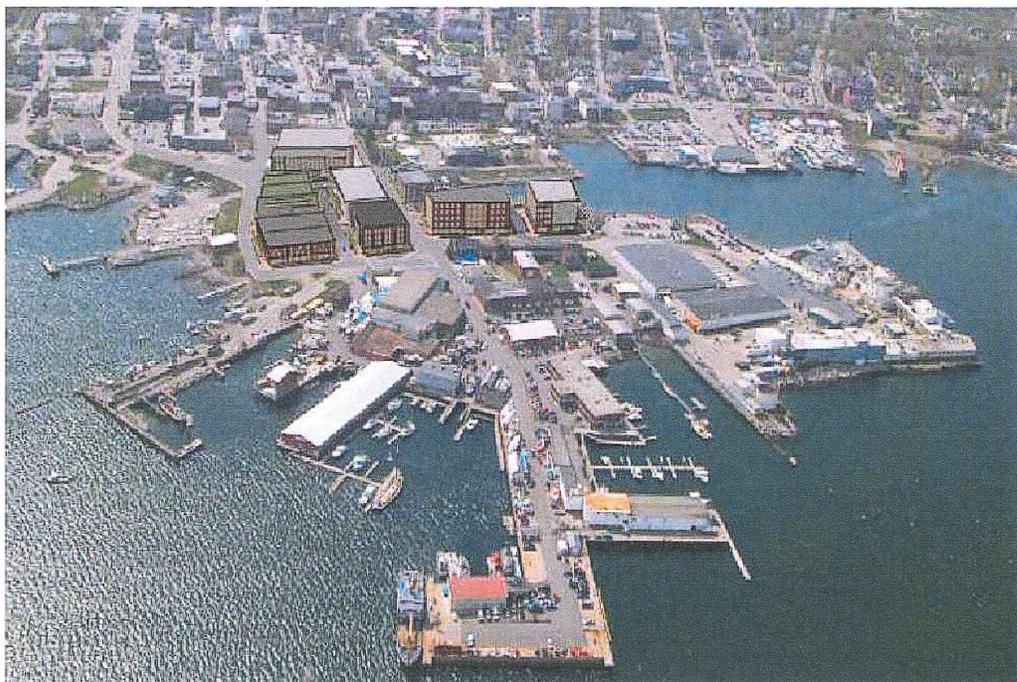




# Waterfront Area Redevelopment Plan



**woodardcurran.com**  
COMMITMENT & INTEGRITY DRIVE RESULTS

222218.00  
City of Rockland  
Rockland, ME  
March 2011



## TABLE OF CONTENTS

SECTION	PAGE NO.
<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1. INTRODUCTION .....</b>	<b>2</b>
<b>2. 2005 REDEVELOPMENT PLAN VISION AND GOALS .....</b>	<b>4</b>
<b>3. REDEVELOPMENT PLAN.....</b>	<b>5</b>
<b>4. ANALYSIS .....</b>	<b>8</b>
4.1 Introduction.....	8
4.2 Modeling.....	8
4.3 Existing Water Views.....	8
4.4 Water View Alignments .....	10
4.5 Zoning .....	11
4.6 Landownership Patterns.....	13
4.7 Street System.....	14
4.8 Open Space .....	14
<b>5. 2011 WATERFRONT AREA REDEVELOPMENT PLAN .....</b>	<b>16</b>
5.1 Introduction.....	16
5.2 Urban Blocks .....	18
5.3 Connectivity.....	19
5.4 Urban Architecture.....	19
5.5 Street Space / Streetscape.....	20
5.6 Open Space / Harbor Trail.....	30
5.7 Protected Water View Sheds and View Corridors .....	32
5.8 Land Use and Parking.....	34
5.9 Vehicular Circulation.....	38
5.10 Land Swaps.....	41
5.11 Recommended Zoning Revisions.....	46
5.12 Utility Infrastructure.....	49
<b>6. IMPLEMENTATION .....</b>	<b>50</b>



---

## EXECUTIVE SUMMARY

Woodard & Curran was retained by the City of Rockland to prepare this 2011 Waterfront Area Redevelopment Plan, as well as an accompanying Tillson District Infrastructure Plan, and a Downtown Revitalization Plan Update.

This 2011 Waterfront Area Redevelopment Plan (Redevelopment Plan) establishes a vision for the future of the Tillson waterfront area, including new and revitalized buildings, locations of new and existing streets, guidelines for protecting critical water view sheds and corridors, recommended technical specifications for streetscapes and parking, and the supporting infrastructure required for the envisioned redevelopment. In addition, the Redevelopment Plan includes proposed phasing for the development of the study area and identifies a range of funding mechanisms available to the City for implementing the required infrastructure as well as the leveraging of public / private partnerships.

This Plan documents our work to develop the vision, including a representation of the input received at the time, as well as our observations and professional opinions. The extent to which the redevelopment occurs in accordance with this vision, or the actual condition and capacity of the infrastructure items evaluated, may have changed since the time of our presentations and investigations.



## 1. INTRODUCTION

In 2008, the City of Rockland created the Tillson Redevelopment Tax Increment Financing (TIF) District. The City's goal in implementing this program was to create an incentive for redevelopment and revitalization of the Tillson District, with the greatest opportunities in the waterfront area. The redevelopment of the waterfront area will expand the vitality of Main Street by providing a direct connection between the downtown and the waterfront, utilizing a traditional street network, buildings of the appropriate placement and scale and a complementary mix of uses.

The 2005 Tillson District and Waterfront Redevelopment Plan prepared for the City by others, helped determine the build-out capacity of the area. This 2011 Waterfront Area Redevelopment Plan (Redevelopment Plan) builds on the work of the 2005 Plan, but includes a more detailed analysis of existing conditions and the necessary infrastructure including water, sewer parking and municipal services required for the build-out (described in detail in the 2011 Tillson District Infrastructure Plan). This Redevelopment Plan was developed with input from the community and City staff, resulting in a vision that maximizes the potential of the waterfront area while maintaining working waterfront uses and protecting and increasing public access to the shore and open space.

Technical recommendations are presented in the Redevelopment Plan to support the desired build-out. This information includes layout design considerations and technical requirements for street and sidewalk systems; road and sidewalk widths; curb locations and materials; streetscape features; and recommendations for utility changes. Potential phasing for the development of the District has been considered with associated costs applied to the different development scenarios.

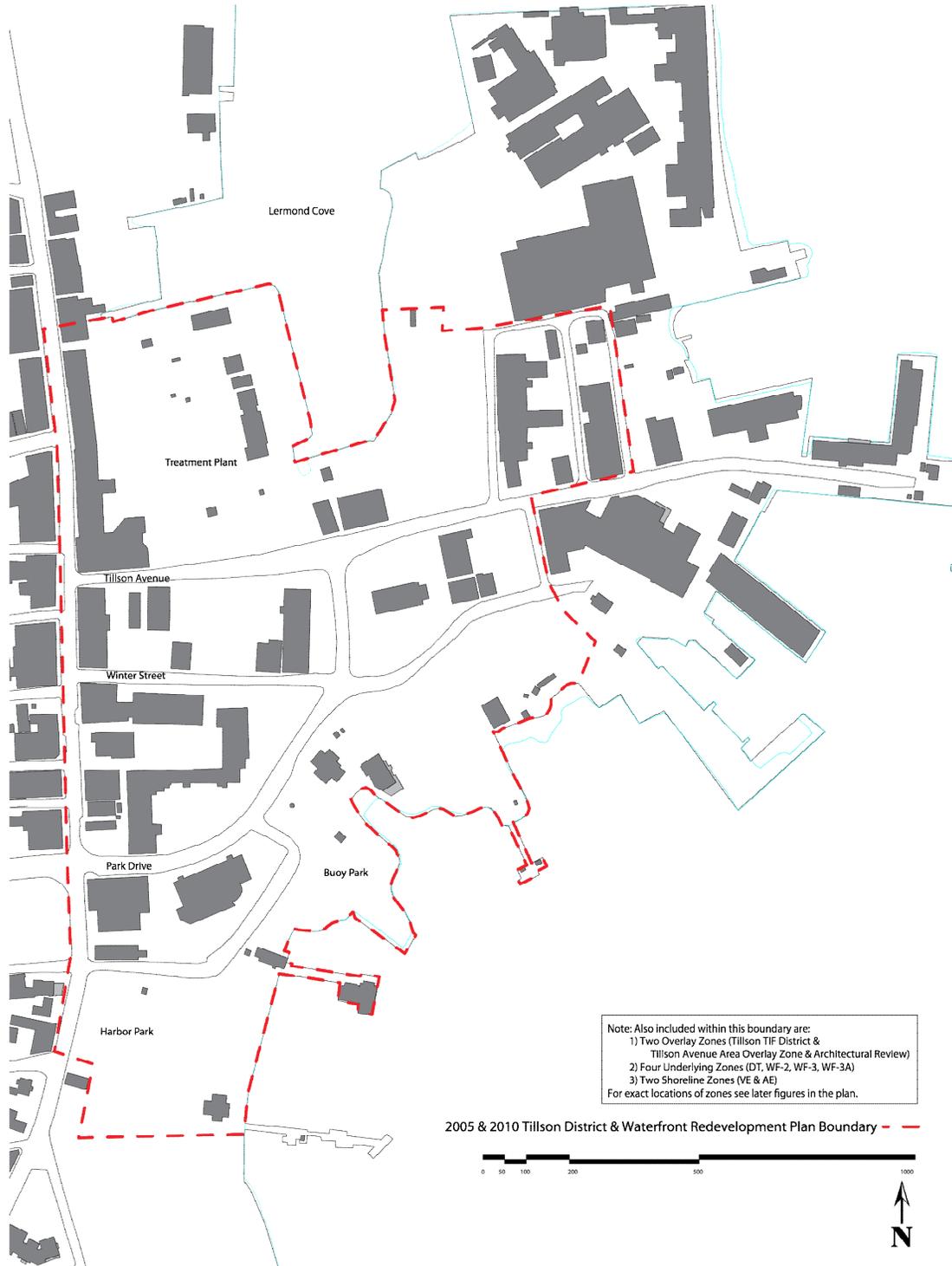
The goal of the Redevelopment Plan is to provide the City of Rockland with a clear vision of the ideal build-out maximizing the portion of the study area noted on the Waterfront Area Redevelopment Plan Study Area graphic. The vision and recommendations are in keeping with the latest economic development, demographic and urban design best practices for revitalizing downtowns and waterfronts

Realizing the vision of the Plan will require consistency and a concerted effort by:

- Pursuing grants and other funding mechanisms noted in the Implementation portion of the Redevelopment Plan
- Educating the property owners regarding the “value added” and “rising tide lifts all boats” of the street and block approach system, which treats the study area as a cohesive urban neighborhood, not a series of separate development site plans. The Redevelopment Plan should be promoted as a “Business Plan” with copies delivered to all property owners during group or one-on-one meetings. Cooperation between the City and property owners will be key to the success of the Plan
- Sustaining communications with Rockland Maine Street, Inc and other organizations to promote the vision of the Plan
- Maintaining clear lines communications between City departments to identify every strategic opportunity to implement the Redevelopment Plan. This will require that every department have a copy of the plan – such as Community and Economic Development, City Officials, Public Works, Wastewater Treatment Facility staff, as well as the City Council and Planning Board members (including changes in members), sub committees such as the Energy Efficiency Review Committee and organizations such as Rockland Maine Street, Inc.
- Ensuring mechanisms for “institutional memory”. This is a long-term vision requiring a commitment on the behalf the City. The City may have to establish an organizational mechanism specifically designed to integrate the Redevelopment Plan with the governing structure.

The 2009 Downtown Revitalization Plan Update completed separately by our team, has been successfully used to leverage numerous funding sources, demonstrating to existing and potential businesses, residents and State and

Federal agencies that Rockland is serious about quality of life issues and economic development. The Redevelopment Plan must be used in a similar manner, building on Rockland's reputation for successfully planning for and implementation projects The Redevelopment Plan is bold, but practical, addressing existing and anticipated grant opportunities in addition to projected market demand.



Waterfront Area Redevelopment Plan Study Area

---

## 2. 2005 REDEVELOPMENT PLAN VISION AND GOALS

The City of Rockland completed a Redevelopment Plan for the Tillson District in 2005. The 2005 Plan analyzed existing conditions, gathered input from the public and included a build-out for scenario for the study area.

The 2005 vision for the Tillson District:

*The Tillson District is where the waterfront and the downtown meet; it is a place for traditional waterfront activities (fishing, boating), tourist industry, community activities and local businesses.*

The 2005 Goals for the Tillson District were:

- Amplify Tillson's unique character while unifying it with both the waterfront and downtown (Main Street)
- Identify priorities for redevelopment/revitalization
- Highlight redevelopment opportunities, promoting business development and expansion (both tourism and non-tourism)
- Create an environment to support year-round business and community activity (not just focused on summer/tourist months)

The 2005 vision and goals are still applicable to this Redevelopment Plan.

While there has not been significant changes in land use or increased public / private investment in the waterfront area infrastructure since 2005, three important aspects of the Plan have been implemented:

1. The Schooner Landing Park has been completed on Spear Drive at the southern end of Lermond Cove
  - The Schooner Landing Park is an important aspect of the culture and economy of Rockland. It is also a key link / anchor point in the development of the ongoing development of the Harbor Trail.
2. The Tillson TIF District was adopted by the City to capture increased valuations and shelter investments in public infrastructure
  - The Tillson TIF District is an important economic development mechanism for enabling the vision for redevelopment efforts. This is a proactive measure, allowing for strategic public infrastructure improvements that will jump start redevelopment and create unique public / private partnerships.
3. The Tillson Avenue Area Overlay Zone & Architectural Review Standards were adopted by the City
  - The Overlay Zone & Architectural Review Standards provide greater flexibility for development in the waterfront area, ensuring that the scale, pattern and the general design of development is in keeping with the downtown character of Rockland and maximizes the potential of the land for the highest and best use while protecting the working waterfront.



### 3. REDEVELOPMENT PLAN

While the 2005 Plan Vision and Goals are still relevant, the intent of this Redevelopment Plan is to make specific recommendations for infrastructure improvements based on a detailed analysis of existing conditions and the required capacity for an ideal build-out. This Redevelopment Plan is inherently a wholesale “update” to the approach of the 2005 Plan and the resulting build-out scenario (Figure 1). The Redevelopment Plan ideal build-out reflects a context sensitive revitalization approach including recommendations for pedestrian and vehicular mobility, the integration of mixed-uses, civic space, urban architecture / form, street patterns and the role of the working waterfront in the economy and culture of Rockland.



Figure 1: The 2005 Redevelopment Master Plan (City of Rockland)

A new draft build-out was presented by Woodard & Curran and MRLD at a community forum on December 2, 2009. The proposed design and planning principles were appreciated for more clearly articulating the underlying community values identified in the 2005 Redevelopment Plan. The Redevelopment Plan, like the TIF District and the Overlay Standards, is a step closer to realizing both the values of the community and the value of the land in the most responsible and efficient manner. It is a bold but thoughtful vision that will ultimately increase the value of all the properties within the waterfront area because each parcel will be part of a greater whole – a critical mass supporting a revitalization economy.



Figure 2: Redevelopment Plan

There are five primary differences between the design philosophy and approach of the 2005 Plan and the Redevelopment Plan scenarios described herein. The components of the Redevelopment Plan are illustrated in more detail in Section 5, but in general the Redevelopment Plan differs from the 2005 Plan in that it:

1. Establishes a new street grid that preserves and frames existing and new water view sheds and corridors while establishing more defined street intersections.
2. Creates a grid / block system that fundamentally corresponds to ownership patterns, but utilizes a traditional downtown grid system to maximize the overall potential value of the properties. This will involve reconfigurations of some parcel lines, but ultimately each development block has greater value because it is part of a well-designed urban neighborhood. The 2005 Plan strictly adhered to existing street alignments and ownership patterns, but that approach did not tap into the underlying value of the area when viewed as a whole.
3. Maintains all existing open spaces and pedestrian amenities, but like traditional downtowns, the street (street space) is activated as a primary civic space integrating the car and the pedestrian in a safe manner. The Redevelopment Plan creates a highly walkable urban setting, due to the fact that the area is broken into “blocks” that in no case are longer than 300’. This urban porosity creates a range of circulation routes for pedestrians and cars as well as more street frontage for businesses.

The primary components of the street space include a streetside sidewalk zone with room for street trees / plantings, streetlights, benches, snow storage and other site amenities. The sidewalks are also wide enough for the seasonal use of cafes and the outdoor display of goods in a building frontage area all while maintaining an ADA required minimum 5’ wide throughway zone. It should be noted that recent improvements to Main Street have increased the width of the sidewalk in certain areas to 14’ creating more room for pedestrian movement and amenities while calming traffic.

In contrast to the 2005 Plan, the Redevelopment Plan does not propose a series of plazas or residual green spaces in front of and between buildings. In addition to the fact that the current Tillson District Overlay Standards do not allow for such setbacks, these types of plazas are not an efficient use of valuable land and dilute the power of the street space and sidewalk as the primary civic realm.

All streets are two-way and on-street parallel parking is recommended, providing easy access to businesses as well as calming traffic. No surface parking lots are proposed at full build-out. In an area with so much potential, on-street parking is maximized, allowing areas that would normally be dedicated to surface parking to be dedicated to buildable areas. As with the 2005 Plan, the Redevelopment Plan envisions the need for a parking structure at a certain point in the intensity of development.

4. Utilizes the form and scale of the buildings to replicate historic downtown patterns. The buildings are not “freestanding” in a suburban mode, but are part of a street wall helping to define the civic street space. The buildings reinforce the street network and maximize the developable land within the street blocks. Thus, some buildings face the interior streets, while others face the perimeters of the proposed blocks, providing more sweeping water views. This inward and outward looking combination of experiences is reminiscent of the relationship between the Old Port and the Waterfront in Portland. The 2005 Plan tried to make every building have water views at the sake of creating the ideal build-out, resulting in a distorted urban form and a civic realm often compromised by residual spaces.
5. Integrates uses rather than segregating compatible uses. A mixed-use development is typically promoted as an area with a range of uses such as housing, retail and commercial spaces. However, these uses are often

in separate buildings and divided from each other by streets or surface parking. The Redevelopment Plan envisions that new buildings will have commercial, retail and restaurant space on the first and second floors and residential uses on the third floors and above. Vertical integration is a traditional development pattern for downtown economies and cultures. This helps avoid the privatization of the waterfront with non-water dependent uses such as housing or hotels. One of the goals with the Redevelopment Plan is to amplify vibrancy by bringing compatible uses in closer proximity to each other in the center of the waterfront area, while maintaining the limited waters edge, for water dependent uses and open space.

In terms of the mix of uses, the greatest difference between the 2005 Plan and the Redevelopment Plan is an increase in residential units. These units are incorporated into the buildings as loft style condominiums or rentals. In the 2005 Plan, the residential units were separate single-family type structures along the shore. There is an increasing trend for people moving to walkable downtowns like Rockland. The City should encourage residential development within the study area, promoting 24 / 7 vitality and complementing the parking needs of the other types of uses. In addition, initiatives for affordable housing integrated with market rate housing should be established, ensuring that the full demographic spectrum, not just higher income brackets or retirees will enjoy the benefits of living in Rockland.



## 4. ANALYSIS

### 4.1 INTRODUCTION

The 2005 Tillson District Redevelopment Plan included analysis of existing conditions, but this information did not directly inform the resulting build-out scenario. This information was incorporated into the development of the Redevelopment Plan, but the following analysis information was more specifically used for understanding the inherent potential of the area, establishing a framework for redevelopment.

### 4.2 MODELING

In addition to walking the area and understanding the pattern of development, the scale of buildings and the topography, the study area was digitally modeled in three dimensions to more clearly understand the relationship between topography, buildings, views corridors and street alignments. In most cases, the modeling confirmed the findings from the site walks, but it proved most useful in understanding how limited the views are of the water within the study area and the need to create new view corridors and access to the water and to continue to extend the Harbor Trail along the water's edge to the greatest extent possible. The modeling was also important to allow accurate sections to understand the potential visual impact of proposed buildings as viewed from Main Street.

### 4.3 EXISTING WATER VIEWS

While water views and corridors do not appear to have been considered in the 2005 Plan, existing water views were identified through both site visits and modeling (Figure 3) as part of this effort. During this analysis, water views were identified at key spots along existing streets and open spaces. Views of the water from existing buildings were not part of the analysis. In general, views of the water decrease in frequency and intensity as one moves north along Main Street from the Harbor Park. The following intersections were evaluated.

- Pub Landing Road / Main Street: This intersection is directly adjacent to the Harbor Park and provides panoramic views the harbor.
- Park Drive / Main Street: This intersection is the key gateway to the waterfront area, however there is only a minimal view of the water. It is not until the vicinity of Gilbert Adams Central Park that one experiences panoramic views of the harbor to the south.
- Winter Street / Main Street: As with Park Drive, there are limited views of the water and harbor from Main Street. Water views open to the east and south at the intersection with Park Drive.
- Tillson Avenue / Main Street: Standing at this intersection there are no water views. Unlike Park Drive and Winter Street, as one moves into the study area, there is not any significant increase in water views. There are several partial views to the north and the south, specifically along the Spear Drive and to the east of the Bird Block, but otherwise due to topography and existing buildings, the heart of the targeted redevelopment area has limited views to the north and south. Although limited in nature these views have great potential to be enhanced and framed with the proper build-out of the area. There are only prominent water views at the end of Tillson Avenue near the marina and the entrance to the Coast Guard Station.

Within the study area, the most prominent water views are at the Harbor Park, Lower Park Street and along Commercial Street. This is in large part due to the lack of buildings in the area and the drop in terrain to the FEMA Firm designated VE Flood Hazard Zone.



Figure 3: Analysis of existing water views

#### 4.4 WATER VIEW ALIGNMENTS

The interrelationship between water views, property ownership, building locations and street alignments begins to emerge as a framework for redevelopment as shown in Figure 4. This analysis diagram is important in the fact that it begins to identify an emerging street grid maximizing the inherent potential of the waterfront area.

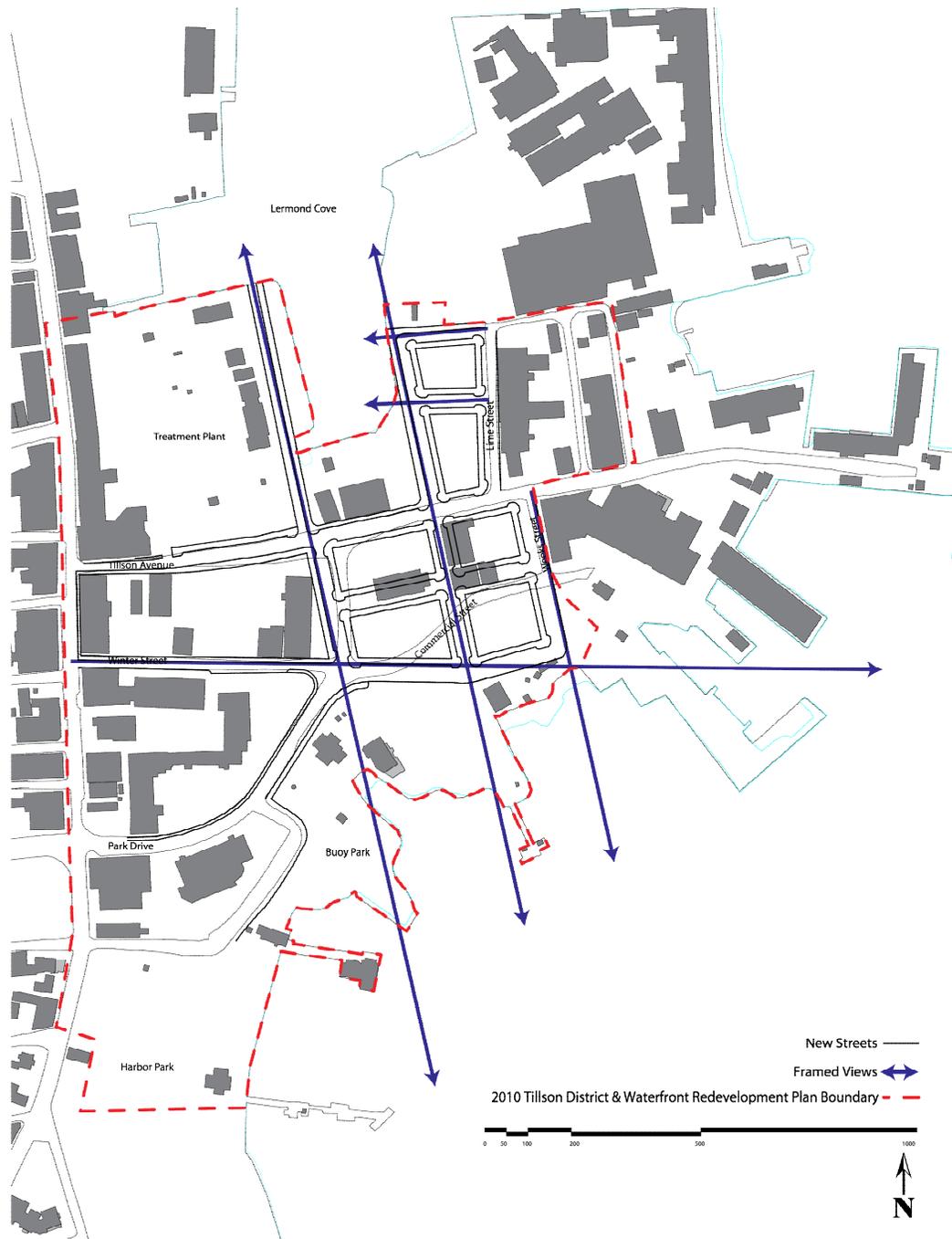


Figure 4: Analysis of existing water views and emerging street grid to protect, frame and enhance these views

## 4.5 ZONING

As illustrated in Figure 5, the core of the proposed development area is in the DT and WF-3A Zones defined by Main Street, Park Drive, Commercial Street, Weeks Street and Tillson Avenue. South of Commercial Street is the WF-3 Zone. Wrapping the peninsula from the Municipal Pier to the Treatment Plant is the WF-3A Zone. The Treatment Plant is in the WF-3 Zone.

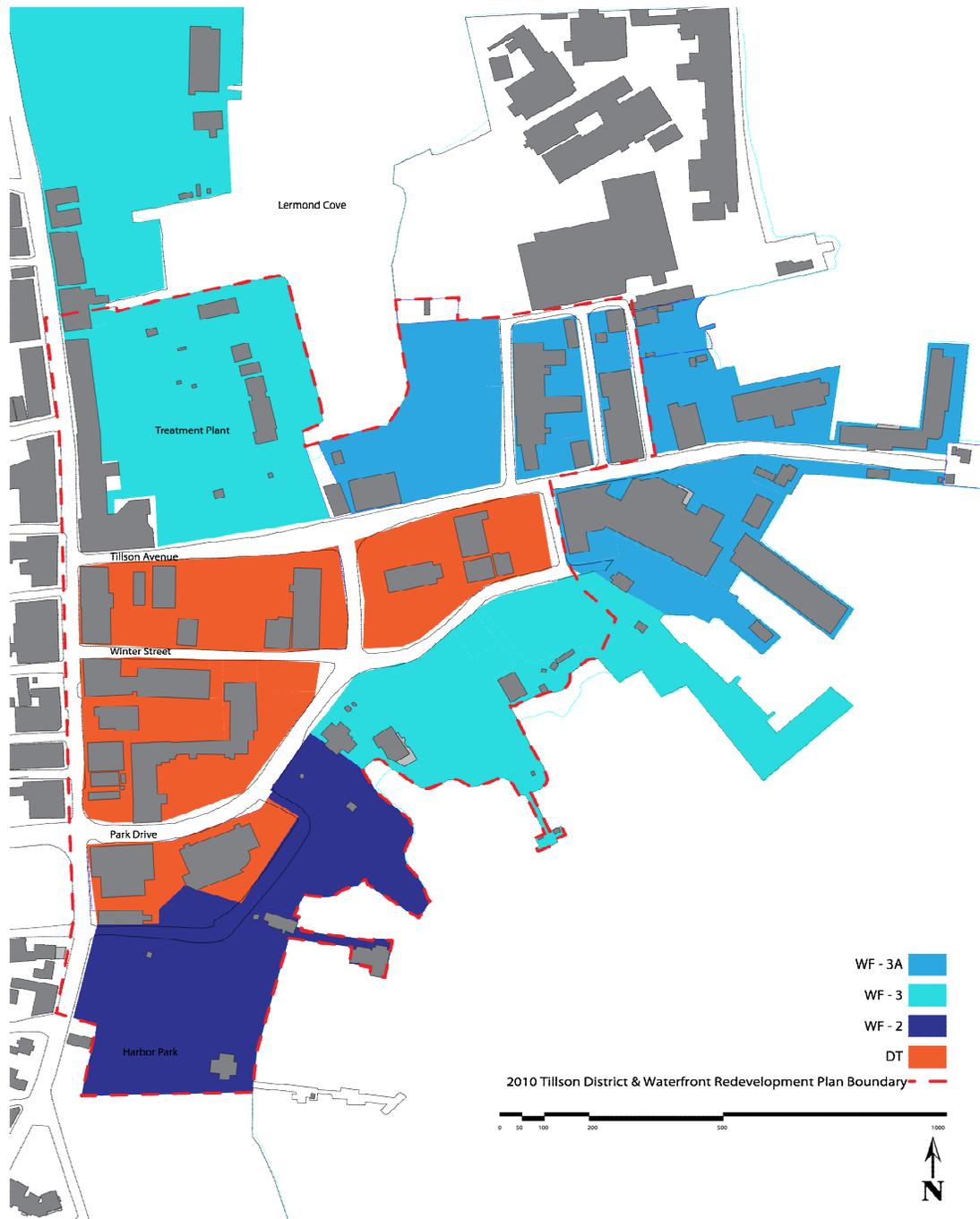


Figure 5: Existing Zoning

In addition to the underlying zoning, the study area includes The Tillson Avenue Area Overlay Zone & Architectural Review & Zone as well as the Tillson TIF District. Development in the area is also controlled by the Flood Zones as depicted in Figure 6. The FEMA Firm designated AE and the VE Zones have specific standards and restrictions, but the proposed build-out has avoided these zones for the building locations. To specifically inform land swaps in order maximize the buildable area of landowners in the waterfront area, professional surveys of the flood zones as well as tide levels and rights of ways is required.



Figure 6: FEMA Firm Flood Zones

### 4.6 LANDOWNERSHIP PATTERNS

As depicted in Figure 7, the waterfront area is controlled by a limited number of landowners, with the City having a controlling interest in several key parcels. In terms of long-range planning for redevelopment, this limited number of owners will ideally streamline revitalization efforts and the coordination of infrastructure improvements.

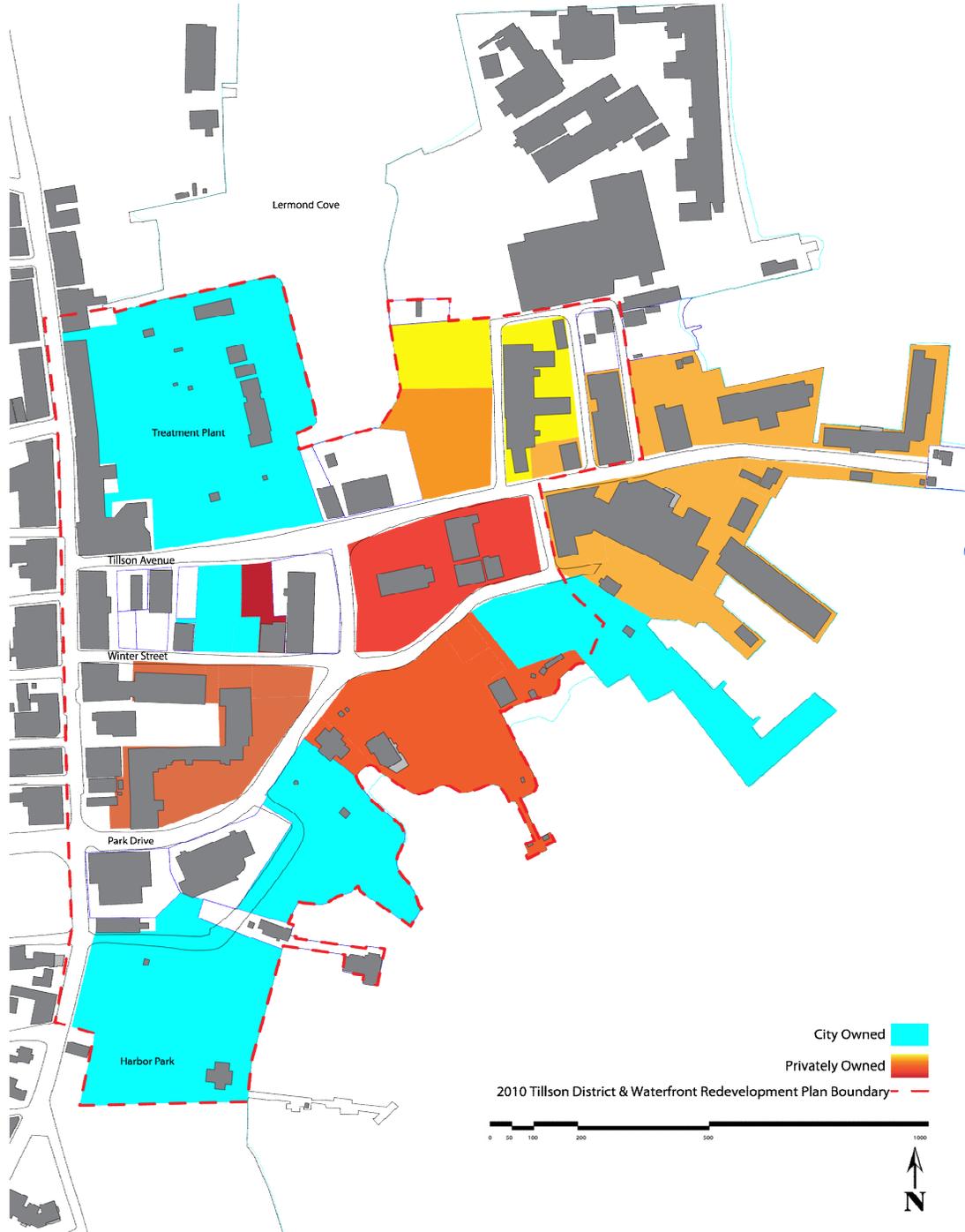


Figure 7: Ownership Patterns

## 4.7 STREET SYSTEM

The existing street infrastructure serves the working waterfront nature of the area, but is ill defined with excessively large radii, expansive driveway curb cuts, and a lack of pedestrian amenities such as sidewalks or crosswalks. In addition, from the perspective of the ideal block lengths for urban networks and walkability, the distance between all of the major intersections in the area exceed 300'. There are opportunities to work with the underlying landownership patterns and the identified view corridors to create a traditional downtown street grid that maximizes development potential while creating a more pedestrian-friendly environment and block lengths that are less than 300'.

## 4.8 OPEN SPACE

There are several City owned parks in the study area that provide space for festivals, opportunities to view or access the harbor and board schooners (Figure 8). These parks are not currently connected by sidewalks, but are important nodes in what will some day become a safe and continuous Harbor Trail running north from the Harbor Walk through the central development area and then along Lermond Cove to the Ferry Terminal.

### Harbor Park

The largest park is the Harbor Park at the southern edge of the study area. There have been a number of plans to redesign the park, creating more green space while still allowing for festivals and parking along the water, but as currently designed the hillside beneath Main Street is the primary green space and the rest of the area is surface parking. To the south of Harbor Park is the Harbor Walk. A new committee has been formed to study the park design and the efforts of this committee should be coordinated with the implementation of this Redevelopment Plan.

### Buoy Park

Heading north from Harbor Park towards Park Drive, Buoy Park is to the right along the shore. Buoy Park is in the FEMA Firm designated VE Zone, limiting development potential for purposes other than open space. But as shown in the 2005 Plan, there are opportunities to consolidate the surface parking and make the park more cohesive. With further improvements, Buoy Park can greatly increase the waterfront festival capacity of the area. The lawn in this area could be designed to handle overflow parking from larger events in Harbor Park.

### Gilbert Adams Central Park

Gilbert Adams Central Park is located above Buoy Park on Park Drive. This small park includes a gazebo and offers sweeping views of the harbor.

### Schooner Landing Park

The most recently developed park in the area and designed with specific uses in mind, is the Schooner Landing Park. This green space runs along the Lermond Cove side of Spear Drive terminating in a new landing for the schooners.

### Informal Open Spaces

Throughout the study area are private lands with waterfront access and green spaces. These are not generally open to the public, but add to the character of the area and are often in the foreground of unimpeded views of the water. There is the potential that some of these undevelopable "open spaces" could become part of an increased park network through strategic land swaps between the City and landowners.

The Municipal Fish Pier is a public space, however a key component of the City's working waterfront and not a public space safe for active or passive recreation. Any redevelopment plans need to maintain vehicular access to the Fish Pier. Analysis of the redevelopment potential within the study area considered the need to maintain access to the Fish Pier while recognizing the importance of landside support. The landside storage of traps and other materials is

outside FEMA Firm flood zones and is thus prime land for redevelopment. As the continued prosperity and maintenance of the working waterfront is central to the Redevelopment Plan, the potentially competing needs of the Fish Pier and redevelopment opportunities must be carefully weighed and studied in detail. It is assumed that there is adequate space to accommodate future improvements to the Fish Pier as well as the central waterfront area.

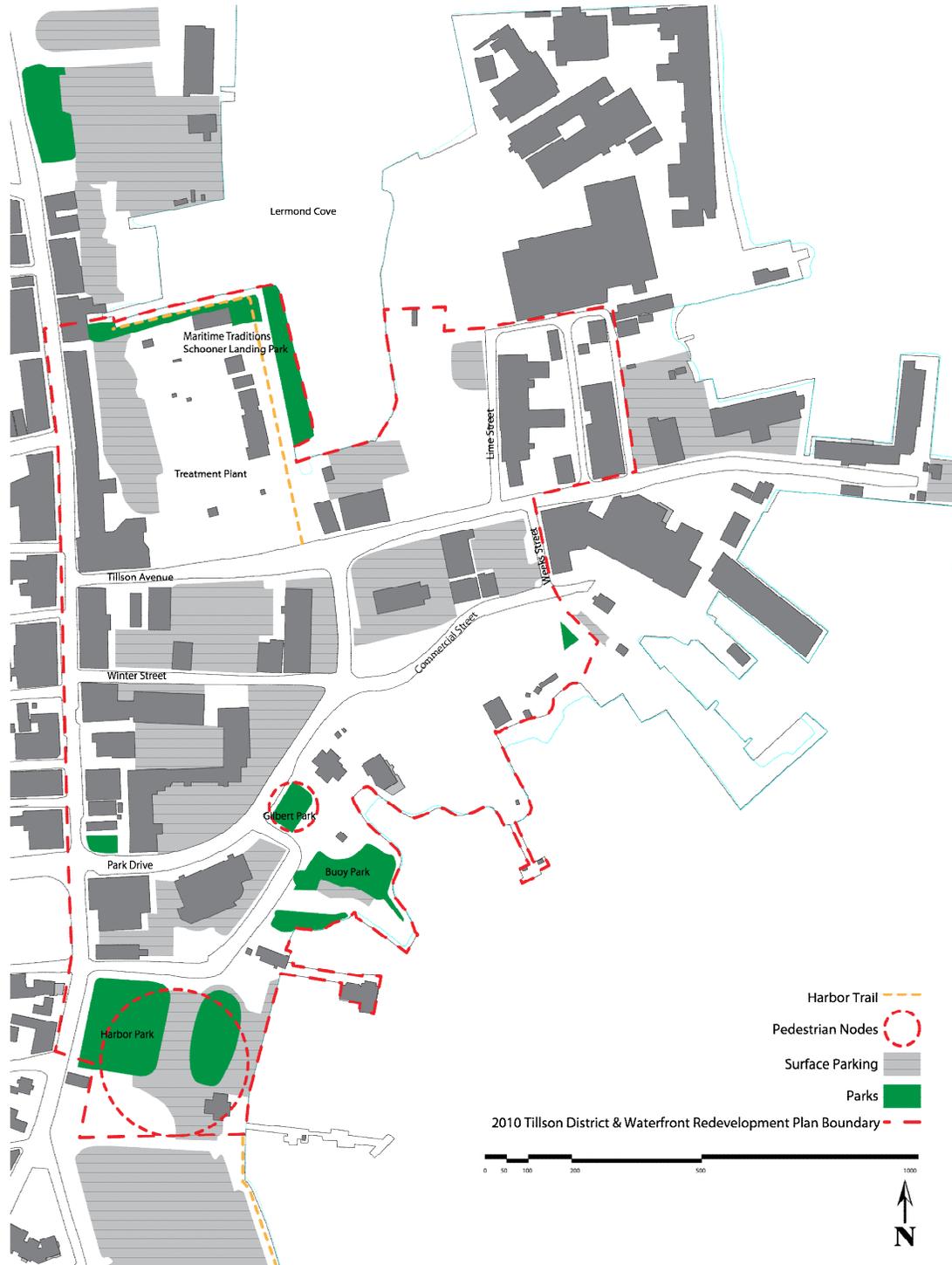


Figure 8: Existing Parks and Trails

## 5. 2011 WATERFRONT AREA REDEVELOPMENT PLAN

### 5.1 INTRODUCTION

This Plan is intended to guide the City in making decisions on urban design strategies and infrastructure improvements, to leverage revitalization efforts. To understand infrastructure capacity issues, we completed an analysis of existing conditions. Following this, an ideal build-out was developed and evaluations to assess required supporting infrastructure. In addition to a number of analysis diagrams, several illustrative perspectives, plans, street cross sections and infrastructure cross sections are included in this report, as well as within the Tillson District Infrastructure Plan (bound separately). Figure 9 is a key to the illustrative perspectives studied as part of this work.

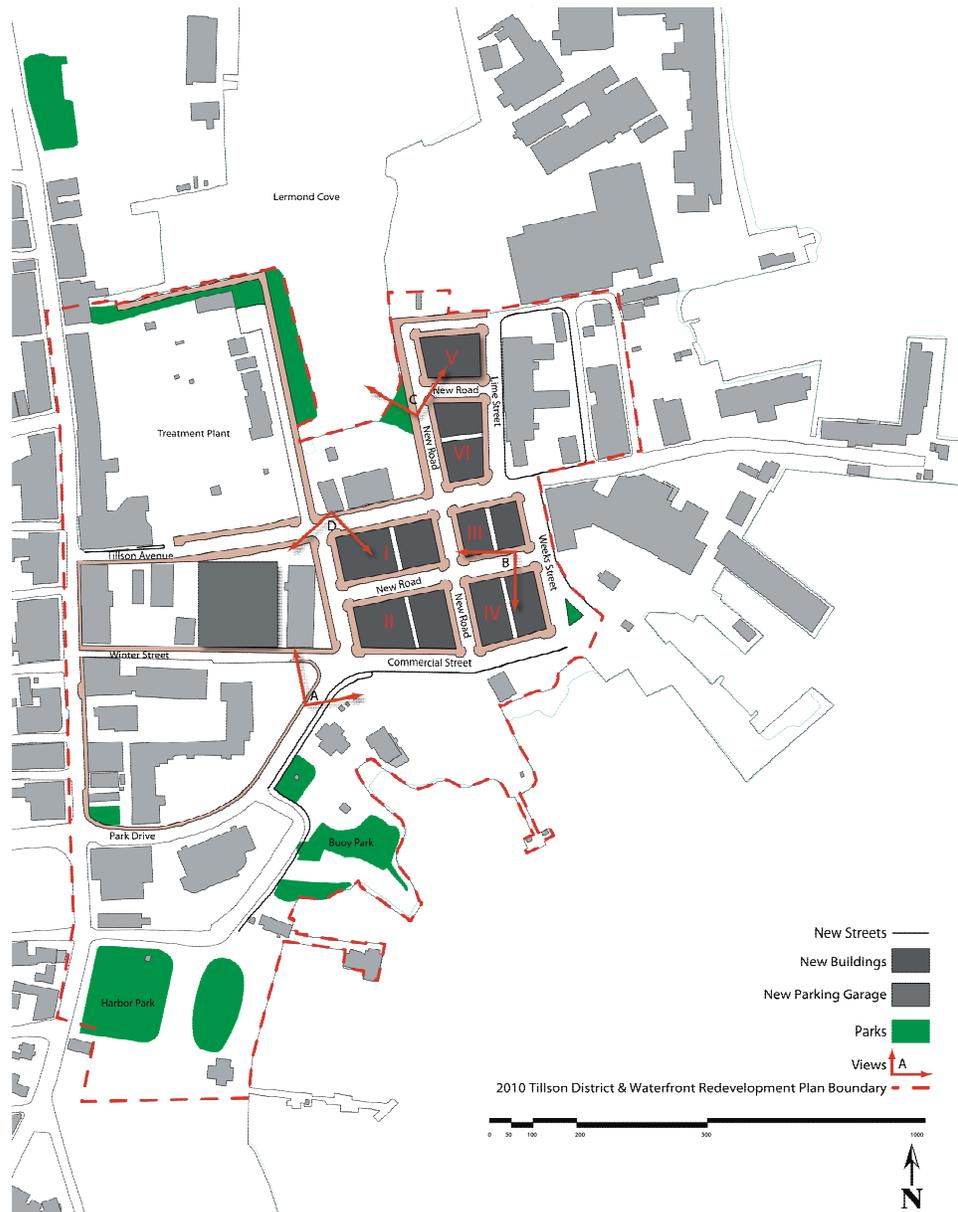


Figure 9: Plan key of illustrative perspectives

Just as the ideal build-out is determining the required supporting infrastructure, the proposed build-out is informing required revisions to existing zoning standards. Section 2 of this Redevelopment Plan identified five primary differences between the 2005 Plan and this Redevelopment Plan. The differing approaches to the waterfront are not only based in sound urban design principles, but directly reflect the findings of the existing conditions analysis.

To reiterate the process, the underlying water view patterns to the north and south (and less so to the east and west) created a potential framework for a development scenario (Figure 4). Upon further review, by protecting, framing and enhancing these water views, a street grid emerged, which created well-defined and safe intersections as well as an urban neighborhood with contrasting perimeter edge conditions (the open nature of the waterfront) and internal streets that are more pedestrian-oriented (Figure 10).

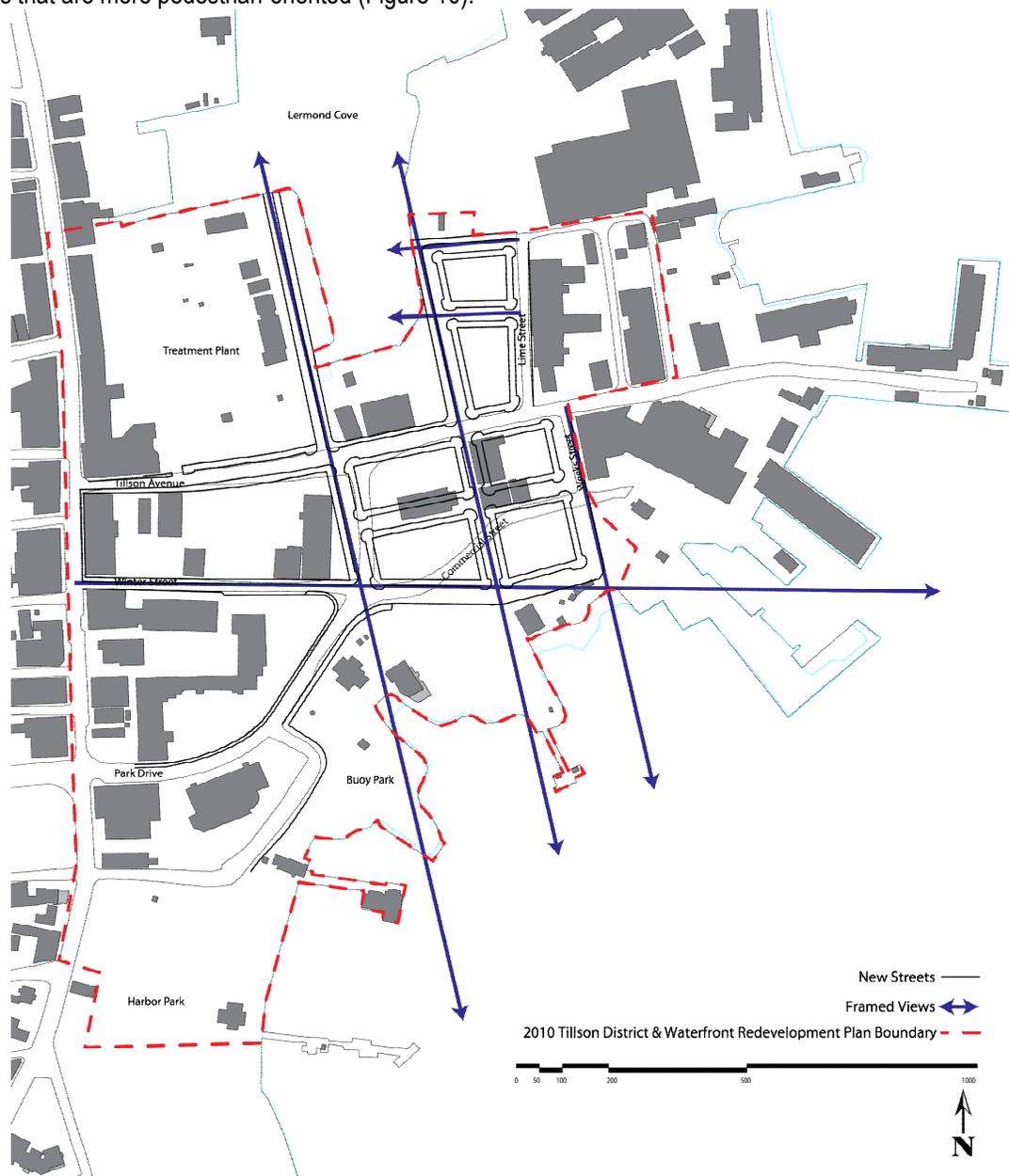


Figure 10: Relationship between underlying framed water views and the proposed street grid / block system

## 5.2 URBAN BLOCKS

In creating the street alignments, six urban blocks emerged that are all under 300' length (the maximum desired block length for a walkable downtown). The urban blocks are the most efficient use of the land, creating increased street frontage for development, increased opportunities for on-street parking and a range of water views (Figure 11). The blocks and streets establish a strong and legible urban form, while promoting a range of settings to safely enjoy the area and access the waterfront. The blocks also “compress” the energy of the city, creating a critical mass of development that adds value to all the property owners in the waterfront area. There are no “residual” lands designated as “green space” or “plazas” because of inefficiencies in the layout.



Figure 11: Waterfront Area Redevelopment Plan

### 5.3 CONNECTIVITY

Connectivity is key to the success of downtowns. Pedestrians, emergency vehicles, police cars and smaller delivery trucks should have numerous options to get from point A to point B. Each street should be a unique experience, while providing consistency through streetscaping and the scale of the buildings defining what is called the “outdoor room”.

Currently, if a person is at the Fish Pier and wants to get to the Schooner Landing Park, they must walk around the central private property. By subdividing this central property, following the underlying ownership patterns and the nascent view corridors, one could circulate through a series of pedestrian-friendly streets, encountering and stopping at restaurants, offices, bookshops, cafes, banks and clothing stores on the way for a schooner cruise (Figure 12).



Figure 12: View B: Illustrative image of interior street looking west towards the Hamilton Marine site

### 5.4 URBAN ARCHITECTURE

In downtown environments, the primary role of architecture should be to reinforce the urban form and pattern. There should be a 1:2 building height to street width ratio. The buildings should maintain a consistent scale, form and setback from the property line, where zero setback is the ideal. Urban buildings do not have to be freestanding statements to be successful. They should be building blocks reinforcing the street grid, framing views and creating a comfortable pedestrian scale (Figures 13 and 14). The existing Tillson Overlay Architecture Standards encourage this type of development, particularly emphasizing the street level experience with a series of inviting storefronts. It should be noted that there is often a concern with “style” and “materials”, when what is most important is consistency of building placement and scale and the transparency of the facade at the street level.



Figure 13: View A Existing



Figure 14: View A Proposed

## 5.5 STREET SPACE / STREETScape

The previous sections touched on the importance of shaping the urban environment with an efficient street grid / block system and appropriate scaled buildings. Within this context is the street space, which includes the building face, the sidewalk, on-street parking and travel lanes. The quality of this space – street trees, streetlights, benches, bikes racks and other coordinated site amenities – further creates a comfortable pedestrian environment – what is

now referred to as a “complete street”. In the Redevelopment Plan there are a series of “interior” streets that fully integrate the car with the downtown environment, but not at the expense of the pedestrian. Figure 15 is a recommended cross-section for an interior street; a recommended prototypical street with underground utility infrastructure locations is included in Section 6 of this Plan.

In this Redevelopment Plan, the sidewalks are generous in scale, providing space for amenities, ADA compliant thoroughway and a frontage zone along the building allowing for outdoor seating or the display of goods. The total recommended sidewalk width is 14’, which provides room for street trees to grow in a healthy manner. Figure 16 shows pedestrian scaled lighting, street trees and intersections with pedestrian bump outs. The bump outs increase the visibility of pedestrians and narrow the street crossing, and could provide the opportunity for additional plantings or stormwater management. All bump outs must include ADA compliant curb ramps. The recommended radius for the interior street corners is 15’.

Many Maine communities are retrofitting existing streets and arterials to become more pedestrian friendly, trying to meet the general criteria for “complete streets”. Cities and towns such Saco, Portland, Kennebunk, Damariscotta, and Auburn – just to name a few have bump outs, and several communities such as Westbrook and Standish are incorporating these into their streetscape.

The study team researched the feasibility of radiant heating for sidewalks and is not recommending this technology, although it should be considered for future study. The Wastewater Treatment Facility currently receives warm water from FMC. In addition, the wastewater from proposed buildings could provide adequate energy for radiant heating. However, it is generally assumed that the complexity of running water from FMC to the proposed streets is cost prohibitive and radiant technology would make any maintenance (replacement, saw cutting, etc.) complex and interfere with other required infrastructure in the sidewalks.

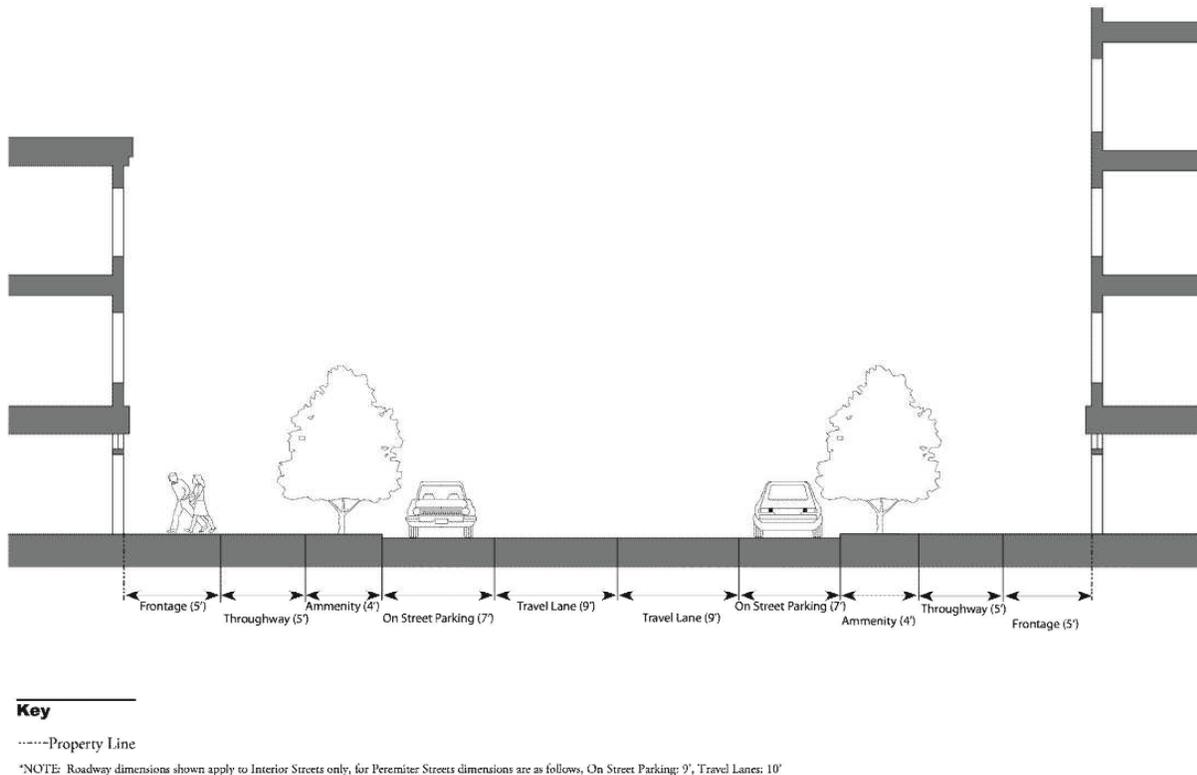


Figure 15: Proposed Interior Street cross-section

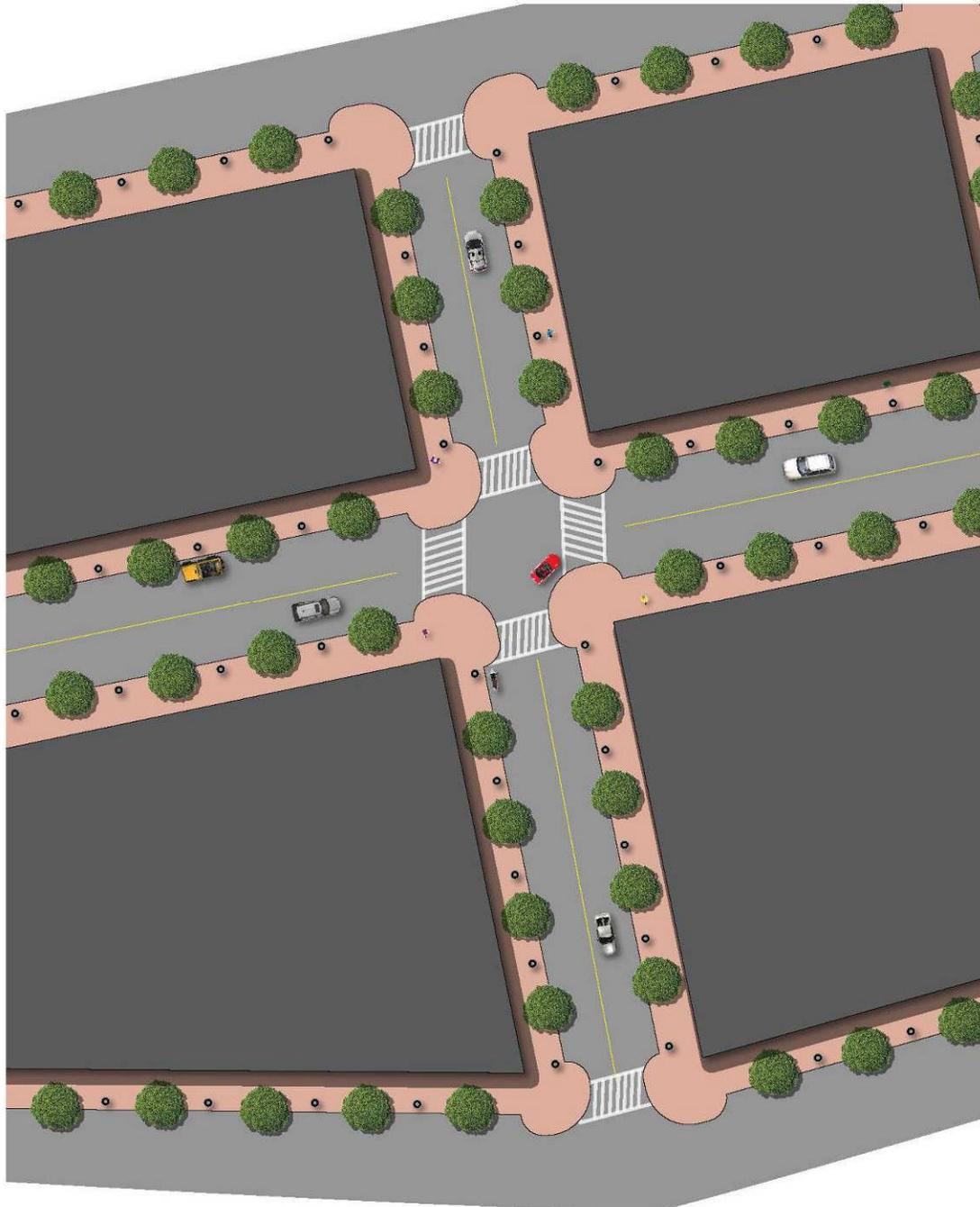


Figure 16: Illustrative Plan View of an Interior Street

### Street Trees

Street trees are a critical aspect of the street space. Street trees are invaluable for environmental, economic and aesthetic reasons. Urban street trees are part of what is now termed “green infrastructure” because they help reduce the urban heat island effect, provide shade, absorb and treat stormwater minimizing impacts on the environment and

create a more pedestrian-friendly environment by calming traffic and providing an appropriate scale for the civic realm. However, great care is required in selecting the appropriate tree, the tree pit design and long-term maintenance. There is an opportunity in the proposed street network Plan to plant trees in ideal conditions – not having to work with existing conditions that are often detrimental to the tree’s health.

Rockland currently has a contracted arborist, but there are no specific standards for tree selection, tree planting and maintenance besides generalized guidelines in the City-wide Performance Standards. In 1999, the City prepared a Street Tree Master Plan, but this has not been actively used as a guiding document. It is recommended that the City develop a Street Tree Maintenance and Replacement Plan. This information can inform capital improvements as well as establish specific guidelines identifying protocols and responsible parties.

Rockland is in the 5B Planting Zone (lower numbers correspond to colder temperatures) according to the University of Maine Cooperative Extension. The following trees are recommended for their hardiness, functional variation and beauty. This list was developed by the Urban Horticulture Institute | Department of Horticulture, College of Agriculture and Life Sciences | Cornell University, Ithaca, NY and further edited by the study team to best work with the character of Rockland.

**Table 5-1: Recommended Street Trees**

<b>Scientific Name</b>	<i>Zelkova serrata</i> ‘Schmidtlow’ and ‘JFS-KW1’
<b>Common Name</b>	Wireless® and City Sprite™ Japanese Zelkova
<b>Environmental Conditions</b>	
<b>Hardiness Zone</b>	5
<b>Sun/Shade</b>	Full sun
<b>Salt</b>	Some observed tolerance
<b>pH</b>	< 8.2
<b>Insect/Disease Factors</b>	None serious or limiting
<b>Growth Characteristics</b>	
<b>Height</b>	25’
<b>Width</b>	Wireless® 35’; City Sprite™ 20’
<b>Form/Habit</b>	Wireless® broadly spreading vase, flattened top at maturity; City Sprite™ oval to vase
<b>Rate</b>	Species is medium, possibly fast in youth
<b>Ornamental Characteristics</b>	
<b>Flower</b>	Not ornamentally important, usually present as leaves are emerging
<b>Fruit</b>	Not ornamentally important, ripens in fall
<b>Seasonal Foliage Color</b>	Medium green in summer, red in fall
<b>Bark</b>	Exfoliates and mottles with oranges, grays and browns with age
<b>Transplant Issues</b>	Easy to transplant B&B or < 2” caliper bare root
<b>Management Issues</b>	Species has narrow crotch angles and poor branch attachments which may give rise to splitting and form damage when older, this problem may be less likely to develop in this smaller cultivar.
<b>Suggested Uses</b>	Narrow or wide street tree lawns/pits, parks
<b>Cultivars</b>	Above info is cultivar specific, other <i>Z. serrata</i> cultivars are large trees

**Table 5-1: Recommended Street Trees (continued)**

<b>Scientific Name</b>	Acer x freemanii (A. rubrum x A. saccharinum)
<b>Common Name</b>	Freeman Maple
<b>Environmental Conditions</b>	
<b>Hardiness Zone</b>	4
<b>Sun/Shade</b>	Full sun
<b>Salt</b>	N/A
<b>pH</b>	< 7.5
<b>Insect/Disease Factors</b>	None serious or limiting, Autumn Blaze® shows more tolerance to leafhoppers than A. rubrum
<b>Growth Characteristics</b>	
<b>Height</b>	45'-70'
<b>Width</b>	Varies with cultivar
<b>Form/Habit</b>	Varies with cultivar
<b>Rate</b>	Medium to fast
<b>Ornamental Characteristics</b>	
<b>Flower</b>	Greenish-yellow to red clusters, early spring, some showy red
<b>Fruit</b>	Samara, sometimes reddish maturing to brown, seedless forms available
<b>Seasonal Foliage Color</b>	Fall color varies with cultivar (yellow/orange/red)
<b>Bark</b>	Typically attractive silver-gray
<b>Transplant Issues</b>	Easy to transplant B&B or < 2" caliper bare root
<b>Management Issues</b>	Can develop graft incompatibility depending on understock used, specify own roots to avoid this delayed graft incompatibility problem
<b>Suggested Uses</b>	Narrow or wide street tree lawns/pits, parks
<b>Cultivars</b>	Many

**Table 5-1: Recommended Street Trees (continued)**

<b>Scientific Name</b>	<i>Ginkgo biloba</i>
<b>Common Name</b>	Ginkgo, sometimes called Maidenhair Tree
<b>Environmental Conditions</b>	
<b>Hardiness Zone</b>	4b
<b>Sun/Shade</b>	Full sun
<b>Salt</b>	Some observed tolerance
<b>pH</b>	< 8.2
<b>Insect/Disease Factors</b>	Relatively pest free
<b>Growth Characteristics</b>	
<b>Height</b>	50'-80' (can reach over 100')
<b>Width</b>	Greatly variable, 30' – 40' is common, potentially wider than high at maturity
<b>Form/Habit</b>	Variable, irregular when young, pyramidal with age, open, often large widespreading branches
<b>Rate</b>	Slow
<b>Ornamental Characteristics</b>	
<b>Flower</b>	Not ornamentally important, inconspicuous
<b>Fruit</b>	Noxious smelling on female trees, specify male trees
<b>Seasonal Foliage Color</b>	Bright green in summer, yellow in fall
<b>Bark</b>	Light gray-brown, ridged and furrowed
<b>Transplant Issues</b>	Difficult to transplant bare root, best planted B&B
<b>Management Issues</b>	Specify male trees to avoid fruit litter and noxious fruit smell, easy fall clean-up as all leaves drop within just a couple days of each other
<b>Suggested Uses</b>	Narrow or wide street tree lawns/pits, parks, suitable for CU-Structural Soil™
<b>Cultivars</b>	<p><i>All the following cultivars are male (non-fruiting):</i></p> <p><b>Common:</b> <b>'Autumn Gold'</b> (50' high, 35' wide – perhaps broader later, symmetrical when young, broad, excellent golden yellow fall color), <b>'Lakeview'</b> (45' high, 25' wide, narrowly conical, upright, frequently irregular), <b>'Magyar'</b> (60' high, 30' wide, narrowly-pyramidal, uniform, upright branching), <b>Princeton Sentry®</b> ('PNI 2720', 60' high, 25' wide, narrowly conical, upright, uniform branching)</p> <p><b>Available:</b> <b>Golden Colonade™</b> ('JFS-UGA2', 40' high, 25' wide, narrow oval form, strong central leader), <b>'Golden Globe'</b> (zone 6, 80' wide, 30'-40' wide, denser branching habit), <b>Emperor™</b>('Woodstock', uniform oval form, strong central leader, good branching habit, good yellow fall color), <b>Presidential Gold™</b> ('The President', 50' high, 40' wide broadly pyramidal to oval, bright yellow fall color, strong central leader and full branching when young), <b>'Saratoga'</b> (40' high, 30' wide, distinct central leader, somewhat oval, good yellow fall color), <b>Windover Gold®</b> (upright oval form, golden fall color, vigorous growth)</p>

**Table 5-1: Recommended Street Trees (continued)**

<b>Scientific Name</b>	<i>Tilia cordata</i>
<b>Common Name</b>	Littleleaf Linden
<b>Environmental Conditions</b>	
<b>Hardiness Zone</b>	3b
<b>Sun/Shade</b>	Full sun; prolonged drought will lead to leaf scorch
<b>Salt</b>	Sensitive
<b>pH</b>	< 8.2
<b>Insect/Disease Factors</b>	Various pests are potentially problematic for <i>Tilia</i> , although most are rarely serious, aphids (highly susceptible) and Japanese beetles (especially <b>Greenspire®</b> ) can be serious problems for <i>T. cordata</i>
<b>Growth Characteristics</b>	
<b>Height</b>	50'-70'
<b>Width</b>	30'-50'
<b>Form/Habit</b>	Pyramidal in youth, upright-oval to pyramidal-rounded with age, dense, some cultivars available in multi-stem form ( <b>GreenSpire®</b> )
<b>Rate</b>	Medium to fast
<b>Ornamental Characteristics</b>	
<b>Flower</b>	Yellowish, drooping clusters attached to pale greenish-yellow leaf-like bracts, midsummer, very fragrant, attracts bees, flowers after <i>T. americana</i> but before <i>T. tomentosa</i>
<b>Fruit</b>	Not ornamentally important, small nutlets, globose, attached to bracts, late summer
<b>Seasonal Foliage Color</b>	Dark shiny green in summer, yellow-green to yellow in fall
<b>Bark</b>	Not ornamentally important, gray-brown, ridged and furrowed on older trunks
<b>Transplant Issues</b>	Easy to transplant B&B or < 2" caliper bare root
<b>Management Issues</b>	None of significance
<b>Suggested Uses</b>	Narrow or wide street tree lawns/pits, parks, suitable for CU-Structural Soil™
<b>Cultivars</b>	<p><i>Many are known, the following are more readily available selections:</i></p> <p><b>Chancellor®</b> ('<b>Chancole</b>', fast growing, narrow in youth, becoming tightly pyramidal with age, 20'-30' wide, symmetrical, upward branching, good branch angles, straight trunk, dense, gold-yellow fall color), <b>Corinthian®</b> ('<b>Corzam</b>', pyramidal, compact, 15'-25' wide, straight central leader, uniform limb spacing, straight trunk, foliage smaller, thicker, glossier, and reportedly more blue-green), '<b>Glenleven</b>' (reportedly very cold hardy, fast growing, pyramidal to narrow-oval, straight trunk, symmetrical branching, larger leaves, less dense than some other cultivars), <b>Greenspire®</b> ('<b>PNI 6025</b>', zone 4, pyramidal to broad-oval, strong central leader, symmetrical branching habit), <b>Shamrock®</b> ('<b>Baileyi</b>', zone 4, broadly pyramidal, more vigorous and more open habit than Greenspire®, symmetrical branching at an early age)</p>

**Table 5-1: Recommended Street Trees (continued)**

<b>Scientific Name</b>	<i>Ulmus</i> x species
<b>Common Name</b>	Elm Hybrids
<b>Environmental Conditions</b>	
<b>Hardiness Zone</b>	Varies, 3b to 5a (see cultivar listing below)
<b>Sun/Shade</b>	Full sun
<b>Salt</b>	Some observed tolerance
<b>pH</b>	< 8.2
<b>Insect/Disease Factors</b>	All cultivars listed are resistant to Dutch elm disease, resistance to elm yellows (a fatal disease sometimes known as Phloem Necrosis) and elm leaf beetle (an insect that can cause severe damage in some areas) varies
<b>Growth Characteristics</b>	
<b>Height</b>	50'-70'
<b>Width</b>	40'-60' typical, can equal height with age
<b>Form/Habit</b>	Varies with cultivar, see cultivar chart on following page
<b>Rate</b>	Medium to fast
<b>Ornamental Characteristics</b>	
<b>Flower</b>	Not ornamentally important, inconspicuous
<b>Fruit</b>	Disc-shaped, matures in spring
<b>Seasonal Foliage Color</b>	Green to dark green in summer (all cultivars listed as dark green except <b>Vanguard™</b> and <b>Commendation™</b> ), yellow in fall
<b>Bark</b>	Gray to brown, ridged or scaly, varies with these hybrids, can be attractive but none considered highly ornamental as <i>U. parvifolia</i> species and cultivars except <b>'Frontier'</b> (gray-green bark with orange lenticels due to <i>U. parvifolia</i> partial parentage)
<b>Transplant Issues</b>	Easy to transplant B&B or < 2" caliper bare root (except <b>'Frontier'</b> , which is difficult to transplant bare root)
<b>Management Issues</b>	Plants propagated on 'own roots' are preferred, specify when possible
<b>Suggested Uses</b>	Narrow or wide street tree lawns/pits, parks, suitable for CU-Structural Soil™
<b>Cultivars</b>	<b>'Frontier'</b> (pyramidal to upright oval when young, develops vase-shape with age, foliage is glossy, emerges with reddish tint, red to reddish purple in fall, long lasting fall color) <b>'Patriot'</b> (stiffly upright, vase-shaped, may stay narrower) <b>'Urban'</b> (fast growing, pyramidal to broadly columnar, strong central leader)

Street Tree Planting Considerations

The details of an urban street tree planting pit are essential for the survival of street trees. Some studies have found that the average life of a street tree is eight years, often due to the improper installation of trees. One can compare the installation of the tree to the preparation of a foundation of a house. You may not see the foundation and related underdrains, footings, sub base preparation, waterproofing and insulation, but they are essential to the construction of a home. What follows, are two recommended details for street tree plantings. One detail, Figure 17 is for a planting with a decorative grate flush with the sidewalk surface. The second detail, Figure 18 includes a raised bed for the tree planting. The raised bed can be landscaped, and while it provides additional protection from winter sand and salt spray, the raised curbing becomes an obstacle impacting the available width of useable sidewalk.

We recommended that "structural" soil be used when planting street trees. Structural soil has two basic ingredients:

1. A rigid load-bearing stone for stability and voids for root penetration, air and water movement; and
2. Organic material consisting of clay and loam for nutrient and water holding capacity

For specifics on structural soils visit the Urban Horticulture Institute | Department of Horticulture, College of Agriculture and Life Sciences | Cornell University, Ithaca, NY website:  
<http://www.hort.cornell.edu/uhi/outreach/pdfs/custructuralsoilwebpdf.pdf>

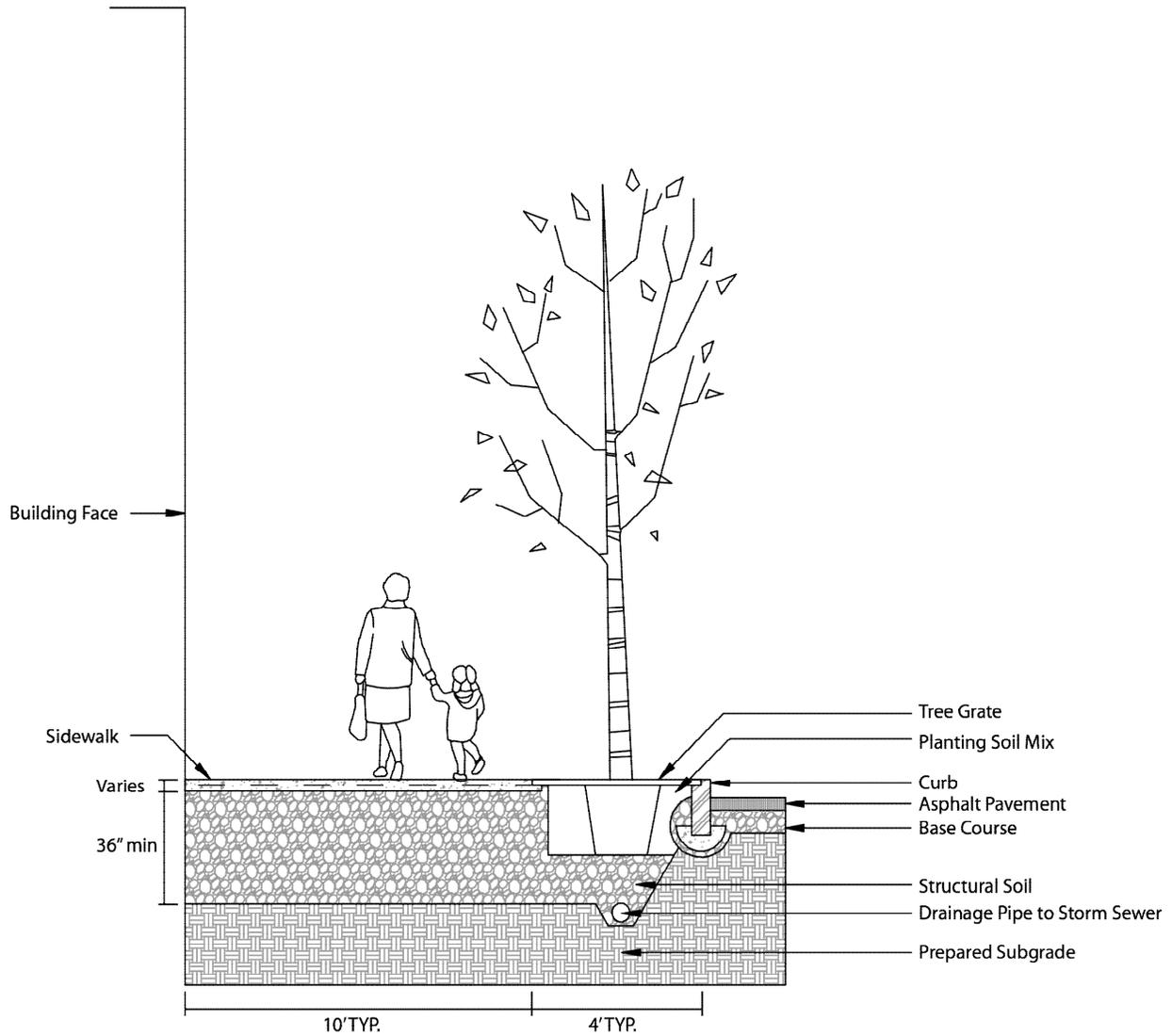


Figure 17: Tree Planting Detail with Flush Tree Grate

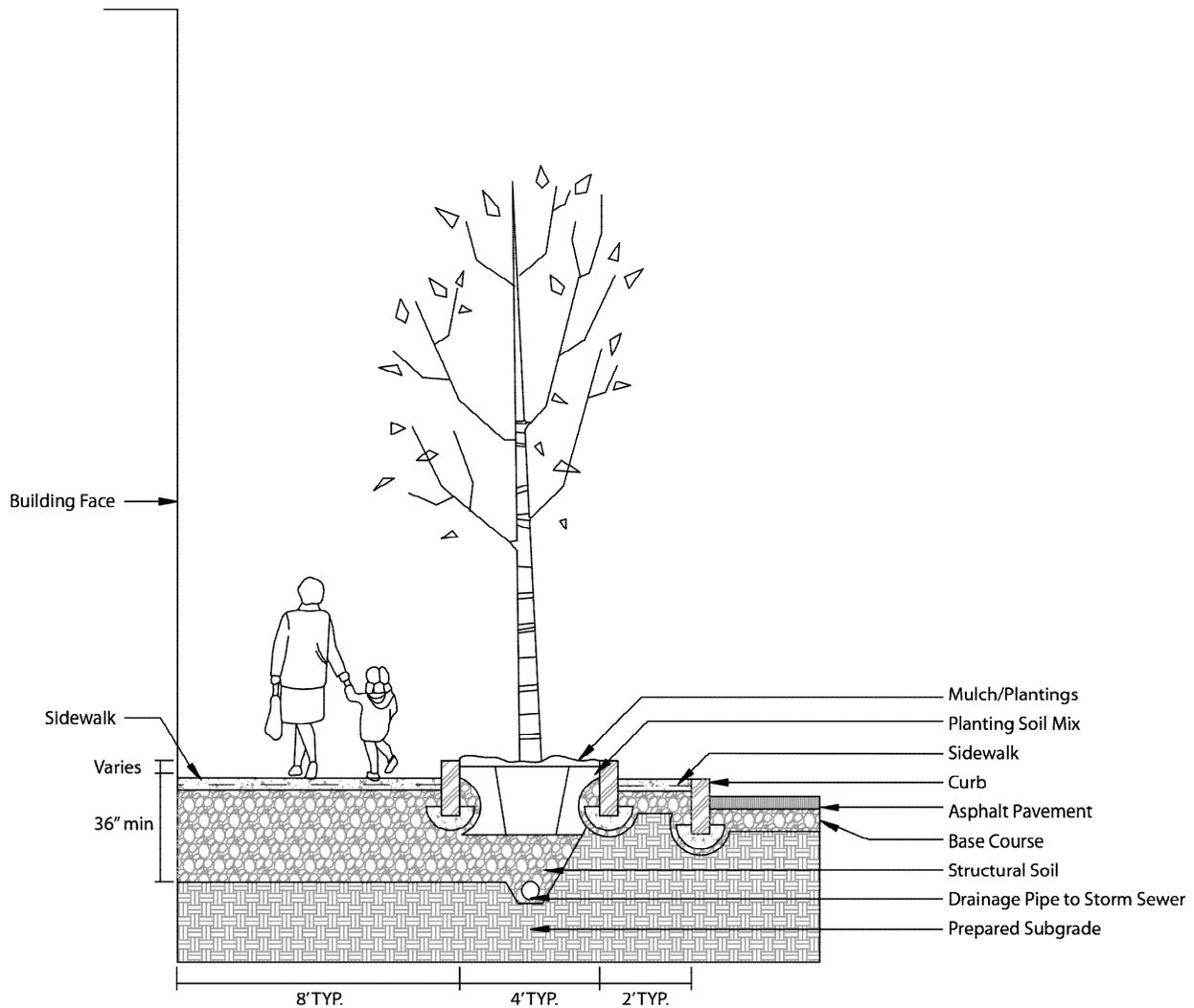


Figure 18: Tree Planting Detail with Raised Bed

## Streetlights

Streetlights are another key component of the streetscape and quality of life. The City of Rockland currently has three years +/- remaining on its Central Maine Power lease for the Main Street lights. The Legislation is currently under review that will allow municipalities to install and own their streetlights, an alternative to the Central Maine Power lease arrangements. This is an ideal time for the City to develop a comprehensive Lighting Plan that is energy efficient, scalable and aesthetically appropriate. Light Emitting Diode (LED) light fixtures are increasingly being selected by cities as the new standards for lighting. The City has a few years before the Central Maine Power lease expires, and in that time LED technology will be further advanced in terms of color rendering and available fixtures while costs will continue to decrease. LED street lights currently cost a third more than standard lights, but the long-term payoff in reduced maintenance and energy consumption offsets the initial investment.

As the City plans for new lighting, careful attention needs to be given to the latest research on lighting levels and the

placement of fixtures. Most existing municipal ordinances require too much light causing glare, light pollution and excess energy consumption. A lighting plan developed in collaboration with an urban lighting expert and other appropriate professionals including landscape architects, civil engineers and architects will be address these items. In addition, this lighting plan should address the consideration for seasonal street tree lighting.

The City is currently working on the redevelopment of the Thorndike Block Parking lot and a portion of the Harbor Trail north of the Wastewater Treatment facility along Lermond Cove. The selection of lighting is part of this design effort. This is an ideal opportunity to set the standard for future street and public realm lighting. It is recommended that all future lighting in the waterfront area match the lighting on Main Street, the Thorndike Lot and the Harbor Trail.

## 5.6 OPEN SPACE / HARBOR TRAIL

The 2005 Redevelopment Plan made recommendations for the improvement of Harbor Park, Buoy Park and the Schooner Landing. The City should proceed to improve Harbor Park and Buoy Park; the improvements to Schooner Landing Park at the end of the Treatment Drive are complete. This Plan preserves these spaces, but is more focused on developing streets as civic open spaces. The character of these streets varies whether you are in an interior location (Figures 15 and 16) or on the periphery of the redevelopment. There are sweeping views of the harbor whether one is walking or driving along the re-aligned Commercial Street,

The Redevelopment Plan envisions the integration of the Harbor Trail into the core of the waterfront area by creating a direct link along a realigned Park Drive between the Commercial Street and Tillson Avenue intersections. This realignment creates reciprocal water views whether you are coming from the north or the south, see Figures 19. This alignment was based on the original analysis of water views and using these view corridors as the framework for new streets. As proposed, when coming up the hill from Harbor Park to the new Commercial / Winter Street intersection, there is a straight view to the schooners along Spear Drive, drawing your eye to this destination. Figure 20 depicts the existing and proposed parks, and the connections to them.



Figure 19: View D



Figure 20: Existing and proposed parks and connections for the Harbor Trail

In addition to creating a visible link from Commercial Street to the schooner landing, the initial analysis of water view corridors in the area revealed a north-south axis running along the eastern side of Lermond Cove and cutting through the block of private property in the center of the study area (Figure 4). This led to the creation of new unique open space – the Waterfront Promenade - running along the eastern side of Lermond Cove (Figure 21). Buildings in this area will have clear views of the ferry terminal, the schooner landing and the activity on the Promenade.



Figure 21: View C: View north of the Waterfront Promenade along the eastern edge of Lermond Cove

## 5.7 PROTECTED WATER VIEW SHEDS AND VIEW CORRIDORS

In developing the Redevelopment Plan, existing water view sheds and corridors and emergent view corridors of the harbor were mapped, see Figure 22. This led to a framework for a street network and block system, which created strategically framed and protected water view sheds and corridors. As mentioned previously, the Redevelopment Plan differs from the 2005 Plan in that not only were water views not mapped, but in the build-out every attempt is made to give each parcel direct water views even if this created an series of disjointed buildings and vehicular oriented streets. In the Redevelopment Plan not every building is afforded a water view. Certain views from buildings are of vibrant streets while other buildings have oblique or expansive water views. From a public realm perspective, which is often ignored in the urban design process, the proposed street network is based on framed views of the water, even if the water's edge is in the distance – but this glimpse of the distance vista adds to the dynamic nature of the street life. “Perimeter” streets, such as along Commercial Street have expansive views of the water overlooking undevelopable land in the VE Zone to the south. The proposed promenade (Figure 21) along the east side of Lermond Cove also provides expansive views of the water, the schooner landing and the Ferry Terminal.

In summary, just as the proposed street network maximizes the overall development of the area, it also creates a range of framed and expansive view sheds and corridors that should be protected in perpetuity. By reaching agreements with the private property owners, not only will a new and vibrant urban neighborhood arise, but also each property owner will contribute to providing views of the water – a critical aspect of the new economy of underutilized waterfront lands.



Figure 22: Water view sheds and corridors to be protected as part of the build-out scenario

## 5.8 LAND USE AND PARKING

Aggressive parking requirements have decreased the density of downtowns by creating large areas of surface parking and eroding the historic fabric. On-street parking, relaxed parking ratios and management strategies (shared, satellite, percentage reductions, fee in lieu) as well as well-designed parking structures have helped integrate the car into the urban context. As part of this Redevelopment Plan, each of the six blocks is given a conceptual program in keeping with the envisioned mix of uses. This is the basis for determining the required parking. Figure 23 identifies on-street parking and the parking structure. Tables 5-2, 5-3, and 5-4 summarize the land uses and required parking.



Figure 23: Redevelopment Plan On-street Parking

**Table 5-2: Tillson Redevelopment Area Summary**

Block I		Block II	
3 Story Building		3 Story Building	
Retail:	11,270 sq. ft	Retail:	8,800 sq. ft
Office/Commercial:	16,100 sq. ft	Office/Commercial:	21,138 sq. ft
Restaurant:	4,830 sq. ft	Restaurant:	5,287 sq. ft
Residential:	16,100 sq. ft	Residential:	17,625 sq. ft
	13 one-bedroom units		14 one bedroom units
<b>Total Area:</b>	<b>48,300 sq. ft</b>	<b>Total Area:</b>	<b>52,850 sq. ft</b>
Parking Required:	153 Spaces	Parking Required:	167 Spaces

Block III		Block IV	
4 Story Building		3 Story Building	
Retail:	7,010 sq. ft	Retail:	9,000 sq. ft
Office/Commercial:	10,010 sq. ft	Office/Commercial:	15,000 sq. ft
Restaurant:	3,000 sq. ft	Restaurant:	4,500 sq. ft
Residential:	20,020 sq. ft	Residential:	15,000 sq. ft
	8 one bedroom units		12 one bedroom units
	5 two bedroom		
<b>Total Area:</b>	<b>40,040 sq. ft</b>	<b>Total:</b>	<b>45,000 sq. ft</b>
Parking Required:	103 Spaces	Parking Required:	136 Spaces

Block V		Block VI	
5 Story Building		5 Story Building	
Retail:	6,270 sq. ft	Retail:	5,920 sq. ft
Office/Commercial:	8,960 sq. ft	Office/Commercial:	17,760 sq. ft
Restaurant:	2,690 sq. ft		
Residential:	26,880 sq. ft	Residential:	35,520 sq. ft
	8 one bedroom units		9 one bedroom units
	8 two bedroom units		11 two bedroom units
<b>Total Area:</b>	<b>44,800 sq. ft</b>	<b>Total Area:</b>	<b>59,200 sq. ft</b>
Parking Required:	98 Spaces	Parking Required:	124 Spaces

Total Tillson Redevelopment	
Retail:	48,270 sq. ft
Office/Commercial:	88,968 sq. ft
Restaurant:	20,307 sq. ft
Residential:	131,145 sq. ft
	88 units
<b>Total Area:</b>	<b>288,690 sq. ft</b>

**Table 5-3: Tillson Redevelopment Required Parking**

	Required Number of Parking Spaces	33% Reduction Number of Parking Spaces
Retail:	193	128
Office/Commercial:	355	236
Restaurant:	100	67
Residential:	133	89
Total For Proposed Buildings:	781	523
Existing Buildings (Winter/Bicknell):	87	58
<b>Total Required:</b>	<b>868</b>	<b>581</b>

**Table 5-4: Tillson Redevelopment Proposed Parking**

	Parking Spaces with 4 Story Garage	Parking Spaces with 3 Story Garage
On Street:	200	200
Garage:	575	460
<b>Total Proposed:</b>	<b>775</b>	<b>660</b>
Optional Limerock St/School St Garage:	287	230
<b>Total Proposed with Optional Garage:</b>	<b>1062</b>	<b>890</b>

The relationship between parking and land use is one of the most complex issues facing revitalization efforts. The Redevelopment Plan discourages surface parking and recommends on-street parking. On-street parking activates the streets, creating a safer and engaging environment. Surface parking does not add to the character of an urban neighborhood. However, planning ahead for a realistic redevelopment phasing plan will require surface parking – even if it is on an ad hoc basis as explained below.

Some communities build a parking structure in anticipation of development, however while this may not be appropriate for Rockland, it should be revisited as funding opportunities develop. The proposed street network and block system will most likely not be built in advance of development – as might happen with a suburban subdivision – thus on-street parking will not be available for development. The City may choose to strategically construct streets after negotiating the rights of way (refer to the Implementation section of this Plan for additional detail), to encourage private investment. In this case, on-street parking will be made in advance of development.

The most logical way to proceed with parking (after creating the paper street network) is to establish a general agreement between property owners that as each block is developed and on-street parking is created, any additional required parking will be placed on nearby properties in an ad hoc manner. As blocks and on-street parking are developed over time, the ad hoc parking will shift locations within the development area. Eventually, the required parking will outpace the availability of ad hoc parking locations and the on-street parking capacity, triggering the need for structured parking. In theory, the increased valuation of the TIF District due to the new development in combination with banked fee-in-lieu of parking funds and grant monies will pay for structured parking. The City may also have to play an active role in this process and assist with bonding, although it is understood that this is not a popular option.

Separate from the development of this Redevelopment Plan, but concurrently, a concept plan for improvements was developed for the Thorndike Parking Lot. This lot requires fundamental upgrades, but more importantly the proposed improvements will set the standard for public realm amenities such as lighting and street trees, create an important link in the Harbor Trail and encourage redevelopment of the basement floors of buildings facing the parking lot. Figure 24 is the Concept Plan that was developed for the Thorndike Parking Lot by MRLD.

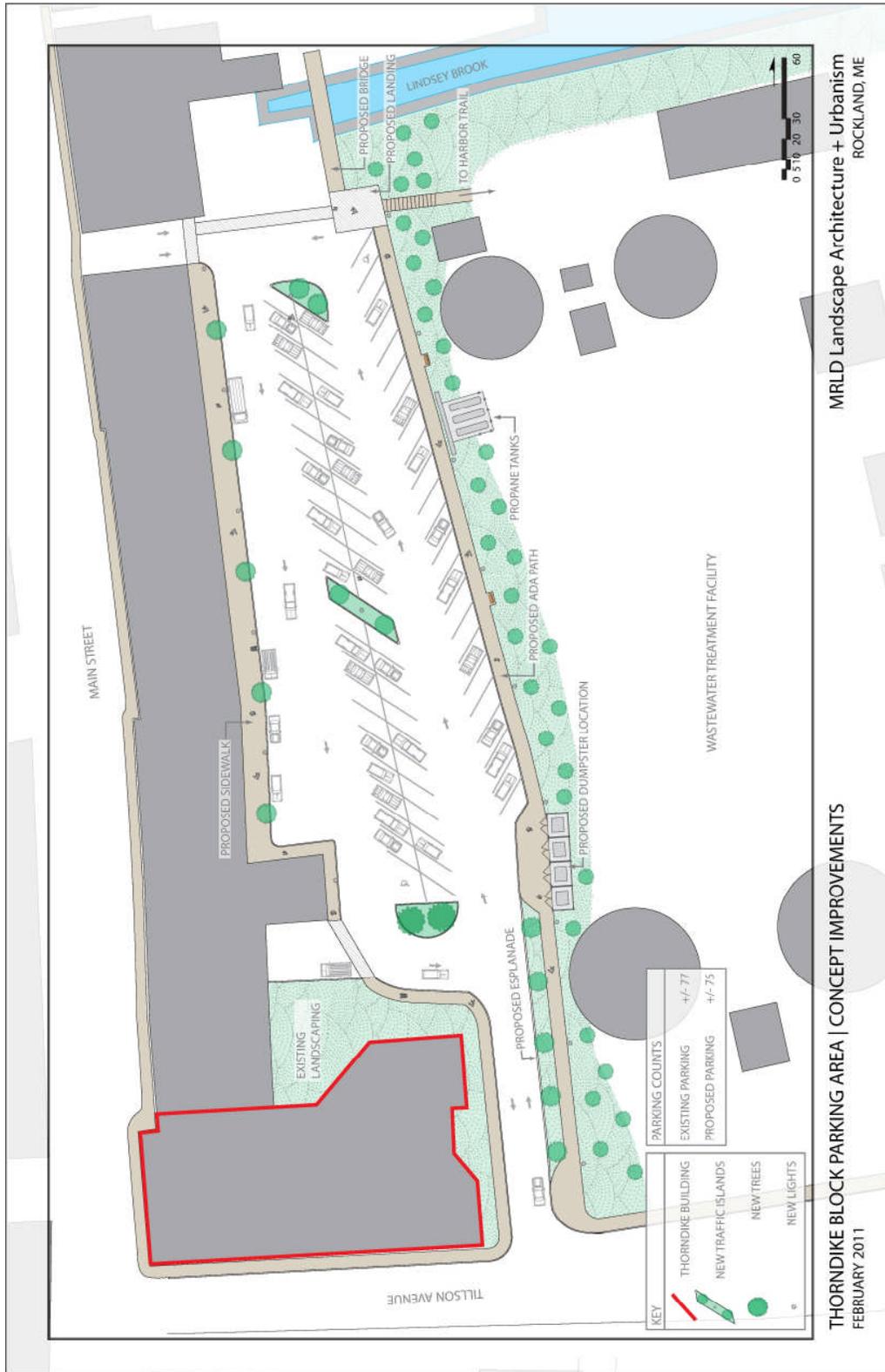


Figure 24: Thorndike Block Parking Area Concept Improvements

## 5.9 VEHICULAR CIRCULATION

Maintaining vehicular access for the working waterfront is critical to the redevelopment of the waterfront area. Existing streets and radii in the area, are however excessive for vehicle turning movements, creating an unsafe pedestrian environment and do not maximize the value of available land. Figure 25 depicts the proposed build-out superimposed over the existing street system; existing streets “swoop” through the area reflecting the primary access patterns for the FMC site and the Fish Pier. The proposed street alignments create a traditional downtown development pattern, with careful consideration given to maintaining access to the working waterfront on “perimeter streets” by increasing intersection radii and travel lane widths in comparison to “interior” streets.

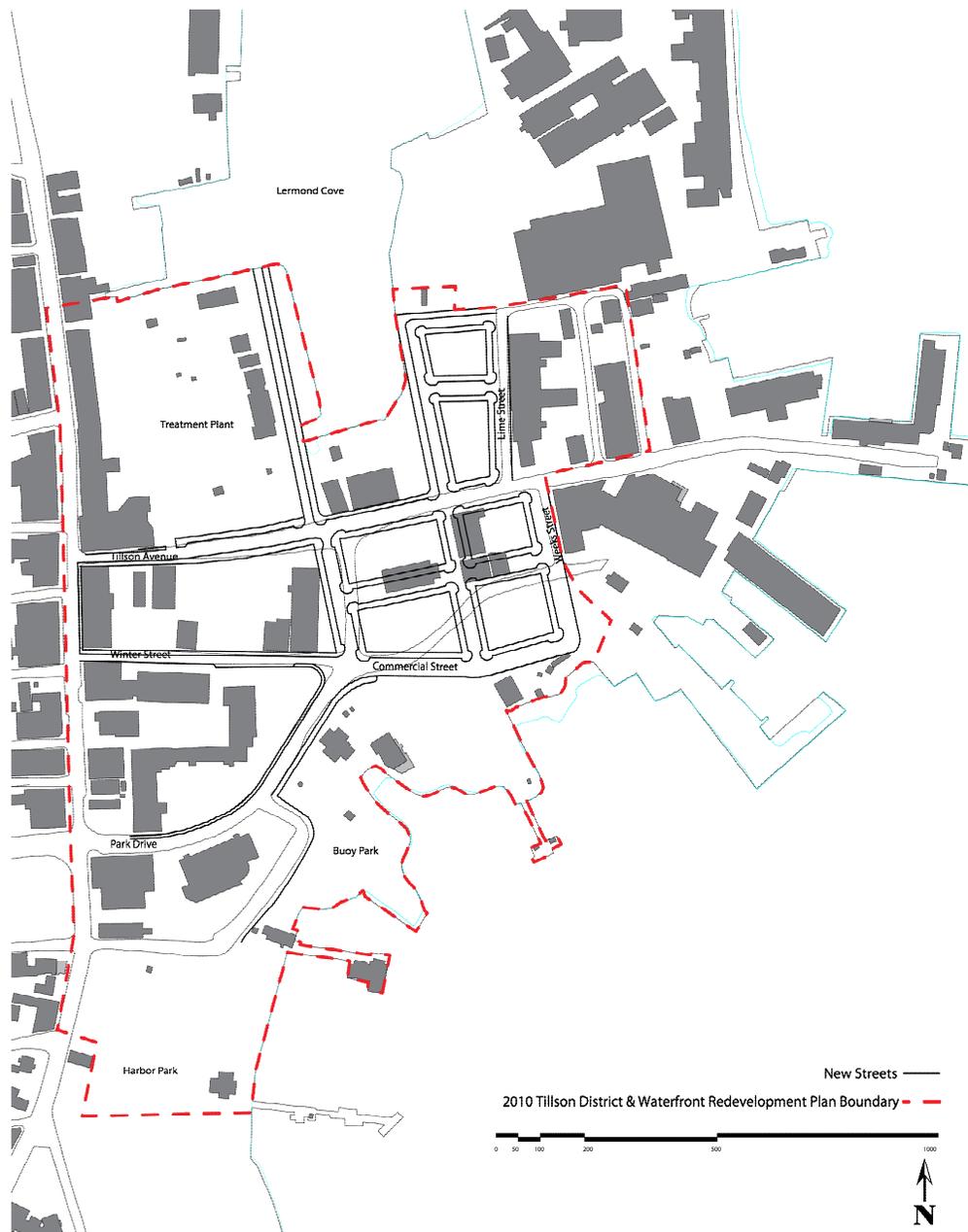


Figure 25: Proposed Streets Superimposed over Existing Streets

Coming from the south, the primary route accessing FMC is from Park Drive to Tillson and then to Lime Street. While the radius at the Park Drive / Tillson Avenue intersection has been reduced considerably in the Redevelopment Plan – to approximately 30' – this still allows for the access of large trucks to the site without compromising pedestrian safety or reducing the area of developable land. The access from the FMC site and working waterfront north is maintained on Tillson Avenue and Park Street. Vehicles currently are able to negotiate the Tillson Avenue / Main Street intersection and no changes are proposed in this location.

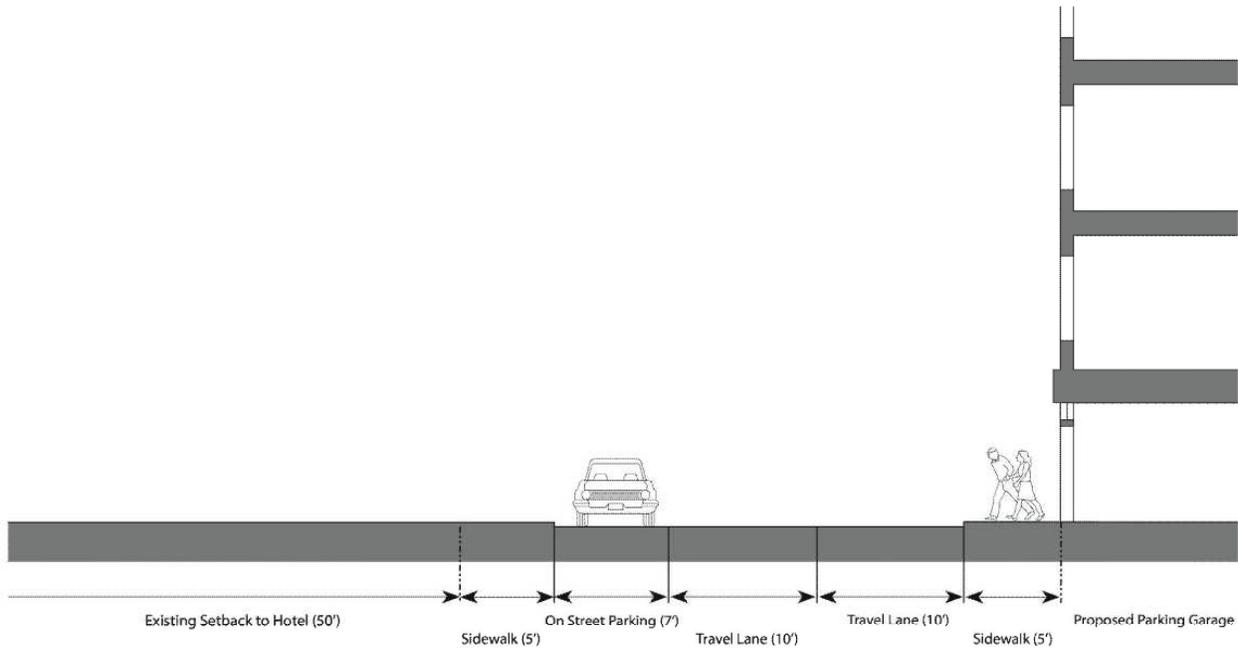
While there are proposed recommendations for street realignments, all existing active uses in the area, such as FMC, O'Hara's, the Municipal Fish Pier, the Coast Guard Station and other uses will continue to have access. The proposed block system will create a safer pedestrian environment. Bump outs, on-street parking and crosswalks will calm traffic and clearly delineate pedestrian crossings. In the Redevelopment Plan, there will remain areas where the potential for conflict exist between vehicles and pedestrians including the Winter, Commercial and Park Street intersections and the Park Street and Tillson Avenue intersections; this is unavoidable and due to the fact that Park, Commercial and Tillson are the primary access points for commercial vehicles entering the area and that the Harbor Trail connection is envisioned running along the realigned Park Street to Spear Drive – crossing the above identified intersections. Additional consideration will be necessary during implementation, to attempt to mitigate these conflicts and enhance the safety of the pedestrian.

The primary access to the Municipal Fish Pier is from Commercial Street via Park Street. The realigned Commercial Street continues to maintain access to the Municipal Fish Pier, while creating a safer pedestrian environment and more efficient land development patterns.

The proposed “interior streets” are not designed for larger commercial vehicles. These streets are intentionally intimate in scale, as depicted in Figure 15. Intersections have 15-foot radii, travel lanes are nine-feet wide and on-street parking lanes are seven-feet wide; sidewalks are 14-feet wide. This achieves the appropriate balance where the space dedicated to cars is 32-feet as compared to the 28-feet dedicated to pedestrians. This reflects the careful integration of the car into what is in effect a civic space. The tight radii bump outs, narrow travel lanes, and on-street parking will all serve as traffic calming devices and encourage a strong pedestrian-friendly environment.

Unlike the 2005 Plan which recommended that Winter and Commercial Streets become one-way, this Redevelopment Plan maintains two-way circulation on all existing and proposed streets to promote connectivity and provide the greatest range of mobility options. On-street parking is maximized to the greatest extent possible. Figure 26 is a cross-section at the location of the existing surface parking lot between Tillson Avenue and Winter Street, but envisioned with a future parking structure in the location of the surface lot. Figure 27 is in the location of the series of buildings that currently have perpendicular parking in front of the buildings. It is recommended, as shown in the section that on-street parking be located in this area with sidewalks on both sides of the street. This is in keeping with the vision for future build-out and is a more traditional urban street form.

There are no dedicated bike lanes; anticipated traffic speeds and volumes do not merit bike lanes, and the “Shared Road” concept can be successful in the envisioned redevelopment. Cyclists will be able to circulate through the area and coexist with the automobiles in a safe manner. The proposed improvements to existing sidewalks and the recommendations for new sidewalks will create a safe pedestrian environment.

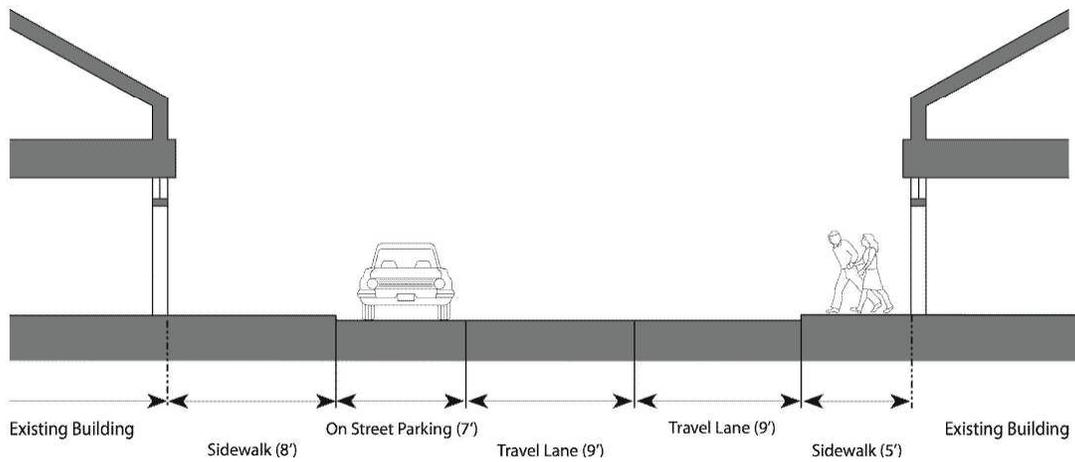


**Key**

-----Property Line

\*NOTE: Existing Right of Way is 30', Proposed Cross Section is 35'. 5' would need to be acquired through an easement.

Figure 26: Winter Street Cross-section at Proposed Parking Garage



**Key**

-----Property Line

Figure 27: Winter Street Cross-section at Existing Shops

## 5.10 LAND SWAPS

Unlike the 2005 Plan, this Redevelopment Plan does not strictly follow existing ownership patterns or street alignments. In general, the proposed streets and blocks work with existing land ownership patterns, however the City will have to negotiate right-of-way and land transfers to realize this build-out. If the property owners “buy into” the street and block concept, the overall critical mass of development will increase the value of individual properties. Figure 28 reveals that certain property owners have land that is partially available for development with the remainder in FEMA Firm designated Flood Zones, limiting the development potential of the property; other properties include public rights-of-way, which will require transfers of ownership. In the case of the proposed parking structure, the purchase of an adjacent lot is necessary. At the master plan level, the build-out avoids designated Flood Zones, except for part of Commercial Street and the proposed street along Lermond Cove. There is the potential with strategic land transfers to allow property owners with land in the Flood Zones to reconfigure their holdings to have an equitable role and rate-of-return in the build-out of the area. This premise also applies to City right-of-ways, which can be shifted to work with the new street grid, providing property owners with maximum developable areas. Figure 29 shows how the City might negotiate a land transfer with City property at the intersection of Commercial and Weeks Streets (at the Municipal Pier), to enable the private owners to have control in developing Block IV.

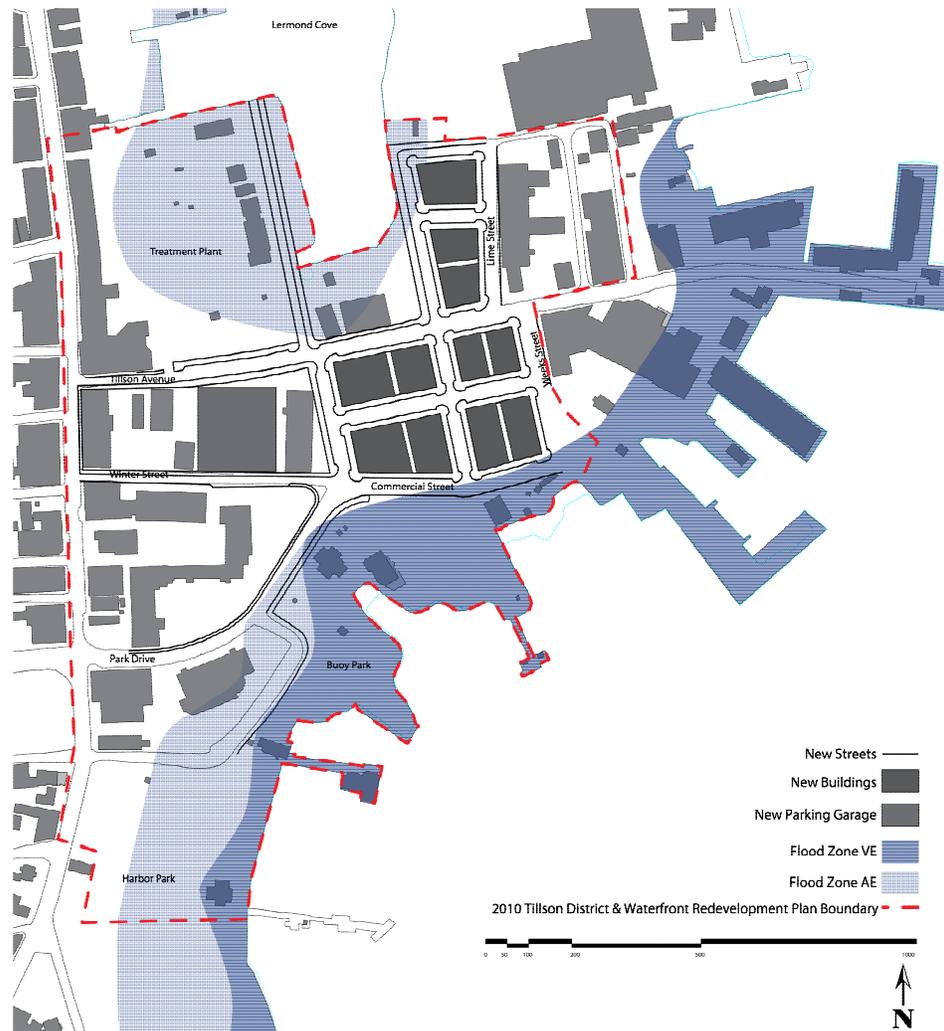


Figure 28: FEMA Firm Flood Zones in relationship to Proposed Build-out

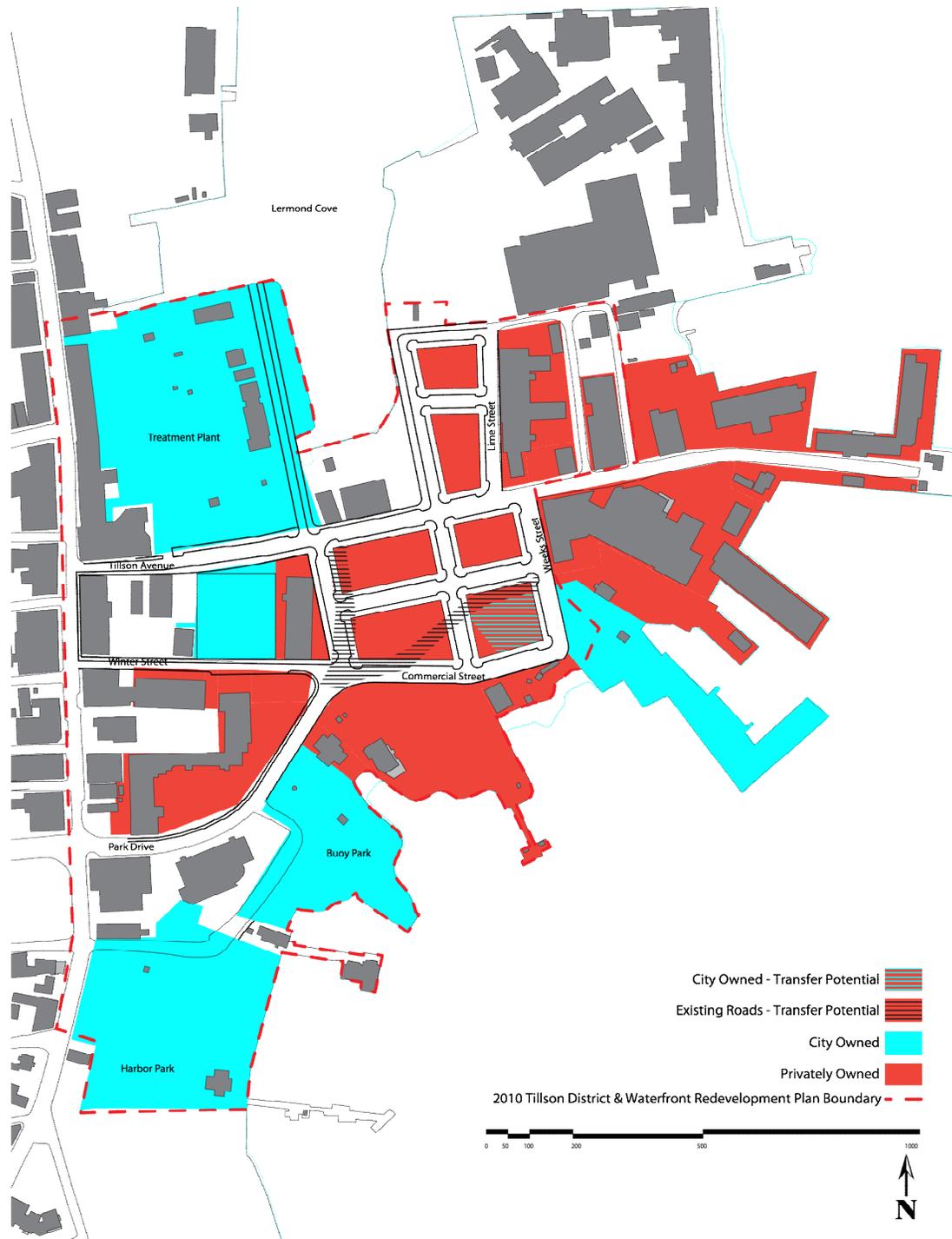


Figure 29: Example Land Swap Enabling the Build-out

Based on this work, we have identified the following properties that will be impacted by the Redevelopment Plan and will contribute to the success of the Plan by taking part in land swaps and / or transfers include:

O'Hara Corp

32 Winter Street

- Future location of parking structure
- Potential for street level commercial space
- See Figure 30-Real Estate Boundary Survey for the City of Rockland by F.E. Beal Surveying Company, dated March 2010.

Stentorian Management, Inc.

1 Commercial Street

- Contributes to new street network and on-street parking
- Improved street frontage for development
- Currently has land in VE Zone
- See Figure 30-Real Estate Boundary Survey for the City of Rockland by F.E. Beal Surveying Company, dated March 2010.

Kevin Taylor

9 Commercial Street

- Contributes to new street network and on-street parking
- Improved street frontage for development
- Currently has land in VE Zone
- See Figure 30-Real Estate Boundary Survey for the City of Rockland by F.E. Beal Surveying Company, dated March 2010.

Alan and Teke Gronos

20 Park Drive

- Contributes to new street network and on-street parking
- Improved street frontage for development

Rockland Donut, Inc.

11 Commercial Street

- Contributes to new street network and on-street parking
- Improved street frontage for development
- Currently has land in VE Zone
- See Figure 30-Real Estate Boundary Survey for the City of Rockland by F.E. Beal Surveying Company, dated March 2010.

City of Rockland

17 Commercial Street (Municipal Fish Pier)

- Contributes to new street network and on-street parking
- The upland portion of the Municipal Fish Pier is not in a flood zone and the City can leverage this buildable land by swapping with an adjacent land owner, creating a privately owned development parcel and potentially creating open space along the shore. Careful attention is required in this area as to meet the future needs of the Municipal Fish Pier while optimizing the land that is suitable for development.

Trust A

65 Tillson Avenue

- Contributes to new street network and on-street parking
- Improved street frontage for development

FMC Corporation

78 Tillson Avenue

- Contributes to new street network and on-street parking
- Improved street frontage for development
- Currently has land in AE Zone

Lime Rock, LLC

8 Tillson Avenue

- Contributes to new street network and on-street parking
- Improved street frontage for development
- Currently has land in VE Zone



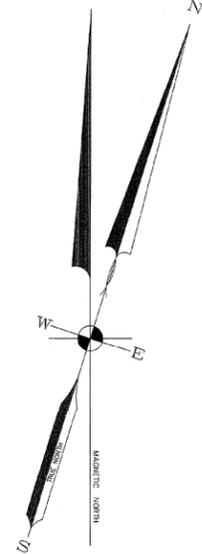
**LEGEND:**

- 5/8" IRON ROD WITH PLASTIC CAP MARKED "BEAL SURVEY COMPANY 0148/2286" SET
- IRON ROD FOUND (SIZE STATED)
- IRON PIPE FOUND (SIZE STATED)
- RIGHT OF WAY OR EASEMENT LINES
- APPROXIMATE BOUNDARY LINES
- PREVIOUS / FORMER BOUNDARY LINES
- UTILITY POLE
- STONE WALL
- FIRE HYDRANT
- SEWER MANHOLE
- DRAIN
- LAMP POLE
- CHAIN LINK FENCE

**NOTES:**

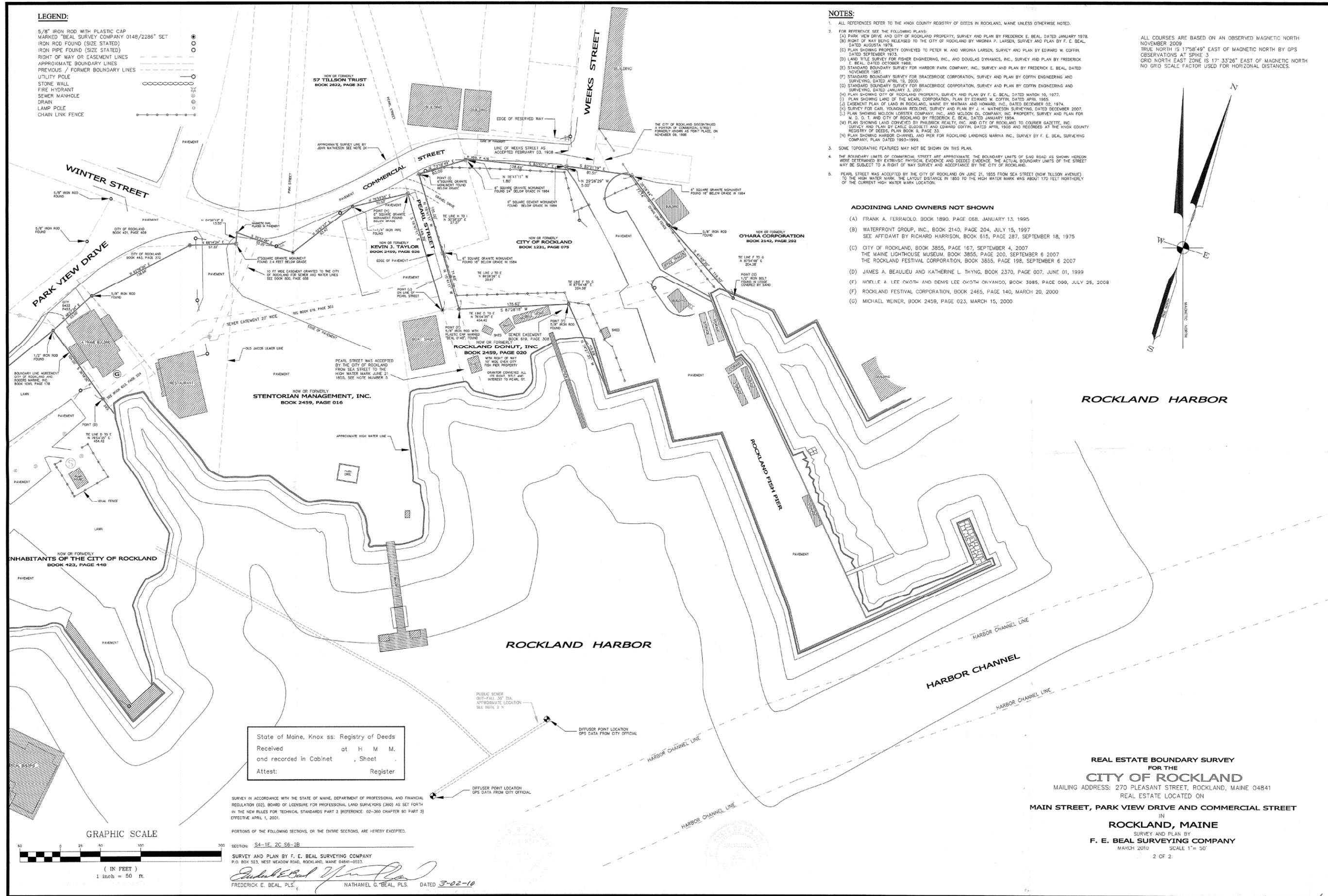
1. ALL REFERENCES REFER TO THE KNOX COUNTY REGISTRY OF DEEDS IN ROCKLAND, MAINE UNLESS OTHERWISE NOTED.
2. FOR REFERENCES SEE THE FOLLOWING PLANS:
  - (A) PARK VIEW DRIVE AND CITY OF ROCKLAND PROPERTY, SURVEY AND PLAN BY FREDERICK E. BEAL, DATED JANUARY 1978.
  - (B) RIGHT OF WAY BEING RELEASED TO THE CITY OF ROCKLAND BY VIRGINIA P. LARSEN, SURVEY AND PLAN BY F. E. BEAL, DATED SEPTEMBER 1973.
  - (C) PLAN SHOWING PROPERTY CONVEYED TO PETER W. AND VIRGINIA LARSEN, SURVEY AND PLAN BY EDWARD W. COFFIN, DATED OCTOBER 1988.
  - (D) LAND TITLE SURVEY FOR FISHER ENGINEERING, INC. AND DOUGLAS DYNAMICS, INC., SURVEY AND PLAN BY FREDERICK E. BEAL, DATED OCTOBER 1988.
  - (E) STANDARD BOUNDARY SURVEY FOR HARBOR PARK COMPANY, INC., SURVEY AND PLAN BY FREDERICK E. BEAL, DATED NOVEMBER 1987.
  - (F) STANDARD BOUNDARY SURVEY FOR BRACEBRIDGE CORPORATION, SURVEY AND PLAN BY COFFIN ENGINEERING AND SURVEYING, DATED APRIL 19, 2000.
  - (G) STANDARD BOUNDARY SURVEY FOR BRACEBRIDGE CORPORATION, SURVEY AND PLAN BY COFFIN ENGINEERING AND SURVEYING, DATED JANUARY 3, 2001.
  - (H) PLAN SHOWING CITY OF ROCKLAND PROPERTY, SURVEY AND PLAN BY F. E. BEAL, DATED MARCH 10, 1977.
  - (I) PLAN SHOWING LAND OF THE MEAL CORPORATION, PLAN BY EDWARD W. COFFIN, DATED APRIL 1965.
  - (J) EASEMENT PLAN OF LAND IN ROCKLAND, MAINE BY WHITMAN AND HOWARD, INC., DATED DECEMBER 02, 1974.
  - (K) SURVEY FOR CARL YOUNGMAN REZONS, SURVEY AND PLAN BY J. W. MATHESON SURVEYING, DATED DECEMBER 2007.
  - (L) PLAN SHOWING MOLON LOBSTER COMPANY, INC. AND MOLON OIL COMPANY, INC. PROPERTY, SURVEY AND PLAN FOR M. D. O. T. AND CITY OF ROCKLAND BY FREDERICK E. BEAL, DATED JANUARY 1984.
  - (M) PLAN SHOWING LAND CONVEYED BY PHIBROCK REALTY, INC. AND CITY OF ROCKLAND TO COURIER GAZETTE, INC. SURVEY AND PLAN BY EARLE DODDLETT AND EDWARD COFFIN, DATED APRIL 1990 AND RECORDED AT THE KNOX COUNTY REGISTRY OF DEEDS, PLAN BOOK 9, PAGE 33.
  - (N) PLAN SHOWING HARBOR CHANNEL AND PER FOR ROCKLAND LANDINGS MARINA INC., SURVEY BY F. E. BEAL SURVEYING COMPANY, PLAN DATED 1993-1999.
3. SOME TOPOGRAPHIC FEATURES MAY NOT BE SHOWN ON THIS PLAN.
4. THE BOUNDARY LIMITS OF COMMERCIAL STREET AND APPROXIMATE BOUNDARY LIMITS OF SAID ROAD AS SHOWN HEREON WERE DETERMINED BY EXTRINSIC PHYSICAL EVIDENCE AND DEEDS EVIDENCE. THE ACTUAL BOUNDARY LIMITS OF THE STREET MAY BE SUBJECT TO A RIGHT OF WAY SURVEY AND ACCEPTANCE BY THE CITY OF ROCKLAND.
5. PEARL STREET WAS ACCEPTED BY THE CITY OF ROCKLAND ON JUNE 21, 1855 FROM SEA STREET (NOW TILSON AVENUE) TO THE HIGH WATER MARK. THE LAYOUT DISTANCE IN 1855 TO THE HIGH WATER MARK WAS ABOUT 170 FEET NORTHERLY OF THE CURRENT HIGH WATER MARK LOCATION.

ALL COURSES ARE BASED ON AN OBSERVED MAGNETIC NORTH NOVEMBER 2009  
 TRUE NORTH IS 17°58'49" EAST OF MAGNETIC NORTH BY GPS OBSERVATIONS AT SPIKE 3  
 GRID NORTH EAST ZONE IS 17° 33'26" EAST OF MAGNETIC NORTH  
 NO GRID SCALE FACTOR USED FOR HORIZONTAL DISTANCES.



**ADJOINING LAND OWNERS NOT SHOWN**

- (A) FRANK A. FERRAILO, BOOK 1890, PAGE 088, JANUARY 13, 1995
- (B) WATERFRONT GROUP, INC., BOOK 2140, PAGE 204, JULY 15, 1997  
 SEE AFFIDAVIT BY RICHARD HARRISON, BOOK 615, PAGE 287, SEPTEMBER 18, 1975
- (C) CITY OF ROCKLAND, BOOK 3855, PAGE 167, SEPTEMBER 4, 2007  
 THE MAINE LIGHTHOUSE MUSEUM, BOOK 3855, PAGE 200, SEPTEMBER 6 2007  
 THE ROCKLAND FESTIVAL CORPORATION, BOOK 3855, PAGE 198, SEPTEMBER 6 2007
- (D) JAMES A. BEAULIEU AND KATHERINE L. THYNG, BOOK 2370, PAGE 007, JUNE 01, 1999
- (E) NOELLE A. LEE O'ROTH AND DENIS LEE O'ROTH O'NYANCO, BOOK 3985, PAGE 099, JULY 25, 2008
- (F) ROCKLAND FESTIVAL CORPORATION, BOOK 2465, PAGE 140, MARCH 20, 2000
- (G) MICHAEL WEINER, BOOK 2459, PAGE 023, MARCH 15, 2000



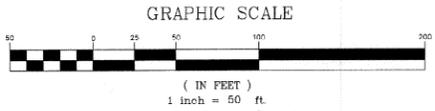
State of Maine, Knox ss: Registry of Deeds  
 Received at H M M.  
 and recorded in Cabinet , Sheet  
 Attest: Register

SURVEY IN ACCORDANCE WITH THE STATE OF MAINE, DEPARTMENT OF PROFESSIONAL AND FINANCIAL REGULATION (02), BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS (360) AS SET FORTH IN THE NEW RULES FOR TECHNICAL STANDARDS PART 2 (REFERENCE: 02-360 CHAPTER 90 PART 2) EFFECTIVE APRIL 1, 2001.

PORTIONS OF THE FOLLOWING SECTIONS, OR THE ENTIRE SECTIONS, ARE HEREBY EXCEPTED:  
 SECTION: S4-1E, 2C, S6-2B

SURVEY AND PLAN BY F. E. BEAL SURVEYING COMPANY  
 P.O. BOX 523, WEST MEADOW ROAD, ROCKLAND, MAINE 04841-0523

FREDERICK E. BEAL, PLS. NATHANIEL G. BEAL, PLS. DATED 3-02-10



**REAL ESTATE BOUNDARY SURVEY**  
 FOR THE  
**CITY OF ROCKLAND**  
 MAILING ADDRESS: 270 PLEASANT STREET, ROCKLAND, MAINE 04841  
 REAL ESTATE LOCATED ON  
**MAIN STREET, PARK VIEW DRIVE AND COMMERCIAL STREET**  
 IN  
**ROCKLAND, MAINE**  
 SURVEY AND PLAN BY  
**F. E. BEAL SURVEYING COMPANY**  
 MARCH 2010 SCALE 1"= 50'  
 2 OF 2

Cabinet 21  
 Sheet 25



## 5.11 RECOMMENDED ZONING REVISIONS

As summarized previously, the study area includes the Shoreland Zoning and the Tillson Overlay District (Figure 5) as well as a number of underlying zones. To enable the vision for redevelopment, several revisions are recommended to current zoning. The simplest approach to revising the zoning is to expand the Downtown Zone (DT) to the south to include the realigned Commercial Street and to the north to include the proposed blocks V and VI. In order to expand the DT Zone to the south, a portion of WF-3 Zone should be reconfigured, following the southern edge of the proposed alignment of Commercial Street. In order to expand the redevelopment area to the north, the land between Tillson Avenue, Lime Street and Lermond Cove should be to be rezoned from WF-3A to DT.

In terms of revisions to Shoreland Zoning, the flood zones as currently mapped will remain in place, but the areas rezoned as DT should be reclassified as General Development rather than Commercial Fisheries / Maritimes Activities. It should be noted that the areas proposed to be rezoned as DT do not displace any active water dependent uses. In fact, these land areas are ideal for redevelopment in keeping with the DT Standards.

By simply expanding the DT Zone to the north and to the south within the vision and standards of the existing downtown can be seamlessly applied to the redevelopment area. If this change is not made, and the existing WF-3 and WF-3A zone boundaries remain in place, a range of discrepancies will exist between the zoning and the redevelopment vision. These discrepancies include the desired mix of uses, the parking strategies, the use of the street as the civic realm, and the density calculations. Otherwise, these discrepancies are difficult to reconcile and could have unintended consequences on the remaining waterfront zones that are actively used for water dependent uses.

### **Section 19-304, Subsection 15**

30,000 square feet is required per dwelling unit in the Shoreland Zone. As some of the proposed development blocks, specifically blocks V and VI are potentially within 250' of the upland edge of a coastal wetland, this would greatly impact the number of allowable residential units. This should be revised to meet the standards of an urban versus a suburban development pattern where the number of units is determined by the building standards, such as height and setback, not traditional "land use" standards such as parking requirements and floor area ratios.

### **Section 15-117 Encumbrances, By Sales and Displays**

Because the proposed sidewalks are wider than most sidewalks in the downtown, the standards in this Section should be revisited for the study area because the proposed sidewalk detail includes a zone specifically for display or outdoor cafes.

### **Section 115-117a Encumbrances, Tables and Chairs**

As noted above, the proposed sidewalk design for the development area includes an area for café seating, a deliberate design consideration to activate the street, provide flexibility for businesses and encourage economic development. The standards for this section should be revisited in terms of applicability to the proposed sidewalk standards.

### **Section 115-202 Street Must be Fifty (50) Feet Wide**

The proposed "interior streets" have a sixty (60) foot right-of-way with seven (7) wide on-street parallel spaces and nine (9) foot wide travel lanes. Any conflict with the Ordinance should be addressed to enable these street standards.

The proposed “exterior streets” have a sixty (66) foot right-of-way with ten (10) wide) on-street parallel spaces and nine (10) foot wide travel lanes. Any conflict with the Ordinance should be addressed to enable these street standards.

## **Section 19-307 Off-Street Parking**

### *19-307.4 Definitions*

The “Downtown Parking District” should be expanded to include the proposed realignment of Commercial Street, Weeks Street and the area defined by Tillson Avenue, Lime Street and Lermond Cove. The Downtown Parking District already includes most of the proposed development area.

#### *6.A. (2) Location of Off-Street Parking*

The distance to satellite parking should be increased from 600’ to 1,320’. This increased distance is approximately a five-minute walk and is considered appropriate in terms of establishing safe and practical downtown pedestrian sheds. This number should double to a 15-minute walk, or 2,640’ on a case-by-case basis.

#### *6.E Loading and Unloading Areas*

While the redevelopment plan illustrates service alleys, the standards for Loading and Unloading should be waived. It is assumed that as with any historic downtown, areas for small truck deliveries such as FedEx, can utilize the street or designated short-term parking spaces.

### *7. Number of Off-Street Parking Spaces Required*

In general, the parking standards per use should be reviewed to minimize the amount of potential off-street surface parking and encourage economic development by minimizing project specific costs related to parking. A “park once” strategy should be adopted by the City to encourage walking and reinforce the downtown as a pedestrian-oriented environment. Parking is critical, however it is an inefficient land use and alternatives strategies to traditional parking requirements should be revisited.

#### *General Parking Comments*

- A 33% efficiency reduction should be allowed when calculating required parking. This was utilized in the 2005 Plan.
- Uses such as churches and funeral homes with periodic parking requirements should have no off-street parking requirements or not be allowed in the waterfront area.
- Required parking for residential units can be reduced to reflect demand and the urban lifestyle.

## **Section 19-316 Performance Standards**

### **G.6 Minimum Size Standards for Plant Materials**

Create new category for street tree with a minimum caliper of 2 ½”. And as noted previously, the City should create a Street Tree Maintenance Ordinance.

---

## The Tillson Avenue Area Overlay Zone & Architectural Review Standards

### 4. Prohibited Uses

No Drive-Through Facilities of any kind should be allowed.

### 5. Standards

Floor Area Ratio: F.A.R should not be utilized to determine maximum building / lot coverage – although this constraint is generally not relevant because there are no limitations on building coverage greater than 75' from the normal high-water line.

Façade Materials: The City should consider less traditional materials and fenestration (window) proportions on the second story and above on buildings. Glass curtain walls and a variety of non-reflective metal materials are increasingly used in contemporary downtown redevelopments. The scale and proportional relationship to adjacent buildings and the street space is the most critical aspect of urban architecture.

Landscaping: The focus on landscaping should not be buffering developments, but enhancing the streetscape. Developments should be required contribute to the creation of a cohesive public realm including street trees, streetlights, sidewalks, benches and other amenities.

Fee-in-Lieu of Onsite Parking: The fee in lieu of onsite parking is a good policy in order to subsidize a parking structure, but funds should not subsidize surface parking within the downtown. Funds should be utilized for structured parking, on-street parking or other public realm amenities / infrastructures.

Parking Lot Location: The Tillson District Overlay Standards requires parking to be placed to the side or rear of buildings. In general, a policy should be developed to discourage any off-street parking in the redevelopment area. On-street parking, fee-in-lieu, land use type and structured parking should be the primary modes of meeting parking demand.

As part of a “green / complete streets” network, sustainable measures can be taken such as fly ash concrete sidewalks, LED lights, and street amenities made of recycled metals.

### Additional Comments

- A maximum block length of 300' (including service alleys) should be established to create a walkable and downtown scaled environment.
- A 33% efficiency reduction should be allowed when calculating required parking. This was utilized in the 2005 Plan.
- The Downtown Zone has a maximum building height of 65' or five stories. A minimum building height of three stories should be explicitly required to achieve the proper urban form and building height to street width ratio. Relaxed parking requirements for uses on the second floors and above, on-street parking as well as other initiatives can help achieve an appropriate density and scale for redevelopment opportunities.
- Green roof systems should be encouraged to manage stormwater. Such systems can greatly reduce the amount and improve the quality of stormwater entering the harbor.

## 5.12 UTILITY INFRASTRUCTURE

As part of this Redevelopment Plan effort, we completed a comprehensive investigation into the existing utility infrastructure within the study area (depicted below). We completed a visual assessment of current conditions of street and sidewalk systems and determinations of location, size, condition and capacity of the utilities within the Tillson District / Waterfront Area. Underground and overhead utility systems were studied, including sanitary sewer, water, stormdrain, electric/power, telephone, internet, and cable television. The utility infrastructure analysis was broken into three tasks: Data collection and Mapping, Condition Assessment, and Capacity Analysis; while summarized here, the work is described in detail within the Tillson District Infrastructure Plan, bound separately..



Figure 31: Study Area

Data collection work involved contacting each of the public and private utility companies in order to collect available data, describing the infrastructure within the public right-of-Way. GIS data was obtained where possible, including aerial photography, planimetric data, tax maps, parcel information, and zoning. As-built or design documents for storm and sanitary sewer utilities in the area supplemented available GIS information. Based upon the available data, we compiled a series of utility infrastructure maps; maps were used as a basis for the field condition assessment work. With the exception being Union Street and streets connecting to Main Street, we inspected each of the manholes and catch basins within the Study Area to identify materials, type, size, and condition. All structures not included in the GIS, but located in the field, were added to the GIS. In addition, we conducted field survey to accurately locate and establish rim elevations.

The field data was then used to develop models (in spreadsheet format) for utilities within the Study Area. Sanitary sewer generation rates as well as water usage and demand rates were calculated and compared to available capacity in the existing system. Deficiencies and the necessary adjustments to the existing system were identified in order to facilitate the proposed build-out. The future build-out scenario was also provided to the private utilities in order to gather any information they may offer to facilitate the future build-out scenario.

## 6. IMPLEMENTATION

On July 11, 2005 the Rockland City Council adopted the Rockland Downtown Revitalization Plan Update and Tillson District and Waterfront Redevelopment Plan. The 2005 Tillson District and Waterfront Redevelopment Plan was the precursor to the 2011 Waterfront Area Redevelopment Plan. The purpose of this section of the 2011 Waterfront Area Redevelopment Plan is to update the status of the recommended Action Plan priorities from the 2005 Tillson District and cross-reference where still applicable with this Redevelopment Plan.

It is important to note that redevelopment in the study area will happen in phases, depending on City policies as well as the pace of the market. The Redevelopment Plan is a vision for an optimal and responsible build-out of the waterfront area. The framework outlined in this plan should inform strategic policies (such as actively pursuing land swaps to enable the street / block network), economic development strategies (such as bonding infrastructure improvements and servicing the debt with TIF funds) and design standards (such as changing zoning and design standards to enable the build-out scenario). This is an ambitious plan that will require the City to be proactive in terms of responding to opportunities and coordinating issues as they arise to best align with the fundamental strategies and goals of the Redevelopment Plan, as well as a level of public-private partnership to achieve the vision.

**1) Street and pedestrian improvements on Park Street and Tillson Avenue:** The 2005 Plan calls for streetscape improvements including sidewalk, lighting, landscaping and tree plantings, improved roadway layout and on-street parking.

Status: No streetscape improvements have been undertaken on Park and Tillson

Proposed: The Redevelopment Plan recommends street and pedestrian improvements for Park Street and Tillson Avenue. The improvements are envisioned as part of implementing the street network as well as creating the Harbor Trail link between the Waterfront Park and the Schooner Landing.

Funding: Sources of streetscape funding include the following: Marine Department of Economic and Community Development (MeDECD) Community Development Block Grant (CDBG) 2017 Community Enterprise (CE) program which provides 100% grants for streetscape improvements; the 2008 City Council adopted Tillson Redevelopment Municipal Development Tax Incremental Financing (TIF) District which is authorized to fund streetscape and pedestrian improvements; the 2014 Maine Department of Transportation (MeDOT) application for a FY2016-2017 Quality Community Transportation Enhancement Program (TEP) which is a federal and State program (minimum 20% local match) offering funding opportunities to communities for pedestrian and bicycle facilities and downtown revitalization initiatives, which demonstrate a relationship to surface transportation. Other programs include the Federal Energy Efficiency and Conservation Block Grant Program for street lighting, and the 2012 Maine Forest Service (MFS) Project Canopy program which provides 1:1 matching funds for new tree planting in urban areas.

Timeframe: The earliest timeframe for undertaking the streetscape improvements in the Tillson District is 2017 because of Main Street priorities, however the City must be prepared to reallocate funds to the study area if redevelopment opportunities arise. The main obstacle is funding and completing the on-going Downtown Streetscape and Pedestrian Improvements to Pleasant Street before tackling Tillson Avenue and Park Street. Another obstacle may be continuing staff capacity to write successful grants after July 1, 2011. The City needs to consider hiring a grant writer to implement the Redevelopment Plan.

**2) Surface parking lot improvements, parking garage off Tillson Avenue.** The 2005 plan recommended surface parking improvements for the short term, and a new parking garage for the long-term redevelopment of the area. Surface parking improvements could include the acquisition of a smaller parcel next to the existing public parking on Winter Street and Tillson Avenue.

Status: An adjacent .12 acre parcel was acquired by the City allowing for the expansion of the City parking lot and re-surfaced the acquired parcel. No parking garage has been constructed and there are no plans in place for a parking garage in the intermediate future. A parking structure is dependent on the pace of build-out in the study area.

Proposed: The proposed Plan recognizes that there is not a current need for a parking structure and existing surface and on-street parking in the area is adequate. However, overtime as build-out occurs, there will be a tipping point when a parking structure will be necessary to create economically viable and walkable urban neighborhoods.

Funding: Under the Tillson TIF District improved public parking lot, new public parking structure and property acquisition for parking are eligible through TIF expenditures. Fee in lieu of parking funds can also be banked for a future on-street parking or structured parking. It is highly recommended that no funds be allocated for permanent surface parking.

Timeframe: After being frequently discussed over a decade there is no consensus or urgency to construct a parking garage. The City would prefer that the private sector provide the funding through impact fees, TIF funds or other revenue sources. The need for a parking structure is dependent on the rate of growth in the area and the subsequent demand for parking.

**3) Harbor Trail from Boston Financial (formerly MBNA) to Treatment Facility and Ferry Terminal.** Specifically, finalize the trail route and determine the design standards such as pavement material, signage and amenities and implement the trail in segments.

Proposed: Presently Wright-Pierce Engineers, Topsham, Maine through the National Park Service trail program located in Brunswick, Maine is developing the Harbor Trail route from Snow Marine Park in the South End to the Lighthouse Breakwater in the North End of the harbor, along with design standards and signage. We understand the draft Harbor Trail Master Plan will be ready in May 2011 for presentations and public meetings on the proposed plan.

The Wastewater Treatment Plant Harbor Trail segment on Spear Drive was completed in 2009 along with parking and berthing for the Maritime Traditions schooner fleet at Lermond Cove. Mitchell Rasor of MRLD of Yarmouth, Maine is currently working with the City on the design of the segment of the trail connecting the schooner landing west along Lermond Cove to the Thorndike Parking lot. The City is also working with MRLD on a redesign of the Thorndike Parking Lot, which includes an ADA portion of the Harbor Trail on the eastern edge of the parking lot north to the proposed Lindsey Brook footbridge. It should be noted that thus Redevelopment Plan locates the Harbor Trail between Harbor Park and the entrance of Spear Drive.

Funding: The Brunswick, Maine based Rivers, Trails, and Conservation Assistance Program is the community assistance arm of the National Park Service (NPS) assisting with the trail route and design plans at no cost to the City of Rockland.

The Maine Department of Conservation (MeDOC) Bureau of Parks and Land (BPL) Recreational Trail Program (RTP) provides for Development and Acquisition grants for projects involving construction of new recreation trail construction and rehabilitation, and for the acquisition of easements and fee simple title for properties intended for trail purposes. The maximum amount of the grant request is \$35,000 with a local match requirement is 20%. Applications are due each November.

The Maine Department of Health and Human Services (MeDHHS), Maine Center for Disease Control and Prevention, Healthy Maine Partners, Midcoast District, Knox County Coalition may be able to provide matching grants for activities that prevent obesity related diseases, especially for school age populations through walking and exercising. Such grants may be used for recreational trail construction. These are special funds provided through a

collaborative effort between the Penobscot Bay Regional YMCA and National YMCA and National Center for Disease Control. The City is working with the Knox County Coalition and the PenBay YMCA for a grant enabling us to leverage a MeDOC RTP grant for the Atlantic Street segment of the Harbor Trail.

The CDBG programs for Community Enterprise (CE) and Downtown Revitalization (DR) activities allow for public sidewalk and crosswalk improvements to be integrated into the Harbor Trail system.

Federal Energy Efficiency and Conservation Block Grant Program for street lighting and planning.

The portion of the Harbor Trail adjacent to the Wastewater Treatment Facility is most likely eligible for funding from the current upgrades.

Another potential source of funding is to amend the November 20, 2009 Fisher Engineering Plant Expansion Municipal Tax Increment Financing (TIF) District Development Program to include the Harbor Trail providing the City can link the trail to “significant potential to promote economic development.” The Maine TIF statute was amended in 2009 to allow this sort of work on recreational trails that have, in the judgment of the Maine Department of Economic and Community Development, significant potential to promote economic development. This option was discussed by the Economic Development Advisory Committee during the committee’s deliberations on the Fisher TIF Development Plan.

Timeframe: Immediate and intermediate: The Treatment Plant portion of the trail has been redesigned with construction proposed for spring of 2011. In 2011 this trail segment will be linked to the new Downtown sidewalk segment via a privately funded crosswalk/pathway across the north end of the rear Main Street. Wright-Pierce Engineers of Topsham and the Rockland Community Department are working with NPS on the Harbor Trail Master Plan to link all the segments together. The plan will formally be presented to the public in June 2011 for public review and comments. Grant and private funding efforts are being actively pursued.

**4) Harbor Park Improvements.** Recommended improvements to the public Harbor Park included pavement, redesign/relocate parking, new entrance to the park, and construct esplanade/ boardwalk at the water’s edge.

Status: The 9-person Harbor Park Re-Design Committee has been re-activated and charged with coming up with a Harbor Park design. A cost estimate for the design work has been obtained from an engineering consultant firm. A boardwalk constructed at the water’s edge would also function as a segment or link in the implementation of the Harbor Trail.

Proposed: The Redevelopment Plan maintains the 2005 vision for improving Harbor Park. In addition, the Harbor Park Re-Design Committee will be coming forth with design recommendations and these may vary from the 2005 Plan.

Funding: Maine Department of Transportation’s (MeDOT) Small Harbor Improvement Program (SHIP). Funding for this State program is dependent upon voter approval. Funds can be used for public wharves, landings and boat ramps. There is a required local 50% cash match. Examples of related SHIP projects include parking at the City landing and City landing improvements, dock repair, electrical work and pier design. Project must have a 15 useful life or more. There is no maximum grant amount per project.

Maine State Planning Office (MeSPO) Shore and Harbor Technical Assistance Grants funded by the Maine Coastal Program with monies provided through the State’s NOAA Coastal Program. The grants are only available for municipalities in the State’s designated coastal zone such as Rockland. This is an annual program with maximum

grant amounts of \$20,000 with a 25% local match. Related types of eligible projects include planning and design of harbor facilities and waterfront development planning.

For a description of the Harbor Trail funding see the funding opportunities listed under 3) above.

Timeframe: Implementation is dependent on the progress of the Harbor Re-Design Committee.

**5) Winter Street improvements.** Improvements include north side Sidewalks, tree planting and improved on-street parking.

Status: No streetscape improvements have been made. The proposed improvements are shown in the December 2008 Downtown Revitalization Streetscape Master Plan prepared by Wright-Pierce Engineers, Topsham, Maine

Proposed: The Redevelopment Plan includes recommendations for improvements to Winter Street. These are illustrated in plan and sections. Parallel on-street parking on the southern side is recommended for the length of Winter Street.

Funding: The CDBG Downtown Revitalization (DTR) grant program which funds sidewalk and tree planting activities and the MeDOT Quality Community Transportation Enhancement Program.

Timeframe: The City should be ready by 2014 to apply for a second CDBG DTR grant for a Main Street Streetscape improvement project from Limerock Street south to Pleasant Street for which Winter Street will be a part thereof, and be ready in 2012 to apply for a FY 2014-2015 MeDOT TEP to serve as the City's required local match for the \$1.2M streetscape project. Again, the obstacle to overcome is the City's continuing staff capacity to write successful grants after July 1, 2011 in the light of decreased CDBG funding and increased municipal competition.

**6) Commercial Street one-way option.** Completing preliminary engineering for converting Commercial Street to one-way, along with streetscape improvements.

Status: Nothing has been done on this priority to date as there are no on-going discussions about undertaking design and engineering for converting Commercial Street to one-way and for streetscape improvements.

Proposed: The Redevelopment Plan recommends two-way travel lanes for all existing and proposed streets

Funding: The City would have to fund the engineering and design work and CDBG Community Enterprise (CE) and TIF funds would have to underwrite the streetscape improvements. On-street parking can be funded through fee in lieu of parking.

Timeframe: Because the City would have to fund the engineering design work from property taxes it is most likely that no design work will be done under this option. In addition, since there are more important uses for limited CDBG and TIF funds, any streetscape improvements for Commercial Street are a long ways off and would have to be privately funded.

**7) Infrastructure.**

There are design consistencies between the 2011 Tillson District Infrastructure Plan and the 2011 Waterfront Area Redevelopment Plan such as sewer, stormwater, streets, data, power and sidewalks that can be funded from the appropriate sources noted above in addition to the following sources.

1) Sewer, Water, Storm Drainage, Utility Infrastructure Improvements to the Tillson District / Waterfront Area:

Status: The Infrastructure Master Plan has been completed and will be used as the basis for applying for a grant funding.

Funding: Maine Department of Economic and Community Development (MeDECD) Community Development Block Grant (CDBG) Public Infrastructure (PI) grant program for up to \$500,000.

The Tillson Redevelopment Municipal Development Tax Incremental Financing (TIF) District is authorized to fund water/sewer/telecommunication infrastructure investments.

Timeframe: Certain improvements will be required for existing infrastructure outside the Redevelopment Plan study area that will occur on an as needed basis. Infrastructure improvements supporting the Redevelopment Plan will depend on market forces and policy decisions by the City. While it is not recommended to proceed ahead of the market with infrastructure supporting the proposed street network, if there is the need to upgrade or add infrastructure in the Redevelopment Plan study area, the City should work carefully with property owners to locate these infrastructures in a manner that supports the vision, specifically within the identified location of proposed street corridors.

## PHASING

In order to help facilitate the implementation of the 2011 Tillson District Infrastructure Plan and 2011 Waterfront Area Redevelopment Plan, the following construction phasing program is recommended.

The first phase in the redevelopment is to complete any land acquisition or land swaps necessary to create the proposed street network and location of future municipal infrastructures. Engineered plans, based on current planimetric and boundary survey, depicting future road layout, right-of-way limits and all other pertinent information will be necessary to finalize boundaries. These plans can be developed, prior to, or as part of negotiations with the impacted landowners.

The second phase is to construct new city streets and install utility infrastructure within the right-of-way. A complete survey of existing infrastructure will be required to determine the connection requirements between existing and proposed utilities. We recommend new infrastructure be limited to sanitary sewer, stormwater, water, and conduit duct banks and manholes for private electrical-telecomm utilities. These utilities would be required prior to the start of building construction and to stimulate economic development. It is also recommended that roadways be constructed during this phase, curb-line to curb-line, but stopping short of installing curbs and surface course pavement.

The third phase is the private investment and construction of the new buildings and surrounding public and joint public-private amenities. During this phase, new buildings would be immediately tied into the new infrastructure. As part of the third phase, it is recommended that the curbing, new sidewalks, and street amenities such as trees, benches, lighting, etc. be installed throughout the blocks surrounding the new buildings. It is anticipated that this work will occur block-by-block as development occurs. It is also recommended that new sidewalks on the existing, surrounding streets leading to Main Street be constructed at this time, to create connectivity within the Downtown area. As a final step, all new and reconstructed roadways will receive surface pavement.

In order to help the City plan for the implementation of this Master Plan, we have developed preliminary cost estimates, prototypical road cross section, and standard details to use as guidance. The cost estimates have been developed using linear foot prices for the various elements of the development and are broken into the anticipated phases, as described above.

## TILLSON AVENUE TIF DISTRICT - BLOCK CONSTRUCTION

### ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST AT SCHEMATIC DESIGN

#### General Assumptions and References:

- > Estimate based on Schematic 2010 Tillson District Redevelopment Plan
- > Linear foot costs estimated using unit prices from "Item Unit Bid Price Averages Based on Contracts Awarded from 01/09/2005 to 01/09/2008 provided by MDOT and recent bid tabulations received for road/sewer projects.
- > Escalation factor represents an estimated cost of inflation and increases in construction cost from 2010
- > Escalation factor determined from Engineering News-Record Construction Cost Index (3.2%/yr)

### Phase 1

It is anticipated that Phase 1 would involve land acquisition/swaps to facilitate the proposed build-out scenario

Affected Properties	Current Assessed Values
8 Lime Street	\$ 143,000
65 Tillson	\$ 775,000
78 Tillson Avenue	\$ 155,000
1 Commercial Street	\$ 650,000
9 Commercial Street	\$ 45,000
11 Commercial Street	\$ 216,000
17 Commercial Street	\$ 350,000

Current mil rate for the City of Rockland is \$17.20/\$1000 of assessed value

### Phase 2

Phase 2 involves the installation of utilities in the proposed street network and base pavement

	Quantity	Unit	Unit Cost	Price
<b>Streets</b>				
Interior Streets <i>32' width; cross section includes 1' common borrow, 18" Type D gravel; 3" Type A gravel; and 2" 19mm HMA binder</i>	1,850	LF	\$ 130	\$ 240,500
Perimeter Streets <i>38' width; cross section includes 1' common borrow, 18" Type D gravel; 3" Type A gravel; and 2" 19mm HMA binder</i>	1,800	LF	\$ 155	\$ 279,000
<b>Utilities</b>				
Relocate 12" force main <i>Includes pipe and sewer manholes</i>	300	LF	\$ 120	\$ 36,000
Relocate 36" treatment plant outfall <i>Includes pipe and drain manholes</i>	300	LF	\$ 200	\$ 60,000
Water <i>Includes pipe and hydrants</i>	2,000	LF	\$ 120	\$ 240,000
Sanitary Sewer <i>Includes pipe and sewer manholes</i>	2,500	LF	\$ 75	\$ 187,500
Storm Sewer <i>Includes pipe, catch basins, and drain manholes</i>	1,850	LF	\$ 115	\$ 212,750
Elec./Comm Duct Bank <i>Includes four 2" pvc pipes in all sidewalks</i>	3,750	LF	\$ 150	\$ 562,500
<b>Phase 2 Subtotal</b>				<b>\$ 1,818,250</b>
Construction Contingency (25%)				\$ 454,600
Escalation 5 year projection (16%)				\$ 363,700
Engineering/Permitting (10%)				\$ 263,700
<b>Phase 2 Total</b>				<b>\$ 2,900,250</b>

### Phase 3

Phase 3 is the construction of the new buildings for the proposed blocks

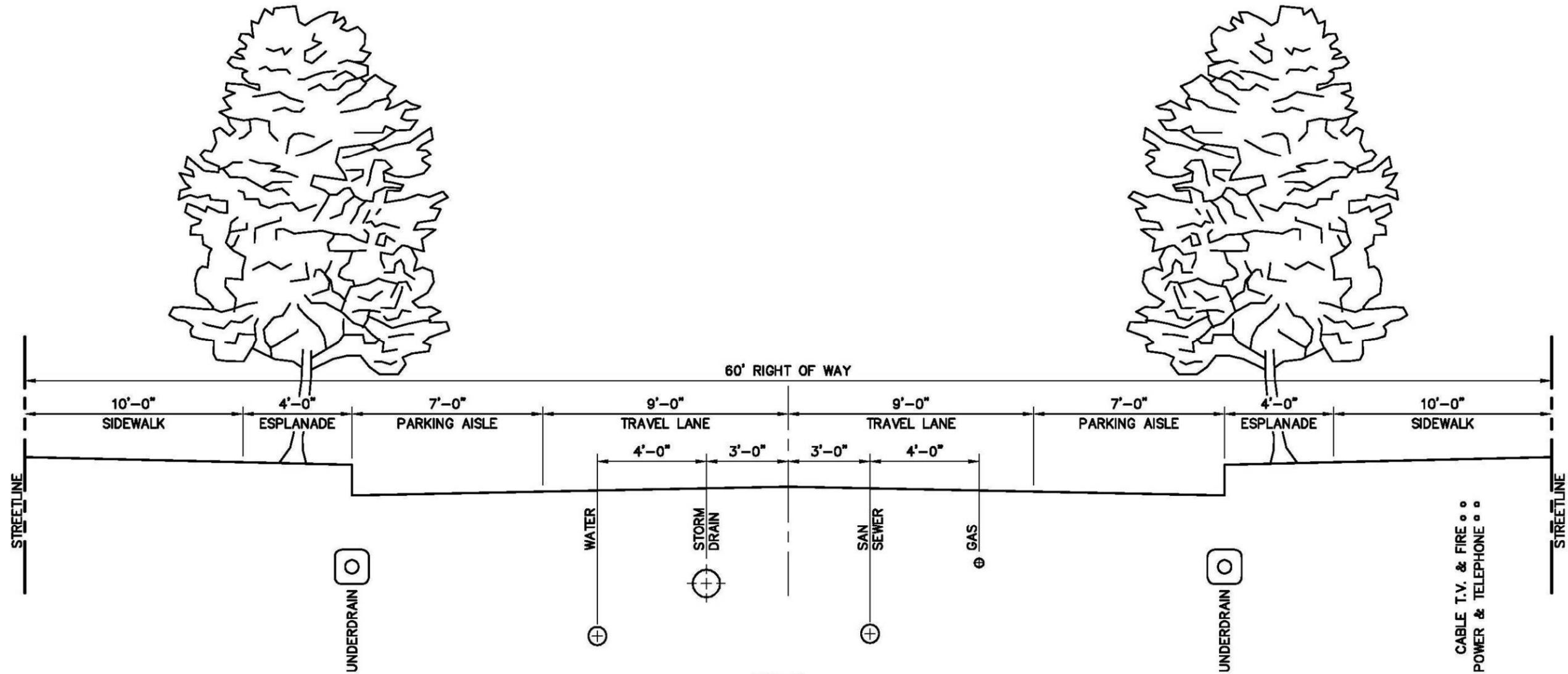
Building construction was not estimated as part of this plan, and will vary depending on final uses and building designs.

### Phase 4

Phase 4 would occur during/after Phase 3, the construction of the new buildings

	Quantity	Unit	Unit Cost	Price
<b>Streets</b>				
Interior <i>32' width; 1.5" 12.5 mm HMA surface</i>	1850	LF	\$ 26	\$ 48,100
Perimeter <i>38' width; 1.5" 12.5 mm HMA surface</i>	1,800	LF	\$ 31	\$ 55,800
<b>Sidewalks</b>				
Proposed Tillson Redevelopment Blocks <i>14' width; cross section includes 1' Type D gravel and concrete surface; Type 1 granite curb; handicap ramps at bumpouts; trees every 40', lights every 40'</i>	3750	LF	\$ 325	\$ 1,218,750
Additional Sidewalk on Connecting Streets <i>14' width; cross section includes 1' Type D gravel and concrete surface; Type 1 granite curb; handicap ramps at bumpouts; trees every 40'; lights every 40'</i>	3600		\$ 325	\$ 1,170,000
Additional Sidewalk on Park Street <i>14' width; cross section includes 1' Type D gravel and concrete surface; Type 1 granite curb; handicap ramps at bumpouts; lights every 40'</i>	800		\$ 310	\$ 248,000
Stormwater Treatment <i>Accomplished using approximately seven tree box filters throughout the redevelopment area</i>	3,650	Lf	\$ 48	\$ 175,200
			<b>Phase 4 Subtotal</b>	<b>\$ 2,915,850</b>
			<b>Construction Contingency (25%)</b>	<b>\$ 729,000</b>
			<b>Escalation 7 year projection(22.4%)</b>	<b>\$ 816,500</b>
			<b>Engineering/Permitting (10%)</b>	<b>\$ 446,200</b>
			<b>Phase 4 Total</b>	<b>\$ 4,907,550</b>

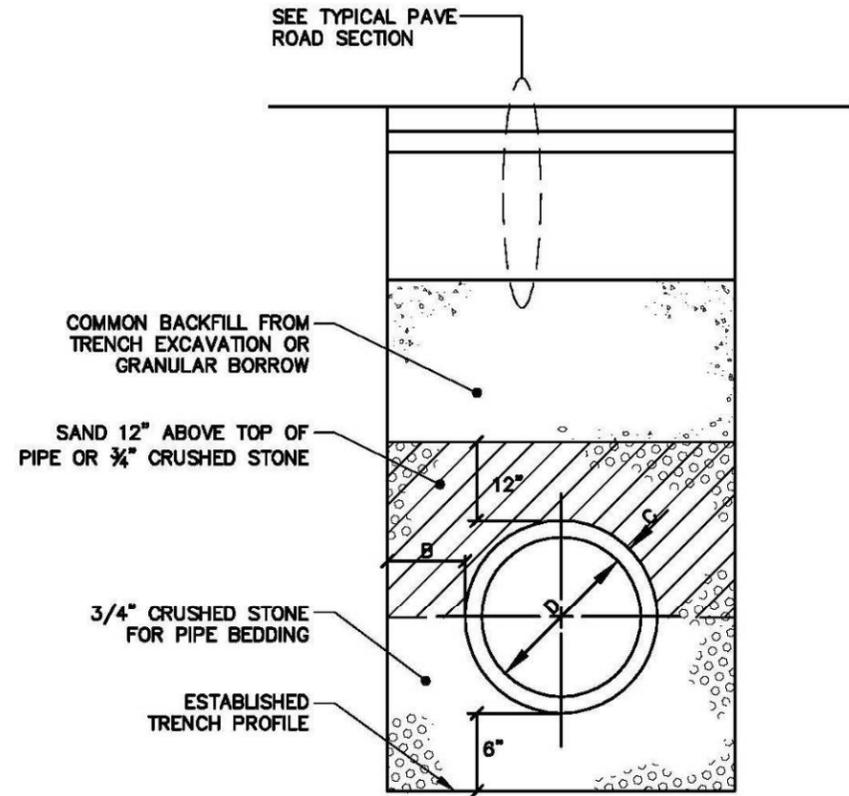




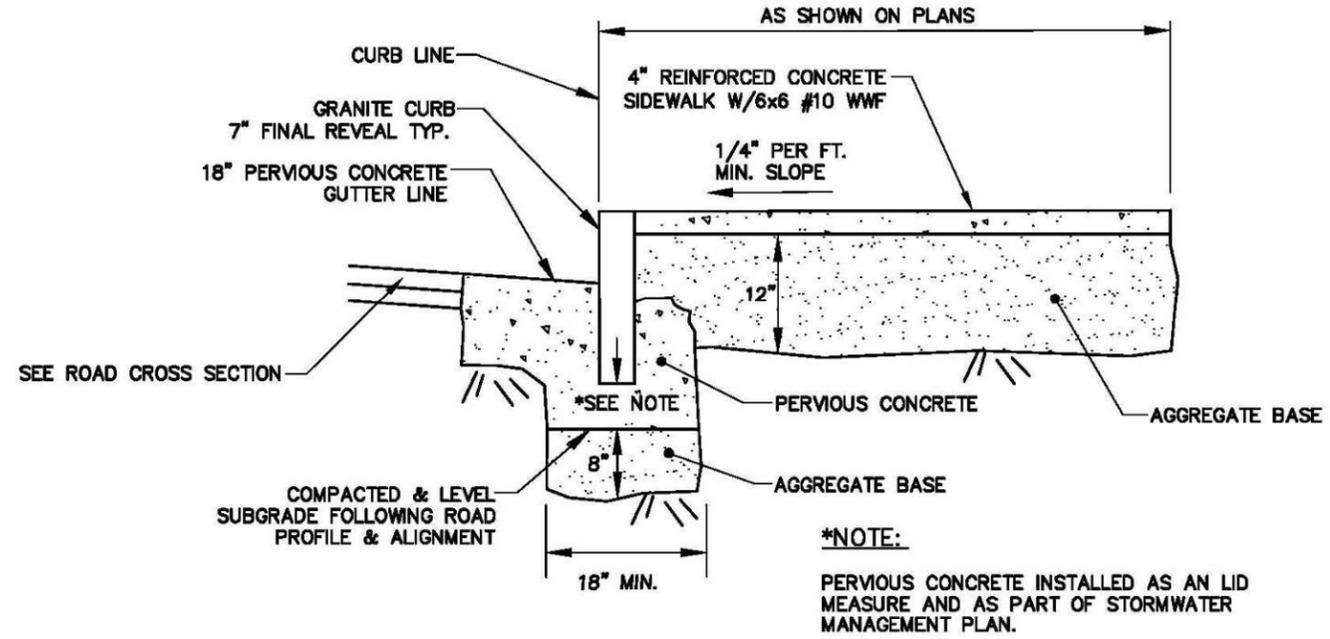
**NOTES:**

1. POWER, TELEPHONE AND CABLE T.V. SHALL NOT BE PLACED LESS THAN 30 INCHES DEEP.
2. DEPTH OF SANITARY SEWER AND STORM DRAIN AS PER RECOMMENDATION OF THE CITY ENGINEER.
3. DEPTH OF THE OTHER UTILITIES AS PER RECOMMENDATION OF APPLICABLE UTILITY COMPANY.
4. PERIMETER STREETS: TRAVEL LANES SHALL BE 10' AND PARKING AISLE SHALL BE 9'. STREET R.O.W. WILL INCREASE TO 66'.

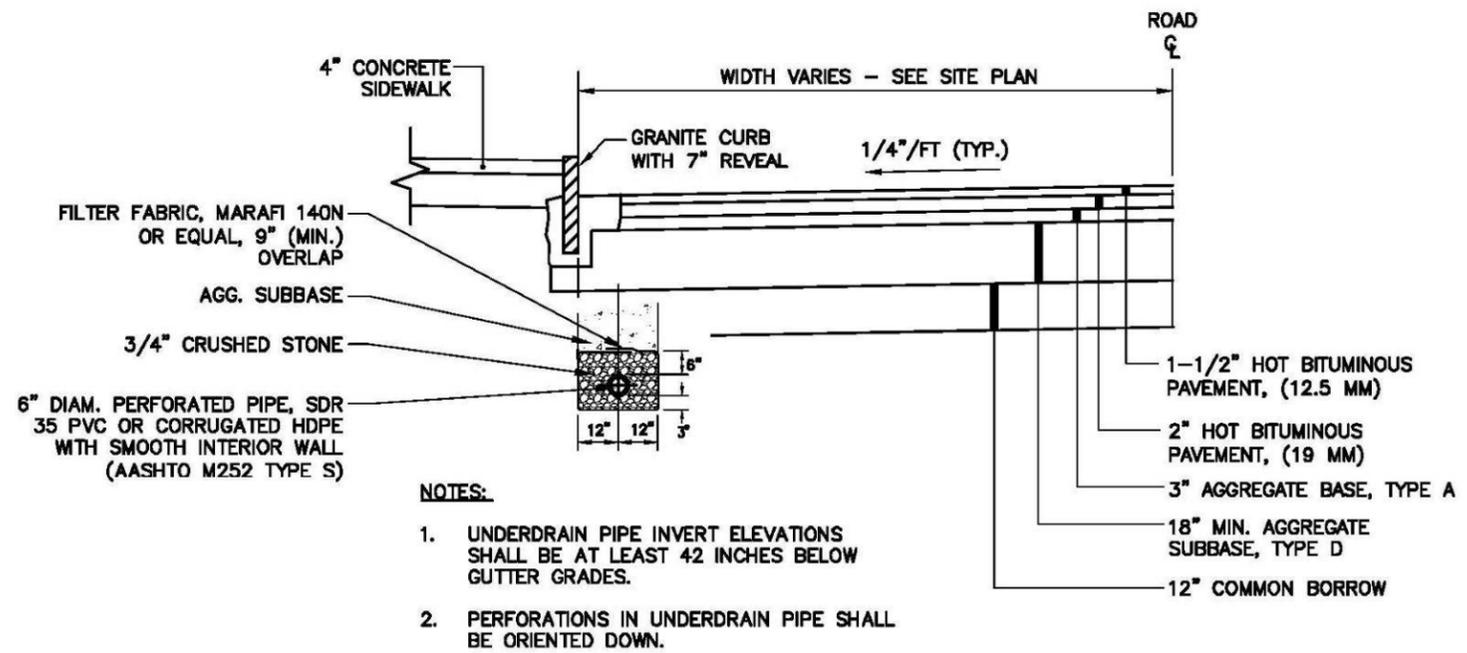




**PIPE INSTALLATION DETAIL**  
N.T.S.



**CONCRETE SIDEWALK AND GRANITE CURB INSTALLATION**  
N.T.S.



**TYPICAL PAVED ROAD SECTION**  
N.T.S.  
NOTE: AGGREGATE TYPES PER MDOT SECTION 304.02

