of Housing and Community Development for an urban renewal plan under 760 CMR 12.00.

F Results of Public Surveys: A summary of input received from the online surveys.

2 Buildings, Sites, and Ownership

The Lovett Brook area contains 32 parcels that total 64.91 acres. The buildings on the site include a total of 671,468 SF of space, including 8,774 SF of residential, 507,240 SF related to the Good Samaritan Medical Center and supporting medical offices, and the remainder as restaurant and retail uses.

Lovett Brook and its associated wetlands prevent the development of the entire area, but upland areas of the site were either never developed (the residential lots), developed but demolished (the movie theater), or were inefficiently developed. The original road structure for the area, still captured in Brockton’s GIS and discussed in *Section 7: Justification for Urban Renewal* suggests an intent to divide the parcels with a different layout; remnants of the original roads are still there either as named but as unbuilt streets or as two vacant lots.

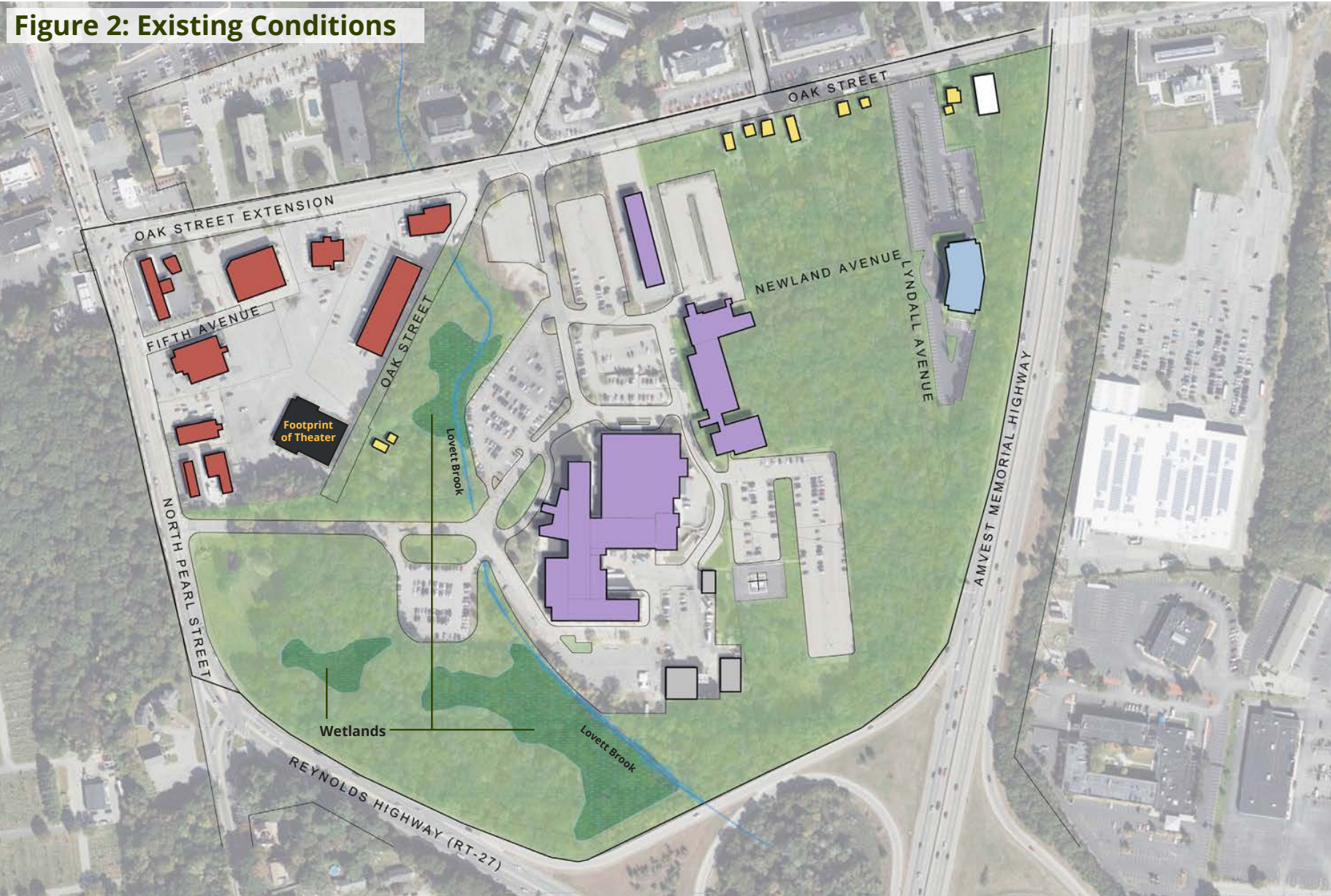
The acres devoted to the Good Samaritan Medical Center and the associated medical offices are equal to approximately 73% of the total site or 47.61 acres. The next largest land use is vacant land at just over 5 acres. (This number does not include the wetlands within the parcels associated with the Good Samaritan Medical Center.) Retail/Restaurant comes in third, at 4.93 acres, and Office in fourth at just over 3 acres.

Table 1: Comparison of Land Uses

Land Use	# Parcels	Acres	Building SF	Notes
Religious	1	0.63	4,800	Rectory classified as residential
Medical Center	2	40.38	427,140	
Automotive	2	1.23	7,307	Service Stations/ Car wash
Office	1	3.07	76,440	Harbor One
Medical Office	2	7.23	80,100	
Restaurant/ Retail	6	4.93	66,907	Cannabis store classified as office but analyzed with retail.
Single-family Houses	7	2.43	8,774	7 houses
Vacant	11	5.01	0	
Total*	32	64.91	671,468	

*Note: Total square footage differs from the CAD-based calculations shown in presentations.

Figure 2: Existing Conditions



Valuations

The consultant team was fortunate to have both the most recent Assessor’s Data and data from 2016 available for analysis. At first glance, based on Assessors’ evaluations, the Lovett Brook area appears to be doing well. The total valuation of the site increased from \$91.7 million in 2016 to \$94.2 million in 2020, an increase of about \$2.5 million. The chart below indicates that the increase in value was not the same for all uses.

Table 2: Comparison of Land Use Valuations

Land Use	2016 \$ per SF Buildings	2020 \$ per SF Buildings	Difference	2016 \$ per SF Land	2020 \$ per SF Land	Difference
Religious	\$30	\$35	\$5	\$7	\$7	\$0
Hospital	\$305	\$294	-\$11	\$7	\$7	\$0
Automotive	\$95	\$129	\$34	\$14	\$17	\$3
Office	\$97	\$115	\$18	\$8	\$10	\$2
Medical Office	\$116	\$200	\$84	\$8	\$8	\$0
Restaurant/Retail	\$96	\$77	-\$19	\$10	\$9	-\$1
Single-family Houses	\$65	\$135	\$70	\$5	\$7	\$2
Vacant	\$4	\$1	-\$3	\$4	\$3	-\$1
Total	\$190	\$199	\$9	\$7	\$7	\$0

Medical Office had the highest increase in valuation for the buildings: this suggests that it may be a good use for this site, given the proximity to the hospital and the health needs of a Gateway City. Both Office and Automotive uses increased in assessed value for buildings and land.

During this period, the price of housing increased significantly throughout the region, so it is unsurprising to see that the assessed value per square foot of a single-family house in this area doubled. In fact, Zillow’s estimates for these houses are higher than the assessed valuations (\$278,000 to \$446,000) and seem to reflect the value of the surrounding housing stock, which is mostly multifamily. The closest neighborhood of single-family houses is adjacent to the Melrose Cemetery to the southeast of the site. Current Zillow estimates for that neighborhood range from \$296,000 to \$1.06 million. Between these two outliers, most houses seem to be between \$375,000 and \$530,000. Zillow does not show any recent sales in the area, so the accuracy of the data is unknown, but the clear indication is that houses on the Lovett Brook site, in general, have a lower valuation than houses in the nearest neighborhood.

For the rest of the site, the assessed value per square foot of building dropped for the three largest land uses. The Good Samaritan Medical Center was acquired by a Real Estate Investment Trust (REIT) while the drop in the assessed value of buildings on vacant land is likely related to the loss of the movie theater, which was demolished during this period. The drop in value for restaurant/retail is more concerning as the majority of commercial buildings on the site fall into this category.

Buildings and Sites: Age and Condition

The decline in values may reflect the condition of the buildings and site. Appendix D Parcel Inventory provides information about each site and images of their condition on a site walk in April 2021. The oldest buildings in the area are the single-family houses: five were built between 1900 and 1925, one was built in 1959, and the youngest was built in 1963. The Good Samaritan Medical Center was built in 1968, although portions of the building were remodeled in 2020, including the emergency wing. The religious building dates to 1970.

Office and retail begin to fill in the rest of the built site in the 1970s. The buildings for Frank’s Restaurant and the 7-Eleven are built in 1972 and 1973, respectively. The now-demolished movie theater was constructed in 1977 and the adjacent strip mall, which remains, in 1978. One of the two medical offices was built in 1985.

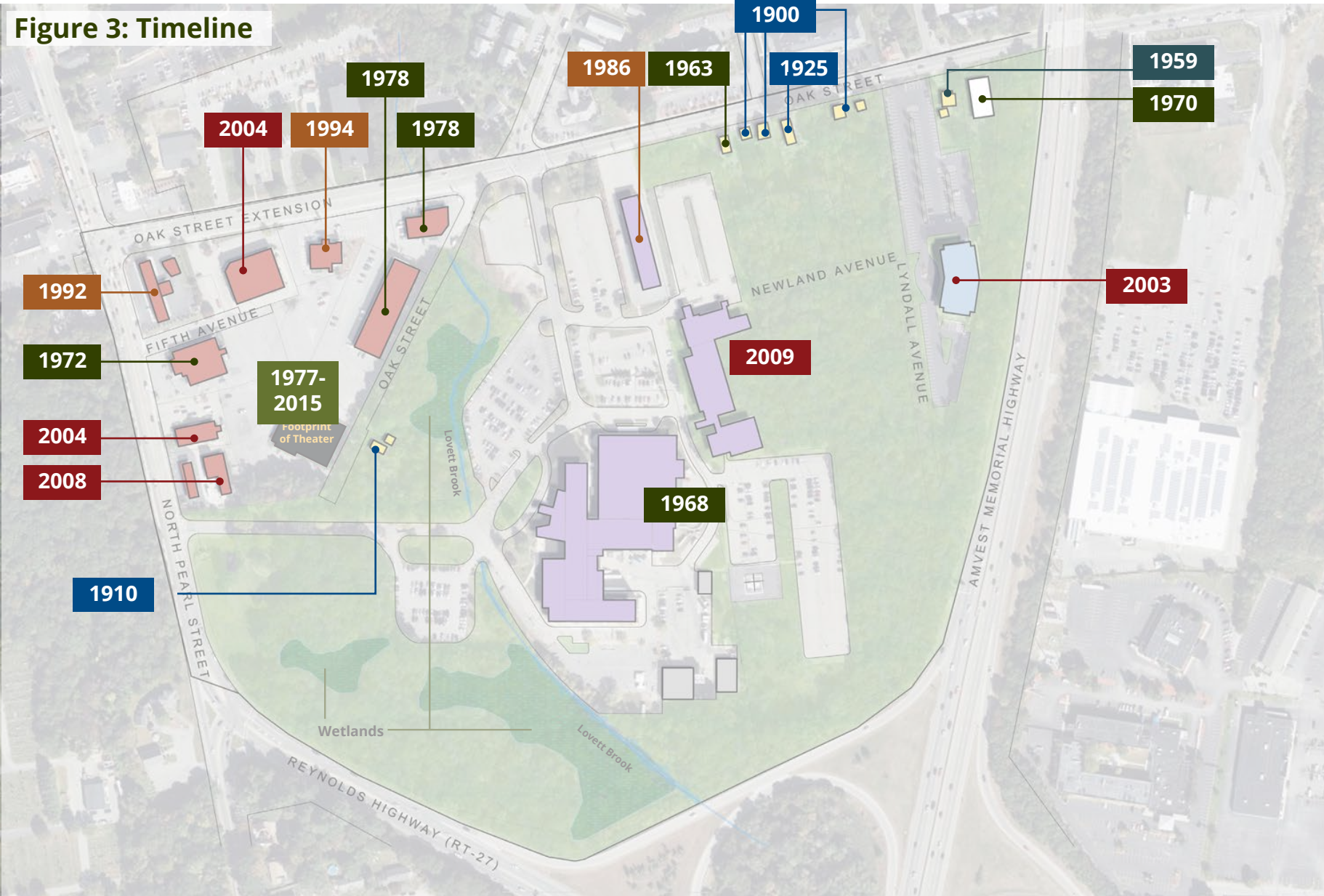
The 1990s saw the addition of the service station in 1992 and the building that is now the Original Tommy Doyle’s in 1997. Harbor One’s office building was built in 2003, and the second office building, now a cannabis retails store, in 2004.

The car wash followed in 2008. The building in which the Family Dollar is located was built in 2004 and the second medical building was built in 2009. The groupings of color in Figure 3 indicate the four main waves of building: 1900-1925; 1963-1972; 1986-1994; and 2003-2009. This figure shows that the easiest parcels to develop – those with direct frontage, of an appropriate size – have already been developed.

A visual survey of the exterior of the buildings indicates that the buildings vary in physical condition. In general, the buildings that front onto North Pearl Street, Oak Street, and Oak Street Extension appear to be in good shape, with two minor exceptions. The condition of the site in the interior of the area, especially the footprint of the old movie theater, is poor. The residential buildings range from good to poor in exterior condition, with some needing work to bring them to the standard set by the ones in best repair.

The buildings are mostly occupied, with a few exceptions. In April 2021, the rear of the building in which Frank's Restaurant is located was closed. This was the Foxy Lady, which closed as a result of the COVID-19 pandemic. The space is now the Boardroom Cabaret and has reopened. The end unit of the strip mall was also vacant as of April 2021.

Figure 3: Timeline



Ownership

Ownership of parcels changed from 2016 to 2020, including the transfer of the properties related to Good Samaritan and fifteen other properties.

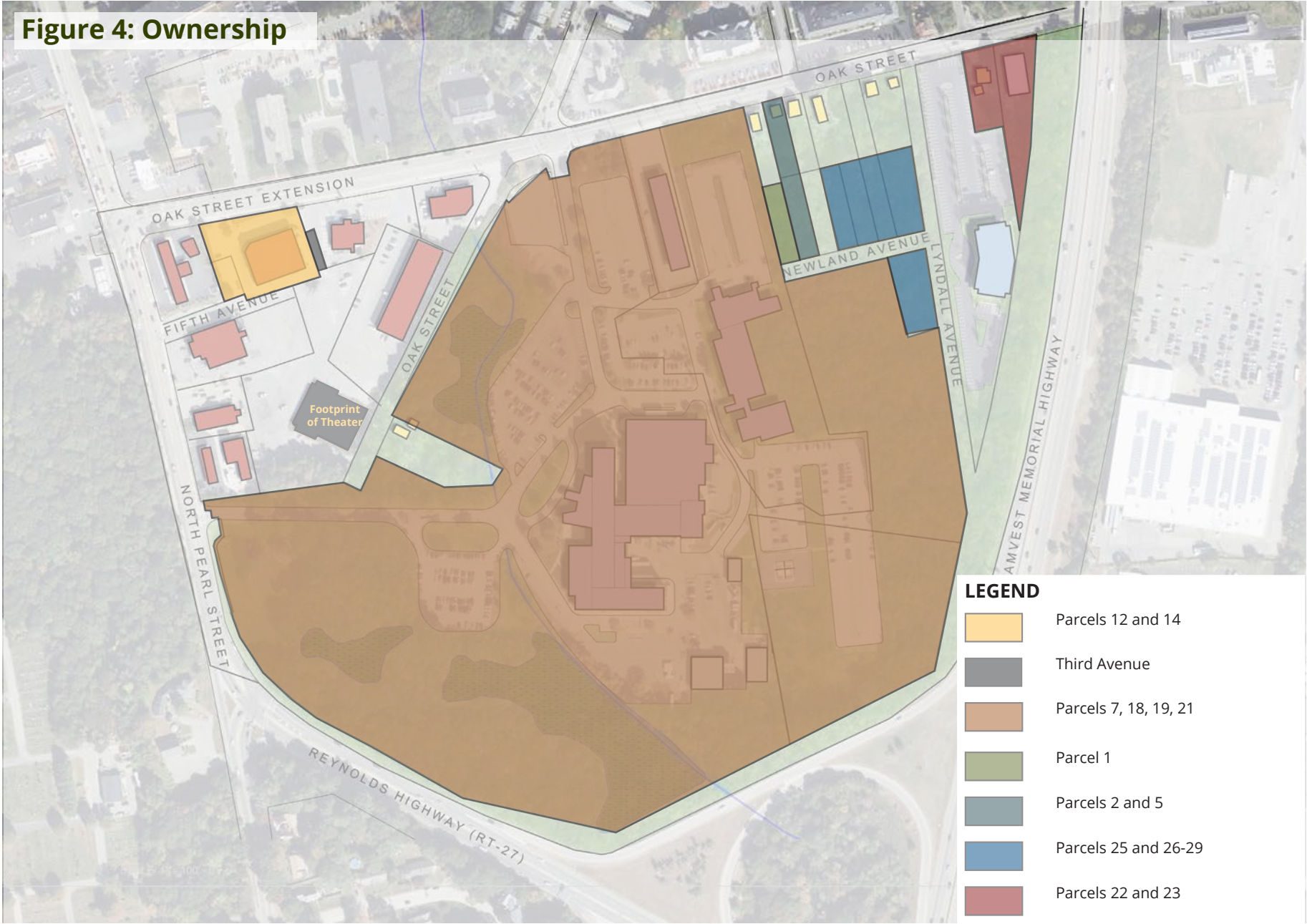
The properties transferred during this period belonged to ten out-of-town owners, of whom one was out-of-state. After the transfers, seven properties belonged to out-of-town owners of whom one owner (three properties) was out-of-state.

Some transfers represent movement of properties to or between LLCs and may represent investments in the area. The numbers in parenthesis refer to the parcel inventory in Appendix E.

Table 3: Transfer of Properties 2016-2020

ID	Current Use	City/Town of Original Owner	City/Town of New Owner
4	Single-family house	Hyde Park, MA	Boston, MA
6	Single-family house	Brockton, MA	Brockton, MA
7	Good Samaritan	Westwood, MA	Birmingham, AL
8	Single-family house	Bridgewater, MA	Brockton, MA
10	Strip mall	Brockton, MA	Sharon, MA
11	The Original Tommy Doyle's	Orlando, FL	Brockton, MA
16	Cannapi (cannabis dispensary)	Brockton, MA	Stoughton, MA
17	Prestige Car Wash	Brockton, MA	Canton, MA
18	Good Samaritan	Westwood, MA	Birmingham, AL
19	Good Samaritan	Brighton, MA	Birmingham, AL
26	Vacant (Res.) (with 25, 27-29)	Quincy, MA	Brockton, MA
27	Vacant (Res.) (with 25-26, 28-29)	Quincy, MA	Brockton, MA
28	Vacant (Res.) (with 25-27, 29)	Quincy, MA	Brockton, MA
29	Vacant (Res.) (with 25-28)	Quincy, MA	Brockton, MA
30	Residential (with 31)	Brockton, MA	Brockton, MA
31	Vacant (Residential) (with 30)	Brockton, MA	Brockton, MA

Figure 4: Ownership



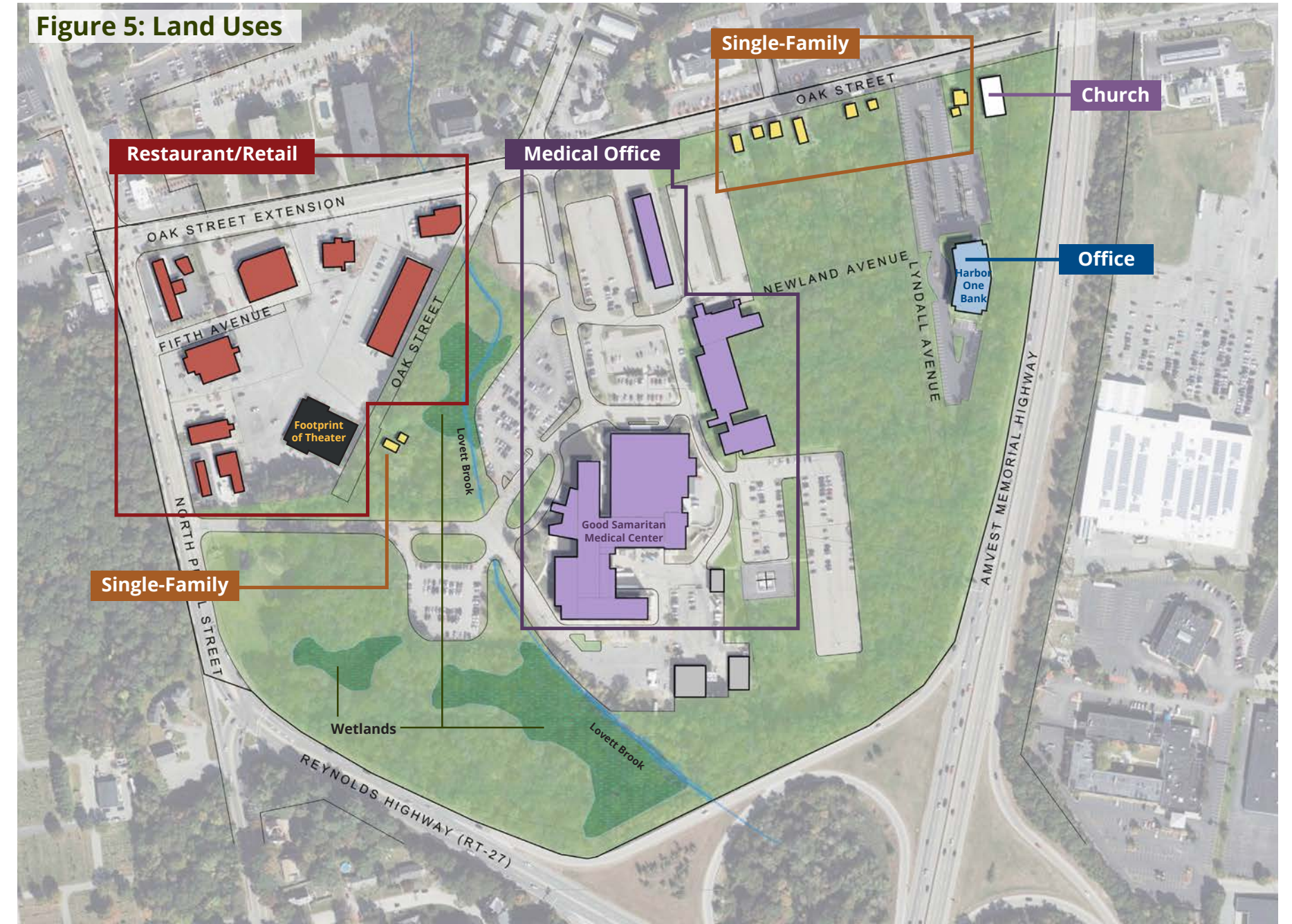
Implications for Future Development

The Lovett Brook area does have economic activity:

- Real estate investment companies are buying properties in the hopes that the assets will appreciate.
- Local companies, such as the Original Tommy Doyle's Frank's, and Cannapi have refurbished existing buildings.
- Consolidation of parcels 25-31 into the hands of one or two owners indicate possible investment on those vacant sites.

However, no real change to the building footprints or to the conditions of the sites, especially the five acres of vacant lots, have occurred: economic activity is limited to the reuse of existing buildings and not to improving the conditions of the overall area. Given the fragmented parcelization and ownership structure, **the likelihood is that overall site conditions are unlikely to change significantly.** New development, if any, will need to fit into the existing parcelization of the site.

Figure 5: Land Uses



3 Market Context

The question for the Lovett Brook area is whether the market on its own can address the fragmented parcelization and the underutilization of the site. This section contains the key findings of the full market report from RKG Associates, information about the opportunity for life sciences in Brockton, and a discussion of the implications of the market context for future uses of the site. The full market analysis is provided in *Appendix A: Market Report*.

Key Findings

The Brockton office and industrial markets have seen limited development activity in the last two decades, with few Class A spaces to offer benchmarks for achievable rents. The ongoing pandemic has brought added challenges and uncertainties to these markets, bringing vacancies to their highest levels in years. **The study area, located along Route 24, is well suited for commercial and industrial uses, but market indicators portray a particularly challenging time for development.** EMSI's¹ 10-year projections indicate declining regional employment within industries that typically demand office space. With only one of these industries (Professional & Technical Services) projected for growth from 2020 to 2030, the region is projected to lose a com-

bined 4,584 jobs across all office-using sectors. If Brockton were able to capture 10% of the projected regional growth totals within the Professional & Technical Services sector, RKG estimates these projected increases could translate to demand for 16,625 square feet of office space over the 10-year period (1,663 square feet annually).

While the city is a net importer of retail sales, attracting a substantial amount of consumer spending from outside of the community, Brockton will not be immune to a shrinking number of jobs in traditional retail, according to projections. Opportunities exist in select retail categories that might lend well to mixed-use development within the study area. A retail gap analysis shows the trade area to be leaking residential spending across a range of categories, including electronics and appliance stores, lawn and garden equipment stores, specialty food stores, health and personal care stores, book and music stores, florist shops, specialty food service establishments, and alcoholic drinking establishments. Based on current spending habits, the market indicates an opportunity for a total of 7,450 additional square feet of retail space in these categories within the study area, if it captures 10 percent of the larger trade area's retail gap.

The collective grouping of industries in life sciences has yet to experience the same degree of success across the southeastern portion of the state as has been seen elsewhere. Brockton could support roughly 5,000 square feet of space annually through 2030 across all life sciences categories (50,000 square feet over the ten years). These estimates are based on EMSI's projections and Brockton's current capture rate of the region's employment within each of the four life science employment sectors. Although past trends indicate organic growth of these industries will be challenging for Brockton, the city can leverage its assets to foster growth and become a regional life sciences leader. **Brockton's strength likely lies within the Health Care industry, with an estimated 10,861 jobs and 32 percent share of the city's workforce in 2020, which may prove to be its largest asset in providing complementary employment opportunities, including jobs within the life sciences domain.** The city's connectivity to Boston (via both train and car) and successful high school internship program within the life sciences industries present two additional assets. Leveraging these assets while developing strategic partnerships and programs with higher education institutes will be key to developing a life sciences ecosystem within Brockton and enhancing the regional market potential.

Over the last few decades, Brockton has been faced with demographic and economic issues that have challenged its market potential, which include lower median incomes and low market rate rents. Positive indicators have begun to present themselves within the city's multi-family residential market in recent years. Several transit-oriented multi-family residential projects have taken root in Downtown Brockton. While most of these projects have required creative financing mechanisms, a few ground-up market rate projects have proven successful delivering vital proof of market to increase developer confidence and promote further development in years to come. **Asking market rents are among the lowest in the region, making it difficult for investors to reach required profit margins for mixed-income developments without creative financing despite strong demand for housing units across diverse income levels.** Brockton has the highest percentage of renter households in Plymouth County, and the fifth highest percentage within the three-county region. ArcGIS Business Analyst² projects demand for 685 new housing units in Brockton by 2026. RKG estimates the study area could reasonably capture 25 percent or more of the projected citywide growth totals, which could translate to demand for 171 new housing units within the next five years.

¹ EMSI is a resource for data about the labor market. (<https://www.economicmodeling.com/>)

² ArcGIS Business Analyst provided market data based on location and is part of ESRI, a provider of geographic-based data and software. (<https://www.esri.com/en-us/arcgis/products/arcgis-business-analyst/overview>).

Market Sectors

LIFE SCIENCES

Prior studies of Brockton’s life sciences sector created an added focus for this market analysis to examine if and how life sciences industries could play a role in the future development of this site. Buildings associated with life sciences are typically classified as industrial as the ecosystem of employment opportunities require a range of facilities, from flex R&D office and lab space to manufacturing and distribution facilities. While the incredible boom in lab development across the Boston area comes top of mind within the life sciences realm, there are other opportunities for expansion within this ecosystem. Life sciences is not a single industry, it is a sector comprising many industries. According to a 2018 report studying the impact of the Massachusetts Life Sciences Center (MLSC) on the state’s life sciences ecosystem, this sector is comprised of 19 specific NAICS 6-digit industries.

To assess the market potential within the Brockton area, employment details were analyzed for the 240-census tract region encompassing a 15-mile radius of the study area. In 2020, there were 8,486 regional life sciences jobs.³

3 EMSI

The combined employment in 2020 increased by 8.8 percent from 7,801 jobs in 2010. The medical devices and equipment manufacturing sector was the only one of the four sectors to experience a decline regionally (down 10 percent, losing 328 jobs since 2010). Drugs and pharmaceuticals manufacturing added 249 jobs during this period, growing by 32 percent. This growth did not offset the medical devices and equipment manufacturing losses, as manufacturing related life sciences jobs experienced an overall decline regionally. The bioscience-related distribution sector added the most jobs, growing 31 percent with an additional 568 jobs, while the research, testing, and medical labs sector experienced moderate growth of 11 percent (adding 196 jobs). Although it is shrinking within the region, the medical devices and equipment manufacturing sector maintains the largest share of life sciences jobs in the region (36 percent, down from 43 percent in 2010). The individual 6-digit NAICS industries employing the most individuals across the region are the Medical/Dental/Hospital Equipment and Supplies Merchant Wholesalers industry (NAICS 423450) and the Surgical and Medical Instrument Manufacturing industry (NAICS 339112). These two industries employ 3,280 people within 15-miles of the study area, 39 percent of the total employment.

Brockton’s employment within the life sciences industries stands at 631 jobs as of 2020, 7.4 percent of the regional jobs. Over half of these jobs, a staggering 58 percent (364 jobs), fall within the Medical Laboratories industry in particular (NAICS 621511), in the research, testing, and medical labs sector. Brockton is a strong leader within the region in this category, currently capturing 85 percent of the regional employment. This is in part due to Quest Diagnostics’ strong presence in Brockton and is most likely related to routine blood sampling lab work rather than life science specific research and development. The next leading industries within the city are Surgical Appliance and Supplies Manufacturing (NAICS 339113), with 91 jobs accounting for 14 percent of Brockton’s total, Pharmaceutical Preparation Manufacturing (NAICS 325412), with 76 jobs (12 percent share), and Medical/Dental/Hospital Equipment and Supplies Merchant Wholesalers (NAICS 423450; the region’s leading industry), with 65 jobs (10 percent share).

Although there is room for expansion across southeastern Massachusetts, it is encouraging to see that growth has occurred in pockets throughout the region. Strong growth is seen spreading in areas south along I-495, towards Milford and, at a more local level, along the Route 24 corridor

4 McKinsey & Company, “Preparing for the future of work in the Commonwealth of Massachusetts”, June 2021

from Stoughton, through Brockton, and down to Bridgewater and the northern portions of Taunton. This data is encouraging as it portrays this corridor as a viable option for future life sciences expansion in the overall southeast region. **The manufacturing and distribution sectors may hold an advantage along this stretch, as these types of facilities lend better to locations adjacent to high-traffic roads.** The incredible connection that Route 24 provides to the north and south allows for commuting advantages.

There is an opportunity for Brockton to become a regional leader within the life sciences in southeastern Massachusetts. Because the current market does not project much near-term organic growth, strategic partnerships and workforce development initiatives will be key forces in creating more demand at a regional level. McKinsey’s report, *Preparing for the Future of Work in the Commonwealth of Massachusetts*, highlighted a future need to reskill workers at an unprecedented scale and pace. An estimated 300,000 to 400,000 individuals across the state will need to transition to different occupations or industries over the next decade due to sectoral shifts in the economy.⁴ McKinsey highlighted Health Care as one of the areas expected to see the greatest gains in employment, with service-industry jobs likely to experience the largest job losses. This

certainly presents an opportunity for Brockton, as the city is a regional leader in Health Care and could use this advantage to create additional job opportunities complementary to the industry.

Partnerships with educational institutions will be incredibly helpful in directing a path towards growth in life sciences. According to the MLSC 2020 Annual Report, Brockton High School ranks second only to the Boston public school system in the number of high school interns employed in life sciences across the state, with 10 interns in 2020. This is a tremendous first step in creating a workforce development ecosystem geared towards increasing life sciences employment opportunities regionally and within Brockton. There is potential for local higher education institutes, like Massasoit Community College, to contribute towards this initiative as well. Middlesex Community College’s Biotechnology Technician Program would be a great model for Massasoit to follow. This program provides students with the education and training in skills required for entry level employment as technicians in manufacturing, research, media preparation, validation, quality control, documentation, and process operations. It is the state’s first community college biotechnology program, with both a certificate program and associates degree program, and recently received \$3 million in grants from MLSC to be applied towards renovations to their lab space. This type of program

could successfully train Brockton High School graduates and others for entry-level employment in life sciences, not only for lab work, but for manufacturing and distribution related jobs as well. MLSC provides various annual grants that could provide significant funding opportunities for these initiatives within Brockton. Incubators and accelerator programs are other key pieces of the life sciences ecosystem that will be worthwhile for Brockton to explore. **With limited industry activity across all of southeastern Massachusetts, Brockton has an opportunity to leverage its assets (including its location, the strength of the healthcare industry, and Brockton High School’s internship program) to foster growth and become a regional life sciences leader.**

INDUSTRIAL MARKET

Trends for the industrial market were examined to determine market conditions within the manufacturing, light manufacturing, and flex research and development sectors. The analysis in Appendix A relates to a custom region, defined as a 40-mile radius from the study area. This region covers the entire 495 belt and beyond, spanning almost the entire eastern portion of Massachusetts along with northern Rhode Island. Vacancy has increased dramatically, from 11.3 percent to 28.1 percent currently. The pandemic appears to have had a significant impact on this sector, as this increase in vacancy occurred after Q1 2019.

Flex research and development spaces demand significantly higher rents than other industrial categories. Flex building is defined by CoStar as a type of building designed to be versatile, which may be used in combination with office, research and development, retail, and industrial/warehousing uses. Office space must occupy at least half of the rentable area within a building to qualify as flex within CoStar’s database. While inventory decreased by 2.2 percent over this span (currently sitting at 27.7 million square feet), the sector has had positive net absorption in each of the last five quarters. Unlike manufacturing, the pandemic did not appear to have a negative impact on flex research and development space.

OFFICE MARKET

A sustained increased acceptance and prevalence of remote work could certainly impact the commercial real estate market. Opinions vary as to what level of normal the market will return to, and the long-term impacts on office space occupancy is unknown.

Employment trends and projections suggest limited demand for new office space in the immediate future within the 240 census tracts comprising the region (a 15-mile radius from the study area). EMSI’s 10-year projections indicate declining regional employment within indus-

tries that typically demand office space, defined by RKG as six two-digit NAICS industries (Information, Finance & Insurance, Real Estate, Professional & Technical Services, Management of Companies, and Administrative & Waste Services). With only one of these six industries (Professional & Technical Services) projected for growth from 2020 to 2030, the region is projected to lose a combined 4,584 jobs across these office-using sectors.

Downward employment shifts in the other sectors suggest future positive demand for general office space may be absorbed through existing or projected vacancies over time. Landlords may also invest in expanding existing spaces to accommodate any future growth.

The future demand for medical office space is somewhat more optimistic. While two thirds of the nine six-digit NAICS sectors identified as medical office space users are projected for a decline in regional employment, there are pockets of potential growth.

These projections are based on historic trends in the market and do not take into account potential shifts in future work trends or actions that may be taken to foster growth in any particular sector across the region. Brockton’s capture of the region’s growth is also based on the city’s historic capture by sector. These numbers could certainly look different if steps are taken to attract a greater share of regional employment growth.

RETAIL MARKET

As the largest municipality in all of Bristol, Norfolk, and Plymouth Counties, Brockton functions as a regional center for suburbs south of Boston. It would be expected that the city function as a draw for retail spending from neighboring towns, which is confirmed by data in a “retail leakage analysis.” (See analysis in Appendix A.)

The trade area has a surplus of retail as well as food and drink establishments, with sales receipts outpacing demand from residents by \$940 million per year. The electronics and appliance store category has the largest amount of leakage in the trade area with almost \$5 million in household spending being unmet by local businesses. The trade area has very little supply in both the book, periodical, and music store category (\$4.71 million in unmet household spending) as well as the drinking places category (\$4.5 million in unmet spending).

Assuming that existing retailers remain on-site, **the additional retail categories that may be the most relevant to the study area include specialty food stores** (which includes fruit and vegetable markets, meat markets, baked goods stores, coffee and tea shops, and gourmet food stores), **book/periodical/music stores, and food service retailers** (including caterers and food truck operators).

The changing nature of retail is posing challenges to traditional retail spaces across the country. Traditional brick-and-mortar retail spaces will need to evolve to stay relevant with modern consumer demands for a more curated and experiential shopping experience. Ecommerce is expected to continue to rise, as the pandemic forced businesses of all sizes to increase their online presence. New retail concepts should continue to be critical to the success of any retail options added to the study area.

The retail gap analysis described above includes sales from existing retailers and restaurants in the study area. Any future mixed-use development within the study area will have to consider the interests of these businesses to avoid displacement. This brings additional financial considerations as market rates from new retail, office, or residential offerings will need to support subsidized rents within the retail component of any mixed-use development within the study area.

RESIDENTIAL MARKET

Brockton continues to be an attractive option for value conscious households as it maintains a significant cost advantage over its regional neighbors. However, with the lowest median income in Plymouth County (and 3rd lowest in Bristol/Norfolk/Plymouth Counties), affordability is still a major issue. There is a clear need for newer product

offerings in the residential market, as the city’s current housing stock continues to deteriorate, and new housing production is not keeping pace with the regional rate.

At a local level, there is a stark difference in pricing surrounding the study area, mostly due to the types of housing units available. The most accessible residential area to the site, across Oak Street to the north, consists mainly of condo units and has a median sales price of almost half the amount seen in the single-family neighborhood surrounding the cemetery southwest of the site, according to Redfin sales data from the past five years.

Outside of the downtown area, which will continue to be the obvious focus for most new housing, the study area could prove attractive to developers interested in access to Route 24 (and direct connections to I-495 and I-93) and has more land potentially open for new development than elsewhere in the city. New housing options within the study area could appeal to people working within the city or in nearby communities along Route 24.

Implications for Future Development

Our market analysis indicates that the redevelopment of this site is a challenge in the short- to mid-term. We evaluated residential, office, retail, and eighteen six-digit NAICS codes related to life sciences. **The physical development volume that could occur on this site is not matched by the market demand for these uses.**

Our analysis shows the following projections of space needs for the entire City over the next ten years:

Table 4: 10-year Projections for Demand	
Residential	1,370 units
General Office	16,625 SF
Medical Office	19,950 SF
Life Sciences	50,000 SF
Drugs and Pharmaceuticals	40,000 SF
Manufacturing/ Bio-science Distribution	

The current unmet demand for retail space within a 10-minute drive time of the site is 7,450 SF.

Note that these numbers are based on projections that use past trends and Brockton’s past capture rates of employment change. **A coordinated effort to attract a greater share of regional demand may have a positive impact on the City’s ability to capture more of the regional space needs.**

In addition, creating more jobs to appeal to Brockton’s current workforce to keep them within the fabric of the city is critical. The City should market its balance of affordability and access to prospective businesses and developers who can draw on Brockton employees with the promise of a shorter commute.

4 Physical Context

This section reviews the conditions that impact the physical environment of the Lovett Brook area, including the zoning regulations, transportation, utilities, and the environment, including the presence of wetland and hazardous materials. As with the discussion of the market context, in Section 3, these conditions were used to test options for the site and develop an understanding of the impact of future development on traffic, the capacity of critical utilities, and the environmental impact on Lovett Brook.

Regulatory

Most of the site is zoned C-5 (Office Commercial) while two corners, one at the corner of Oak Street and North Pearl Street (Route 27) and the other at the corner of Oak Street and Route 24, are zoned C-2 (General Commercial). The series of smaller lots at the northeast corners of the site are zoned R-3 as are portions of three commercial lots.

R-3: Multi-family Residential Zone

The northeast corner contains seven residential lots with frontage on Oak Street. Of these seven, only one has the required frontage for a parcel in the R-3 zoning district. All meet the requirements for the minimum lot size. Sin-

gle-family houses are allowed in the R-3 District, and these lots were clearly laid out before zoning regulations were added to the City’s ordinance. Seven unbuilt residential lots border the paper street of Newland Avenue; none of these lots have the required minimum frontage (even if Newland Avenue were a built street). Note that the zoning map splits these parcels between R-3 and C-5. The lot for the office building at 824 Oak Street (#7 in the parcel inventory) is also divided between the two zones. In all cases, the Assessor’s data assigns a single zone to each lot.

The vacant lot on the “corner” of Newland and Lyndall Avenues was switched from R-3 to C-5 before the 2020 assessment. This lot, #25 in the parcel inventory, does meet the frontage and depth requirements for C-5 although it is still landlocked.

R-3 allows multifamily uses up to six stories if the standards for yards are met. However, a developer designing a multifamily building that can meet the standards for dimensions, green space, and parking would need to assemble multiple lots.

C-2: General Commercial Zone

The C-2 Zone is bounded by Oak Street, Oak Street extension, and North Pearl Street. All existing uses within the C-2 are allowable under the zoning ordinance, including

the new marijuana dispensary (by Special Permit). However, the gentleman’s club on the site is a pre-existing non-conforming use.

C-2 allows most commercial uses, although not a movie theater. C-2 also allows multi-family dwelling subject to certain requirements of the R-3 zone, but it does not allow mixed-use development. C-2 does not have lot frontage or lot depth requirements, nor does it have requirements for yards, except when abutting residential districts or uses.

C-5: Office Zone

C-5 includes the Good Samaritan Medical Center, the newer medical office building, and the single-family house in the interior of the Lovett Brook area. The single-family house is a non-conforming use. Unlike the C-2 zone, the C-5 zone does have minimum standards for lot depth, lot area, frontage, and yards. Two of the parcels are landlocked and rely on the larger parcel with the medical center for access; they would not be developable without that access. One is a medical office building, and the other is a parking lot that serves the medical center. The single-family lot has frontage on Oak Street and appears to meet the dimensional standards. However, Oak Street here is more like a driveway; were the use to change, the street would need to be upgraded.

Implications for Future Development

One logical large-scale strategy for the Lovett Brook area would be to assemble sufficient parcels to reparcelize the sites into more regular parcels that meet the zoning code. To keep the existing businesses on site while creating value for property owners and the city alike, new development(s) could incorporate existing restaurant and retail on the ground floor while adding residential above. However, **mixed-use development is not allowed in any of the three zoning districts** in the area.

As noted in Section 3. Market Context, the proximity to two highways provides an opportunity to rethink the uses on this site. However, light manufacturing and research and development are not allowed in any of the three current zoning districts. Integrating these uses will require either the addition of an overlay, perhaps requiring a special permit, or a change to the underlying zoning, perhaps by creating a medical district for the entire site.

Finally, because of Lovett Brook, a portion of the site is subject to the Floodplain, Watershed and Wetlands Protection Zone, which is an overlay zone for all other districts. This will have an impact on future development; for example, portions of the floodway have been constructed as parking lots for the Good Samaritan Medical Center

and the 7-Eleven building is built on top of Lovett Brook. Future development will need to reconsider the location of buildings and impervious surfaces so as not to impair Lovett Brook or prevent the wetlands from serving their purpose for flood storage.

Roadways

Route 27 (Reynolds Highway/ North Pearl Street)

Route 27 (Reynolds Highway/ North Pearl Street) is classified as a principal urban arterial. East of North Pearl Street, the roadway is divided with two lanes in each direction and no sidewalks. West of North Pearl Street, the two-lane roadway is undivided. The speed limit is 45 miles per hour (mph) east of North Pearl Street but decreases to 40 mph west of the North Pearl Street intersection.

North Pearl Street

North Pearl Street is classified as an urban collector roadway. The posted speed limit is 40 mph and sidewalks exist along both sides of the road.

Oak Street and Oak Street Extension

Oak Street runs from the northern site driveway, extending east through the City, while Oak Street Extension runs between Route 27 (North Pearl Street) and the northern Site Driveway. Both roadways are classified as minor arterials and are owned and maintained by the City. Two lanes are provided in each direction with dedicated turn lanes at the Route 27 (North Pearl Street) intersection. There are existing sidewalks on both sides of the road in the vicinity of the Site. The speed limit on each of the roadways in the vicinity of the site is 30 mph.

Reservoir Street

Reservoir Street is a local road and is located directly opposite the northern site driveway. The posted speed limit is 30 mph.

Impacts of COVID-19 on Traffic Volume

The comparison indicates the seasonally adjusted traffic volumes were approximately 19% lower during the morning peak hour, and 15% lower during the afternoon peak hour as compared to April 2017 volume data.



Current Capacity and No-Build Conditions

The majority of the overall intersections and individual intersection approaches operate at acceptable LOS D or better during the peak hours with the exception of the following:

- Route 27 (North Pearl Street) at Western Site Driveway – The Western Site Driveway westbound left movement operates at LOS¹ E during weekday PM peak
- Route 27 (North Pearl Street) at Oak Street Ext. – The intersection operates at overall LOS F during both peak periods with only select approaches operating acceptably.

A review of the queuing results shows only minor increases in queue lengths. Design queues of all movements at the study area intersections are accommodated within available storage at dedicated turn lanes and between intersections.

The number of driveways and geometry of the curb cuts on Oak Street and Oak Street Extension creates signifi-

cant turning movement conflicts with the relatively heavy volume on this roadway. Consolidation of driveways and implementation of access management could improve traffic operations.

Under the No-Build Conditions, the majority of the study area intersections and movements continue operating at similar LOS as in the Existing Condition during the peak hours with minor increases in average delays and queues due to the additional forecast traffic in the No-Build Condition. The following intersection movements experience LOS changes:

Route 27 (North Pearl Street) at Western Site Driveway:

- The Western Site Driveway westbound left movement will degrade from LOS E under Existing Conditions to LOS F under No-Build Conditions with an approximately 20 second increase in average delay during the weekday afternoon peak.
- The remaining approaches that experienced failing operations under Existing Conditions continue to experience failing operations under No Build Conditions.

Route 27 (North Pearl Street) at Oak Street Ext.

- The intersection operates at overall LOS F during both peak periods with only select approaches operating acceptably.
- The westbound shared through-left movement degrades from LOS E under Existing Conditions to LOS F under No-Build Conditions.

Collision History

The District 5 crash rate is 0.75 crashes per million entering vehicles (MEV) for signalized intersections. The calculated crash rate at each study intersection is lower than the district averages previously noted, indicating no significant safety issues exist.

During the five-year period between January 2016 and December 2020, 99 motor vehicle collisions were reported in the study area. Crashes at the Route 27 (North Pearl Street) at Oak Street Ext. intersection occurred most frequently with 34 collisions, accounting for about 34% of the reported total. The Oak Street at Northern Site Driveway intersection experienced the second highest number of collisions with 27, accounting for 27% of the reported total. Route 27 at North Pearl Street intersection experienced the third highest number of collisions with 21, or 21% of

the total. The Route 27 (North Pearl Street) at Western Site Driveway intersection experienced only 17 collisions, making up the remaining 17% of total collisions.

The most frequent type of collision was angle, accounting for 48% of the total collisions within the study area. The second most frequent collision type was rear-end which made up 32% of the total collisions. About 10% of the total crashes were single-vehicle collisions. The remaining crashes were front to rear, sideswipe – opposite direction, and head-on, each accounting for 4% of the total collisions.

About 73% of collisions occurred on weekdays, spread throughout the day. Most collisions occurred under clear weather conditions.

The collision data indicates no reported fatalities with 37% reporting minor injuries. The remaining crashes resulted in property damage only.

Public Transportation

Although there is bus access from the commuter rail stations in Brockton and Stoughton, most potential employees are likely to drive, increasing the need for parking. Routes 24 and 27, which provide excellent vehicular regional access.

1 LOS refers to Level of Service. A is best; F is worst. See Appendix B for more details.

Good Samaritan Medical Center is currently served directly by Brockton Area Transit (BAT). Both BAT Routes 4 and 14 depart the BAT Center each weekday morning. The BAT Center is located adjacent the Massachusetts Bay Transit Authority (MBTA) Brockton station located approximately one mile from the Site. Route 4 begins service at 6:20 AM and runs until 9:00 PM on weekdays, while Route 14 runs from 6:00 AM to 7:00 PM on weekdays. Both routes provide a more limited service on weekends. The Middleborough/ Lakeville Line serves the Brockton MBTA station, with departures inbound to Boston beginning at 5:11 AM and running until 9:54 PM, and arrivals outbound from Boston arriving beginning at 6:01 AM with the final arrival of the day at 11:29 PM.

Implications for Future Development

Because the site abuts the MassDOT State Highway Layout, a MassDOT Access Permit may be required as part of a future development if modifications to any of the intersections abutting the MassDOT Highway Layout are proposed in the future. Depending on future development plans, an Environmental Notification Form as part of the Massachusetts Environmental Policy Act (MEPA) process may be required as well.

Utilities

The information below is the result of records research with the City of Brockton Engineering Department, MassGIS, and on-site inspections.

Utility Improvement Plans

There are currently no known utility improvement projects planned within the area of interest.

State-Owned Utility Summary

MassDOT, District 5, owns the sewer and storm drainage utilities along North Pearl Street, Rt 24, and Rt 27.

City-Owned Utility Summary

Water, sewer, natural gas, stormwater, and tel-data utilities are available within the area of interest.

Sewer

Sanitary sewer generally flows from the north to south through the site. Sewerage is collected from the Good Samaritan Medical Center through a 6” and 10” service.

The City of Brockton stated that the 10” sewer easement line that runs through Oak Street Extension is currently over capacity.

Water

8” and 12” water mains and service stubs run throughout the area of interest. An 8” water service is provided to the Good Samaritan Medical Center at the west side of the building.

Storm Drainage

Storm drainage within the area of interest is captured via a mixture of closed/open drainage systems which ultimately discharges to Lovett Brook. A box culvert for Lovett Brook, approximately 175’ long, is located under the west entrance to the Good Samaritan Medical Center.

Electric

Electric service is provided by National Grid.

Gas

Natural gas service is provided by Eversource.

Fiber

Fiber service is provided by Crown Castle.

Cable

Cable/DSL service is provided by Verizon and Comcast.

Implications for Future Development

Electrical upgrades may be needed to serve manufacturing. Water and sewer capacity are sufficient for proposed uses. Some uses will have a heavier load on services, particularly water and sewer, than others.

Hazardous Materials

Based on information provided by EDR, 32 releases of oil or hazardous materials (OHM) have been documented within one mile of the Lovett Brook area, with five sites located less 1/8-mile. Based on our desktop review, the sites were identified in close proximity to the area, where shallow impacted soil and groundwater may be encountered during redevelopment. Additionally, based on the volatile nature of the contaminants associated with the releases (gasoline and diesel fuels from leaking underground storage tanks), there is a potential for migration of contaminants to indoor air, which may require mitigation (i.e. a vapor barrier and passive venting systems) and/or remediation to eliminate this potential exposure pathway. Release sites designated as sites of concern are discussed in Appendix C.

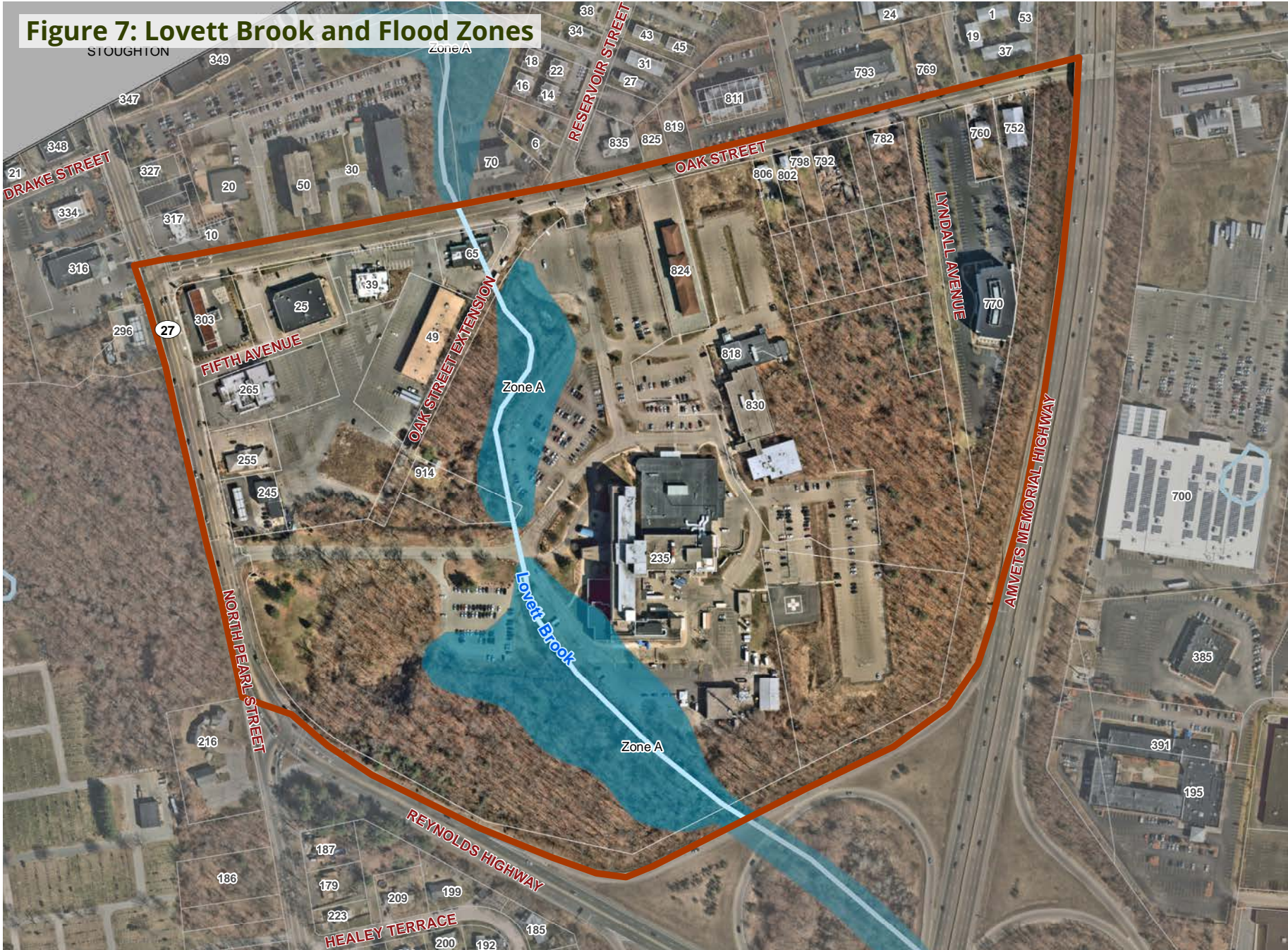
For the purposes of this study, it was assumed that contaminated soils and Hazardous Building Materials (HBM) are present as outlined in the Opinions of Probable Cost (OPC) for Scenarios 1-3. Additional studies, including soil and groundwater pre-characterization program and pre-demolition HBM survey are required to confirm the environmental conditions assumed as part of the analysis in this land use plan.

Implications for Future Development

The area has two underground storage tanks related to the medical center and the gas stations; there are no other known restrictions on development from hazardous materials. The area has significant coverage from impervious surfaces because of the amount of surface parking. Easements run through the area.

Lovett Brook runs beneath the 7-Eleven, through culverts, and is channelized at certain points. The combination of wetlands and floodway from Lovett Brook and a significant steep slope towards Route 24 is a challenge for additional development. However, Lovett Brook also provides an opportunity to create an amenity that would reorganize the site and link the retail and restaurant uses to the existing adjacent residential neighborhoods. Reconsideration of Lovett Brook’s role in the area creates an amenity for residents and employees while addressing current and future flood risk.

Steep topography closet to Route 24 creates a challenge for building in a high-profile area. The paper roads, Newland and Lyndall Avenues, could provide access to that part of the area, but the development costs will be higher. Any change here is likely to be a later phase.



Lovett Brook

The City of Brockton studied and produced an overview of the environmental and recreational potential for restoring and enhancing the urban environment through two of Brockton’s rivers, Trout and Salisbury Brook. While Lovett Brook was not part of this overview, this land use plan provides an opportunity to identify stream restoration components that can be prioritized for design and implementation as part of the overall redevelopment of the area.

Lovett Brook and the associated riparian area have been historically impacted by stream alteration and stormwater impact related to land management activities. Significant stream channelization and mechanical stream bank stabilization have occurred throughout the watershed. Several decades of manipulation of the Brook channel itself has come during the life cycle mainly a conduit for water for industries developed at its edge in the watershed in the 18th and 19th century. Management of the issues along the Lovett Brook has been handled with traditional engineering approaches such as rip-rap rock armoring and concrete retaining walls. This has led to increased erosive

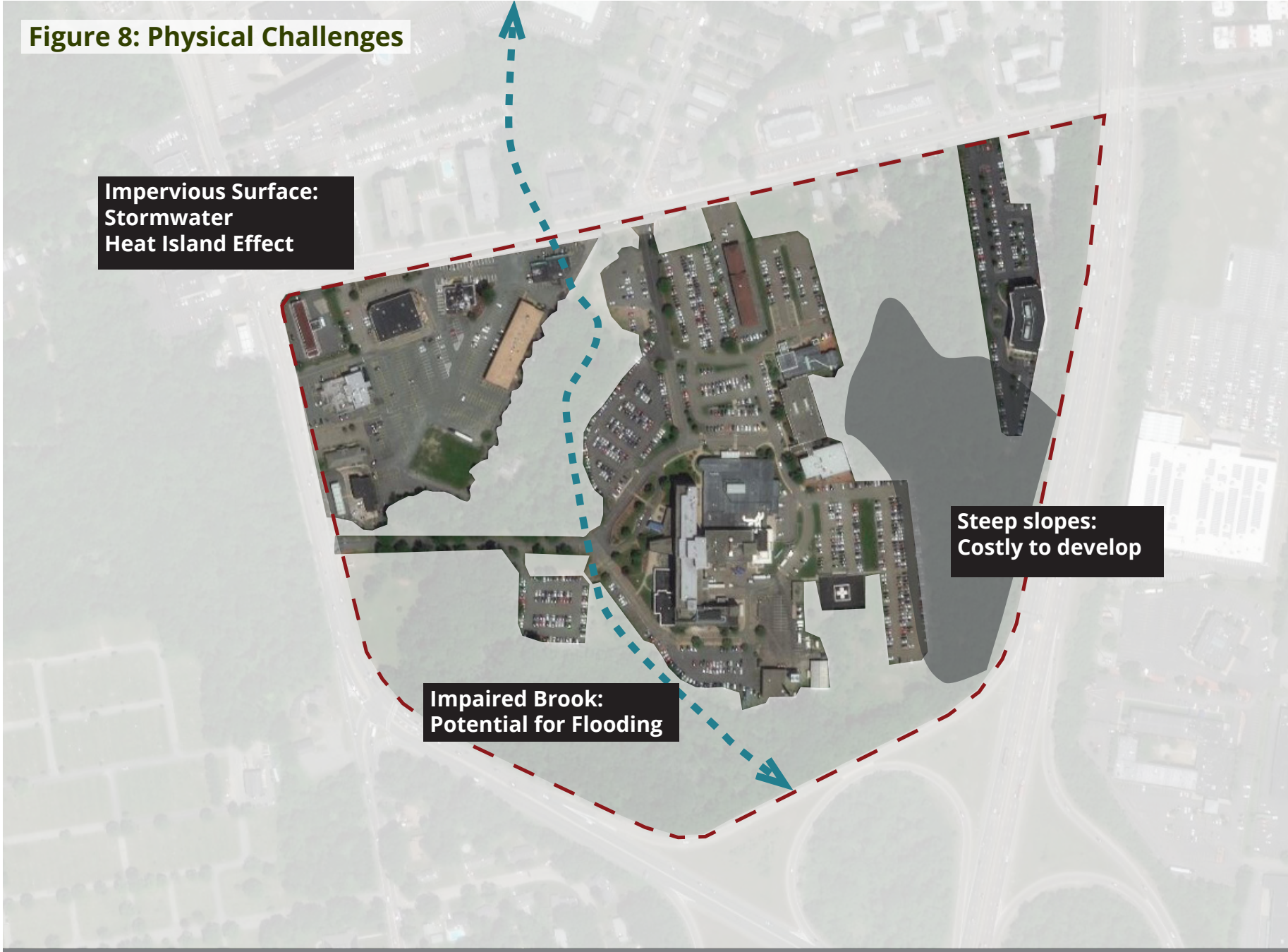
forces in many reaches, especially those areas that are already an incised channel system. A portion of the site is subject to the Floodplain, Watershed and Wetlands Protection zone. The impacts of future development will require reconsideration of impervious surfaces, existing crossings replaced with Stream Simulation² approach, and daylighting sections. The intent is to provide ecological uplift through restoration and resiliency methods.

Implications for Future Development

Restoration activity of Lovett Brook can take advantage of natural inundation areas and correcting historic practices. Concepts and design that include natural channel design and interactive watershed processes will consider variable weather patterns, land use, recreation activities and minimization of maintenance requirements. The opportunity for floodplain connectivity, hyporheic exchange and restoration of flood regime flows may require implementation of multiple design elements including pedestrian connectivity into the restored system. Lovett Brook provides the opportunity to create a focal point around the natural resource and reorganize the area to both provide community connectivity and reduce flood risk.

2 For more information, see USDA, *Stream Simualtion: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-stream Crossings*, August 2008. https://www.fs.fed.us/eng/pubs/pdf/StreamSimulation/hi_res/%20FullIDoc.pdf

Figure 8: Physical Challenges



5 Future Land Uses and Implications

Test Scenarios

These scenarios are test fits of the potential development volume and associates parking that could fit on the site given the parameters that we have defined for this site. These parameters are as follows:

- Buildings that remain in all scenarios: the Good Samaritan Medical Center and the adjacent medical office and the Harbor One Bank.
- Buildings that remain in some scenarios: the Brockton Seventh-day Adventist Church, the Mobil station, and the office building on Oak Street.
- Existing restaurant/retail will be relocated into a new building or buildings on the site. These businesses will likely need relocation assistance and rent support for at least the first few years after the move.
- Lovett Brook becomes the center of a greenway that connects Oak Street to the woods and wetlands with walking trails throughout the site.

The balance of space for manufacturing, office, and housing shifts depending on the scenario. While the consultant team tested higher volumes of development, the

conclusion is that these levels are unlikely to occur until and unless market demand improves. This argues for a phased approach to redevelopment of this site. This phased approach is reflected in Scenario 1, which shows three phases. Scenarios 2 and 3 are alternative visions of how the site could be developed at greater density given a significant shift in market conditions.

The underutilization of this site in a Gateway City argues for a planned approach to its revitalization. The site has significant assets: abutting multifamily residential, nearby retail opportunities, and a location at the intersection of two regional state routes that is also tied to a regional bus system. These test scenarios indicate that the potential for an increase in the development volume is significant; the challenge is achieving that possibility.

Market conditions, except for multifamily, will not support the tested volume of development without significant advocacy by the City of Brockton and its partners, including the Commonwealth, for this site as a potential for manufacturing related to life sciences. Realizing the potential of this site must also provide additional benefits to current residents and business owners: access to well-paying jobs, enhanced green space to improve public health, and amenities that provide a competitive advantage to Brockton in attracting employers, employees, and residents. In turn, this area will provide additional tax revenue to the City.

Figure 9: Existing Conditions



This illustration, and the similar three-dimensional illustrations that follow, look from east of Route 24 (the horizontal line in the foreground) south-west across the site towards Route 27/North Pearl Street. The tall building on the left is the Good Samaritan Medical Center. The road on the right is Oak Street leading to Oak Street Extension. Note the icon of the traffic signal at the intersection of Oak Street, Oak Street Extension, and Reservoir Street.

Scenario Descriptions

When reviewing the scenarios below, it is critical to understand that all three scenarios (including the three phases of Scenario 1) show more development volume than the projection of current trends identifies as likely within the next three-five years. The City and other partners would need to market this site as suitable for the land uses proposed here in order to realize the vision outlined in this plan. Public support will be required to address the financing gap, shown in *Section 6: Implementation Plan*, projected for Scenario 1.

Scenario 1A: Short-term (3-5 years)

Scenario 1A is shown as the first phase in a larger redevelopment process.

This scenario responds to the current understanding of the likely market for new development within the next five years. It shows a single manufacturing building on the west side and an office and/or lab building below it. A new walking path connects the potential office/lab building to the Good Samaritan Medical Center.

On the north-east side, a new building could include restaurant and retail on the ground floor and residential units above. Some improvements to pedestrian safety

along Oak Street and North Pearl Street are shown on this plan, but this level of development is not enough to support significant improvements.

Scenario 1B: Mid-term (5-10 years)

Scenario 1B is the second phase in this multi-phase concept. Existing retail and restaurant could move into the mixed-use buildings in the northeast corner. At the northern entrance to the site, two red restaurant pads allow outdoor dining around a newly daylighted Lovett Brook. Paths connect the interior of the site.

Because the existing restaurant and retail could now move to the new buildings, with room for additional stores and places to eat, the northwest side of the site could be developed into additional manufacturing buildings. Manufacturing could include biomedical devices, pharmaceuticals, and/or food production: all would provide higher-wage jobs.

The new development will help pay for the improvements to the site, including lining Oak Street Extension and Oak Street with a wider sidewalk and trees. On the north side of Oak Street Extension, the existing sidewalks will have street trees. This level of development may also start to support pedestrian improvements to North Pearl Street.

Finally, the development would now qualify for a signal at Lyndall Avenue, currently an unbuilt paper street. Most of the existing curb cuts would be closed, reducing congestion, and improving traffic flow.

An additional phase would help complete the improvements along Oak Street and North Pearl Street.

Scenario 1C: Long-term (10-20 years)

Scenario 1C is the third phase for the Lovett Brook site. Trees now line both sides of Oak Street; this is paid for by the addition of a new office and/or lab building between Harbor One Bank and the existing medical offices. Any outstanding public improvements could be completed at this stage.

Alternatives

Scenarios 2 and 3 are not subsequent phases of Scenario 1, but rather alternative approaches that build on the idea of a life sciences manufacturing campus. The level of density is much higher in Scenario 3, and would require a significant shift in the market to accomplish because of the increase in office/lab space, the use of more topographically-challenged land for building purposes, and the need for parking structures.

Scenario 2: Life Sciences/Manufacturing Alternative

Scenario 2 is an alternative to the phased approach of Scenarios 1A-1C. This scenario assumes that the area has a more intensive level of development. Many of the components remain the same; a significant difference is the assumption that the gas stations and car wash would move elsewhere, opening up the entire northwest corner of the site for manufacturing. Such manufacturing is anticipated to be biomedical devices, pharmaceuticals, food production, or similar products. This level of development, including the mixed-use buildings, would support more public improvements, including the expanded and shaded sidewalks, the walking paths in the interior of the site, and the daylighted brook.

Scenario 3: Life Sciences/Manufacturing Alternative

Scenario 3 is a second alternative to the phased approach in Scenarios 1A-1C. This scenario assumes a different layout of manufacturing in the northwest corner and additional office on the eastern side of the site. The amount of office shown would require two parking garages; at this point, the consultant team does not see this level of development happening within the short- to medium-terms. This scenario is shown to demonstrate expanded future possibilities for the site.

Figure 10: Development Scenario 1A



Figure 11: Development Scenario 1A



New buildings are color-coded to tie them to the plans: office/lab is blue; manufacturing is brown; residential is yellow; and restaurant/retail is red. This color-coding is consistent over the next few pages. Note the beginnings of public improvements, including trees on Oak Street, that follow new development.

Figure 12: Development Scenario 1B



Figure 13: Development Scenario 1B



Additional mixed-use and two more manufacturing buildings helps fund more improvements, including the new traffic signal at the intersection of Oak Street and Lyndall Avenue (currently a paper street) and tree-lined mixed use path along the south side of Oak Street and Oak Street Extension. Trees are also added to the north side of Oak Street Extension. The two red buildings, envisioned as restaurants, create a gateway into the site from Oak Street and provide room for outdoor dining and a destination for the paths that begin to link the buildings within the site.

Figure 14: Development Scenario 1C



Figure 15: Development Scenario 1C



The final building helps complete the planting of trees along the north side of Oak Street. This phase is 15-20 years from the start of implementation, which would give the City time to market the site to potential developers and promote it as a mixed-use life sciences campus for manufacturing, lab, residential, and amenities to attract employers, employees, and residents alike.

Figure 16: Development Scenario 2



Figure 17: Development Scenario 3



Table 5, below, shows the change in development volume for each Scenario from the existing conditions. When compared to *Table 4: Projected Demand*, it is easy to see that the development volumes in these scenarios are not realizable based on the projection of recent economic trends and market demand. The pro formas in Section 6 will show a financing gap in Scenarios 1A and 1B.

Table 5: Potential Development Volumes (Difference in Square Footage from Existing)

Land Use	Existing Conditions	Scenario 1A	Scenario 1B	Scenario 1C	Scenario 2	Scenario 3
Drugs and Pharmaceuticals Manufacturing/Bio-Science Distribution	0	60,000	150,000	150,000	140,000	131,875
Medical Center and Offices	507,240	0	-20,050	-20,050	-20,050	-20,050
Office/Lab	76,440	60,000	60,000	150,000	150,000	240,000
Retail/Restaurant	66,907	18,400	7,793*	7,793*	26,193*	26,193*
Residential	8,774	49,426	156,826	156,826	212,026	212,026
Automotive	7,307	0	0	0	-7,307	-7,307
Church	4,800	0	-4,800	-4,800	-4,800	-4,800
Total Change in Square Footage	0	187,826	349,769	439,769	496,062	577,937
Gross Square Footage	671,468	859,294	1,021,237	1,111,237	1,167,530	1,249,405
Parking Spaces	1,846	2,079	2,346	2,616	2,646	2,818

*New buildings replace the older retail/restaurant buildings in Scenario 1B and higher, so while the net increase is low, the cost to build (as seen in the pro formas in the next section) is based on a complete replacement of the existing square footage plus the new space.

6 Implementation Plan

Vision

This site has an excellent regional positioning for transportation via truck and is able to draw from a regional workforce. At least a portion of the site would be suitable for 21st century manufacturing, focused on the life sciences with potential support from other sectors, such as food production. Reorganization of the parcels would allow for a combination of uses on the site that could retain some existing businesses; add well-paying jobs that draw on Brockton’s strength in the health care and STEM sectors; and create a neighborhood amenity that revitalizes an impaired brook and addresses both public health and the impacts of climate change.

Components of this vision include the land uses discussed earlier and a combination of improvements to the public realm, including infrastructure and placemaking, that will improve the district for current residents and businesses as it attracts new employers, employees, and residents.

The next few pages provide information about the different elements of the vision with specific actions steps that should be taken to support the development. A pro forma evaluates phases A and B of Scenario 1 (the mostly likely to occur, in stages, based on the factors outlined in this plan.)

Prior to beginning the actions listed below, **the City of Brockton and the Brockton Redevelopment Authority need to build relationships with the other partners that can support this vision.** MassDevelopment, as a sponsor of this planning process is a critical partner. Other local partners include Harbor One Bank, Good Samaritan Medical Center, Brockton High School and their stem program, and Massasoit College. Stage agencies, including Mass Life Sciences, MassBio, and Mass Economics will continue to be critical to the effort to reframe this site as the center of a southeastern life sciences cluster to rival those to the north and west of Boston. Finally, the brokers, developers, and company owners who specialize in the target areas are critical to the success of this plan.

Recommendations

The following recommendations address the elements included in the scenario plans and provide specific actions (in blue) for implementation.

Continued Outreach to Critical Partners

Critical to the success of this plan is the ability for the **City of Brockton and the Brockton Redevelopment Authority to build relationships with the other partners that can support this vision**. MassDevelopment, as a sponsor of this planning process is a critical partner. Other local partners include Harbor One Bank, Good Samaritan Medical Center, Brockton High School’s STEM program, and Massasoit College. Stage agencies, including Mass Life Sciences, MassBio, and Mass Economics will continue to be critical to the effort to reframe this site as the center of a south-eastern life sciences cluster to rival those to the north and west of Boston. Finally, the City should continue to engage the relevant brokers, developers, and companies in the target industries.

The topics for this engagement are the following:

- **Incorporate specific aspects of the Life Sciences sector into the City’s overall economic development plan.**

- **Integrate this site and the Downtown into a package that offers future employers opportunities for start-up (Downtown) and expansion (Lovett Brook).**
- **Identify training and workforce development needs for Brockton’s current and future workforce and partnerships to provide and promote those options.**

New Development

This plan envisions a significant change to the land uses of the Lovett Brook area, and one that is not feasible if current market trends continue. In order to accomplish the vision defined by this land use plan, the city needs to undertake the following actions:

- Identify and engage critical partners in actively marketing this site. Target companies in the Life Sciences sector that provide well-paying jobs and opportunities for Brockton residents.
- Market the area, using this plan, to companies who may wish to expand or relocate their operations to this site.
- Continue discussions with brokers and company officials about appropriate amenities that would attract the employers necessary for this vision and

demonstrate how those amenities can be incorporated into the development of this site.

- Create an urban renewal plan to give the Brockton Redevelopment Authority the tools for the redevelopment of the site, including acquisition, disposition, the ability to make public improvements, and the ability to set standards for the redevelopment of the site. The urban renewal plan should include design standards and recommend the specific changes to zoning required for implementation of this vision.
- Change zoning to allow for the mix of uses envisioned by this land use plan. Development standards should help address community concerns about negative impacts of development, as expressed in the comments from the online surveys.
- Create a District Improvement Financing (DIF) program to help fund the public infrastructure improvements and leverage that financing with available grants for traffic improvements, stream restoration, climate resiliency, public parks, and other funding sources applicable to the goals of this plan.

Key elements for new development include the following considerations:

Manufacturing/Lab

Manufacturing uses should focus on the production of bio-medical devices, pharmaceuticals, food products, and other similar smaller-scale manufacturing. Lab space could be included in new buildings or incorporated into the existing office buildings belonging to the Good Samaritan Medical Center as space becomes vacant. Those existing buildings may be a good location for training and educational partnerships with Brockton High School’s STEM program and Massasoit College.

A new-build manufacturing incubator is unlikely because of costs, but a link connecting new manufacturing on this site with existing space in the Downtown could be an interesting outcome of this project.

Retail

The scenarios as shown would lead to the relocation of several businesses. These businesses appear to be viable and serve a local need. One or more of the new mixed-use buildings should accommodate some or all of the existing retail and restaurant uses in the area. Scenario 1A retains

the individual buildings on North Pearl Street and relocates the retail businesses on Oak Street Extension and the interior strip mall to the new mixed-use buildings.

Because the proposed location of the mixed-use buildings in the scenarios is closer to Harbor One Bank and the Good Samaritan Medical Center, offering the existing businesses the option to move to new buildings also moves them closer to those employees who could become more regular customers.

Restaurant

The Lovett Brook area contains three restaurants: the Original Tommy Doyle’s Pub and Grill, Frank’s, and Chinatown. All three restaurants would have the option of moving to one of the proposed mixed-use buildings. Under one scenario, Frank’s would have the option of remaining in place; in another, it would need to move. In most scenarios, Chinatown and the Original Tommy Doyle’s Pub and Grill would have to move to accommodate proposed uses for those sites.

Scenarios 1B and 1C show an area next to a daylighted Lovett Brook that could accommodate one or more restaurants with outdoor eating areas facing the brook and restored wetlands. This is not an opportunity that currently exists, and reflects increased preferences for eat-

ing outdoors, reinforced by the impacts of the COVID-19 pandemic on restaurants. Parking, pedestrian access, and areas for curbside pickup/takeout parking could be reorganized around the new building to serve restaurant uses.

Office

Adding new office/lab buildings behind Harbor One Bank and between Good Samaritan Medical Center and Route 24 would provide excellent visibility to the highway and is possible because of the existing paper streets (Lyndall and Newland Avenues). The steepness of the slope means that such construction is unlikely in the near term.

The current market analysis does not show significant demand for new office buildings in the short- to mid-term (the next 3-10 years).

Residential

The focus of new multifamily development in Brockton should be on its Downtown, Montello, and Campello – in other words, areas with commuter rail stations. However, new multifamily uses in this area could complement existing multifamily uses on the other side of Oak Street. Multifamily use should not be the dominant use on this site; the primary focus is bringing jobs to the City of Brockton.

Lovett Brook

Daylighting Lovett Brook and restoring the existing wetlands to productive use as flood and stormwater control will require additional studies for feasibility as at least part of the brook is under a building and much of the rest is within a culvert. This recommendation is the base of these key assets for existing and future residents and employees. Key actions to be addressed in this study are as follows:

- **Daylight Lovett Brook; remove it from its culvert.**
- **Develop publicly-accessible shared use paths through the wetland area, connecting businesses, residences, and the Good Samaritan Medical Center to the wider sidewalk proposed for Oak Street/Oak Street Extension.**
- **Include wayfinding and informational signage to help guide people through the area and inform them about natural habitats.**
- **Restore the wetlands so they can act as appropriate stormwater storage during increased precipitation events.**
- **Develop a revegetation plan for areas impacted by past and future construction.**

Lovett Brook can become an amenity that will serve both the site and the surrounding residential neighborhood. The closest green area for passive recreation is Melrose Cemetery, which is 12-minute walk (0.6 miles) from the Good Samaritan Medical Center. The closest park is Hancock Field, which is a 16 minute walk, or 0.8 miles from the Good Samaritan Medical Center.

Shared use paths for pedestrians, runners, and bicyclists would provide recreational opportunities for residents and employees alike, acting as a draw for residents and a benefit that employers who locate here can provide to their employees. A trail system could provide a loop or loops, with appropriate furniture, plantings, lighting, and wayfinding signage in selected places.

Restoring wildlife and stream habitats increases local biodiversity and Brockton can promote the results to attract companies and employees who value the importance of habitat preservation and enhancement.

Benefit of Amenities

Clean watersheds start with restoration of streams within the watershed as they are redeveloped while pedestrian connectivity can shape healthier, cleaner environments that encourage outdoor activities such as walking and fishing (one survey respondent reported they used to fish in

Lovett Brook) as well as cultural and historic components. A restored stream corridor can join adjacent neighborhoods to provide opportunity for fresh air, exercise and social interaction and provide community connectivity to the businesses in the area. This strategy supports a sense of well-being that can result in a more attractive place to live and work.

Flooding

Much of Brockton lies within the 100-year and 500-year floodplain of the river system that bisects its communities. Increasing resiliency and remediation of current flooding, exacerbated by development, can occur through stream restoration and land use improvements that consider the stream as a resource. This could include a buffer around Lovett Brook and additional infrastructure and landscape interventions to restore streambank stability and enhance and restore habitat that reduces flooding risk along the riverbanks. Opening passages for wildlife also increases habitat and flood conveyance and storage during wet weather events. Appropriate plantings in the floodplain can help attenuate flood storage as well as reduce velocities during wet weather events.

Vegetation

A vegetated riparian buffer, consisting of native species (primarily herbaceous and small woody species) would improve the stream banks following construction. Existing trees should be included where possible. This strategy can integrate the aesthetic and practical needs of the stream restoration with water quality and habitat improvements.

Transportation Improvement Plan

A full traffic/transportation study is required to understand the implications of development on the current and future traffic of the area. This study should include the following recommendations and identify the development thresholds for the anticipated improvements:

- **Expand the Pearl Street/Oak Street Extension intersection.**
- **Consolidate driveway entrances.**
- **Install a new signal at Lyndall Avenue when that area begins to develop.**
- **Improve the intersections and signalization at the site entrances off North Pearl Street and across from Reservoir Street.**

Figure 18: Potential Public Amenities



Above: New restaurant pads with outdoor seating areas connected by trails to jobs and residences.



Right: Trail system links Oak Street (both sides) to daylighted Lovett Brook and new buildings.

- **Plant trees along the sidewalk on both sides of Oak Street and Oak Street Extension to create a safer and more attractive environment for walking, and address heat island effect from the current unshaded pavement.**
- **Evaluate the potential to better link bus routes and other connections to commuter rail to ensure access to the site by a regional workforce that reduces single-occupancy vehicles.**

Implementation will require improvements to the area's transportation system to address existing deficiencies and to mitigate adverse impacts. As indicated in the analysis in Appendix B, there are existing deficiencies at the Pearl Street/Oak Street Extension intersection and at the western site driveway. Additional development may create additional deficiencies in traffic operations.

Additional right-of-way may be necessary to address failing operations at the Pearl Street/Oak Street Extension intersection, as well as to provide space for additional turning lanes and multi-modal accommodation to the east of the intersection.

The F condition for level of service that the team noted at the western site entrance is a result of insufficient capacity in the exiting west-bound left turn during the afternoon peak. Since this driveway is completely within the site,

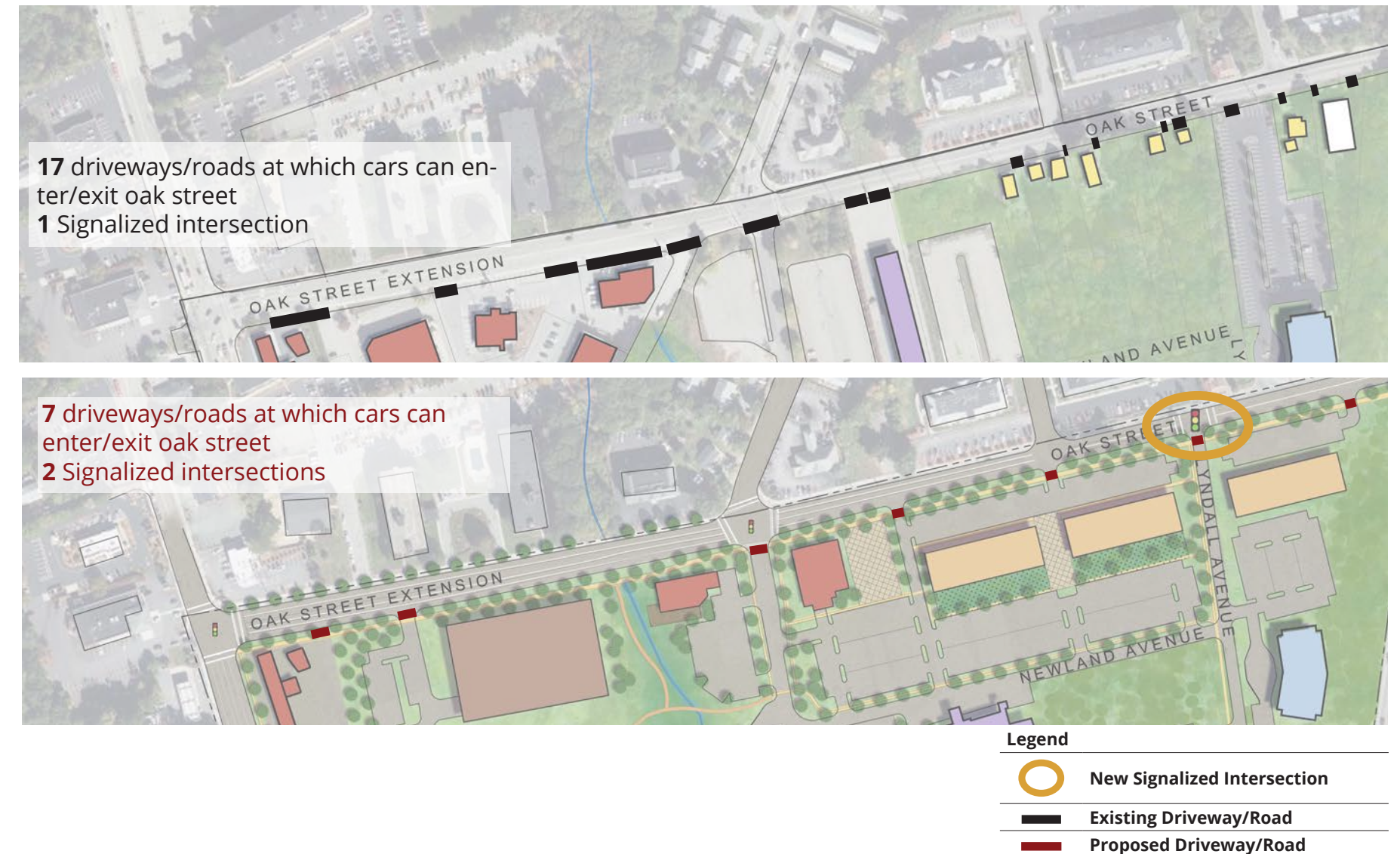
plans for additional development in this area could easily accommodate additional turning lanes in this location.

Additional traffic analysis will be required to develop a comprehensive, phased transportation management plan. That plan will include recommendations for additional turning lanes, additional signalization of site driveways, access management (including consolidation of driveways), pedestrian enhancements and recommendations for complete streets (pedestrian, bicyclist, and driver friendly). These required improvements should be coordinated with various thresholds of development as the property is developed over time.

The following amenities are tied to streetscape improvements along Oak Street, Oak Street extension, and North Pearl Street and to the proposed internal pathways:

- New and better-placed buildings provide eyes on the area, including security cameras.
- Wider sidewalks and improved internal circulation creates added safety for drivers and pedestrians.
- Lighting of paths and parking areas increases security for area residents and employees.
- Increase in activity also provides additional safety.

Figure 19: Impact of Access Management



Conceptual Development:
Pro Forma Analysis

The pro formas in this document calculate the existing financing gap between the cost of construction and the likely revenue generated from the proposed development for Scenarios 1A -1C. For a land use plan such as this one, they are used to identify where public action might be needed; for example grants could help funds some of the site costs that contribute to the underlying cost of construction.

The assumptions in these pro formas are as follows:

- **No land costs.** If this area becomes an urban renewal area, the land costs could be part of the Redevelopment Authority's actions in the area.
- **No infrastructure/site preparation costs.** This includes interior roads, water/sewer, necessary demolition, electric, broadband, mitigation, etc. Such costs could be handled by the Brockton Redevelopment Authority if this area becomes part of an urban renewal plan and/or by creating a District Improvement Financing District (DIF) for the area.
- **Space for different uses purchased/built/managed**

by different developers. This assumes that developers with specific expertise will focus on that area of expertise; for example, industrial experts for the manufacturing buildings, mixed-use developers for mixed-use buildings, etc. This assumption does require separate pro formas for each land use.

- **Industrial pro forma inputs are specific to general manufacturing uses.** If bio-manufacturing use is pursued, construction costs will be significantly higher, and the market shows a build-to-own model is far more likely.
- **Development may take place over several years and phases.** This assumption adds flexibility to the land use plan and can adjust to market performance; it was also built into the development of the scenarios.

Inputs to the pro forma were based on RKG's market research, experience in similar markets, and Marshall & Swift Valuation Services construction cost database.

The pro formas reflect four key points:

- **Brockton's multi-family residential market is showing momentum** – but most of the recent market activity has occurred downtown. The depth of demand away from downtown remains unknown.
- **Industrial market research shows that bio-manufacturing facilities are typically built to own.** A rental model is not likely in this scenario.
- **Industrial rents are strongest near highways, which is an important factor for this area.** Other uses can occupy flex space and offer diversification.
- **The Redevelopment Authority's ability to assemble parcels under an urban renewal plan is key to maximizing the potential of the area.** The financial analysis assumes City or another entity is able to assemble necessary parcels.

Finally the pro formas, developed with current understanding of market trends, risk, and construction costs, illustrate the difficulty of achieving project returns that would attract developers/investors with these projects. Most for-profit non-institutional developers would seek a minimum return of 8-10%. Projects that are perceived as "higher risk" may require greater potential returns to attract investment.

The public costs of construction are not included in the pro formas. For the public amenities tied to Lovett Brook, costs are as follows:

Paving for Multi-use path	\$84,000
Lighting	\$270,000
Landscape improvements	\$1.2 million

For the streetscape improvements, not including changes to the intersection:

Concrete paving	\$400,000
Street trees	\$600,000
Lighting	\$1.38 million
Landscape	\$2.6 million

For improvements to traffic circulation:

Minor signal/intersection improvements	\$500,000-\$1 million
Pearl/Oak Street intersection/signal improvements	\$1.5 - \$2.5 million
Streetscape/ multi-modal/complete streets improvements on Oak Street/Oak Street Extension:	\$1,000-\$2,000 per liner foot

Table 6: Pro forma Scenario 1A

Industrial Development Scenario

60,000 sf	
Construction cost	\$108/sf
	\$12/sf/year triple net (retail)
Total project cost	\$9.7 million
Project return on cost	3.3%

Unlikely to attract investment without subsidy/
creative funding sources.

Projected financing gap: \$3.6 million.

Office Development Scenario

60,000 sf	
Construction cost	\$237/sf
	\$29/sf/year triple net (retail)
Total project cost	\$20.1 million
Project return on cost	2.5%

Unlikely to attract investment without subsidy/
creative funding sources.

Projected financing gap: \$9.2 million.

Mixed-Use Development Scenario

64 units	
18,400 sf retail	
Construction cost	\$170/sf
	\$1,675/mo 1-BR (\$2.58/sf)
	\$1,850/mo 2-BR (\$2.31/sf)
	\$25/sf/year triple net (retail)
Total project cost	\$17.6 million
Project return on cost	5.7%

This project could potentially attract investment
without subsidy/creative funding sources if the
realistic local construction cost is closer to \$160/sf.

Projected financing gap: \$1.3 million.

Table 7: Pro forma Scenario 1B

Industrial Development Scenario

150,000 sf	
Construction cost	\$108/sf
	\$12/sf/year triple net (retail)
Total project cost	\$24.3 million
Project return on cost	3.3%

Unlikely to attract investment without subsidy/
creative funding sources.

Projected financing gap: \$9.2 million.

Office Development Scenario

60,000 sf	
Construction cost	\$237/sf
	\$29/sf/year triple net (retail)
Total project cost	\$24.2 million
Project return on cost	1.6%

Unlikely to attract investment without subsidy/
creative funding sources.

Projected financing gap: \$13.3 million.

Mixed-Use Development Scenario

192 units	
55,200 sf retail	
Construction cost	\$170/sf
	\$1,675/mo 1-BR (\$2.58/sf)
	\$1,850/mo 2-BR (\$2.31/sf)
	\$25/sf/year triple net (retail)
Total project cost	\$52.6 million
Project return on cost	5.8%

This project could potentially attract investment
without subsidy/creative funding sources if the
realistic local construction cost is closer to \$160/sf.

Projected financing gap: \$3.6 million.

Stand-Alone Restaurant Development Scenario

19,500 sf	
Construction cost	\$244/sf
Total project cost	\$7.9 million
Project return on cost	1.9%

Unlikely to attract investment without subsidy/
creative funding sources.

Projected financing gap: \$4.3 million.

Table 8: Pro forma Scenario 1C

Industrial Development Scenario

60,000 sf	
Construction cost	\$108/sf
	\$12/sf/year triple net (retail)
Total project cost	\$9.7 million
Project return on cost	3.3%

Unlikely to attract investment without subsidy/creative funding sources.

Projected financing gap: \$3.6 million.

Office Development Scenario

150,000 sf	
Construction cost	\$237/sf
	\$29/sf/year triple net (retail)
Total project cost	\$51.6 million
Project return on cost	2.5%

Unlikely to attract investment without subsidy/creative funding sources.

Projected financing gap: \$9.2 million.

Mixed-Use Development Scenario

192 units	
55,200 sf retail	
Construction cost	\$170/sf
	\$1,675/mo 1-BR (\$2.58/sf)
	\$1,850/mo 2-BR (\$2.31/sf)
	\$25/sf/year triple net (retail)
Total project cost	\$52.6 million
Project return on cost	5.8%

This project could potentially attract investment without subsidy/creative funding sources if the realistic local construction cost is closer to \$160/sf.

Projected financing gap: \$3.6 million.

Stand-Alone Restaurant Development Scenario

19,500 sf	
Construction cost	\$244/sf
Total project cost	\$7.9 million
Project return on cost	1.9%

Unlikely to attract investment without subsidy/creative funding sources.

Projected financing gap: \$4.3 million.

7 Justification for Urban Renewal

The Lovett Brook area is a blighted open area because of a combination of conditions, as defined by Massachusetts General Laws Chapter 121B. For the purposes of this land use plan, the critical components of the definition of a blighted open area are as follows:

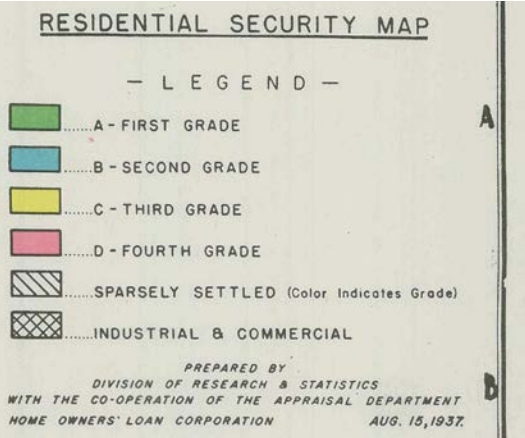
- unduly costly to develop it soundly through the ordinary operations of private enterprise by reason of...obsolete, inappropriate or otherwise faulty platting or subdivision, deterioration of site improvements or facilities, division of the area by rights-of-way, diversity of ownership of plots
- or because there has been a substantial change in business or economic conditions or practices
- or because there has been an abandonment or cessation of a previous use

Figure 20 shows the street patterns as of 1936; this map is a Residential Security Map prepared for the Division of Research and Statistics and the Appraisal Department of the Home Owners’ Loan Corporation, a federal agency. These maps were used to guide the availability of mortgages and the red areas, commonly home to minority and/

or low-income populations, were deemed the highest risk. People living in these areas were almost always denied a mortgage; a practice called redlining.

The legend for this map identifies the Lovett Brook area as C or Third Grade and as sparsely settled. Third Grade/C was also known as “Declining” or “Definitely Declining.” This grade might indicate working-class and/or recent immigrants from Europe and may have older houses and no utilities.¹

Neighborhoods that were redlined frequently are still low-income, part of a practice of disinvestment that with significant impacts on property values and wealth-building, particularly for minority households. This disinvestment has also had negative impacts on public health,



¹ <https://www.arcgis.com/home/item.html?id=063cdb28dd3a449b92bc04f904256f62>, last accessed October 19, 2021.

including heat and air quality; both of these are likely to be exacerbated by climate change² and could be mitigated by increasing green space in these areas.

While the Lovett Brook area was not classified as D or Hazardous, the C classification and the subsequent construction of Route 24 had a significant impact on the development of the area.

A series of residential lots were laid out, probably in the late 1800s, but never built (Figure 23, blue parcels). The houses that were built are not now part of a neighborhood; the housing across the street is primarily multifamily and the closest single-family neighborhood is southeast of the Melrose Cemetery, in an area designated B/Second Grade or A/First Grade in the 1936 map. Further information is required to understand why these parcels were not developed, but the grading of the area as Grade C could have been a disincentive for loans to build single-family homes in this area. Of the streets on the 1936 map that are present today, it was the streets built in the blue and green areas that remain, rather than those built in the yellow shading of the Lovett Brook area.

A Sanborn Fire Insurance Map from 1954 (Figure 21) shows the same layout of streets as the 1936 HOLC map; however, the map set does not show the detail of any of the houses there, despite the presence of five single-family homes built before 1926 that are still in existence today. The first section of Route 24 opened in 1951; the next building existing today to be built was a single-family home in 1959 and 1963, the beginnings of the Good Samaritan Medical Center in 1968 (see *Figure 3: Timeline*).

It is possible for a single entity to assemble some of these small residential lots for redevelopment; the likelihood of one entity gaining control of all the parcels is low. Redevelopment without all these small parcels, most of them less than a quarter-acre in size, would contribute to the fragmented development and ownership of these lots.

Figure 23 also shows the irregular parcelization of the Lovett Brook area which contributes to an inability for the private market to fully develop the site. This irregular parcelization has led to the uncoordinated development of uses over time and the abandonment of the planned streets shown on the 1936 map.

One landlocked parcel (Figure 22) is the site of a former movie theater; the irregular shape of this parcel (2.54 acres) and the fact that it has no visibility or direct access to either of the adjacent roads makes development a challenge. In addition, other buildings, including the strip mall, were built around the movie theater and its need for parking; the orientation of these buildings and the amount of impervious surface once dedicated to parking no longer makes sense given the closure and demolition of the theater. A similar use is unlikely to return – the movie theater at Westgate Mall on the other side of Route 24 was demolished in 2005.³

Note that this area would also qualify as a decadent area for many of the same reasons listed above: diversity of ownership, irregular lot sizes or obsolete street patterns; and excessive land coverage in the developed portion of this site.

Although this underutilized site contains active, economically viable uses, private enterprise has been unable to address the interior of the site. The site is divided into parcels that are irregular in shape and size; some are landlocked with frontage on paper streets that have never been developed. Lovett Brook and its associated wetlands and

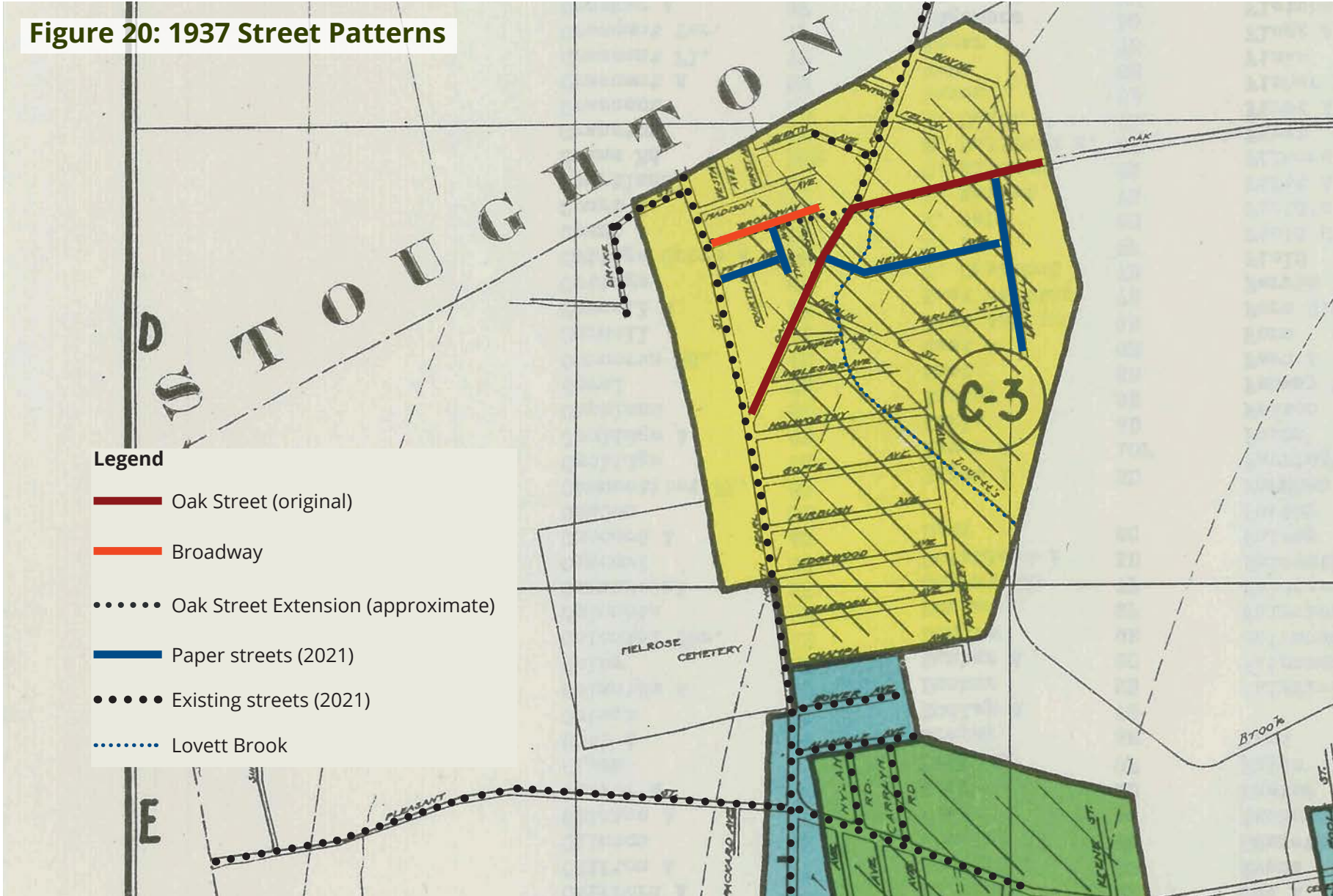
a drainage culvert complicate reparcelization as does the single house in the center of the area.

Redevelopment of this underutilized site over the twenty-year life of an urban renewal plan is not improbable; however, it is clear that such development will be a challenge given current trends. There are other factors that could modify the market dynamics, including motivated property owners, focused public investment, and a carefully considered mix of complementary land uses.

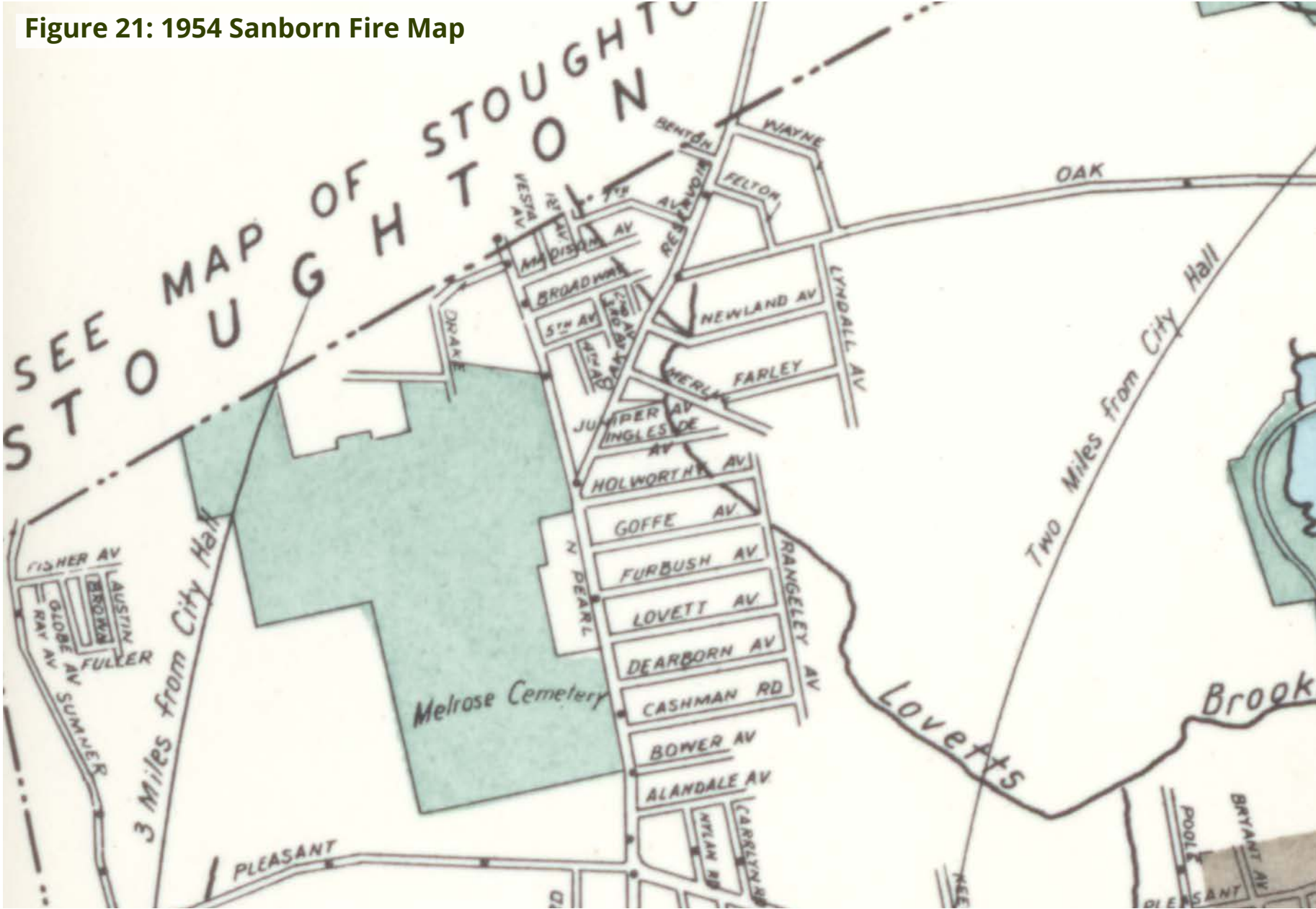
Without a vision for the Lovett Brook area, and an urban renewal plan to implement that vision, this area will remain underutilized.

² <https://www.scientificamerican.com/article/past-racist-redlining-practices-increased-climate-burden-on-minority-neighborhoods/>, last accessed October 19, 2021.

³ <http://cinematreasures.org/theaters/8463>; last accessed September 12, 2021.



Source: Home Owners' Loan Corporation, and Brockton, Mass. City Engineer's Office. "Residential security map of Brockton, Mass." Map. 1937. Norman B. Leventhal Map & Education Center, <https://collections.leventhalmap.org/search/commonwealth:00000x555> (accessed September 20, 2021).



Source: Sanborn Map Company, 1954 Vol. 1, Sanborn Fire Insurance Map from Brockton, Plymouth County, Massachusetts, Library of Congress Geography and Map Division Washington, D.C. 20540-4650 USA, <http://hdl.loc.gov/loc.gmd/g3764bm.g03698195401>, last accessed October 20, 2021.

Figure 22: Site of Former Theater



Figure 23: Key Parcels (Landlocked, R-O-W remnants)

