





## CONTENTS

### INTRODUCTION . . . . . i

### I: PRE-DESIGN

|   |      |
|---|------|
| Existing Conditions . . . . .           | I-1  |
| Study Area . . . . .                    | I-2  |
| Boundaries and Activity . . . . .       | I-2  |
| Thoroughfares . . . . .                 | I-2  |
| Landscape . . . . .                     | I-4  |
| Land Use . . . . .                      | I-9  |
| Buildings . . . . .                     | I-10 |
| Parking . . . . .                       | I-12 |
| Public Utilities . . . . .              | I-12 |
| Public Engagement . . . . .             | I-14 |
| Project Website/Facebook Page . . . . . | I-14 |
| Walking Tour . . . . .                  | I-15 |
| Stakeholder Meetings . . . . .          | I-15 |
| Agency Meetings. . . . .                | I-16 |
| Community Open House . . . . .          | I-17 |

## II: PRELIMINARY DESIGN

|                                    |      |
|------------------------------------|------|
| 1. The Preliminary Plans . . . . . | II-1 |
| The 2007 Charrette Plan . . . . .  | II-1 |
| Plan A . . . . .                   | II-3 |
| Plan B . . . . .                   | II-5 |
| 2. The Public Response . . . . .   | II-7 |

## III: FINAL DESIGN — THE PLAN

|   |        |
|---|--------|
| 1. The Plan . . . . .                             | III-1  |
| The Central Section. . . . .                      | III-2  |
| Thoroughfares . . . . .                           | III-3  |
| Landscape . . . . .                               | III-4  |
| Buildings . . . . .                               | III-5  |
| Demolition . . . . .                              | III-5  |
| Construction . . . . .                            | III-6  |
| The Western Section . . . . .                     | III-8  |
| Thoroughfares . . . . .                           | III-8  |
| Landscape . . . . .                               | III-9  |
| Buildings . . . . .                               | III-10 |
| 2. 3D model. . . . .                              | III-13 |
| 3. Plan Capacity (and other statistics) . . . . . | III-14 |
| Core Area Land Use and Parking Analysis . . .     | III-14 |
| Methodology . . . . .                             | III-14 |
| Land Use Areas . . . . .                          | III-14 |
| Parking Calculations . . . . .                    | III-15 |

|   |               |
|---|---------------|
| <b>4. Plan Phasing and Cost Estimates . . . . .</b> | <b>III-16</b> |
| <b>Development Phasing Plan . . . . .</b>           | <b>III-16</b> |
| <b>Phase 1 . . . . .</b>                            | <b>III-16</b> |
| <b>Phase 2 . . . . .</b>                            | <b>III-16</b> |
| <b>Phase 3 . . . . .</b>                            | <b>III-16</b> |
| <b>Phase 4 . . . . .</b>                            | <b>III-16</b> |
| <b>Phase 5 . . . . .</b>                            | <b>III-16</b> |
| <b>Phase 6 . . . . .</b>                            | <b>III-17</b> |
| <b>Phase 7 . . . . .</b>                            | <b>III-17</b> |
| <b>Cost Estimate Assumptions . . . . .</b>          | <b>III-18</b> |
| <b>5. The Alternative Plan 1 and 2 . . . . .</b>    | <b>III-20</b> |
| <b>6. Comparing the Alternatives . . . . .</b>      | <b>III-22</b> |

## IV: THOROUGHFARES

|  |             |
|--|-------------|
| <b>1. Thoroughfare Design Principles . . . . .</b>     | <b>IV-1</b> |
| <b>Induced Speed. . . . .</b>                          | <b>IV-1</b> |
| <b>A Safe Walk . . . . .</b>                           | <b>IV-1</b> |
| <b>Lanes of Proper Width . . . . .</b>                 | <b>IV-1</b> |
| <b>Limited Use and Length of Turn Lane . . . . .</b>   | <b>IV-2</b> |
| <b>Bike Lanes . . . . .</b>                            | <b>IV-2</b> |
| <b>Continuous On-Street Parking. . . . .</b>           | <b>IV-2</b> |
| <b>Pedestrian-Friendly Signalization . . . . .</b>     | <b>IV-3</b> |
| <b>Proper Use of Roundabouts . . . . .</b>             | <b>IV-3</b> |
| <b>2. Redesign of Existing Thoroughfares . . . . .</b> | <b>IV-3</b> |

Fulton Street (MI 21) . . . . . IV-3

Ada Drive: East of Thornapple . . . . . IV-4

Ada Drive: West of Thornapple . . . . . IV-6

Ada Drive: Under Railroad Bridge . . . . . IV-7

Thornapple River Drive: West of Ada Drive . . . . IV-8

Thornapple River Drive: Ada Drive to River . . . . IV-9

Thornapple River Drive: East of River . . . . . IV-10

Bronson Street: East of Ada Drive . . . . . IV-11

3. Examples of New Thoroughfares. . . . . IV-14

Headley Street. . . . . IV-14

Garden Street . . . . . IV-14

Thornapple Mews . . . . . IV-15

New Street. . . . . IV-15

Riverside Drive . . . . . IV-16

East Hamlet Loop . . . . . IV-16

4. Cycle Facilities . . . . . IV-17

**V: BUILDING TYPES**

Large Loft Building. . . . . V-1

Standard Loft. . . . . V-2

Live/Work Rowhouse . . . . . V-3

Small Rowhouse . . . . . V-4

Large Rowhouse . . . . . V-5

Deep-Lot Rowhouse . . . . . V-6

|                                   |     |
|-----------------------------------|-----|
| Wide-Lot Rowhouse . . . . .       | V-7 |
| Large Wide-Lot Rowhouse . . . . . | V-8 |
| Rear-Wall Rowhouse . . . . .      | V-9 |

## **Appendix 1.1**

## **Appendix 1.2**

## **Appendix 2.1**

## **Appendix 3.1**



How to grow a village? That was the fundamental question encountered by the design team and the citizens of Ada at the start of this effort.

Certainly, in Ada Village, the seeds of growth are present: a lovely one-block main street with old and new businesses; a fully-leased strip shopping center one long block away, ready for a remake; a winding river, largely hidden; much-desired housing and schools located nearby; and, across the state road, the global headquarters of a major corporation, housing 4000 workers.

But, in addition to recent economic factors, there have been impediments to that growth. The large gap between the two commercial centers dissipates the Village's retail energy. The absence of a civic open space limits public gathering. The design of Village roadways deters pedestrian activity. The low elevation of the Village's main street results in periodic flooding. And the high-speed geometry of Michigan 21 inhibits Amway employees from walking into town. It could be said that weak connective tissue is getting in the way of the Village becoming more than the sum of its parts.

People want to live and work in Ada Village. Amway workers want to eat and drink there. Shoppers want access to a wider variety of goods and services, all within a pleasant walking distance. And the people of Ada want to convene more frequently in the heart of their community. Growing this Village properly means subtly reorganizing its center in a way that knits all of its assets together around a common heart, while preserving its unique small-town character.

Such is the objective of this Plan, a community-led effort that arose out of literally hundreds of hours of public involvement. As directed by the citizens and merchants

of Ada, the proposal described in these pages gives the Village a heart, celebrates its hidden river, unifies its commercial areas, rationalizes and calms its streets, lifts Ada Drive out of the floodplain, transforms MI-21 from a highway into a boulevard, and introduces a significant amount of compatible new housing on adjacent properties, further contributing activity to downtown.

This report describes the plan in six sections:

**Part I, Pre-Design** describes the existing conditions in Ada Village and documents the public outreach process that led up to the September, 2013 Design Charrette.

**Part II, Preliminary Design** presents the three preliminary plans that were created for the purpose of further gauging public input at the Charrette, and summarizes the response that these plans received.

**Part III, Final Design** describes in full detail the final plan that arose out of the Design Charrette.

**Part IV, Thoroughfares** documents the changes that are prescribed for all streets within the study area.

**Part V, Building Types** provides prototypical floor plans and elevations for all of the new types of buildings proposed in the plan.

**Appendix 3.1, Regulation Plan and Design Regulations** turns the key features of the Plan into a legal instrument which, when adopted, replaces existing zoning on site, to ensure that future development occurs in a way that corresponds with the Plan.



Figure I-1. Ada Drive Streetscape.



# INTRODUCTION

---

This Plan benefits from the fact that Ada has been thinking about its growth for some time. Most recently, a comprehensive community visioning process resulted in the truly excellent Design Charrette Final Report, completed in 2007. This document contains much useful information regarding the desires of Ada residents, as well as a lot of intelligent design thinking. Essentially put on ice by the Great Recession, the proposals put forth in this document served as a starting point for this new effort.

Most significant among the Charrette's findings are perhaps the ten Design and Development Principles that arose from its many public meetings. These remain as valid as ever, and served as a basis for the Plan that follows. They are as follows:

1. Take full advantage of Ada Village's natural assets—specifically the Thornapple River. Consider a riverwalk and potential trail connections. Identify ways for nearby commercial areas to engage the riverbank environment.
2. Create a focal point in the heart of the Village that can serve as a community hub and gathering place, and expand opportunities for civic buildings.
3. Endure roadway corridors complement Ada's distinctive, intimate village feeling, resulting in slower traffic and improved safety.
4. Improve walkability throughout the village, and create attractive, safe, contiguous pedestrian connections between the Village core and surrounding areas.
5. Encourage building types that preserve the quaint, historic, small-scale feeling of the village.
6. Reconfigure the Thornapple Village shopping center in order to reduce the prominence of parking, provide for more trees and green spaces, reconnect to the river, and encourage pedestrian access and activity.
7. Strike a balance between residential and commercial uses within the Village, and encourage pedestrian access and activity.
8. Encourage shared parking and provide appropriate village-scale parking options.
9. Expand outdoor recreation opportunities and enhance existing parks and green spaces, connecting them with a regional network of trails and open spaces.
10. Establish standards that ensure the implementation of the community's vision for Ada Village.

Just as these principles were used as guidelines in developing the many initiatives of the 2007 Charrette Plan, so do they undergird the effort presented in the pages that follow.

Growth is coming to Ada Village. Having a proper plan in place can ensure that this growth takes the most efficacious form, to the greatest benefit of Ada residents, present and future. This Plan is submitted not as an incentive to growth, but as a response to those who wish to participate in that growth, and those who want to preserve and enhance the character of their growing village.



ENVISION ADA 2013  
JULY 24-25, 2013 72230001

PROJECT STUDY AREA

progressive|ae  
SPECK & ASSOCIATES

Figure I-1. The Project Study Area and Ada Village are bounded by M-21, railroad tracks, and the Thornapple River.

## EXISTING CONDITIONS

# I: PRE-DESIGN

## Study Area

A description of the current conditions of Ada Village can be broken down into the categories of Boundaries and Activity, Thoroughfares, Landscape, and Buildings. Figure I-1 indicates the property owned by Amway Corporation, shown in green.

## Boundaries and Activity

Ada Village is effectively bounded by a long triangle consisting of Michigan State Highway 21 to the north, railroad tracks to the south/southwest, and the Thornapple River to the east. The center of the Village, based on where commercial activity takes place, could be said to stretch along Ada Drive from the Thornapple Village Shopping Center to

the railroad track underpass, and then northwest along Thornapple River Drive to embrace the Ada Community Reformed Church, whose parking lot holds the Ada Farmers' Market.

Within this area, the greatest challenge to commercial activity is the separation between the main retail block of Ada Drive and the Thornapple Village Shopping Center. While commercial establishments including a veterinarian and a hair salon occupy this corridor, they are spaced fairly far apart and set back from Ada Drive, where they do little to attract pedestrians down a treeless sidewalk along a curb that is not protected or served by parallel parking. Set furthest back from Ada Drive is the Thornapple Village Shopping Center, which was clearly designed to welcome drivers but not pedestrians. Unifying the experience of shopping

in the Village will require improvements along this street—which also periodically floods along this trajectory—and/or the creation of another path between the two anchors.



**Figure I-2.** The commercial area of Ada Village has strong east and west anchors, but they are connected only weakly along pedestrian-unfriendly Ada Drive.



**Figure I-3.** The flood-prone area along Ada drive needs to be lifted about 3 feet to shed water.

## Thoroughfares

Driving through Ada can be a bit confusing, as many of its streets change identity as you move along them. Traveling from west to east, Bronson becomes Headley becomes Thornapple. How this strange circumstance came to pass can be seen in an earlier map of Ada Village, which shows how the original intersections of Bronson Street with Thornapple and Headley were sharp angles that resulted in drivers on Bronson staying on Bronson, and drivers on Headley staying on Headley.



**Figure I-4.** After construction of the Thornapple River Drive bridge, which took traffic off of the Bronson Street covered bridge, it made sense to make Thornapple dominant, by T-ing the intersections of Bronson and Headley into it, reconfiguring the two intersections circled here. (see Figure I-1 for current conditions).

As long as one ignores the street names, this configuration works well enough, although drivers do complain of the difficulty of negotiating the non-right-angle turn where Thornapple meets Ada Drive. To the north of this small street network lies Fulton Street, also known as Michigan State 21, a highway that carries approximately 20,000 vehicles per weekday. It is marked at 45 mph but tends to experience speeds considerably higher. Fulton



**Figure I-5.** Thanks to turning motions, Fulton Street's 4-lane section often expands to as many as seven lanes.

Street contains only four through lanes, but these are periodically expanded to as many as seven lanes to accommodate turning motions. These additional lanes, plus shoulders, resulting in a tarmac that is at times 80 feet wide, further discouraging crossing, even at marked intersections.

The intersection of Ada Drive with Fulton Street is the principal path in and out of the Village. People also access the Village further west at Bronson Street, where it makes sense to exit Fulton Street if you are heading east. There are no highway access points other than driveways in the approximately 1000-yard stretch between these two intersections, which places considerable pressure on them. (See Figure I-1)

Unfortunately, Fulton Street is not the only roadway in the Village that seems to be designed for speed. Based on prior standards for rural highways, all of the neighborhood streets in Ada contain lane widths and other geometries that are not appropriate to environments where walking and cycling are



**Figure I-6.** This section of Ada Drive lacks the parallel parking and street trees that make pedestrians feel safe, and contains shoulders, which are appropriate to rural highways, not village streets.

desired. Most lanes are several feet wider than the current standard, which invites speeding, as does the absence of parallel parking on many curbs—parking that is often necessary for pedestrians to feel protected from moving traffic. And, in a community where many people wish to cycle more, bike lanes are virtually nonexistent.

Like many small American towns, Ada does not control its own streets; they are the property and the responsibility of the Kent County Road Commission, who must support and fund any changes that are made to them. This circumstance presents an impediment but not a barrier to the improvement of Ada's streets. Conversations with KCRC engineers suggest that the Commission is comfortable adopting the safer street design standards that have become the norm elsewhere. Applying those standards to the Village Streets, in anticipation of KCRC acceptance and implementation, is one of the principal features of the Plan.

# I: PRE-DESIGN

Meetings with the County and State roadway agencies indicated that, for the most part, M-21 and the major streets are not experiencing undue congestion. The five key issues/concerns that arose from those discussions (in no particular order of priority) were the need to:

- Address the skewed approaches at the Ada Drive/Thornapple Drive intersection as the current geometry creates sight distance and acute angle turn issues;
- Pursue complete streets tenets within the village roadway network;
- Provide traffic calming measures on/along M-21 to help reduce speeds within the village area;
- Provide an alternative M-21 pedestrian crossing at/near the Amway driveway located approximately 1,700 feet east of the Bronson Street intersection; and
- Provide improved accessibility to/from M-21 into the village core.

## Landscape

While there is a significant amount of open space within the Village, very little of it is shaped or amnestied in a way that would cause it to attract visitors on a regular basis. In American community after community, we have seen how the investment in public spaces of high quality has resulted in positive transformations in civic life, and also led to increases in the value of surrounding properties and businesses—increases that more than justify the cost. While it lacks a central gathering space, Ada Village has two principal locations where gathering either occurs already or is poised to occur.

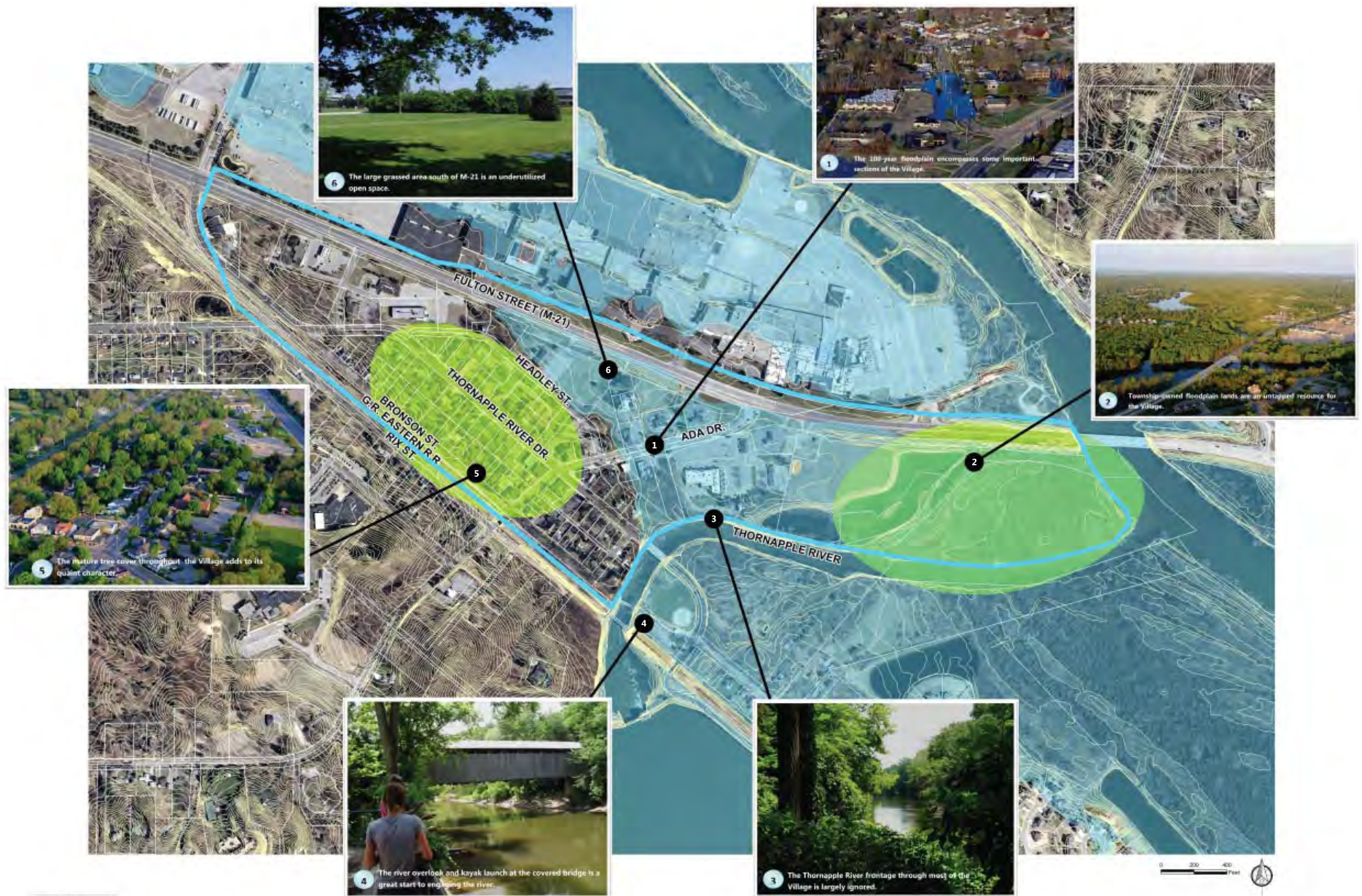
The first is the large grassy area, owned by Amway, located between Headley Street and the highway. Given its open nature, this site is ideal for festivals, and both benefits from highway visibility and suffers from highway noise. In many ways, it is the front yard of Ada, establishing a tableau against which the Village is seen by passers-by. As such, it exposes a view of the village that is less than ideal, as what one sees is not the fronts of buildings but exposed parking lots, against Headley Street, dumpsters and all. This lack of buildings additionally gives a weak edge to the open space, causing it to be less used. One characteristic of a successful village green is the presence of building fronts right across the street, giving it proper shape and activity.

This large lawn has been discussed as the possible location of a community amphitheater, and also as a place to provide a more formal setting for the farmers' market that currently occurs in the church parking lot across the street. The former concept presents challenges from a road-noise perspective, but the latter makes sense, particularly in the context of allowing the parking lot to serve some of the parking that the farmers market attracts.

The second large open space in the village is one that few people think about, because it has been so well hidden: the edge of the Thornapple River tucked behind the unappealing service yard of the Thornapple River Shopping Center. While the river rises and falls, and has better and worse days, it is no less appealing than many small waterways that American communities have succeeded at turning into amenities, and many Ada citizens expressed frustration at its being hidden away.



**Figure I-7. The northern lawn separating Headley Street from Fulton Street is the site of occasional events requiring a large open space.**



ENVISION ADA 2013  
JULY 24-25, 2013 72230001

## NATURAL FEATURES - FIRST IMPRESSIONS

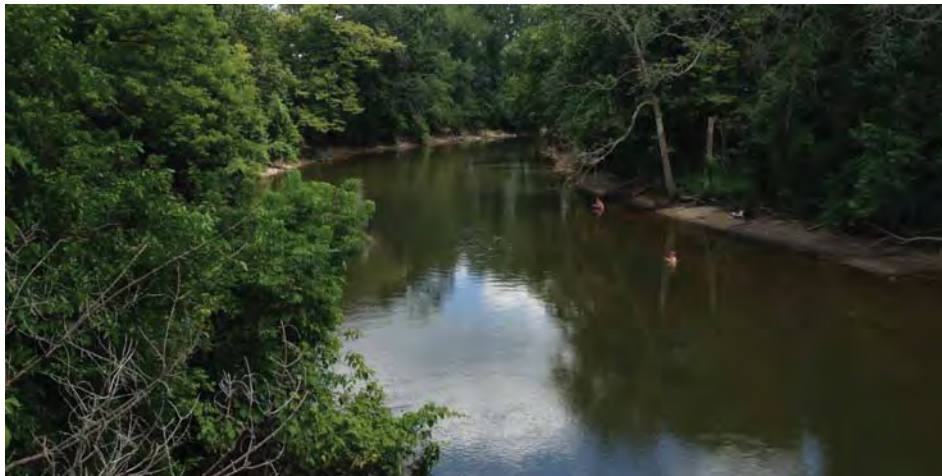
progressive|ae  
SPECK & ASSOCIATES LLC

# I: PRE-DESIGN

Publicizing this amenity—literally, “making it public”—will require a two step process of either shielding it from the rear end of the Shopping Center (or removing the Shopping Center) and then bringing public activity to its edge. The most effective way to accomplish this goal is to bring a small street to that edge, so that people pass by it on a regular basis. Far from reducing the appeal of the amenity, this approach—called the “Ocean Drive Solution” (from Miami Beach)—brings activity to the neglected amenity as long as the new street is not a significant transportation corridor.

Due to its tucked-away nature, this second open space could perhaps better serve the community as a quiet place for a small amphitheater. While the river itself is rather narrow when viewed straight on, it will become a greater amenity once a recreational footpath is located along its edge, something that residents have desired for some time now. Additionally, it offers a much more appealing view at its bend, where one looks down the river rather than across it. This site also has historic significance, as it is adjacent to the property known as The Grove, where the first settlers of Ada are known to have come together for community events over many years.

A number of trees have been located in and around the original Grove area of the Village. See Figure I-10. The goal is to save and incorporate these landmark trees into the future design of this public space.



**Figure I-8.** A bend in the Thornapple River is located against a deep lawn behind the Thornapple Village Shopping Center.



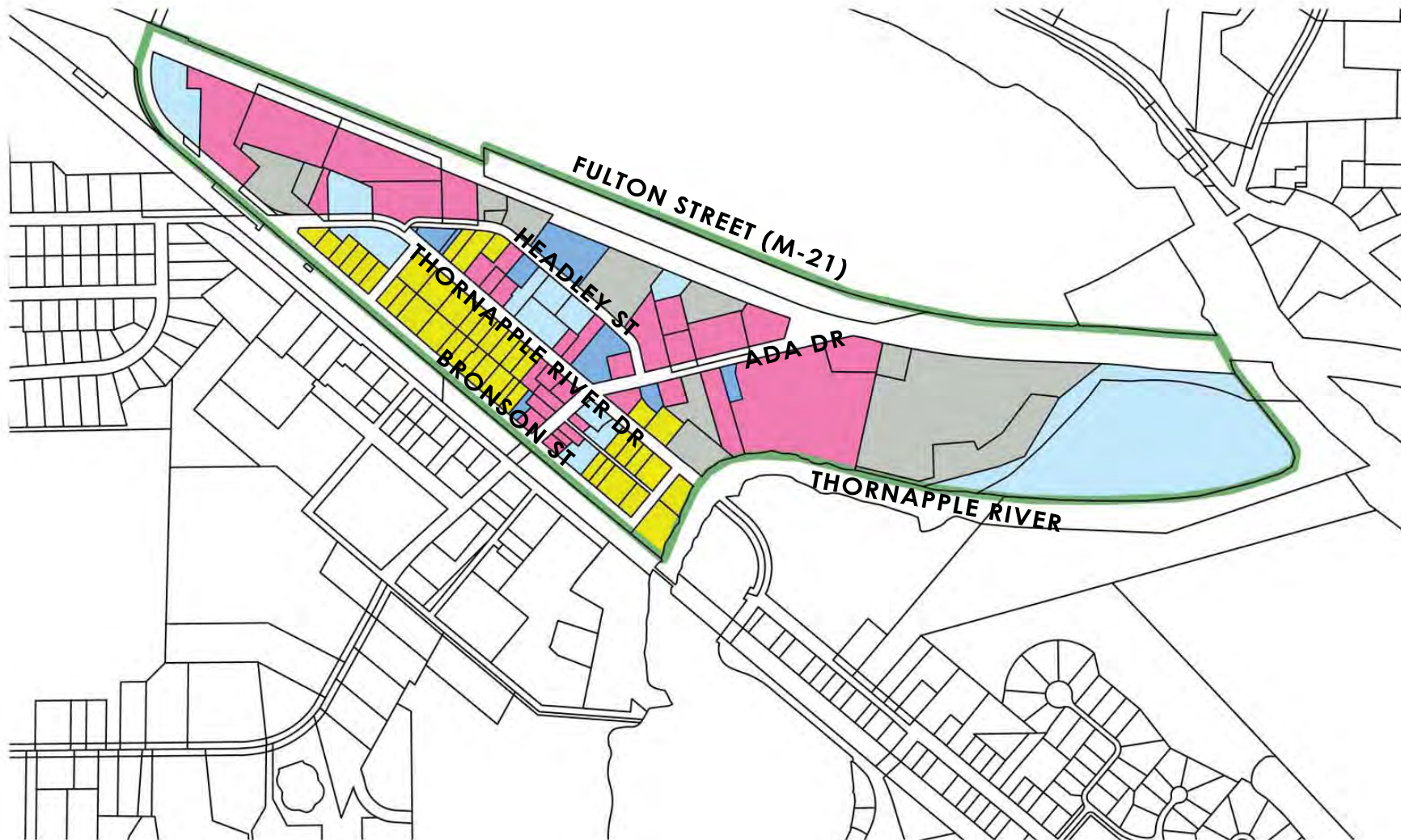
**Figure I-10.** All trees shown have trunks 21” or larger.



**Figure I-9.** The view from the edge of the Thornapple River could be more appealing.



Figure I-11. Aerial view of M-21 and Ada Drive.



## LAND USE LEGEND

- Commercial
- Residential
- Public/Semi-Public
- Office
- Vacant
- Area of Focus



**ENVISION ADA 2013**

progressive|ae SPECK & ASSOCIATES LLC

**EXISTING LAND USE**

## Land Use

The Village has been and continues to be the center of commerce, culture and government in the Township. The following is a brief summary of the current land uses in the Village as shown in the figure on the facing page.

- *Residential* - Most of the residential lots in the Village are single family homes concentrated between Bronson Street and Thornapple River Drive. Some of the Ada's most architecturally significant homes are located near the covered bridge at the east end of the study area.
- *Commercial* - The commercial uses in the Village include restaurants, banks, a hardware store, gas stations, a dry cleaner, gift shop, and apparel shop generally located along Ada Drive. The more traditional, walkable commercial core is between Bronson Street and Thornapple River Drive. The suburban, more auto-oriented uses are located between Thornapple River Dr. and M-21. The remainder of the commercial uses is located in a pocket of highway commercial activity located along M-21 just east of Bronson Street and on Thornapple River Drive.
- *Office* - The office uses are scattered throughout the study area. These include insurance and financial services, general professional and medical facilities.
- *Public/Semi-Public* - The study area has many of the public/semi-public uses traditionally found in a town center. These include the Ada Township Hall and Fire Station, the U. S. Post Office and the Community Church. At the confluence of the Grand and Thornapple Rivers is a large undeveloped wooded wetland area owned by the Township.
- *Vacant* - A significant portion of the study area is currently vacant. The largest parcel is the old Gilmore property at east end of the study area along M-21.
- *Adjacent Land Uses* - While not part of the study area, the Amway World Headquarters and manufacturing facility north of the Village along M-21 and the residential properties south of Bronson Street have are important to the study area.

# I: PRE-DESIGN

## Buildings

One of the features that makes Ada special is its village-style architecture, particularly along the most successful section of Ada Drive, where a collection of freestanding buildings, some of them house-sized, gather closely to frame the sidewalk. These buildings are about 40 feet deep—shallower than most conventional retail buildings—and mostly two stories tall. If there is a third story, it is located within the roof.

The popularity of this part of the Village calls our attention the challenges that one finds heading northeast on that same street. Here buildings are located much further apart from each other, set back from the sidewalk, and typically separated by driveways and parking lots. Most are one story tall only, further weakening their presence along the street. These include, at the key Ada/Thornapple intersection, a gas station with large curb cuts on both sides of the corner.

The final transformation from pedestrian-oriented to auto-oriented urbanism occurs at the Thornapple Village Shopping Center, where a single large structure containing eleven storefronts sits 150 feet back from the road, surrounded by a parking lot. Fortunately, this building has no great inherent value. Replacing it with something else does not seem like an extravagant idea, although great care will have to be taken to help its merchants relocate elsewhere in the Village, hopefully further west where they can add vitality to the area that is already walkable.

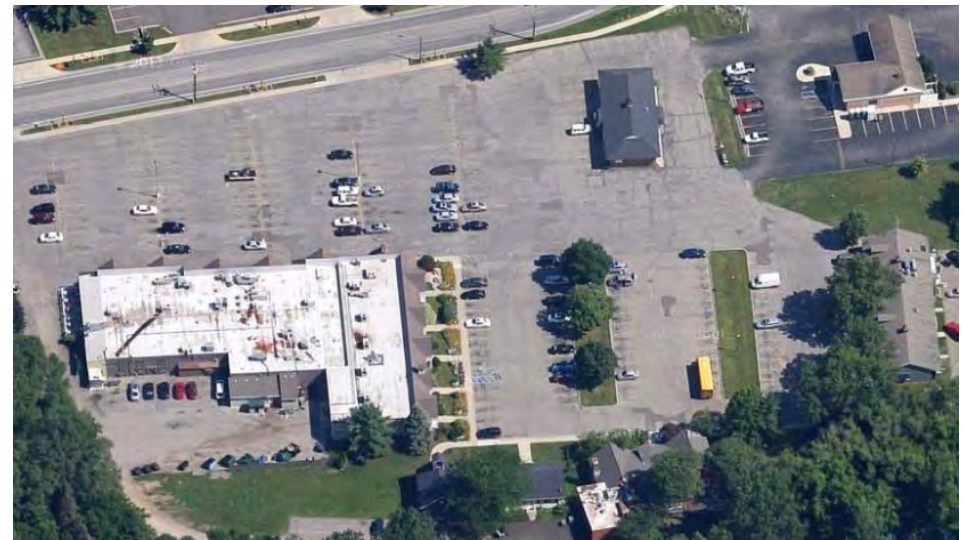


**Figure I-12.** Ada's most successful mixed-use area consists of relatively small buildings quite close together.

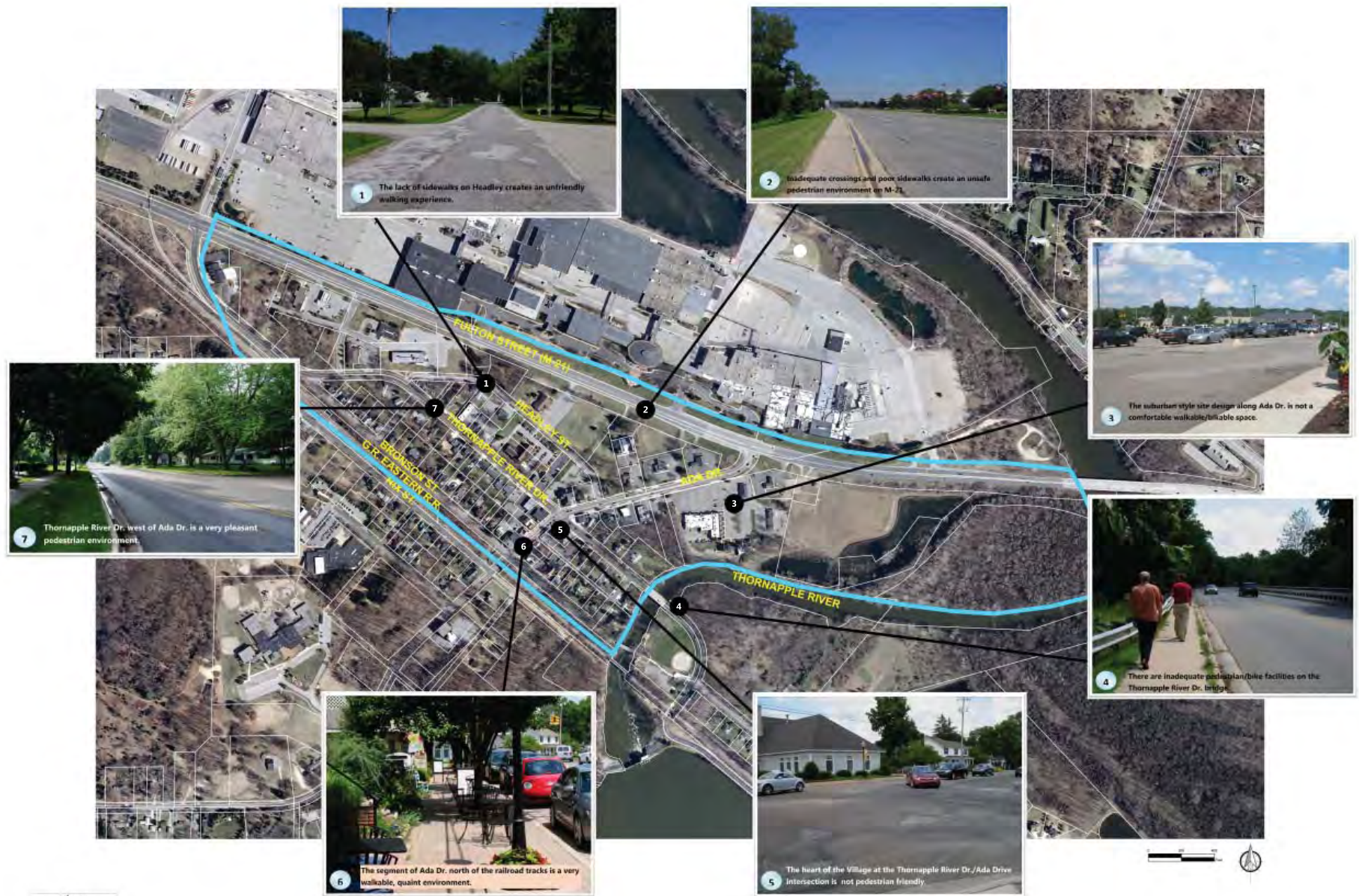
Other commercial buildings in this area deserve mentioning. In the Shopping Center parking lot and to its east are several buildings of similar low value. However, to its south, fronting the Thornapple River lawn, sit three older buildings of higher quality, including an old schoolhouse that was moved to the site. These buildings, similar to the ones found on the best block of Ada Drive, would ideally be located along a street rather than a parking lot.



**Figure I-13.** Further northeast, buildings are set back from the sidewalk and each other.



**Figure I-14.** Thornapple village shopping center contains many valued merchants in an urban framework that is not valued.



ENVISION ADA 2013  
JULY 24-25, 2013 72230001

## PEDESTRIAN EXPERIENCE- FIRST IMPRESSIONS

progressive|ae  
SPECK & ASSOCIATES LLC

## Parking

The core area contains approximately 984 parking spaces with 667 space in off-street lots and the remaining 328 spaces on street.

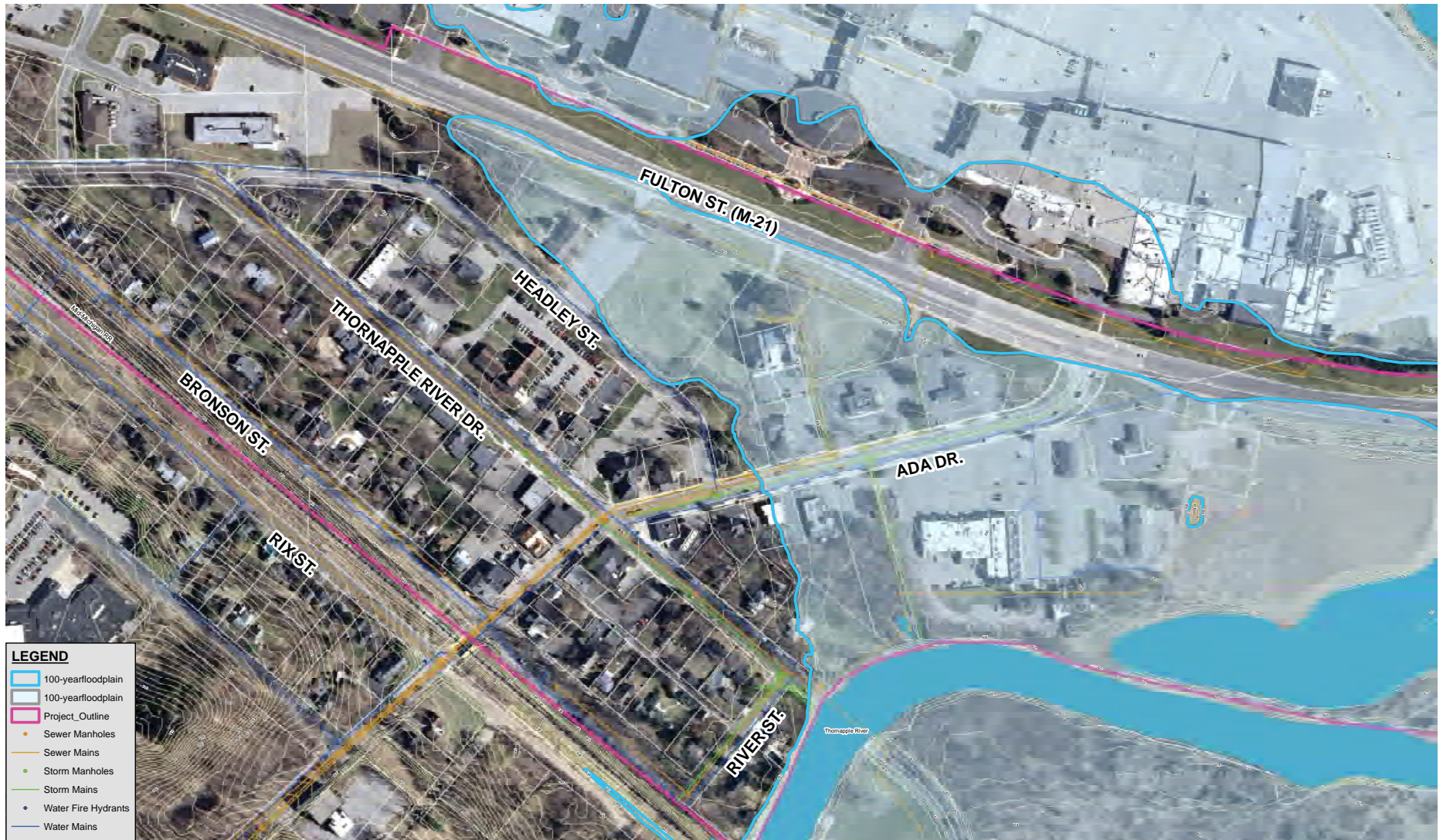
Most of the parking lots are dedicated to single use sites, requiring customers to park in a separate lot for each store visit. This suburban style of parking provision design leads to patron frustration over a lack of adequate parking—both actual and perceived. A more efficient and effective strategy for parking provision is to consolidate parking spaces into fewer, larger lots, giving customers the ability park once while visiting multiple stores.

## Public Utilities

The Village is serviced with public sanitary sewer throughout the study area. This system is owned by Ada Township who is a customer of the City of Grand Rapids for wastewater treatment and transmission. A major pump station is located on M-21 within the study area. Sewage flows to this pump station and is then pumped via a forcemain system along Ada Drive to the south. Capacity is adequate to handle the additional demands associated with the development of the scale imagined in this plan.

The Village's public water system is supplied by the City of Grand Rapids. Public water service in the Village is adequate, but there have been some pressure issues. The Michigan Department of Environmental Quality (MDEQ) has asked the Township to extend a water line across the Thornapple River to better service customers. This improvement may be required by the State as part of this project. The service area will need to be extended in several locations to service this proposed development, and some existing mains will need to be upsized and upgraded due to the age of the pipes.

A storm water distribution system is in place for a portion of the village. This system will need to be upgraded and extended for the proposed development needs. Currently, storm water discharges directly to the Thornapple River. The Township will not require storm water detention, but will require storm water filtration to treat the water for sediments prior to discharging into the river. Grouping storm water into areas where larger filtration systems can be installed would be the most efficient way to treat this runoff.



ENVISION ADA 2013  
MAY 24-25, 2013

## BASE PLAN MAP



progressive|ae  
SPECK & ASSOCIATES LLC

# I: PRE-DESIGN

## PUBLIC ENGAGEMENT

The Envision Ada 2013 Plan is the result of strong direction provided by the Ada community. The public engagement process employed a wide variety of tools and methods to gain meaningful and broad-based community input. All participants had many opportunities to voice their opinions and ideas both prior to and during the design process. Below is a summary description of the engagement process.

### Project Website/Facebook Page

The Envision Ada 2013 website and Facebook page were created to offer the Ada community and other interested parties an opportunity to express their views and comment on the designs. The site was regularly updated to inform the public of upcoming meetings, read various links regarding community design and walkability, review the input results and design plans as they became available.

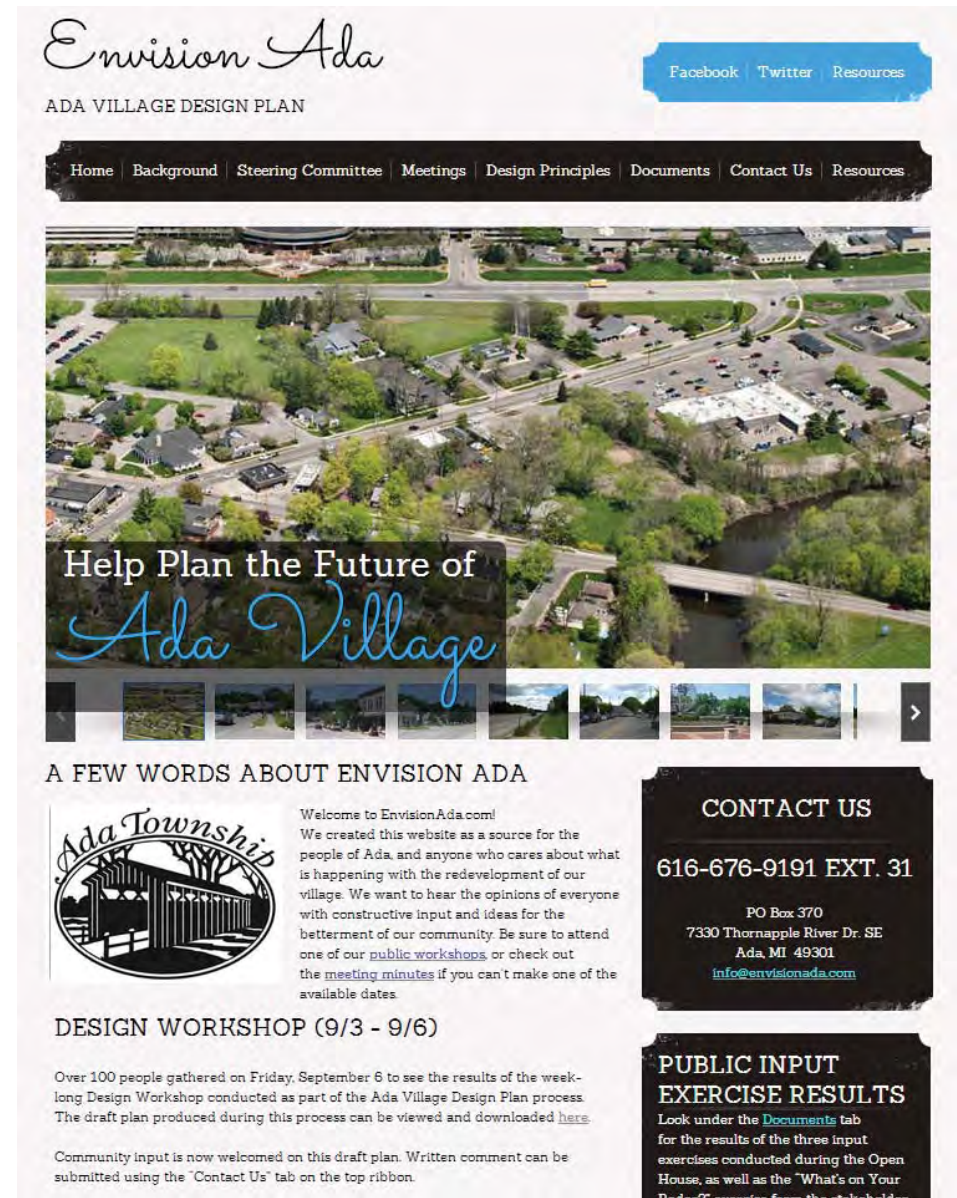
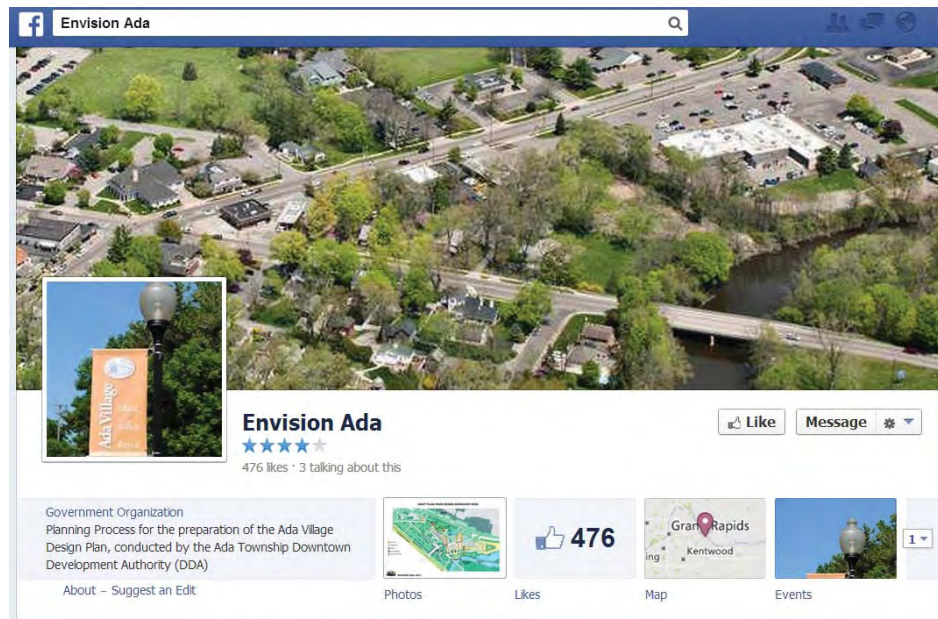


Figure I-15. Facebook page and website page.

## Walking Tour

As part of the June 17th kickoff meeting, Jeff Speck and members of the Progressive team conducted a walking tour of Ada Village in order to familiarize the stakeholders with the study area. This was a great opportunity to ask questions about possible design ideas as well as the issues and potentials that exist within the Village.

Topics discussed included pedestrian safety, walkability, traffic circulation, parking, utilization of natural amenities, and potential land uses. Similar walking tours continued throughout the pre-design phase with various stakeholders to confirm existing conditions and gather critical dimensional information which would be used later to support the design.

## Stakeholder Meetings

The project team conducted twelve stakeholder meetings in July and August of 2013. The meetings included business owners, tenants, civic organizations and user groups interested in the future of Ada. The following is the list of stakeholder groups interviewed.

- Ada Arts Council
- Ada Historical Society
- Ada Downtown Development Authority
- Ada DDA Citizens Council
- Ada Community Church
- Thornapple Village Shopping Center Tenants
- Amway Employees
- Envision Ada 2013 Steering Committee
- Empty Nesters Group
- Ada Parks Committee
- Ada Business Owners
- Millennials Group

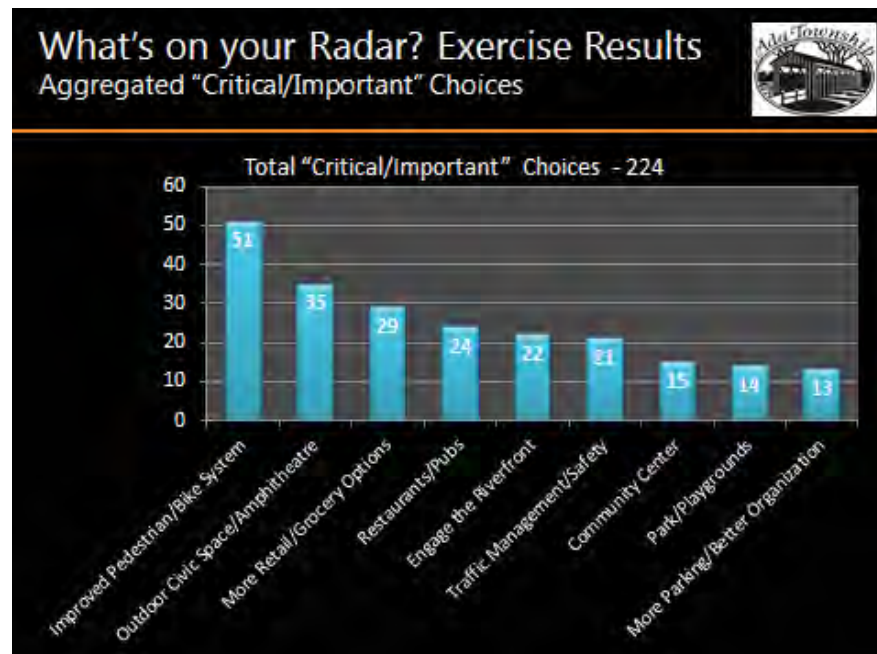
The meetings began with a brief description of the project, its goals, and a review of the ten Design and Development Principles formulated during the 2006 Village Design Charrette. In most cases, stakeholders were then divided into teams of five and participated in a research exercise called "What's-on-your-Radar?" This exercise allowed participants to record on sticky notes their ideas, opinions, and

concerns, and place them on a pre-prepared "radar screen" diagram of four concentric circles (labeled *Critical, Important, Peripheral, and Not Important*) each, divided into several key topics (labeled *Land Use, Transportation, Open Space/Green Infrastructure, Civic/Cultural Space and Other*). This exercise allowed the participants to quickly formulate numerous ideas and rank them in order of importance.

The aggregated exercise results for the top ranked ideas are shown below and in Appendix 1.1.



**Figure I-16. "What's on Your Radar" Session.**



**Figure I-17. Results sample.**

## Agency Meetings

Michigan Department of Transportation (MDOT) and Kent County Road Commission (KCRC)

Meetings were held with both roadway agencies at least twice during the master plan process. Initial meetings (July 8 with KCRC, July 15 with MDOT) were primarily held with staff from each agency to describe the current and upcoming Envision Ada process and to obtain their up-front input and perspective regarding roadway system opportunities and constraints. The real focus was the plan's expectation to push beyond their current standards regarding street design in order to provide a more complete and walkable street system for all its current and future motorized and non-motorized users. Key initial feedback from the two agencies included support for a raised center median on portions of M-21, tentative support for use of "complete streets" design tenets on the County system (existing and new streets), and some resistance to the concept of multi-lane roundabouts on M-21.

After public and stakeholder meetings and subsequent initial Envision Ada plan design efforts, follow-up meetings were held with both agencies (September 27 with KCRC, September 30 with MDOT) to review the plan's proposed roadway/street elements. One of the main topics of discussion was the proposed "new" Headley Street alignment and the related shift of Thornapple Drive at the east end and new major intersection with M-21 at the west end. Both agencies staff supported the new alignment although MDOT again expressed a strong preference for traffic control other than a roundabout at the new M-21/Headley intersection (as well as at the longer term new intersection of M-21/"Main" further east). Additional feedback included:

- Need to revise the geometry of the new Headley Street at/near its west end to provide smoother transition for this future primary roadway (KCRC);
- Confirmed support of a raised center median on M-21 where applicable – likely requiring widening of M-21 along south side to accommodate 15-16+ foot wide median (MDOT);
- Acceptance of east end transition of Thornapple to Headley in part due to resulting reduced traffic safety/operational issues at the skewed Ada Drive/Thornapple Drive intersection (KCRC);

- The need for new/improved streets other than Ada Drive, Thornapple Drive, and the new Headley Street to be considered private roads that will not be accepted into the county public street system (KCRC);
- The need for MDOT to complete internal reviews/analyses to confirm potential signalization at the proposed M-21/Headley intersection (key for safe pedestrian crossing also); and
- Specific right-of-way and cross section design input for the new and revised county streets (KCRC).

Upon revisions to the earlier plan, an additional meeting was held at the KCRC request on November 4<sup>th</sup> to discuss subsequent feedback from the KCRC commissioners. With the caveat that the primary new or reconstructed streets would meet the general KCRC design parameters, the commissioners accepted the plan, except for the unrevised west end of new Headley Street. Subsequent discussions resolved that issue with a slightly revised version of the curvature and boulevard design in that area.

Additional information can be found in the roadway agency meeting notes included in the appendix of this report.

## Michigan Department of Environmental Quality (MDEQ)

A meeting with Matt Occhipinti, PE, Grand Rapids District Engineer for Water Resources Division of the MDEQ, was held on July 24, 2013. We discussed the master plan basic principles, and inquired about what development opportunities would be feasible within the floodplain and floodway of the Thornapple River. Mr. Occhipinti stated that any work within the floodplain would require a permit, and that all infill within that area would require compensatory storage excavation. This excavation would conform to a 1:1 ratio fill volume below the 100 year flood elevation (approximately 631). Compensatory excavation described as fill placed "as close to the fill action as possible," but moveable to other areas within the drainage boundary. Volume could also be created underground, with Roselle Park and Amway land as additional options.

It was also learned that the floodway mapping can be modified by submitting a hydraulic model (HECRAZ) and other required documentation. In addition, an open amphitheater, parking, and boardwalk that could be flooded would be allowed in the floodplain without requiring compensatory storage. Any

boardwalks and retaining walls would be evaluated to make sure that they meet the Inland lakes and Streams Act 301 permit requirements.

Mr. Occhipinti would be interested in seeing active use of the river, and suggested a Kayak launch for the plan.

## Community Open House

A two-day Community Open House was held on August 24 and 25, 2013. This event was designed to enable those not included in a stakeholder meeting to express their ideas. The Open House was very well attended with 204 people participating.

Three Public Input Stations were created to engage the participants.

1. PET (Preserve, Enhance or Transform) Station - This station allowed the public to visualize and communicate the Village's assets, opportunities and areas of concern by placing colored sticky notes (blue for *Preserve*, yellow for *Enhance* and pink for *Transform*) on a large aerial photograph of the study area.
2. Community Preference Ballot Station - Participants were given a preference ballot sheet with three basic questions to answer.
  - What three things or places do you like about Ada Village now?
  - What three things or places within Ada Village would you like to change?
  - What three things would you like to have or experience in Ada Village in the future
3. Design Element Preference Ballot Station - This activity is similar to the "What's-on-your-Radar? Exercise in that the participants were asked to rank elements by importance. The ballot identified several specific items in each category that the voter was asked to rank. This exercise delved deeper into the detail on several topics that had evoked a diversity of opinion in prior exercises.

The outcomes of the Open House input stations are shown in Appendix 1.2.



Figure I-18. P.E.T. results.



### DESIGN: PHASE 1

#### 1. THE PRELIMINARY PLANS

True public participation in a plan can only happen through an iterative design process, thorough which the public is asked to respond to preliminary plans which lay out all of the physical ideas that have surfaced up to that time in the effort. Towards that end, the design team initiated its September design charrette with the presentation of three separate plans for the Ada Village, plans which manifested a wide variety of design options. Each of these will be described in detail in the pages that follow.

##### The 2007 Charrette Plan

Before turning to these plans, however, it is worth reviewing the plan that began it all, which is the one that arose out of the large public effort called the Ada Village Design Charrette, completed in 2007 and led by ACP Visioning and Planning. This plan contained a large number of excellent ideas—as will be discussed—but suffered, necessarily, from being overly ambitious in some regards and inadequately ambitious in others.

Specifically, the plan was overly ambitious in that it failed to anticipate—who did?—the Great Recession that arrived shortly after its completion, resulting in the economic stagnation that cause most of its ideas to go unexecuted. And it was inadequately ambitious in the sense that, completed without the participation of the largest landowner and employer in Ada, it could not imagine the investments that Amway was considering making in order to improve



**Figure II-1. The 2007 Charrette brought together a large representation of the Ada community to imagine the future of the Village.**

the heart of its host community. Now that Amway has acquired a large portion of the study area, with a stated goal of participating in the Village's growth, it is possible to return to the plan with renewed vigor.

All that said, the Charrette Plan, pictured in Figure II-2, contained the following concepts that continue to resonate within the community:

## II: PRELIMINARY DESIGN

- A new thoroughfare crossing Fulton Street at the principal Amway entrance and accessing the community, to intersect with Ada Drive and continue to the Thornapple Village Shopping Center. This connection will calm traffic on Fulton Street and invite Amway employees to take advantage of the Village.
- A roundabout at the intersection of the New Street with Ada Drive. While there remain mixed opinions about the proper location and use of roundabouts, there is a growing understanding about the potential benefits of this tool.
- A second new entrance to Fulton Street from the closest curve of Headley Street, also at a prominent entrance to Amway. Like the other new entry, this one acknowledges that traffic in the Village will flow more efficiently if it is given multiple ways to access Fulton Street.
- A treed median in the center of Fulton Street, improving views and calming traffic.
- A small street breaking up the large block between Headley and Thornapple, alongside the Ada community Reformed Church. Studies show that small-block systems are safer and more useful to pedestrians, and this block is currently unusually large.
- A more formal green between Headley and Fulton street, amenitized by a civic building. This proposal also included an amphitheater in this location, which makes sense in terms of visibility but perhaps not in terms of highway noise.
- Infill buildings along Headley Street. These buildings present a better face to Fulton Street by replacing some of the parking lots currently in that location. However, they do create a significant loss of parking capacity with a simultaneous increase in parking demand.
- Additional new buildings framing streets, giving proper shape to the public realm and providing additional commercial activity downtown. The Market Analysis accompanying the Charrette Plan determined that, if properly oriented towards convenience, shopping, and dining/drinking uses, there existed (in 2007) a capacity for more than 80,000 square feet of new commercial use.



**Figure II-2. 2007 Charette Plan**

- An eastern hamlet: the undeveloped site east of the Thornapple Village Shopping Center was laid out as a collection of small single-family homes, and provided with an additional access point to Fulton Street.
- A new shopping street: drive aisle in front of the Shopping Center is re-conceptualized as a one-sided main street, flowing directly into the new hamlet.
- An extensive walkway system around the Thornapple River basin, helping to make that amenity more visible and visited.

These are only some of the positive features of the Charrette Plan, which was accompanied by a Form-Based Code Overlay that allows new development to be more compatible with Ada Village's historical fabric than was possible under the pre-existing coding regime.

MAP 6.1: INITIAL REGULATING PLAN DIAGRAM

## Plan A

The wisdom in the 2007 Charrette Plan—and the understanding that it made every effort to represent the public will—undergirded the development of the three alternative plans to be presented at the 2013 design workshop. The first proposal, dubbed Plan A, was developed from the Charrette Plan, introducing the following additional concepts: (see Figure II-4)

- A New Street still connects Fulton Street to the Thornapple Village Shopping center, but its intersection with Ada Drive is shown as a four-way stop rather than a roundabout, as these are considered better for retail success.
- The roundabout is moved to Fulton Street, where it calms traffic, improves safety, allows a more efficient flow of vehicles into and past the Village, and allows the highway's 5- to 7-lane cross section to be reduced to four lanes with no reduction in throughput.
- The insertion of the roundabout takes pressure off the Fulton/Ada intersection, allowing it to become right-in/right-out.
- Thanks to the Amway acquisition of a key riverfront property, the New Street is able to angle past the Shopping Center to connect directly to River Street across Thornapple River Drive, publicizing the amenity of the riverfront, and making the street network more robust.
- At the bend in this street, a triangular western addition to the Shopping Center gives proper face to the sidewalk.

**Figure II-3. The Charrette Plan's form-based code allows the replacement of conventional use-based zoning with a new regime oriented around lot and building types.**



## II: PRELIMINARY DESIGN

- The Shopping Center's eastern parking lot is resurfaced as a parking plaza, making the most of a less-than-ideal urban configuration. In similar vein, its rear service (dumpster) zone is shielded from the riverfront green by a wall.
- A new pedestrian bridge (also discussed in the 2007 Charrette Plan) provides a direct connection across the river from the Shopping Center, bringing more activity to the riverside green.
- Although not shown, an amphitheater is proposed for the riverfront green at the bend in the river, taking advantage of the appealing views from that location.
- Buildings that set back from Ada Drive are replaced by new buildings against the sidewalk that hide their parking in midblock lots behind.
- In order to allow for new buildings facing Headley Street without a reduction in parking behind, Headley is pushed about 100 feet north towards Fulton Street. This transformation is not inexpensive, as it requires the rebuilding of a segment of Headley Street, but it creates about an acre of new developable property, and allows for the large Community Church parking lot to be hidden from Fulton Street, giving Ada Village a more dignified face and giving a proper edge to the enfronting green.



**Figure II-4.** Plan A focuses on a new street connecting Fulton Street to the Shopping Center, which it retains.

- The northward shift of Headley street is mediated by a small transitional green that functions as a slow-speed roundabout, calming traffic on this street.
- The new street connecting Headley and Thornapple Streets is given a central green in acknowledgement of the community garden that now sits in that location.



**Figure II-5.** The Church's community garden sits on axis with the new street proposed in the Charrette Plan, requiring a modification.

## II: PRELIMINARY DESIGN

### Plan B

The second plan was developed in response to a simple question: *"What happens if the Thornapple Village Shopping Center can be torn down?"* Given its acquisition by Amway, the Shopping Center can now be addressed more flexibly, understanding that its merchants would need to be relocated, and that the expense of replacement would need to be economically justified.

Removing the current Shopping Center allowed for the following additions to the plan:

- New Street is now able to continue straight all the way to the riverside green, where it terminates on the new pedestrian bridge across the river.
- More significantly, the new riverside drive is able to continue along the entire riverfront, from River Street into the new eastern hamlet.
- The shopping center can be replaced by new buildings lining the Riverside Drive, giving that street and the riverfront green a proper edge consisting of building fronts instead of dumpsters behind a wall.
- The compromise of a parking plaza is no longer needed, with all parking now located behind new buildings, and all shop-fronts facing streets rather than parking lots.



Figure II-6. Plan B shows how Plan A can develop if the Shopping Center is replaced.

## II: PRELIMINARY DESIGN

### Plan C

The third plan was explicitly created with the charge of rejecting most of the ideas in the first two plans, in order to propose the greatest variety of choices to the community. Key features of this plan are as follows:

- The new street and the Riverside Drive have been removed in favor of a new public green reaching from Fulton Street to the River. This green is lined by pedestrian streets and centered upon a pond connected to the river.
- The zone of the residential hamlet is left undeveloped as open space.
- The bend along the River is still developed as a public green, but it is kept tucked away rather than being exposed to public streets.
- Headley Street is still shifted north, but its public green is further constricted (and shaped) by commercial buildings located at its western end. This green is also allowed to cross Headley street and penetrate the adjacent block.
- An auto-oriented commercial zone is placed west of the western connection between Headley and Fulton Streets, in response to the request of several local merchants seeking greater highway visibility.
- In the most significant modification to the plan, the Thornapple/Headley and Thornapple/Ada intersections are reconfigured so that the principal path through the Village and across Ada drive moves from Thornapple Village Drive to Headley Street. This proposal takes pressure off of the current Thornapple/Ada intersection, which can replace its signal with a three-way stop sign, and creates a new main/main intersection at Headley and Ada.

- The vacated portion of Thornapple, in front of Township Hall is replaced by a pedestrian street. Between this street and the shifted Thornapple, the Speedway gas station and another property are removed to create something that Ada currently lacks: a central green. Here it is shown with a public building upon it—an optional feature—but the key intention of this proposal is to give the Village a civic heart at its geographical center.



Figure II-7. Plan C redirects Thornapple's traffic onto Headley Street, creating a central village green.

### 2. THE PUBLIC RESPONSE

Immediately subsequent to the public presentation of the three Plan Alternatives above, a large group of community charrette members collected in the basement of the Ada Community Reformed Church to make their opinions known. Groups surrounded eleven tables to discuss and critique the plans, noting their favorite and least favorite aspects of each, and making additional design suggestions. Each table reported its findings to the assembled group, also making written notes on the plans.

While not every opinion can be recorded here, what follows, in rough order of interest shown, are some of the key opinions and ideas that arose from the tables:

- Tremendous support for the new riverfront drive.
- Tremendous support for a new footbridge across the river.
- Strong support for an amphitheater at the riverbend.
- Strong support for the diversion of traffic from Thornapple to Headley.
- Support for a boardwalk or path at the river's edge.
- Support for the central green (and moving Speedway).
- Support for the hamlet to the east.
- Slightly more support than non-support for the roundabout and its New Street.
- Slightly more support than non-support for the new street at the Church.
- Non-support for a parking plaza at Thornapple Village Shopping Center.
- Strong non-support for the highway-oriented retail district proposed to the west.

When discussing the various schemes holistically, those attendees that expressed an opinion all preferred Plan B to Plan A. There was also more support for Plan B than Plan C, but many people voiced an interest in combining the best parts of both, specifically integrating the new street and riverfront features of Plan B with the central green and diverted traffic of Plan C. This charge led the subsequent development of the plan.



Figure II-8. Charrette participants respond to the three plan alternatives.



## VILLAGE MASTER PLAN



Figure III-1. The Illustration Plan shows the ideal build-out of Ada Village.

## THE PLAN

### III: FINAL DESIGN

The Plan for Ada, illustrated on the previous page, grew out of an effort to merge the most favored aspects of Preliminary Plans B and C. Before describing the Plan in more detail, it is useful to explain the types of drawings being presented. The colorful plan drawing shown here is something that is understood as an *Illustration Plan*. The Illustration Plan shows an ideal build-out of the site, one of many that would conform with the Plan's intentions. These intentions are communicated more directly—though less attractively—in another plan, called the *Regulating Plan*.

The Regulating Plan comprises a part of the Plan Regulations presented ahead in Appendix 2.1 of this report, and controls only those aspects of the Plan which directly impact the quality of the public realm. As such, the Regulating Plan ensures that the ultimate outcome will achieve its urban objectives, but is less specific about those things that matter less, such as the footprints of the buildings, the divisions among lots, the design of parking, and the distribution of land uses that are shown or implied by the Illustrative Plan. Instead, the Regulating Plan—which, unlike the Illustration Plan, will have the force of law—addresses such essential issues as the design of thoroughfares and civic spaces, the locations of building-fronts, the height of buildings, and the distribution of retail activity.

Because it is only one possible outcome of the Regulating Plan, the Illustration Plan does not have the force of law, but it is able to show in greater detail the sort of development that the Regulating Plan engenders, while also presenting the design team's imagined "best realistic outcome" for the study area. For purposes of explanation the Illustration Plan is presented below in three sections: Central, Western, and Eastern.

#### THE CENTRAL SECTION

Illustrated here, the central section of the plan can be explained most easily if it is described in terms of its Thoroughfares, Landscape, and Buildings.

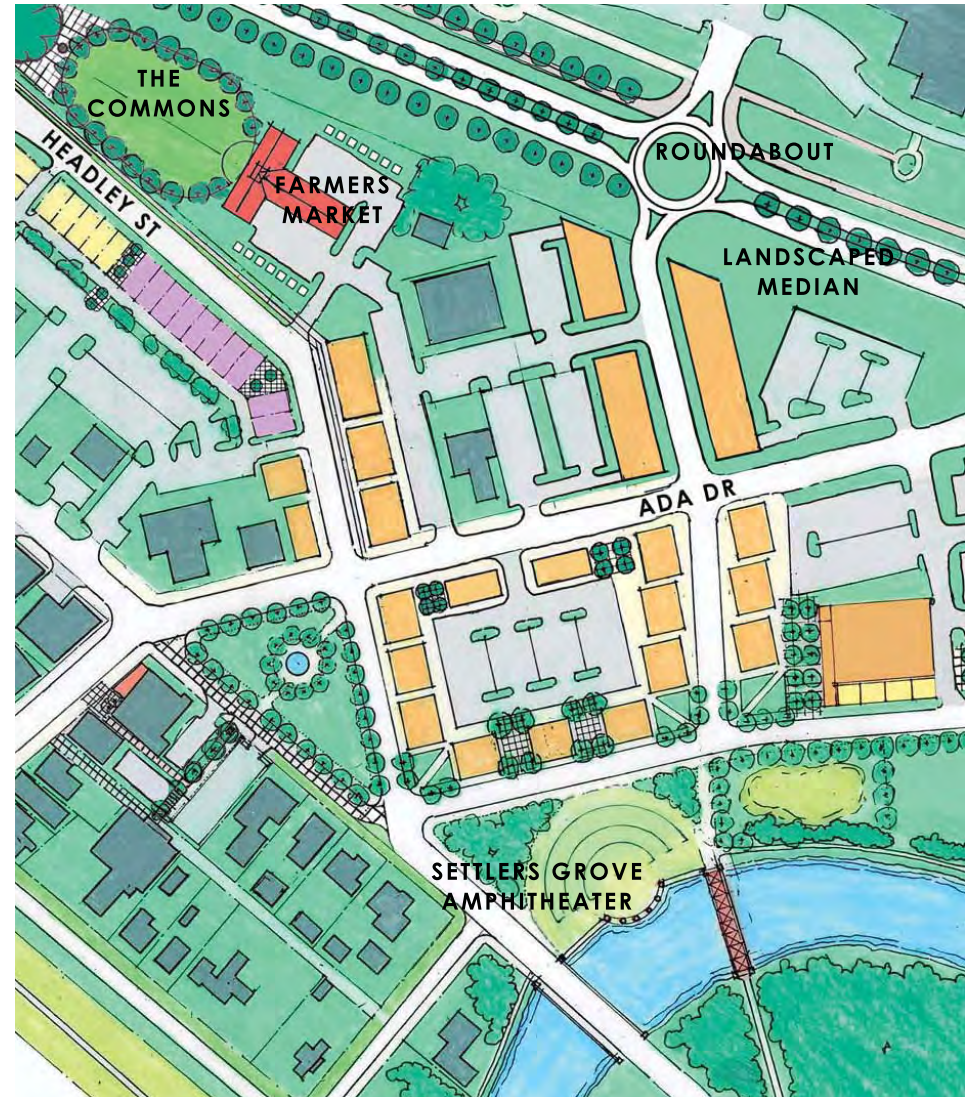


Figure III-2. The heart of the Village receives a Central Green, a Waterfront Park, a Riverside Drive, and a new connection to Fulton Street.

## Thoroughfares

The Plan proposes the following modifications to the Village's thoroughfares:

- As it heads northwest, Thornapple River Drive is diverted at an angle so that it crosses Ada Drive to intersect with Headley Street. The vacated section of Thornapple, shown in Figure III-3, is replaced with a narrow cobblestone mews heading southeast only, intended principally for pedestrian use. Between these old and new trajectories sits the new Ada Central Green. This change is completed in conjunction with the reconfiguration of the western Thornapple/Headley intersection to favor Headley Street, so that Headley becomes once again the principal east-west corridor through the Village. This reconfiguration allows for the removal of the current Ada/Thornapple traffic signal. It is likely that the new Ada/Headley intersection can be controlled by a 4-way stop sign. The new segment of Thornapple will include two driving lanes with one parking lane against its one urbanized flank.
- A New Street is introduced connecting the Amway main entrance across Fulton Street all the way to the riverfront. The Fulton intersection is shown in the ideal form of a roundabout, although the plan does not depend on a roundabout for its functionality. The New Street will contain two driving lanes flanked by two parking lanes. The creation of this street, and the future value of Ada Drive, depend on the intersecting segment of Ada drive being lifted about 3 feet above its current flood-prone elevation.
- In the short term, Ada Drive is restriped to support slower travel speeds and bicycles. When it is eventually rebuilt to resist flooding, it will also need to include parallel parking. Both of these configurations are described in more detail ahead under Section IV.
- Thanks to the roundabout, Fulton Street can be transformed from its current 5- to 7- lane configuration to a 4-lane

configuration. Ideally, these four lanes are separated by a central median into two 2-lane drives, with both median and flanks consistently planted with street trees.

- A new Riverside Drive is introduced to open up the river's edge to the sort of mixed-use development that will cause it to be actively used. Rather than terminating on River Street as in the prior Plan B, this Drive terminates at the southern point of the Central Green, providing a seamless transition from the Village's heart to its waterfront. As a true *drive*, this street will consist of two driving lanes with a raised curb and parallel parking against only its one urbanized flank.



**Figure III-3. Viewed from the north: removing the Speedway gas station allows the diversion of Thornapple to connect to Headley, creating a Central Green.**

# III: FINAL DESIGN

## Landscape

The Plan proposes the following modifications to the Village's landscape:

- *The Central Green* sits framed by Ada Drive, the diverted Thornapple River Drive, and the cobblestone mews occupying the old Thornapple trajectory. Located at the heart of the community, this Green provides a worthy terminus to the best section of Ada Drive and an attractive amenity around which additional retail establishments can be expected to gather. The Central Green is a high-value asset achieved at a high cost: the relocation of the existing Speedway gas station and other adjacent properties, to be discussed below. It is by no means an assured outcome, which is why Alternate Plan are provided in Section III.5 ahead. In addition to drawing shoppers down Ada Drive to the east, the Central Green also reaches south the Riverfront Park. It is expected to include a large central fountain surrounded by benches, and a crosswise path that continues across the street to reach the front door of the Township offices.
- *The Riverfront Park* runs the length of the Thornapple River from Thornapple River Drive to beyond the Thornapple Village Shopping Center. Made accessible by the creation of Riverfront Drive, this park includes the site of the former settlers' Grove, and takes advantage of the bend in the River to provide uninterrupted water views to the east. This park is proposed to include a civic Amphitheater overlooking the riverbend, next to a new pedestrian bridge that provides an alternative to crossing the river along the unsafe trajectory of Thornapple. From this park, a new path along the River's edge continues west all the way to the reservoir dam, and east to the banks of the Grand River.
- On the block facing the Riverfront Park, and also just to the east, three small *Corner Greens* are also added, to draw pedestrians around corners, and to ease access to hidden mid-block parking. Each is anticipated to include trees, a path, and a pair of facing benches.
- Finally, on the western stretch of Ada Drive, a small *Sitting Plaza* is located where one has been started but not completed, along the back of the telephone switching facility, under some healthy pine trees. This mini plaza, which leads to an existing walkway to mid-block parking, would be framed to its east by a proposed incubator space (described ahead), and provided with a bench or two. Ideally, the path to parking would be framed by a planted trellis.



**Figure III-4.** Looking east across the Central green to new mixed-use buildings facing the Headley Street extension.

## Buildings

Due to the anticipated willingness of private parties to redevelop key sites in the village, this plan imagines a significant amount of demolition. It is understood that it is in the best interest of all parties—including the land developers—to secure alternative locations *within the Village* for any merchants or residents dislocated by this demolition, and to do so well in advance of requesting a vacancy.

## Demolition:

Specifically, the development of the Central Green requires the relocation of the Speedway gas station, the two houses to its south along Thornapple River Drive, and the building immediately to its east on Ada Drive. Without these relocations, it is not possible to divert Thornapple into Headley across Ada Drive, which is why this report also includes the Alternative Plan presented ahead.



**Figure III-5. An amphitheater and new pedestrian bridge bring life to the bend in the Thornapple River.**

Additionally, in order to optimize the use of the block between the Speedway and the New Street to its east, this plan also envisions the replacement of the two buildings containing Heidi Christine's Salon and the former Ninth Bridge Market. While these businesses are important community assets, they are located in buildings that are set back from Ada Drive within parking lots, providing a poor edge to the sidewalk and an inefficient parking arrangement. Replacing them with new buildings against the street allows for an efficient mid-block parking lot to be fit behind them, hidden from view.

Across Ada Drive, the Plan envisions the replacement of the small house at the Headley Street corner with a much larger building. Heading east, the Fifth Third Bank and Chase Bank, each surrounded by parking, are also imagined as replaced by multi-story buildings properly lining sidewalks. The New Street to Fulton can actually be built without this change, but it is hoped that the replacement of these

structures with larger buildings would help justify and support the cost of adding the New Street and lifting Ada Drive out of the flood zone.

Finally, as clearly desired by the community the Thornapple Village Shopping Center and its outlying structures are all marked for replacement. These include the three attractive buildings separating the Center's eastern parking lot from the River, which should all ideally be relocated elsewhere. That said, these structures need not be moved for the Plan to be implemented, as they are located south of the proposed Riverside Drive.

### III: FINAL DESIGN

#### Construction

Working from west to east, the central section of the Plan receives the following new buildings:

- A small retail incubator space is attached to the flank of the telephone switching building. This building gives a proper commercial edge to an important corner, and also helps to shape the small plaza to its west.
- Flanking Headley Street to the north, new mixed-use buildings are proposed to connect Ada Drive more emphatically to the Township Green along Fulton Street. The first of these buildings is located upon the current parking pad of 558 Ada Drive SE, requiring the cooperation of that owner, who will be provided with compensating parking spaces along Headley Street.
- The new block located between Ada Drive and Riverside Drive will be surrounded by new mixed-use buildings containing a ground floor of retail below one or two floors of apartments or offices. In keeping with Ada's historic architecture, these buildings are house-sized, and are in some cases separated by small plazas for outdoor dining, easing pedestrian access through the block. To the east, flanking the New Street, these buildings are set at a slight angle to the sidewalk, creating a sawtooth frontage, emulating the most historic section of Ada Drive.
- Across the New Street, the sawtooth arrangement of new mixed use buildings is repeated.



**Figure III-6. The New Street reaches from Fulton Street to the River with compatibly-scaled buildings.**

- Across Ada Drive — given the large expense of raising this land above the flood zone, and the lower elevations that exist to east and west — three larger buildings are located, each consisting of three full stories atop a basement of parking, accessed from the rear. These buildings are expected to contain offices or apartments above retail, but this retail use is not required.
- Finally, shown to the east is a wish: a small supermarket. While a merchant of this type is not guaranteed, it was important to demonstrate in the Plan how it is possible to insert a mid-size retailer—about 12,000 square feet—in the Village without undermining its walkability. This is achieved by placing the retailer's front against a pedestrian walkway to its west, so that it may be accessed both from the Riverfront Drive and from a large parking lot against Ada Drive. As has been accomplished in other recent developments across the U.S., the blank south wall of the market is lined by a shallow edge of rowhouses, giving a proper face to Riverside Drive. In the absence of a supermarket tenant, this building could be used by another mid-sized retailer, or replaced by more of the house-sized mixed-use buildings of the type proposed on the block to its west.



**Figure III-8.** The River's edge is made public by a new street flanked by mixed-use buildings and small dining plazas; a small supermarket sits to the east (right).



**Figure III-7.** In Middleton Hills, Wisconsin, a thin liner of housing hides a supermarket from a village street.

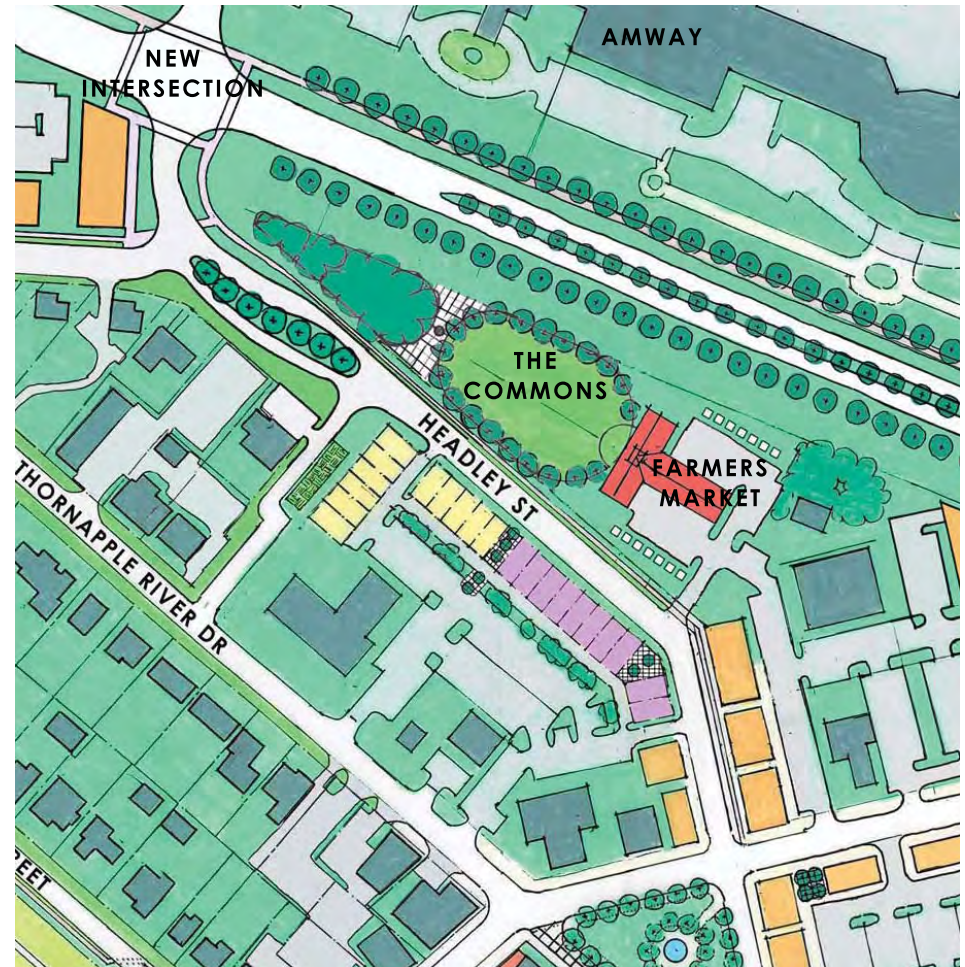
# III: FINAL DESIGN

## THE WESTERN SECTION

### Thoroughfares

As illustrated in detail here, the Plan proposes the following modifications to the Village's thoroughfares:

- As proposed in Preliminary Plan C, the diversion of Thornapple River Drive into Headley Street is made functional by the concomitant reconfiguration of the western Thornapple/Headley intersection, which allows eastbound traffic on Headley to stay on Headley rather than shifting to Thornapple. This reinstitution of the original traffic pattern takes pressure off of Thornapple, which also must be restriped with narrower lanes, as described ahead under Section IV.
- Given its more significant role in the traffic network, Headley Street is widened from a country road into a real street, or, more accurately, a *drive*: a street with buildings on one side and a green on the other. This drive is widened to include two driving lanes and a parking lane to its south. Given the rarity of curb cuts to its north, the park side of this street is the ideal location for a bike path, which is placed beyond a curb and separated by a tree lawn from the sidewalk. As it curves south to meet Ada Drive, Headley gains a lane of parking, serving buildings to its east.
- In order to allow the block to its south to achieve the depth it needs to hide its parking behind buildings, Headley Street is shifted north into the Amway-owned open space separating it from Fulton Street. This shift creates almost twenty new lots for shallow rowhouses that give a handsome new face to Ada from the highway and a proper edge to the open space.
- At its western end, the northward shift of Headley Street is accomplished by splitting the street into a one-way pair around a linear green. In addition to calming traffic, this configuration allows the three properties to its south to maintain their current sidewalks and curb cuts.
- As proposed in the 2007 Charrette Plan, a new intersection with Fulton Street is provided across the highway from an entrance into Amway.



**Figure III-9. Shifting Headley street to the North makes it possible to hide the parking lot and give a proper face to an amenitized Township Green.**

- Also from the 2007 plan, a new street is inserted connecting Thornapple and Headley Streets in the location of the Community Church garden. In an evolution from the Preliminary Plans, this street, rather than splitting around that garden, curves around it to the west, so that children may access the garden safely from Church property. To keep it as skinny as possible, this street is limited to a single lane of traffic heading north, with parallel parking on its east flank along only the stretch to the south of the garden. This street receives a stop sign at Headley.

## Landscape

The Plan proposes the following modifications to the Village's landscape:

*The Headley Green* splits eastbound and westbound traffic as Headley street shifts northward into the Amway owned open space. It is principally a decorative green, holding street trees.

The Amway-owned open space, already used for Township functions, becomes the *Township Green* and receives a proper landscape treatment including a large central oval surrounded by trees. To the west, a thick grove of evergreen trees give a firm edge to Headley Street across from the Headley Green, and a small plaza with benches sits across from the termination of the new north-south street. Ideally, the Rix Robinson Monument, already moved once, could be relocated to this spot in such a way that it receives views down the new street. To the east, a new *Market Hall* is constructed to house public



**Figure III-10. A new street curves around the existing Community Church Garden.**

events and the Farmers' market that currently takes place in the Church parking lot. On days when the market is closed, the parking can be shared to accommodate other functions. Given its occasional

use, the parking area serving the market should be surfaced in Grasspave or another pervious material rather than asphalt

### III: FINAL DESIGN

#### Buildings

The Plan proposes the following modifications to the Village's buildings, heading from east to west:

- As discussed, new buildings are planned to flank Headley as it heads from Ada Drive to the Township Green. While the buildings on Ada are required to contain retail ground floors, the other new buildings may contain commercial or other uses at ground level. These buildings are all expected to include one or two upper stories of offices or apartments.
- To increase efficiency of use, the parking lots serving the three buildings east of the Community Church are reconfigured into a single shared lot, removing wasted space.
- The deepening of the Headley/Thornapple block allows for the insertion of a layer of shallow rowhouse lots that hide the parking lot from view. These rowhouses include integral rear garages and are most likely to be of the Live/Work variety, with flexible space at ground level allowing for shop, office, or other commercial use (see Figure III-11). Live/Work rowhouses and strictly residential rowhouses are essentially interchangeable, with the caveat that Live/Works function better when not interspersed with residences. For this reason, it is recommended that Live/Work construction commence from the east and standard residential rowhouses commence construction from the west, with the relative popularity of each building type determining where in the middle they meet. Facing the Church Garden, six additional rowhouses (not Live/Works) are placed along the sidewalk of the new north-south street.



**Figure III-11. Mixed-use buildings on Headley Street frame a view of the Market Hall in the Township Green.**

- The Market Hall is conceived as a T-shaped building holding community facilities to the west, facing the park oval, where it could contain a stage serving acts too boisterous for the riverfront Amphitheater. The eastern wing of the building is an open-air facility for staging the Farmers' Market. Both wings are topped by tall, steep roofs, that meet in a crossing topped by a cupola. This cupola would dramatically terminate northward views along Headley street, from Ada Drive and beyond.

## The Far-West Hamlet

One more addition to the Village is proposed at the intersection of Headley and Bronson Streets, where a wooded area sits available for development. A plan laid upon this site allows it to hold 19 rowhouses, most of which sit on deep lots with rear garages located across private patios. The houses frame a sequence of semipublic spaces: an Entry Green, and a Pedestrian Mews with a fountain court at its center, connecting back to an existing private midblock road. In creating a small residential development of this type the details are important. Note, for example, how the end-unit rowhouses along the Entrance Green locate their front doors on their Green-facing flanks, centered under their gables.



**Figure III-12.** The Far Western Hamlet locates 19 rowhouses along a sequence of semipublic pedestrian spaces.

## EASTERN SECTION

### Thoroughfares

As illustrated in detail here, the eastern section of the Plan proposes the following modifications to the Village's thoroughfares:

- A new street loops east to serve a Residential Hamlet on this currently undeveloped land. Given its extremely low travel volumes, it is designed as a yield street, with a 20-foot pavement width handling traffic in both directions as well as a single flank of parallel parking.
- Where a driveway entrance currently exists for Lake Michigan Credit Union, a new residential street is proposed to connect Fulton Street to Riverside drive. This street should receive a stop sign against Fulton, and potentially a right-in-right-out configuration. It includes two driving lanes and flanked by two lanes of parallel parking.
- Once the New Street is constructed to its west, the signal should be removed from Ada Drive's intersection with Fulton, to be replaced by a stop sign and potentially a right-in-right-out configuration. The intention of this shift is to make the New Street the principal path in and out of the Village, which makes particular sense if the New Street is provided with a roundabout.



**Figure III-13.** A new Residential Hamlet places almost 50 new homes on the eastern edge of the Village.

# III: FINAL DESIGN

## Landscape

The Plan proposes the following modifications to the Village's landscape:

- A large Hamlet Green serves as the central open space of the residential hamlet, and can be amenitized in a variety of ways.
- A thick verge of evergreen trees on a berm hides Fulton Street from the houses on the northern edge of the Residential Hamlet.

## Buildings

The Plan proposes the following new buildings:

- East of the supermarket and along the new north-south street, lots are provided for rowhouses, of two types. To the west, shallow lots hold rowhouses with integrated rear garages. To the east, deeper lots hold rowhouses with garages located beyond a private rear patio. Similar deep lot rowhouses face the Hamlet Green along a pedestrian way.
- Around the edges of the Hamlet sit 28 house lots that can only be accessed from the street. These require front-loaded garages on driveways. In order to limit the impact of vehicles on the streetscape, these garages are set back 20 feet behind the fronts of their houses. Where side lot lines are parallel, these houses abut one another directly.



Figure III-14. A variety of single-family house types surround the Hamlet Green.

## 2. 3D MODEL



Figure III-15. 3-D Model looking northwest across the Thornapple River.

# III: FINAL DESIGN

## 3. PLAN CAPACITY (AND OTHER STATISTICS)

### Core Area Land Use and Parking Analysis

#### Core Area

In general, the limits for this analysis are: M-21 to the north, the centerline of Thornapple River Drive to the south, the Thornapple River to the east and the new road adjacent to the Community Church to the west, as shown in the image on the facing page.

The area of analysis has excluded the following properties from the core area:

1. All properties that are not directly affected by the proposed master plan. These properties are generally south of Thornapple River Drive.
2. All properties west of the Amway-owned properties to Bronson, including the U. S. Post Office. This area has not been included in the core area since it is far removed from any of the new retail developments proposed.
3. The two proposed residential hamlets (on the old Gilmore property and just west of the U. S. Post Office). They have been excluded since each one will satisfy its parking needs internally.

#### Methodology

Since the parking analysis is based on a conceptual master plan, the following assumptions have been made:

- All proposed new development is assumed to be retail on the ground floor.
- All new buildings will have a second story and 50% of all new buildings will have a third story.
- All second and third story development will be evenly split between office and residential uses.
- All residential development is assumed to be 2-bedroom units.
- Standard 2-bedroom units are 1,250 sq. ft.
- For parking calculation purposes we have assumed the net floor area for all new development is 90% of the gross floor area.
- The parking requirements are assumed to be:
  - Retail – 3 spaces per 1,000 sq. ft. of net floor area
  - Office – 3 spaces per 1,000 sq. ft. of net floor area
  - Residential -1.5 spaces per living unit
- Existing parking for the Community Church is 81 spaces and is assumed to be sufficient for present and future needs.

#### Land Use Areas

The following are the total measured gross areas for all new and existing structures to remain for each land use type.

##### Retail

- Existing Retail to Remain: 13,568 sq. ft.
- New Retail: 105,150 sq. ft.
- Retail in live /work units: 8,750 sq. ft.

**Total: 127,468 sq. ft.**

##### Office

- Existing Office to Remain: 18,910 sq. ft.
- New Office:
  - Second Floor 45,100 sq. ft.
  - Third Floor 22,550 sq. ft.

**Total: 86,560 sq. ft.**

##### Residential

- Live/Work: 10 units
- Stand-Alone Condo (2-bedroom): 30 units
- Mixed-Use Condo (2-bedroom):
  - Second Floor 36 units
  - Third Floor 18 units

**Total: 94 units**

##### The Community Church

- The current 81 spaces are assumed to be sufficient for present and future needs.

## Parking Calculations

Due to the conceptual nature of the plan the final parking numbers will vary depending on the nature of the actual developments constructed.

### Existing Parking in Core Area

- Off-street: 664
- On-street: 8
- Total: 672 spaces**

### Proposed Parking in Core Area

- On-street: 175
- Off-street: 667
- Mixed Use (in garages): 78
- Live /Work (in garages): 20
- Condo (in garages): 38
- Condo (in surface lots): 24
- Total: 1,002 spaces**

### Parking Standards in Core Area

- Retail:  $(127,468 \times .90/333) = 344$
- Office:  $(86,560 \times .90/333) = 234$
- Live/Work:  $(10 \times 1.5) = 15$
- Stand-Alone Condo:  
 $(30 \times 1.5) = 45$
- Mixed-Use Condo:  
 $(54 \times 1.5) = 81$
- Community Church: 81
- Total: 800 spaces**

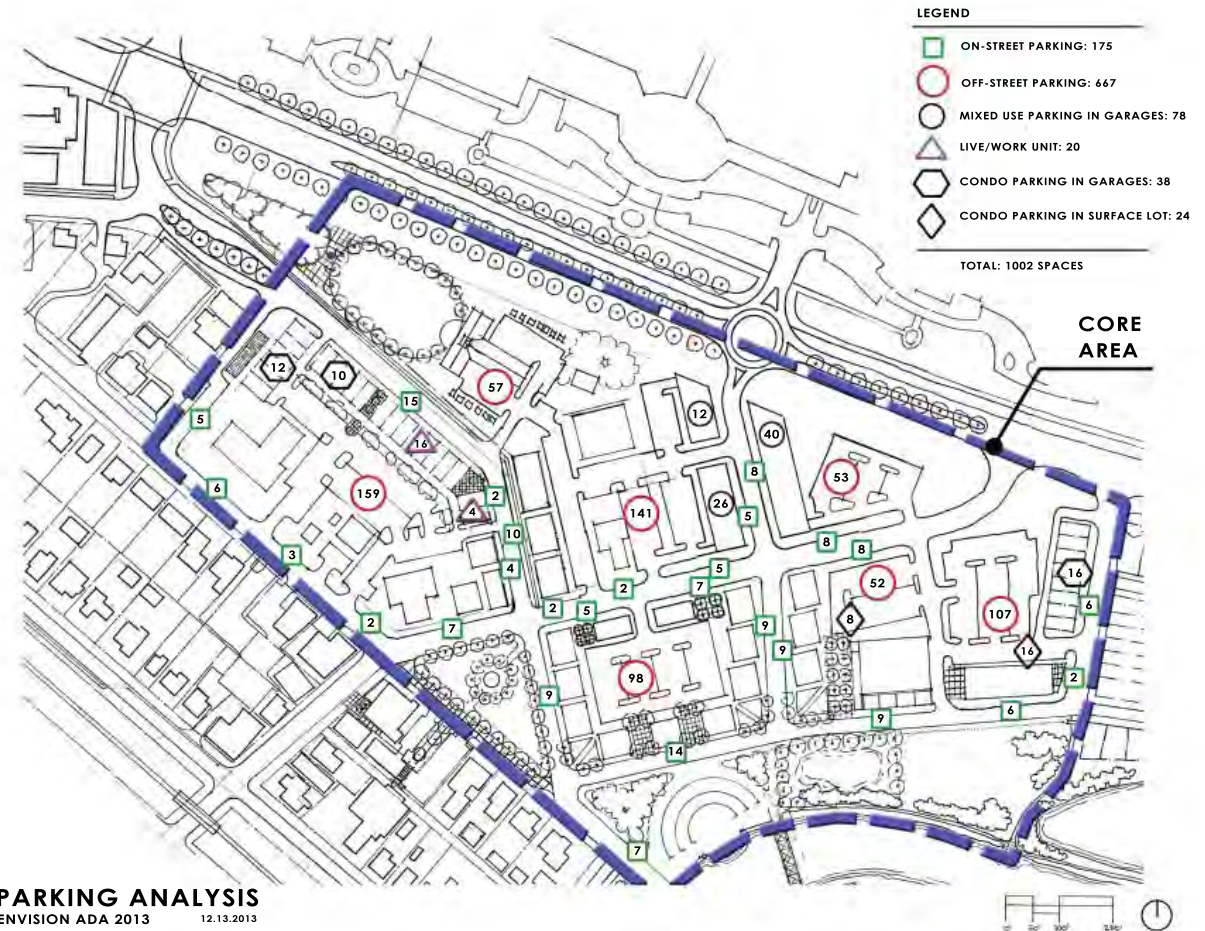


Figure III-16. Parking Analysis

# III: FINAL DESIGN

---

## 4. PLAN PHASING AND COST ESTIMATES

### Development Phasing Plan

The Phasing Plan is a tool created to provide a logical process for the implementation and the development of the Village Master Plan. The factors that influence the phasing sequence are property ownership, quantity of vacant land, existing floodplain limitations, available utilities, adjacent land uses and site visibility. From a development standpoint, the phases which are initially selected should have the characteristics and the proper mix of uses which will create the excitement, momentum and leasable space that spur subsequent phases of the development to move forward.

For the purposes of this discussion, we are utilizing the Illustration Plan as the ideal build out of Ada Village.

#### Phase 1

As illustrated in the attached plan, Phase 1, 1A and 1B will take place along the relocated and reconstructed Headley Street. During the development of the Master Plan, this area has been referred to as the “low hanging fruit” since much of the property proposed for development is under one ownership and is planned to receive land uses serving the needs expressed by many of the stakeholder groups. The Phase 1 area has excellent visibility from M-21 and provides key views through the Commons of the new development which includes the Farmers Market and the mixed use buildings.

#### Phase 2

The Village Green and the continuation of Headley to Thornapple River Drive assumes that the Speedway gas station will be relocated, and other properties within the proposed Headley corridor be acquired. Existing Thornapple River Drive south of the Village green becomes a one way cobbled mew intended for pedestrians, with limited auto access.

The reconfiguration of Thornapple River Drive to the west of Ada Drive adds parking, reduces lane widths, and introduces additional tree lawn area.

Reconfiguration of the M-21 corridor from the Bronson intersection east to the bridge proposes narrowing Fulton Street to 4 lanes and introduces a central tree-lined median with additional trees framing Fulton Street.

A final area outlined in Phase 2 introduces attached townhomes on the vacant property at the west end of the Village at the intersection of Headley and Bronson. This residential unit type begins to address the need for a diversity in housing within the Village, a desire expressed in many of the stakeholder meetings.

#### Phase 3

The area along the Thornapple River is primarily dedicated to public uses which will be served by a new Riverside Drive. The proposed improvements shown are the boardwalk along the river, overlooks, an amphitheater, and the pedestrian bridge.

#### Phase 4

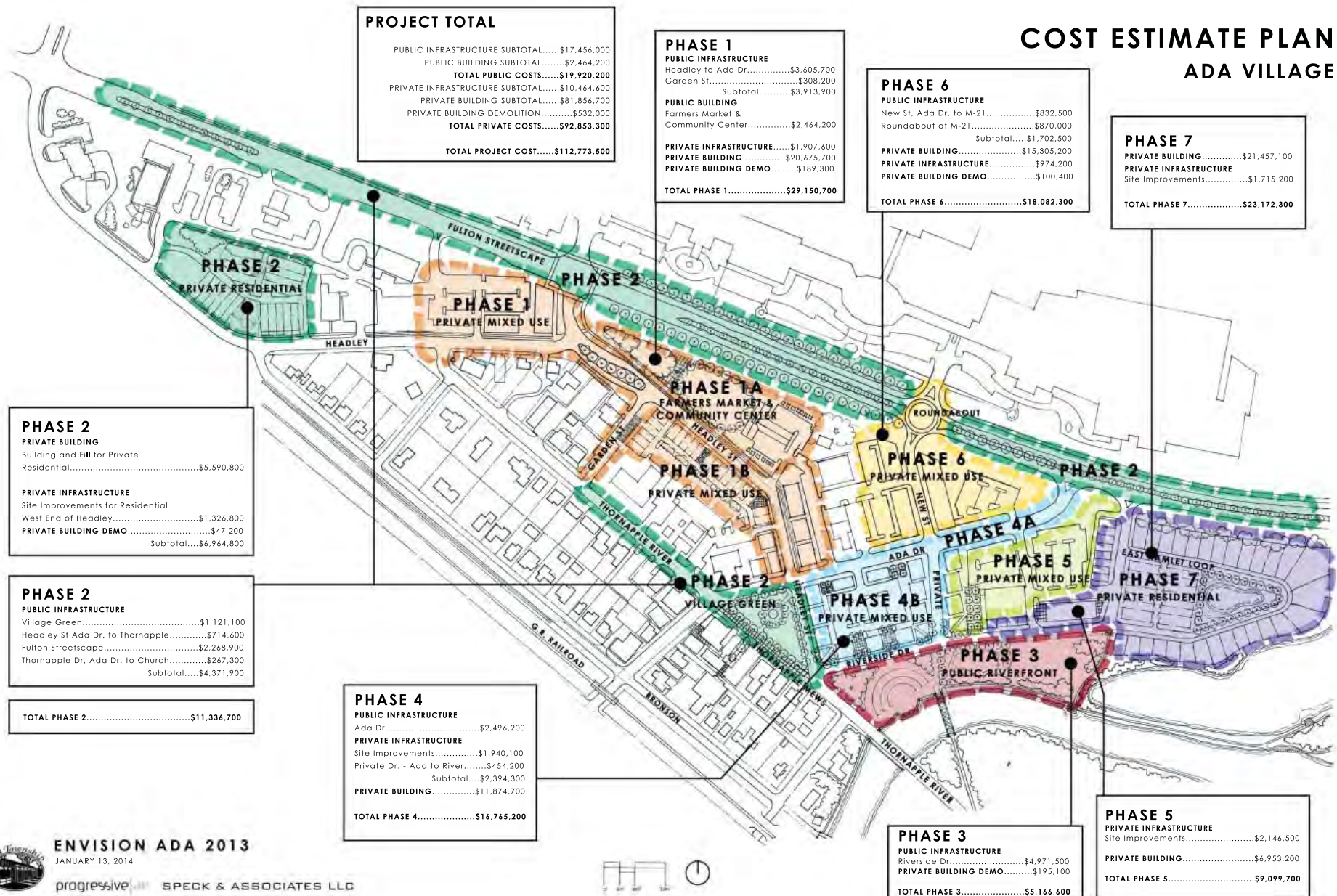
This phase introduces a new street connection to Ada Drive. In conjunction with those improvements, Ada Drive is raised above the floodplain and its utilities are improved to accommodate this future development zone. The scope of these improvements extends to Fulton Street, reshaping the site to the appropriate grade for the construction of buildings and parking.

Phase 4 supplements the improvements in Phase 1 to provide the necessary space for tenants within the existing shopping center to relocate into new buildings

#### Phase 5

Phase 5 requires that the existing shopping center and its surrounding buildings are removed in order to accommodate new mixed-use development. It will be necessary for this site to be raised to the appropriate grade to hold buildings and parking. A further extension of Riverside Drive will provide vehicular access to the development within this phase.

## COST ESTIMATE PLAN ADA VILLAGE



**ENVISION ADA 2013**  
JANUARY 13, 2014

progressive | SPECK & ASSOCIATES LLC



# III: FINAL DESIGN

---

## Phase 6

In this phase, an important street connection is made from Ada Drive to M-21, introducing the multi-lane roundabout. As in the other phases, it will be necessary to fill the site to the appropriate level, however, the design takes advantage of the change in grade by introducing lower level parking beneath each of the proposed buildings.

## Phase 7

This phase expands the diversity of housing within the Village Core by offering a variety of single family and multiple family buildings. Access to this hamlet will require another new street connecting Riverside Drive to M-21, in addition to a loop road within the development zone. Utilities would be extended and looped to serve the development. The existing site has been previously filled but may require additional grading to prepare pads for building construction.

### **COST ESTIMATE ASSUMPTIONS**

The cost estimate is based on the Phasing Plan as previously presented. Costs were segregated into phases and, within these phases, broken down in to Public and Private costs, further defined as follows:

#### ***Public Infrastructure:***

This is defined as public roads, streetscape, bike paths, and utilities necessary to service the development. Headley Street, Ada Drive, Thornapple River Drive, the M-21 streetscape, the roundabout, and the public riverfront development which includes the boardwalk and overlooks.

#### ***Civic Structures :***

Civic structures include the Farmers Market, Amphitheater, Pedestrian Bridge, and the Community Center.

#### ***Private Infrastructure:***

Private infrastructure includes the parking, sidewalks, and utilities serving the private developments. Also included in this classification is Riverside Drive, off-street parking areas, and private residential streets.

#### ***Private Buildings:***

This category includes the developer-driven mixed-use retail, residential, grocery store, office, and other commercial development.

Details of cost estimates can be found in Appendix 2.1.

# III: FINAL DESIGN

## 5. THE ALTERNATIVE PLAN 1

The creation of a Central Green is dependent on the relocation of the Speedway Gas station and other properties at the center of the Village. Since this relocation

is by no means guaranteed, it is necessary to prepare Alternative Plans that create a positive result absent those features, which are attractive but by no means necessary to the healthy growth of the Village. Two such plans follow. The first maintains the Headley/Thornapple diversion, while the second does not.



Figure III-17. Alternative Plan 1. Due to the retention of the Speedway gas station, a new building is placed to its south, shielding it from view.

Alternative Plan I diverges from the Illustrative Plan in the following respects:

The Speedway gas station remains, with its existing curb cuts on Ada Drive and Thornapple Village Drive. The segment of Thornapple south of Ada Drive is narrowed to a one-way street as in the Illustrative plan, but it does not receive any special pavement surface, since it will still bring patrons to the gas station. The area gained by the street narrowing will be transformed into a treed lawn between the street and the gas station where no driveway exists.

- In what constitutes an important negotiation with Speedway, the Township or other parties should be allowed to invest in the gas station's west façade and corner, creating a proper storefront against a small plaza containing trees, benches, and a prominent fountain. This small, low-cost intervention would transform the Village's most important corner. An even better outcome would have Speedway agreeing to a sale and ground-floor leaseback of its corner building, so that it could be replaced in its entirety with a dignified building two to three stories tall.
- An important "flatiron" building is located on the triangular lot just south of the gas station. With its prominent southern corner, this building will dramatically receive views from the south and east, while blocking views of the gas station pumps.
- Between this building and the gas station is located a pedestrian walkway, which is screened to its north with evergreen trees, hiding the gas station from the new building's north windows. If the gas station is ever relocated, this screen should be removed so that the new building may face the green directly. In an ideal outcome, this building would serve food and drink to tables set up on the edge of the green.
- Evergreen trees should also be located at the northern and eastern sides of the gas station, limiting its exposure to the reconfigured corner of Ada Drive and Headley Street.



**Figure III-18. Alternative Plan 1 A passageway separates the newer building from the Speedway, screened by evergreen trees. If the Speedway is eventually replaced by a green, the screen can be removed.**

# III: FINAL DESIGN

## 6. THE ALTERNATIVE PLAN 2

Alternative Plan 2 diverges from the Illustrative Plan in the following respects:

- The western intersection of Headley and Thornapple is no longer reverted to its original configuration in which eastbound traffic remains on Headley. This traffic remains diverted along Thornapple in the current configuration. However, it is worth initiating a study to determine whether the signal at Thornapple and Ada Drive can be replaced with a four-way stop sign. Such a change would result in the elimination of all left-hand turn lanes, allowing for the replacement of the parallel parking that has been lost along these streets.
- Rather than crossing Ada Drive, Headley Street would still T into it, providing an opportunity for a well-designed building next to the gas station to receive views from the north with an appropriate architectural feature, such as a small tower.



**Figure III-19.** If the Speedway gas station must remain, the Alternative Plan eliminates the Central Green and forgoes the reconfiguration of both Thornapple/Headley intersections; otherwise, it is largely unchanged.

- The new block between Ada Drive and Riverside Drive would expand westward towards the gas station, resulting in a larger mid-block parking lot. This development area would still be surrounded by the same number of new buildings as before—8 in total—but configured differently.
- As in Alternative Plan 1, the Township or other parties should be allowed to invest in the gas station's west façade and corner, creating a proper storefront against a small plaza containing trees, benches, and a prominent fountain. This small, low-cost intervention would transform the Village's most important corner. An even better outcome would have Speedway agreeing to a sale and ground-floor leaseback of its corner building, so that it could be replaced in its entirety with a dignified building two to three stories tall.



**Figure III-20.** In this alternative configuration, the block along the Riverfront Park reached west towards gas station site, allowing for a larger mid-block parking lot.

#### Comparing the Alternatives

It is clear that the ideal plan is one in which the Speedway gas station has been relocated away from the heart of the village. If that relocation is not possible, both Alternative Plan 1 and Alternative Plan 2 represent acceptable outcomes. However, it must be noted that the choice between them is certainly a trade-off. Alternative Plan 1 offers the advantage of diverting east-west traffic through Ada onto Headley Street and then onto M-21 via a new intersection where Headley passes closest to the highway. This signalized intersection, which would improve crossing from the Amway facility into the Village, is perhaps not attainable from MDOT unless the Thornapple/Headley diversion is built.

However, this improved traffic pattern is achieved at the cost of making the gas station a considerably more prominent feature in the Village landscape. While its pumps are now mostly hidden from drivers and pedestrians along Ada Drive



**Figure III-21.** A new façade placing a front door against a small plaza would transform this important corner.

### III: FINAL DESIGN

---

and Thornapple Village Drive—thanks to the corner location of the gas station office—the shifting of Thornapple onto Headley to the east of the station exposes these pumps to considerably greater view, requiring a large amount of screening. And while it is better looking than gas pumps, this screening is not an effective tool at shaping sidewalks into attractive walkable corridors. The result is a Village center with weaker spatial definition and less interest and activity precisely where these qualities are most needed to convince people to walk. And this outcome is achieved at the considerable cost of building several new street segments and intersections.

Alternative Plan 2, which requires considerably less investment, avoids these liabilities by creating an outcome in which the gas station is even less visible to drivers and pedestrians than it is today. However, it is not certain that this Alternative, which does not divert Thornapple traffic onto Headley, will allow for the construction of a new intersection further west as discussed above. This question merits further investigation. If this new intersection can be built in conjunction with Alternative Plan 2, then that plan seems clearly superior. But if the choice is between a better connection across M-21 or a more walkable town center, then a tough choice has to be made about which objective is more important to the people of Ada.

- In either case: while it might be a disappointment to lose the Central Green, both of these Alternative Plans still contain a more dramatic evolution of Ada Village than had ever been imagined prior to the planning effort. The perfect can be the enemy of the good, and achieving either of these plans would be a notable accomplishment indeed.

## THOROUGHFARES

### 1. THOROUGHFARE DESIGN PRINCIPLES

Street life is dramatically impacted by the speed of vehicles. Whether they know the statistics or not, most pedestrians understand in their bones that a person hit by a car traveling at 35 mph is ten times as likely to die than if the car is traveling at 25 mph. Any community that is interested in street life—or human lives—must carefully consider the speed which it encourages cars to drive in places where pedestrians are present.

The above logic explains why a growing number of communities have instituted “20 is Plenty” ordinances in their downtowns, and a few have even settled on 18 mph as the target speed. Having low speed limits in a village center is important, but it is not enough, as most motorists drive not the speed that is marked, but the speed at which they feel comfortable. For this reason, it is essential that Village streets be engineered for the desired speed, which means eliminating wider lanes and other inducements to speeding.

#### Induced Speeding

Specifically, the new science of traffic engineering—as opposed to the old mythology of traffic engineering—maintains that wider lanes, shoulders, clear zones, and other reductions in the potential for conflict actually encourage speeding and increase the danger of driving in communities. This may not be the case on highways, where most drivers travel at a set velocity based on speed limits, but it is most certainly true in downtowns, where the principal determinant of driver speed is the perception of safety.

The mandate of the above paragraph could not be more profound. For years, American traffic engineers, applying the logic of highways, have widened driving lanes, eliminated curb parking, and even removed trees from community streets. The studies now show that this was a mistake. One study found that fewer injury crashes occur on streets with trees. Another estimated that “increased lane widths are responsible for approximately 900 additional traffic fatalities per year.” (Robert Noland, “Traffic Fatalities and Injuries: The Effect of Changing Infrastructure and Other Trends,” Center for Transport Studies, 2002.) If safety is a concern of those who build and maintain our city streets, then they can no longer allow a 12-foot lane to sit where a 10-foot lane will serve.

If one accepts this argument, it becomes clear that every street in Ada Village is in need of a redesign. This assessment is presented with an understanding that changes to streets often come slowly and sometimes at considerable expense. But they do come—routine deterioration demands resurfacing, which offers the opportunity to restripe—and sometimes a proper understanding of the value of safer streets causes them to come more quickly. Furthermore, a protocol which focuses on restriping rather than rebuilding, like the one that follows, can allow for dramatic change to occur at a reasonable cost.

#### *A Safe Walk*

Specifically, what are the strategies that keep automobiles at reasonable speeds while protecting pedestrians from them? In the case of villages like Ada, it is necessary to aspire to the following six mandates, each of which will be addressed individually:

- Lanes of proper width;
- Limited use and length of turn lanes;
- Including bike lanes;
- Continuous on-street parking;
- Pedestrian-friendly signalization;
- Proper use of roundabouts.

#### Lanes of Proper Width

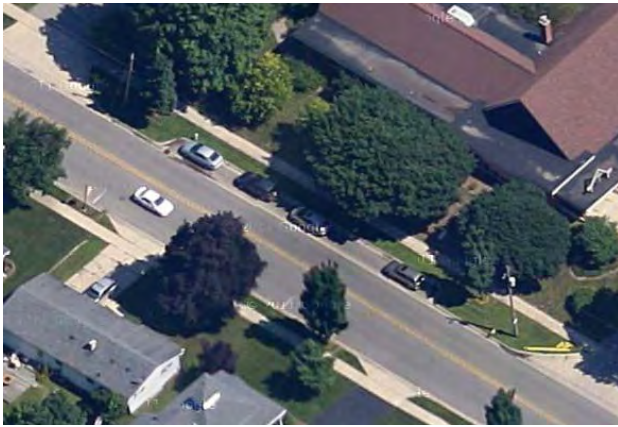
Different-width traffic lanes correspond to different travel speeds. A typical downtown lane width is 10 feet, which comfortably supports speeds of 35 mph. A typical highway lane width is 12 feet, which comfortably supports speeds of 70 mph. Drivers instinctively understand the connection between lane width and driving speed, and speed up when presented with wider lanes, even in downtown locations. Any lane wider than 10 feet encourages speeds that can increase risk to pedestrians. Many streets in Ada Village contain lanes that are 12 feet wide or more, and drivers can be observed approaching highway speeds when using them. On certain streets, highway-style shoulders also contribute

## IV: THOROUGHFARES

effectively to lane width and thus to drivers' comfort while speeding; such shoulders are not appropriate to pedestrian environments.

### Limited Use and Length of Turn Lanes

Left-hand turn lanes are by no means the standard approach to intersection design. They should be



**Figure IV-1.** This section of Thornapple River Drive contains driving lanes that are 14 feet wide—2 feet wider than a standard highway lane—encouraging speeding.

used only at intersections where congestion is caused by cars turning left. When unnecessary turn lanes are provided, the extra pavement width encourages speeding, lengthens crossing distances, and takes up roadway that could otherwise be used for on-street parking or bike lanes. When justified, turn lanes should be just long enough to hold the number of cars that stack in them in standard rush-hour conditions, and no longer, for the same reasons. Most turn lanes in Ada Village seem longer than their queues of cars would mandate.



**Figure IV-2.** Left-hand turn lanes in Ada Village are considerably longer than one finds in downtowns with more traffic, resulting in the loss of important curb parking.

### Bike Lanes

There are many reasons to institute a comprehensive Village bicycle network, including pedestrian safety. Bikes help to slow cars down, and new bike lanes are a great way to use up excess road width currently dedicated to oversized driving lanes. However, more significantly, Ada Village has a nascent biking culture that seems poised to flower if provided with adequate facilities. The experience in most American communities has been that a modest investment in bike lanes results in a dramatic increase in cycling. Data from a large number of cities and towns is making it clear that the key to bicycle safety is the establishment of a large biking population—so that drivers expect to see them—and, in turn, the key to establishing a large biking population is the provision of *buffered* lanes, broad lanes separated from traffic, ideally by a lane of parked cars.

### Continuous On-Street Parking

Whether parallel or angled, on-street parking provides a barrier of steel between the roadway and the sidewalk that is necessary if pedestrians are to feel fully at ease while walking. It also causes drivers to slow down out of concern for possible conflicts with cars parking or pulling out. On-street parking also provides much-needed life to commercial streets, which are occupied in large part by people walking to and from cars that have been parked a short distance from their destinations. It is no coincidence that the most vital and popular areas of Ada Village are those places with the best supply of curb parking.



**Figure IV-3.** Buffered bike lanes—between parking and the curb—have been instrumental in growing Chicago's cycling population.



**Figure IV-4. Parallel parking and street trees contribute to the most walkable parts of Ada Village.**

## Pedestrian-Friendly Signalization

When properly timed to prioritize pedestrians, signalization regimes at intersections encourage walking. However, a number of cities have been working to improve pedestrian safety—while also saving money on signals—by replacing intersection signals with four-way stop signs. When a two-lane street intersects a two-lane street, a four-way stop sign can prove more efficient at handling traffic, while also providing an environment that benefits pedestrians and cyclists due to its lower speeds and greater likelihood of eye contact among users. Such a solution might prove quite beneficial to the heart of the Village.

## Proper Use of Roundabouts

A modern roundabout—in contrast to conventional higher-speed rotaries—is a tool that has been having a great impact on intersections nationwide. While they take some getting used to, these roundabouts,

which are engineered for 15 mph, have become favored for busy intersections for the way they both reduce congestion and improve safety. One of their great advantages is the way that they eliminate the need for additional turn lanes, such that a 4-lane street flows into a 2-lane roundabout without any widening. Roundabouts are not ideal for retail locations, as merchants benefit from the business that comes from cars stopping at corners, but they are appropriate for use when a main street intersects a highway with four (or fewer) lanes of through traffic, as occurs where Ada Drive meets Fulton Street.



**Figure IV-5. Led by Mayor Jim Brainard, the City of Carmel, IN, has constructed more than 60 roundabouts.**

Based on the six mandates above, the pages that follow include recommendations for restriping all of the streets in Ada Village. While there are other good solutions for calming Ada's streets, these are presented with a confidence that they are likely to be the best among competing alternatives for catalyzing the transformation of downtown Ada Village into a truly walkable and bikeable destination.

## 2. REDESIGN OF EXISTING THOROUGHFARES

### **Fulton Street (MI 21)**

#### Current Condition

As it passes Ada Village, Fulton Street contains a minimum of five driving lanes, each at least 12 feet wide. These lanes are supplemented by right hand turn lanes before intersections, so that at times the road is as many as 7 lanes wide. Despite the danger of crossing it, periodic jaywalking is observed due to the long waits between red lights and the long distances between intersections.



**Figure IV-6. Fulton Drive is a highway and must remain as such, but there are ways to improve it.**

# IV: THOROUGHFARES

## Analysis

As a state highway, Fulton Street is designed to maximize the through-put of vehicles, and it is a losing proposition to try to make it handle fewer cars in the name of safety or attractiveness. However, there is a strategy for making the highway both safer and more beautiful that will also improve the through-put of the facility, and that would be to put a roundabout at its primary entrance into Ada Village. As shown in the Plan, this roundabout is suggested for a new entrance across from the Amway main entrance, benefitting both sides of the street. In addition to providing a safer intersection for both pedestrians and vehicles (roundabout accidents typically merit a tow-truck, not an ambulance), roundabouts improve vehicular throughput by eliminating signal wait times.



**Figure IV-7. Roundabout connection to M-21 and Amway Headquarters.**

Such an intervention along Fulton would also benefit the Village, making it considerably easier to enter and exit. Perhaps more significantly, the insertion of a roundabout would allow for the removal of all turning lanes, so that rather than requiring five to seven lanes of pavement, Fulton could be limited to four lanes of pavement. For both safety and appearance's sake, it is recommended that the center turn lane, rather than being eliminated entirely, be turned into a median with street trees, with matching trees placed on either side of the highway—as recommended in the Charrette Plan of 2007. While this transformation will not be cheap, it will do wonders for the experience of driving through Ada.

## Recommendation

When the Plan's new north-south main street is introduced, build a roundabout on Fulton Street in that location. At this time, turn the Ada Drive intersection into right-in, right-out, with a stop sign on Ada instead of the current signal. Create a median stretching from the Plan's Headley/Ada intersection to the roundabout, and continuing east to beyond the final Ada Village intersection. Place street trees in consistent rows along the full length of this median and on both sides of the street. Eliminate all turn lanes along this stretch, reducing Fulton street to two 2-lane sections, each section containing two 12-foot driving lanes without shoulders.

## Ada Drive: East of Thornapple

### Current Condition

Between Thornapple River Drive and Fulton Street, the principal configuration of Ada Drive includes two 12-foot driving lanes, a 12-foot center turn lane, and shoulders that are too narrow to serve as bike lanes (and not marked as such). The central section of this street also floods periodically suggesting eventual reconstruction at a higher grade.

## Analysis

Ada is to be congratulated for the road diet that turned this section of Ada from 4-lane to 3-lane. Unfortunately, its wide driving lanes, shoulders, and absence of cycle facilities, curb parking, and street trees makes it less walkable and bikeable than it should be.

## Recommendation

Prior to reconstruction, the right-sizing of driving lanes to the 10-foot urban standard would allow the two shoulders to turn into cycle lanes more than 6 feet wide. Given the street's important role in connecting the regional east-west cycling corridor along Fulton Street to Ada Village, these ample bike



**Figure IV-8. This section of Ada drive lacks most of the conditions that contribute to walkability.**

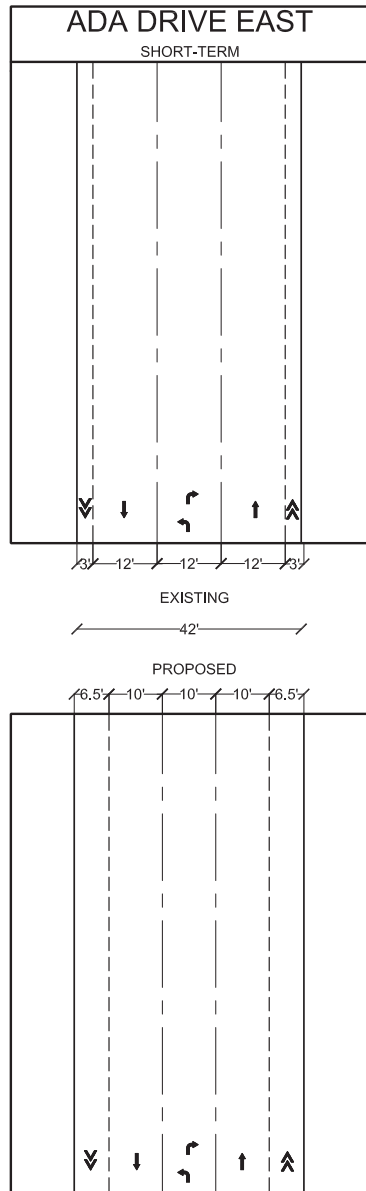


Figure IV-9. Short-term restriping solution.

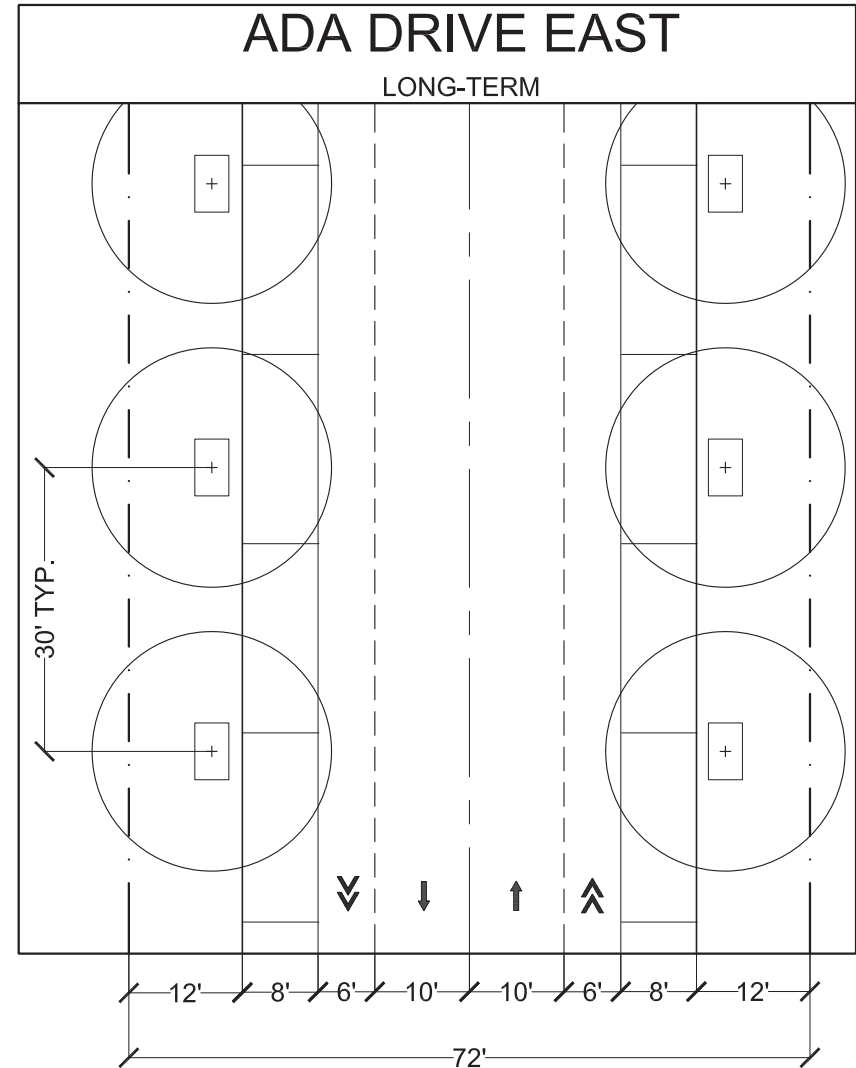


Figure IV-10. Long-term reconstruction.

## IV: THOROUGHFARES

lanes are particularly beneficial. When Ada Drive is reconstructed, this 43-foot wide section should be expanded to include parallel parking, and the center turn lane removed, resulting in a 48-foot curb-to-curb as follows: 8'-6'-10'-10'-6'-8'. At this time, the sidewalk should be expanded to 12 feet, including consistent street trees in planters, resulting in a total right-of-way width of 72 feet.

### Ada Drive: West of Thornapple

#### Current Condition

The most successful shopping street in Ada Township consists of two 13-foot driving lanes flanked by two 8-foot parking lanes. As it nears Thornapple River Drive, it loses one flank of parking and gains a center turn lane, resulting in an 11'-12'-11'-8' configuration. This left-hand turn lane is much longer than typical rush-hour queues would suggest.

#### Analysis

While 13 feet is too wide for a driving lane, it is a good width for a Sharrow lane. Given the important

cycling role of Ada Drive, these lanes should be so marked. In the short term, the primary correction for this street is to shorten the left-hand turn lane in favor of more parallel parking. This change will make surrounding businesses more successful while it makes the sidewalk feel more safe. In the long term, when Thornapple traffic is redirected to Headley Street, this intersection will become much less significant, and its traffic signal should be removed in favor of four-way stop signs. At this time, the left-hand turn lane should be removed entirely, and replaced by parallel parking.

#### Recommendation

Place prominent Sharrow decals towards the right-center of each lane. Shorten the left-hand turn lane, so that the parallel parking on the eastern curb is able to continue fully past the barber shop. At time of Thornapple River Drive redirection, eliminate signal and left-hand turn lane, and institute parallel parking and along the entire length of the block.



Figure IV-11. On its best stretch, Ada Drive Suffers only from missing parallel parking on its east flank.

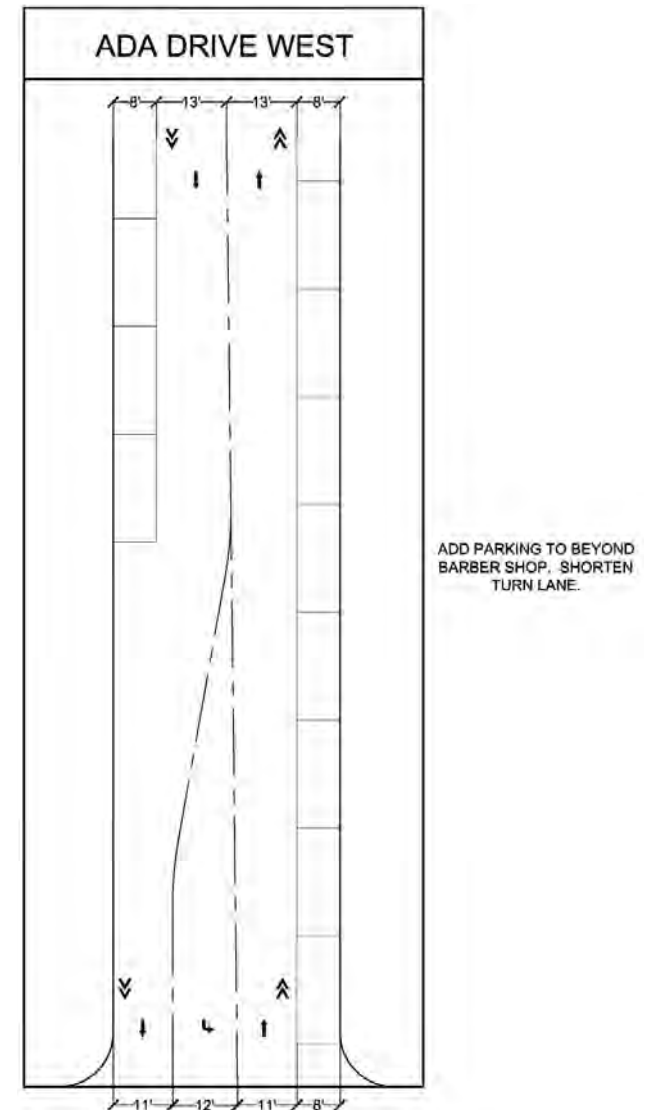


Figure IV-12.

## Ada Drive: Under Railroad Bridge

### Current Condition

The place where vehicles are most often observed speeding is as they pass under the railroad bridge along Ada Drive. This speeding is encouraged by a roadway consisting of two 12-foot driving lanes flanked by two 3-foot shoulders.

### Analysis

There is no reason why a railroad bridge overhead should impede the provision of parallel parking. Removing the highway-style shoulders and narrowing the driving lanes to a (still wide) 11 feet creates room for a parking lane, which should be located on the

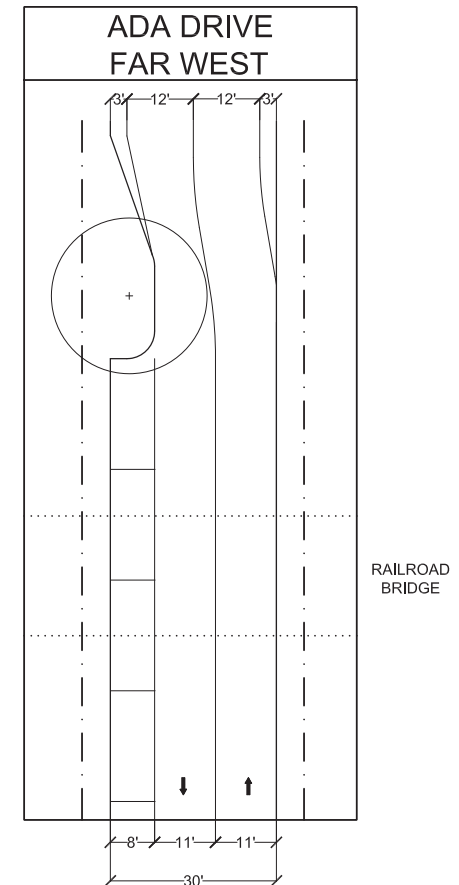
east side of the street to align with parking further north. Introducing the parking lane at some distance up the hill will be made safer if the roadway shift is accompanied by a bulb-out. The development of the schoolhouse property up the hill may suggest that a continuous parking lane run down the hill, beginning along that property.

### Recommendation

Restripe the street to include an 8-foot parking lane next to two 11-foot driving lanes. Continue the parking lane at least 50 feet up the hill, ideally placing a bulb-out protecting the first parking space. Perhaps continue parking lane past schoolhouse property.



Figure IV-48. Wide lanes and shoulders on Ada Drive under the railroad tracks are an inducement to speeding.



## IV: THOROUGHFARES

### Thornapple River Drive: West of Ada Drive

#### Current Condition

As it approaches the heart of the Village, Thornapple River Drive consists of two 14-foot driving lanes flanked by one 8-foot parking lane (inconsistently marked) and, occasionally, a second 8-foot parking lane, cut into the tree lawn. The

#### Analysis

14-foot driving lanes are wider than the highway standard, and have no place on Village streets,

where they induce speeding and make pedestrians uncomfortable. Happily, right-sizing these lanes creates room in the existing roadway to include parallel parking on both flanks—without having to cut into the tree lawn. The tree lawn should be replaced in these places, and the street restriped for two-sided parking.

#### Recommendation

Restripe the street to include two 10-foot driving lanes flanked by two 8-foot parking lanes, consistently marked. Replace the tree lawn where it has been cut into for parking.

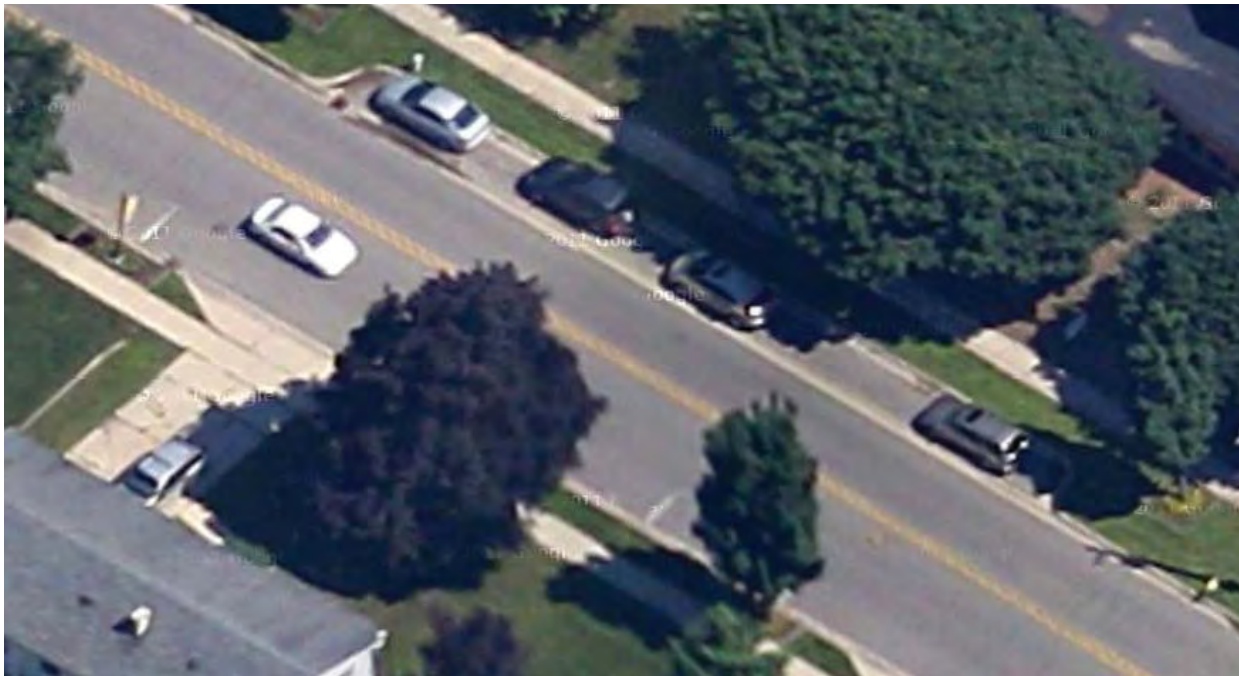


Figure IV-14. The principal section of Thornapple River Drive contains excessively wide driving lanes.

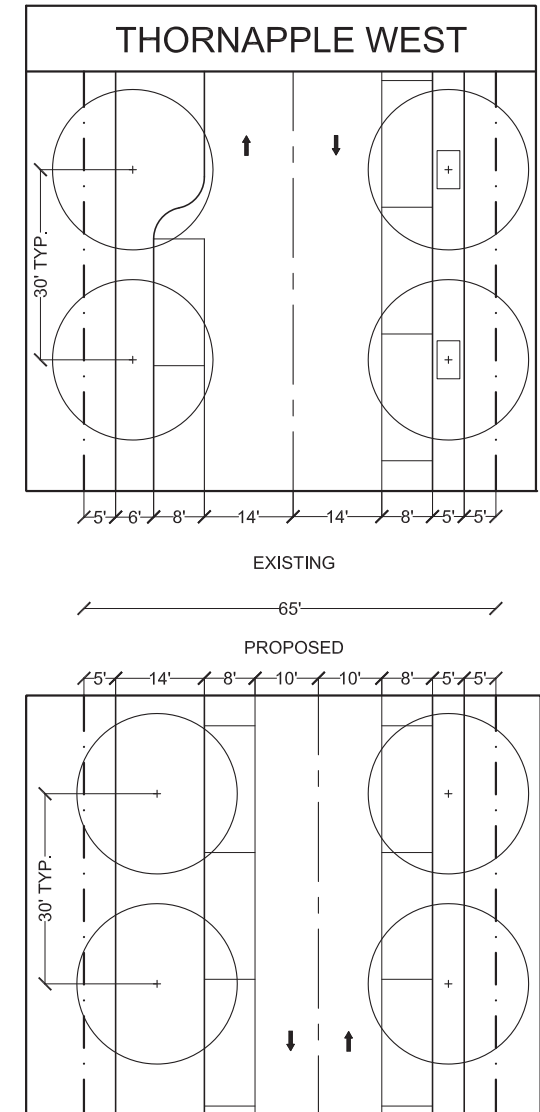


Figure IV-15.

## Thornapple River Drive: Ada Drive to River

### Current Condition

As it passes from Ada Drive to the River, Thornapple River Drive essentially consists of two 21-foot driving lanes, except in a few locations where (unmarked) parking is allowed along the curb. At its intersection with Ada Drive, the street receives a center left-hand turn lane in a 12'-12'-18' configuration.

### Analysis

The 42-foot curb-to-curb measurement of this street segment contains more than ample room for a

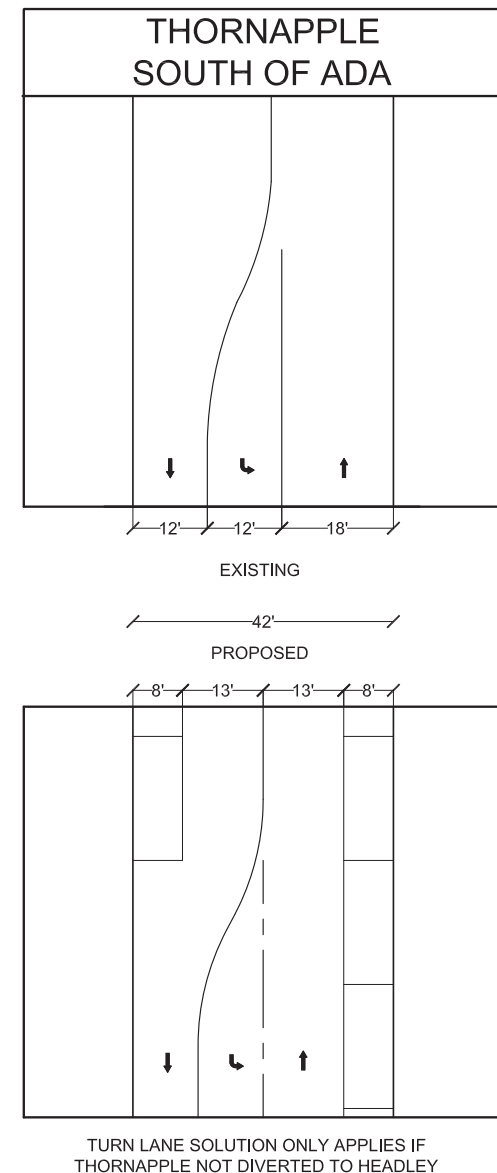
parking lane on each curb, and this parking should be properly striped so that vehicles are not given the illusion of a 21-foot lane. Until Thornapple is modified as per the Plan, the 3-lane section by the Ada Drive intersection should be modified to contain the one parking lane that it does fit, on its southern curb.

### Recommendation

Stripe a continuous 8-foot parking lane on the southern curb. Stripe a continuous 8-foot parking lane on the northern curb, that ends when the center turn lane is introduced near Ada Drive.



Figure IV-16. A police car in a no-parking zone demonstrates the ample space for parking on Thornapple Drive. Figure IV-17.



# IV: THOROUGHFARES

## Thornapple River Drive: East of River

### Current Condition

Like a good rural highway, Thornapple Drive continues beyond its bridge with two 12-foot driving lanes, two 3-foot shoulders, and no sidewalk.

### Analysis

Such a configuration would be acceptable if nobody walked on it, but many people do. While building a sidewalk is the proper long-term solution, an improved short-term solution would come from right-sizing the driving lanes and then placing the majority of shoulder space on one side, creating a zone wide enough for walking safely. Since pedestrians are most likely to walk on the inside part of the curve, that is

the proper flank to widen the shoulder in anticipation of an eventual sidewalk. Additionally, a bike crossing of regional significance that occurs at the intersection of Fase Street is poorly marked, adding danger for cyclists. This crossing deserves more prominent markings, and ideally a speed table.

### Recommendation

Reduce the outer shoulder to 1 foot and the driving lanes to 11 feet, resulting in an inside shoulder of 7 feet, including a 5-foot walking zone beyond a 2-foot striped buffer. Eventually, turn the 5-foot walking zone into a raised sidewalk. Place more prominent markings for cycle and pedestrian crossing—perhaps a speed table—at the Fase Street intersection.



Figure IV-18. 12-foot lanes, shoulders, and no sidewalk make this stretch of Thornapple Drive particularly unsafe for walking.

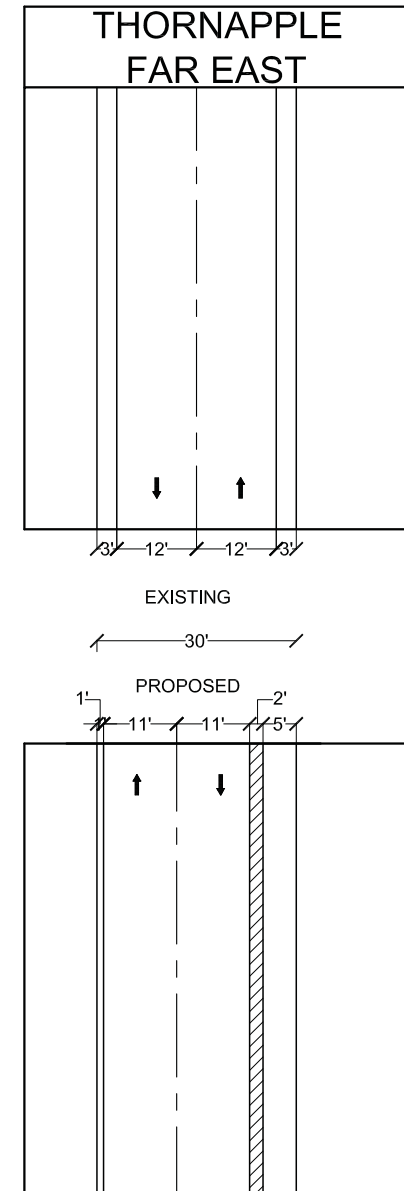


Figure IV-19.

## Bronson Street: East of Ada Drive

### Current Condition

This quiet segment of Bronson Street is a prominent street, handling little through traffic, but is a prominent cycling connection. It currently consists of two 15-foot driving lanes flanked by parking on one or both sides. This parking is perpendicular to the curb, and most cars park head-in, but some park tail-in.

### Analysis

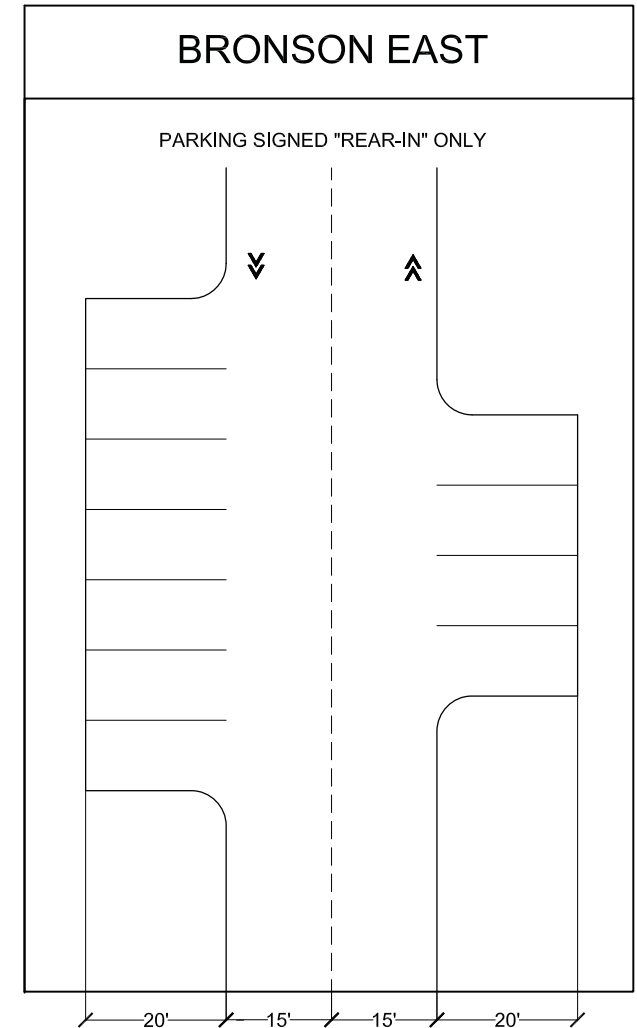
Head-in parking is extremely dangerous to cyclists, and is never recommended along bike routes; tail-in parking solves this problem. Sharrow logos would make bikers and drivers more aware that biking is welcome on this street.

### Recommendation

Sign parking as rear-in only. Place prominent Sharrow decals towards the right-center of each lane.



**Figure IV-20.** If it is to be safe for cyclists, then parking along this segment of Bronson Street should be limited to tail-in only.



**Figure IV-21.**

## IV: THOROUGHFARES

### Bronson Street: West of Ada Drive

#### Current Condition

West of Ada Drive, Bronson Street has recently received the addition of perpendicular parking spaces along the railroad berm. Beside these spaces, a 30-foot roadway handles two lanes of traffic, narrowing to about 25 feet beyond the parking.

#### Analysis

A regional bike route crosses the Thornapple River on the old covered bridge, terminating in Bronson Street, making that street an obvious cycling corridor through the Village and back to Fulton Street, where it continues west. Given its light traffic load, Bronson is a good choice for this role, especially since its abutting railroad bed eliminates all curb cuts from its

southern flank. Indeed, the presence of this barrier suggests that the best type of cycle facility would be a two-way buffered path against this edge, where cyclists can travel for several thousand feet without a single interruption. While other good solutions exist, the ideal layout for the "cycle track" would probably be to begin it on the north flank of the street, away from the threat of the head-in parking, and then prominently cross the street at an angle where the street narrows. At this point, and continuing all the way to its intersection with Headley, the cycle track would need to occupy a zone that was expanded slightly into the track embankment, and potentially surfaced in a different material.

#### Recommendation

Restripe the 30-foot roadway along the parking zone to include two 10-foot driving lanes plus an 8-foot two-way cycle track on its north flank, protected by a 2-foot striped buffer. Prominently cross the street with these lanes at an angle, just beyond the parking zone, to occupy a broadened shoulder to the south side of the street, continuing uninterrupted to Headley.



Figure IV-22. New perpendicular parking broadens Bronson Street west of Ada Drive.

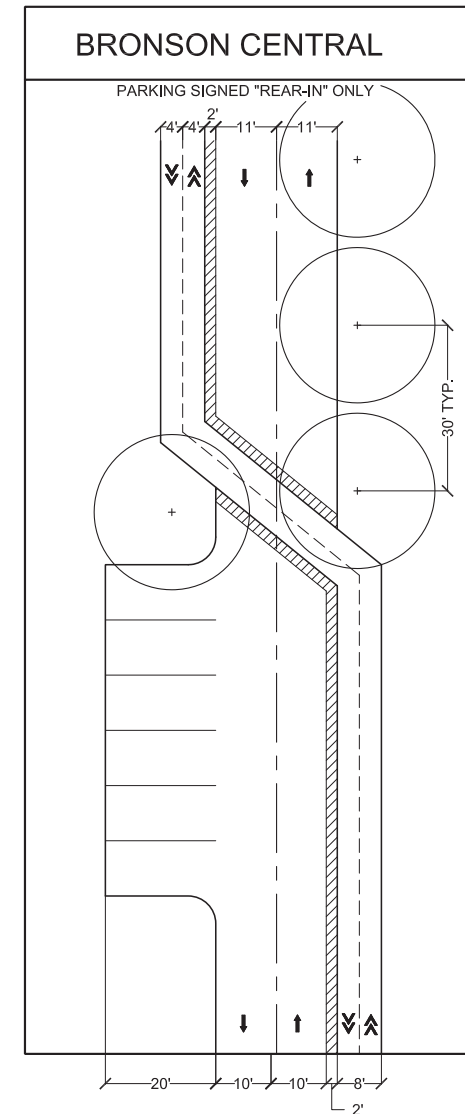


Figure IV-23.

## Bronson Street: West of Headley Street

### Current Condition

From Headley Street to near its intersection with Fulton Street, Bronson Street contains two driving lanes, each 18 feet wide. As it nears Fulton, these reconfigure into three 12-foot lanes, one of which is a center lane for left-hand turns.

### Analysis

If wider lanes were safer, then this would be the safest street in Ada. Unfortunately, these 18-foot lanes encourage speeding at the expense of pedestrian and cyclist comfort. Happily, the excess pavement affords the opportunity to inexpensively continue the Bronson Street cycle track along the railroad-side of the street, by right-sizing the driving lanes to 11 feet, leaving room on the southern flank for a 10-foot two-way cycle track protected by a 4-foot buffer. This

restriping requires a limited amount of reconstruction as it nears Fulton Street, as the cycle track must angle off the existing pavement as the center turn lane is introduced, effectively hopping the curb, to sit at sidewalk level. Here, the regional bike route would cross Fulton Street at the light to connect to its north-side counterpart. This transition of the cycle track up the curb will result in the removal of one or two small but healthy trees, which should be carefully dug up and replanted elsewhere.

### Recommendation

Restripe roadway to contain a 10-foot two-way cycle track with a 4-foot buffer to the south side of two 11-foot driving lanes. Shift cycle track off of street with introduction of the center turn lane, narrowing it to an 8-foot two-way track with a curbstone buffer. Create prominent bike/pedestrian crossing at Fulton Street.



Figure IV-24. From Fulton To Headley, Bronson Street contains two 18-foot driving lanes.

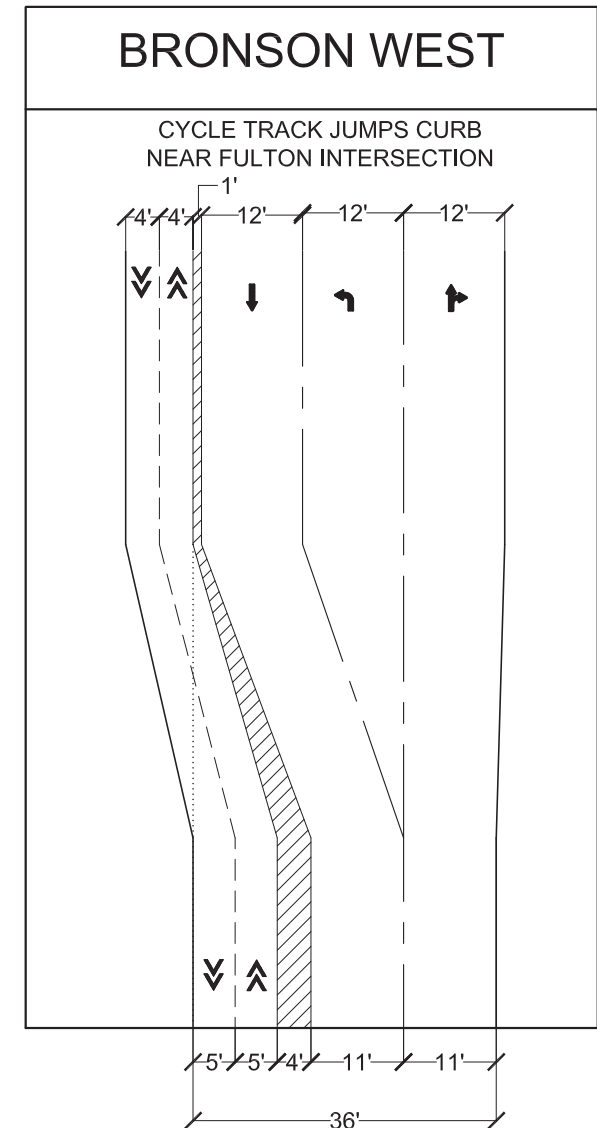


Figure IV-25.

# IV: THOROUGHFARES

## 3. EXAMPLES OF NEW THOROUGHFARES

In addition to reforming Ada Village's existing streets, the Plan contains a number of new streets that will be built from scratch. The specific design of these streets is addressed in the Regulating Plan and the Design Regulations ahead, which lay out their dimensional requirements in detail. In order to make those requirements easier to understand, many of these designs are illustrated and described as follows.

### Headley Street

As discussed, Headley Street is to be shifted northward and transformed from a rural road into a complete street containing parking and cycle facilities. Its central section, against the Commons, receives parking on its developed side but not on its Commons side, where a 2-way cycle track is placed at sidewalk level. Trees are placed in a continuous tree lawn against a narrow sidewalk, befitting the suburban nature of this part of the plan.

As Headley Street turns south towards Ada Drive, it becomes a more commercial street, with mixed-use buildings on both sides, and so it gains a second flank of parallel parking to its east, and the sidewalk widens to include its trees in planters. As it crosses Ada Drive, the cycle facility ends, and parking drops off the west flank, since that abuts the Central Green.

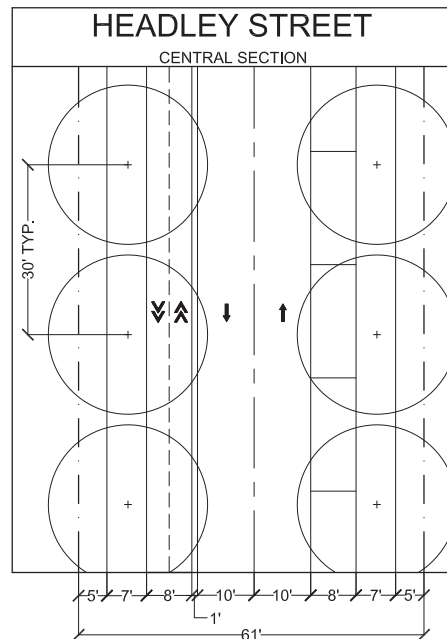


Figure IV-26.

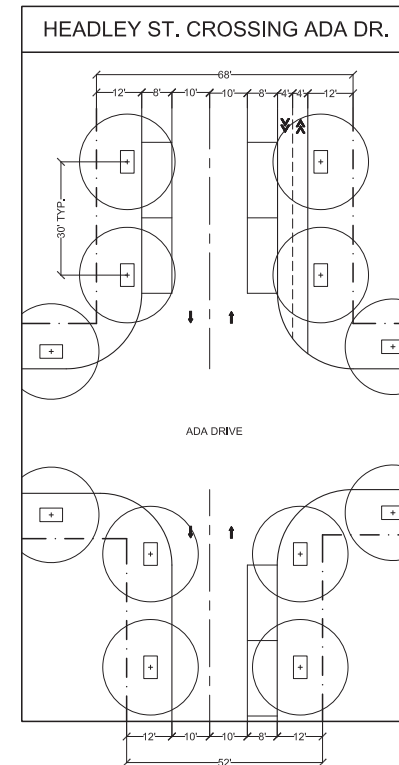


Figure IV-27.

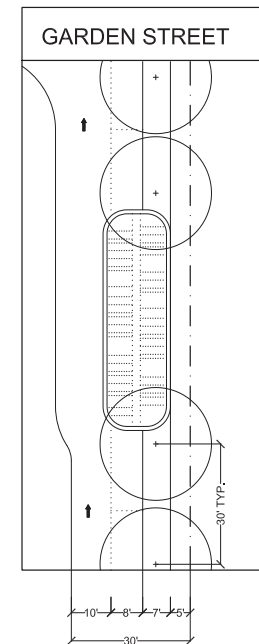


Figure IV-28.

### Garden Street

This small one-way street passes to the west of the Ada Community Reformed Church on axis with its community garden, which it skirts to the west. This drawing shows how its eastern flank of parallel parking, which is unmarked, drops off when

the garden appears. Note also how it receives the eastbound half of Headley Street to its north. (Garden street here receives a stop sign, since the Headley Street flow is dominant.) A small sidewalk sits along the Church property.

## Thornapple Mews

As Thornapple River Drive is diverted into Headley Street on the right flank of the Central Green, its former roadbed is replaced by a narrow one-way street heading east. This street is open to vehicular traffic, but it is not intended to be the primary path east, and it is paved in cobblestone to discourage through traffic. It is wide enough to hold a flank of parking, but that is unmarked. Given its central nature, this street places its trees in sidewalk planters rather than in a tree lawn.

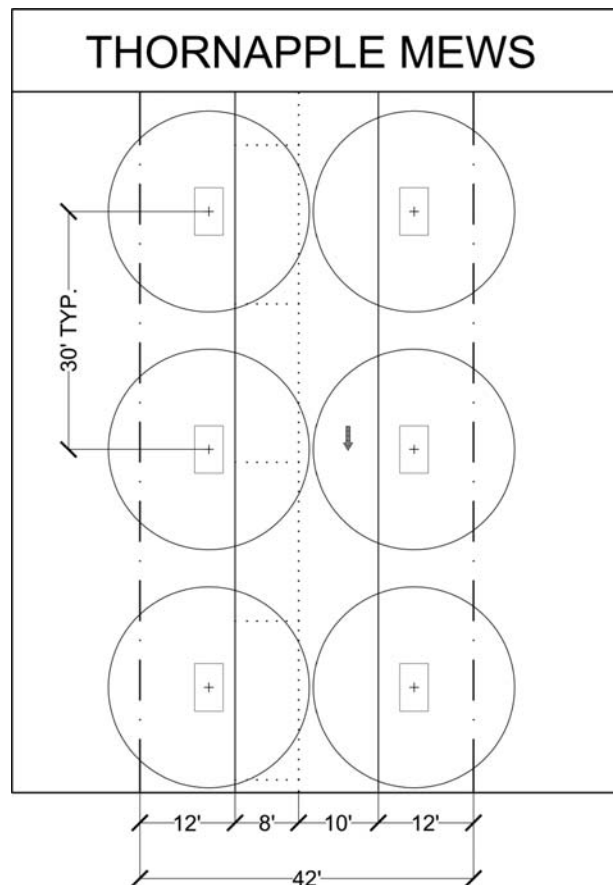


Figure IV-29.

## New Street

The new street connecting from Fulton Street at the Amway headquarters main entrance to the Riverfront Green is imagined as a principally commercial street holding mixed-use buildings on both sides. As such, it is designed as a classic main street, with parking on both sides and 12-foot sidewalks holding trees in planters. Like all heavily-travelled streets, its measurements correspond the ITE/CNU best practice of 8-foot parking lanes flanking 10-foot driving lanes.

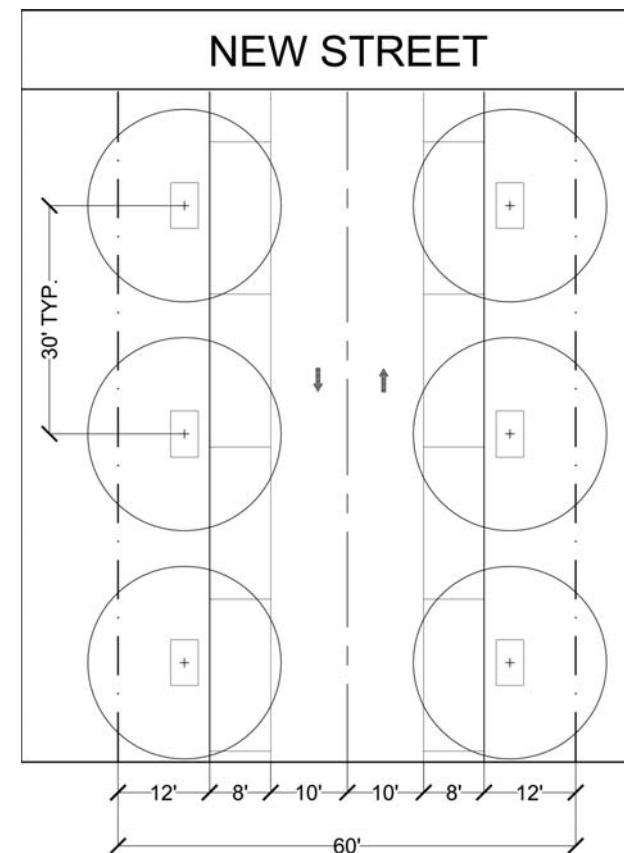


Figure IV-30.

## IV: THOROUGHFARES

### Riverside Drive

Riverside Drive is properly called a drive because it contains development on one side and open space on the other. Appropriately, it has a wide sidewalk with trees in planters on its urbanized side, and trees in a tree lawn and a narrower sidewalk on its undeveloped side. Parallel parking is also restricted to the developed side of the street, improving the visibility of the open space.

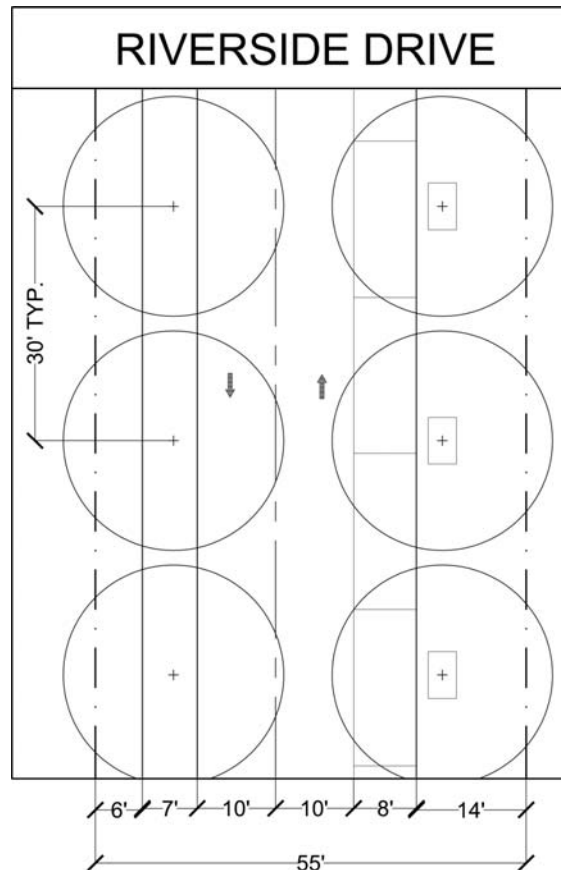


Figure IV-31.

### East Hamlet Loop

As discussed, the small private street serving the limited number of residences in the east hamlet is designed as a "Yield Street," with a single 12-foot travel lane handling traffic in both directions. Because it also contains a single flank of parallel parking (unmarked), the total width of the roadbed is 20 feet. Given its suburban nature, this street places its trees in a tree lawn rather than in planters, and has narrower sidewalks.

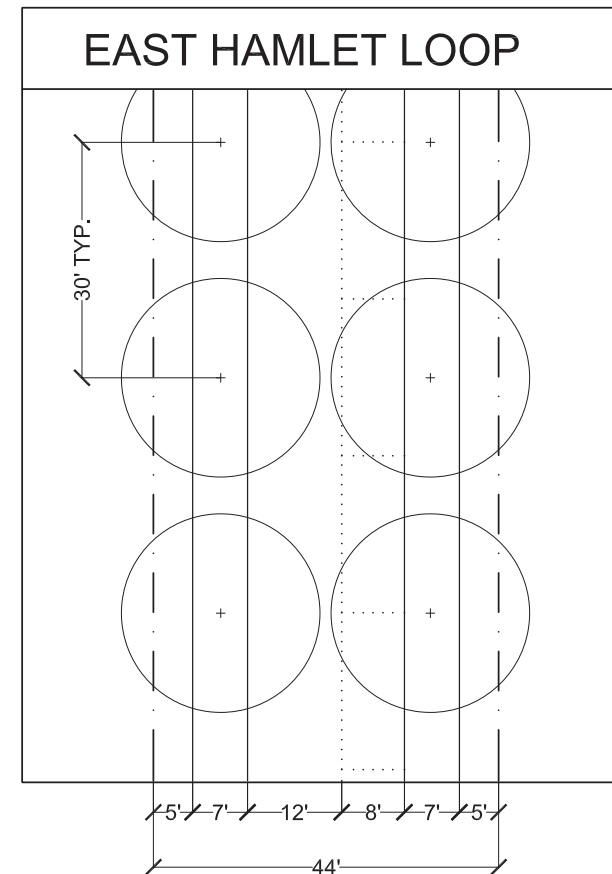


Figure IV-32.

## 4. CYCLE FACILITIES

As already described, many of the streets in Ada Village are here planned to receive bicycle facilities. These can be summarized as follows:

- Fulton Street is already designated to receive a cycle track on its north side.
- Ada Drive should receive integrated bike lanes from Fulton Street to Thornapple River Drive, and Sharrow markings from Thornapple River Drive to Bronson Street.
- Bronson Street should receive a cycle track from Fulton Street to Ada Drive, and Sharrow Markings from Ada Drive to the covered bridge.
- Headley Street should receive a cycle track from Bronson Street to Ada Drive.
- Well-marked cycle-track street crossings should be provided at the Bronson/Fulton intersection and at the Thornapple/Fase intersection.

As can be seen in the attached plan, these facilities are designed to attach directly to the regional cycling network that surrounds Ada Village. Specifically:

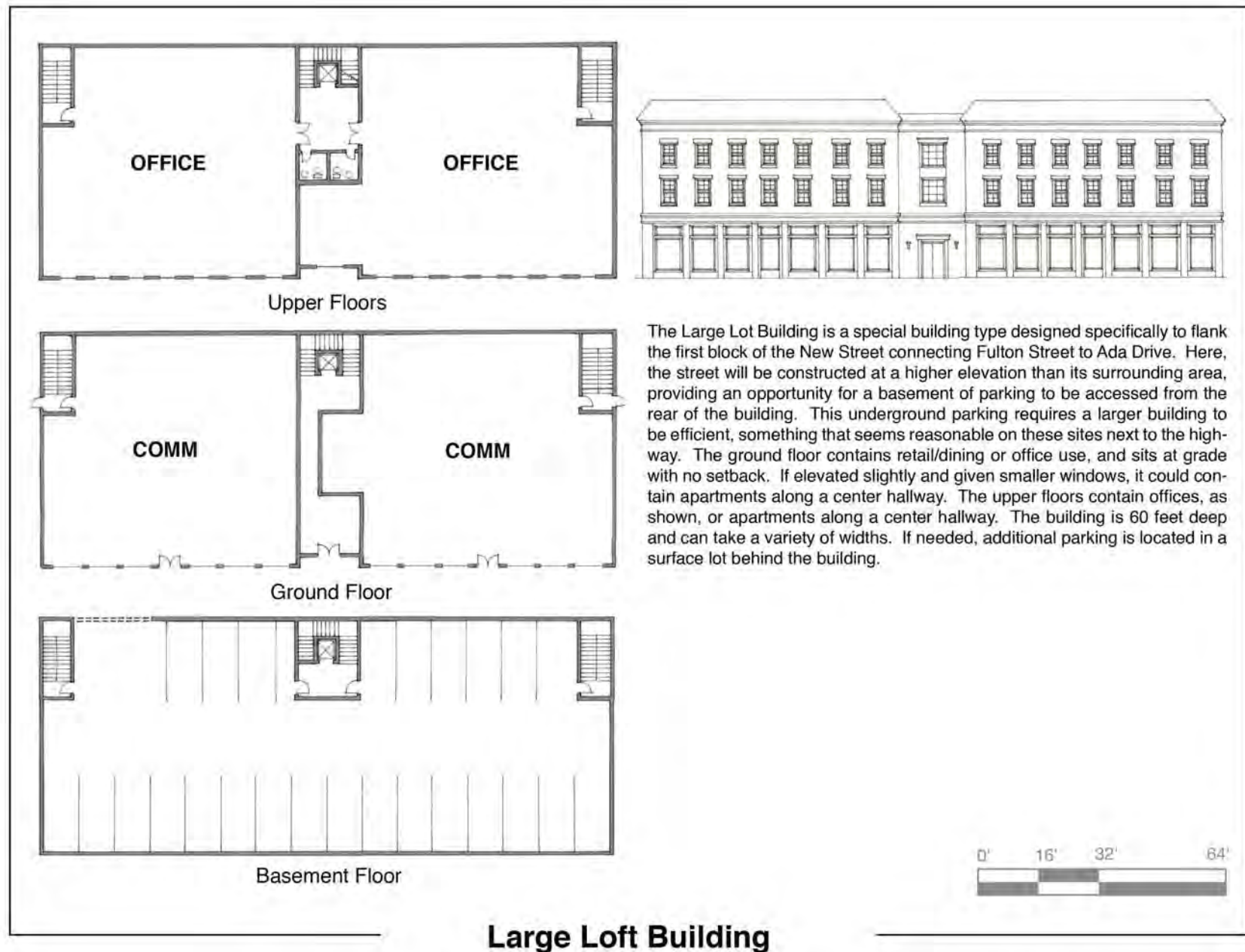
- Northeast along Fulton Street to the Lowell Area Trails.
- Southeast along the Grand River to the Lowell Area Trails
- West along Fulton Street to Grand River Drive north.
- West Along Ada Drive towards the Grand Rapids Township Trails.

With the completion of the cycle track along Fulton Street, a number of trails from every point in the compass will converge on Ada, but they will not properly meet until the biking facilities proposed in this Plan are complete. Once this is accomplished, Ada will truly be poised to become a cyclists Mecca.

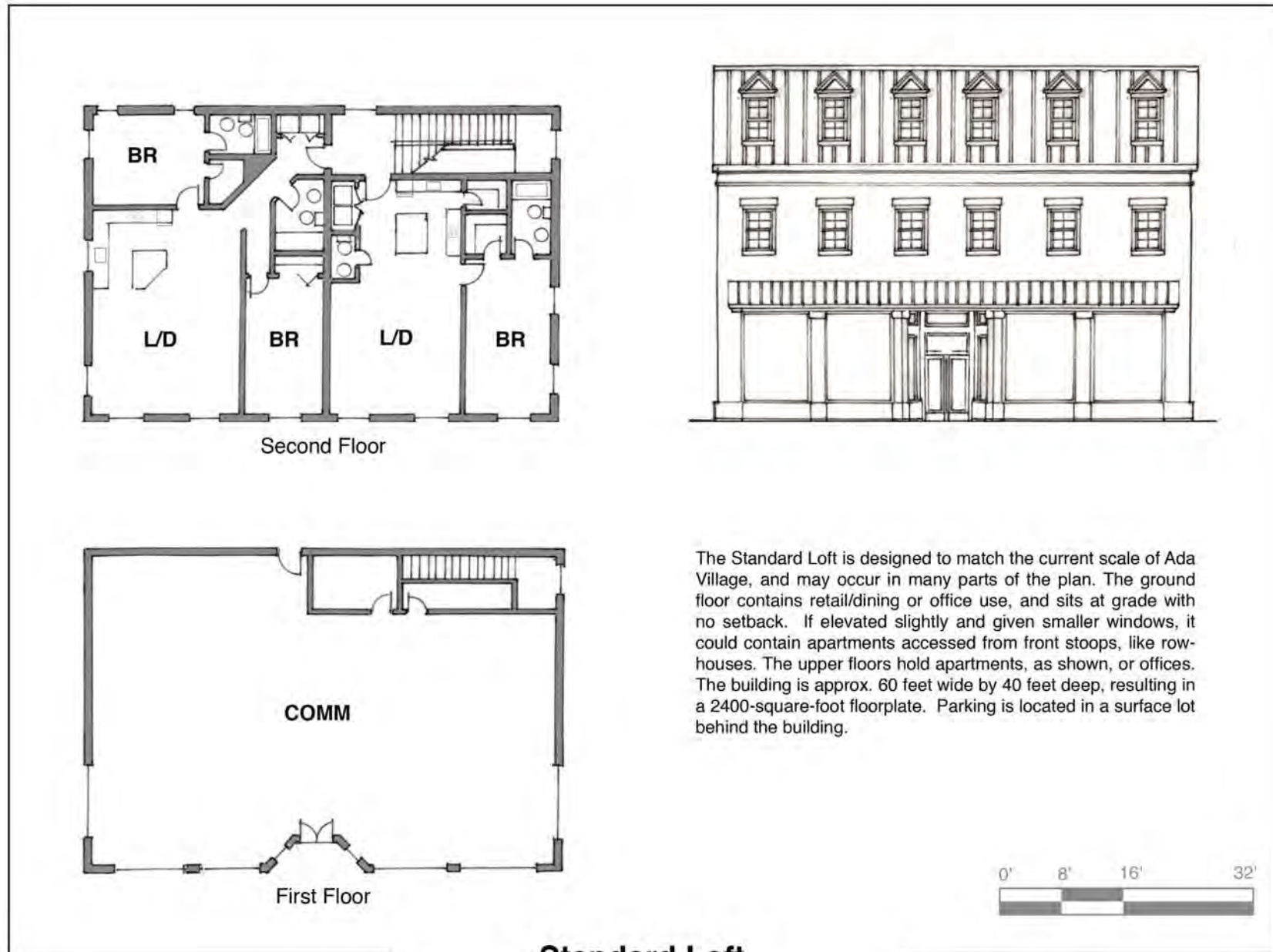


**Figure IV-33.** The planned bike facilities integrate seamlessly into regional networks, inviting more cyclists into the Village.



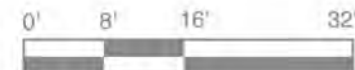
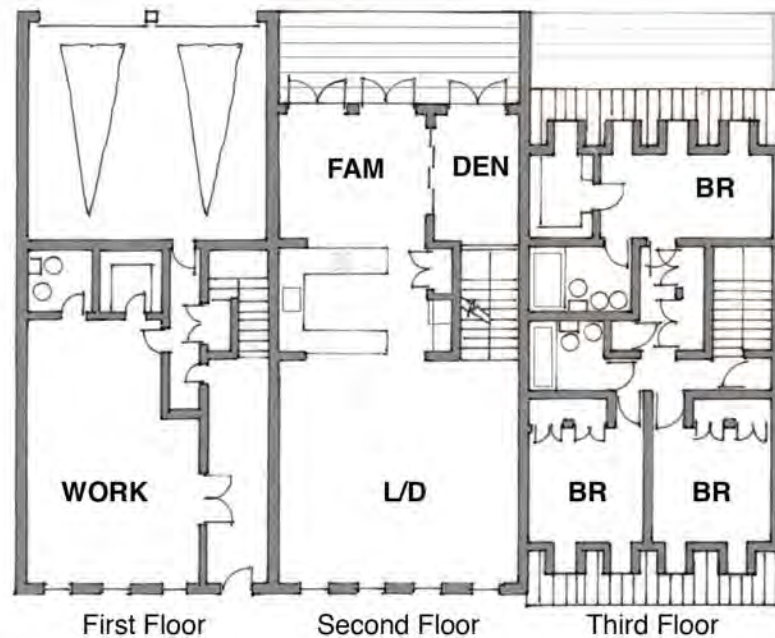


## V: BUILDING TYPES





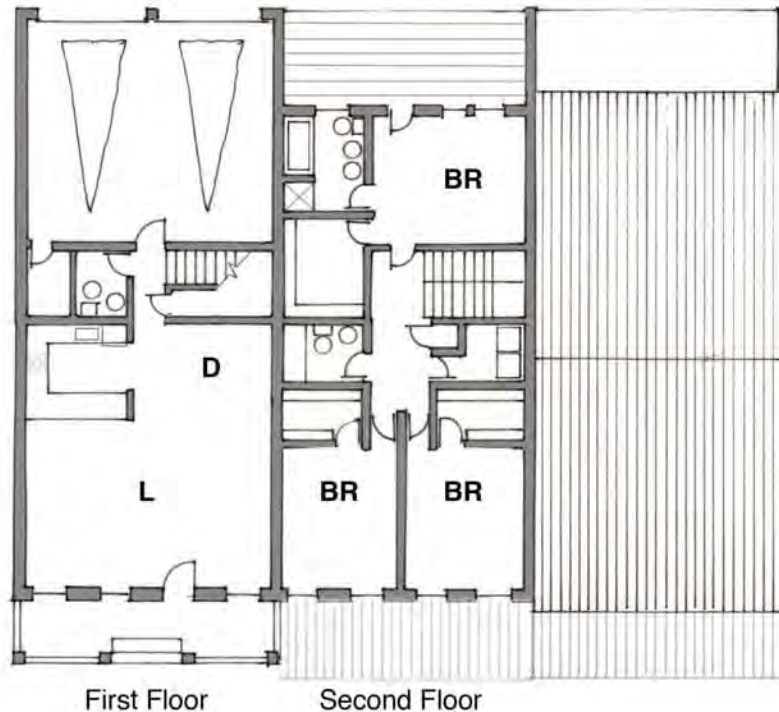
The Live/Work Rowhouse is designed for shallow rowhouse lots—approximately 60 feet deep—and is ideally placed between retail and residential districts. It consists of a full-size rowhouse sitting atop a ground floor containing a two-car garage and a flexible front space that can be used as a shop, an office, or for other purposes. This space can be leased, if desired. A rear deck serves the second floor. The ground floor sits at grade, typically with a 6-foot setback paved to match the sidewalk. It is typically 22 to 25 feet wide by about 55 feet deep, and contains about 2750 interior square feet, plus garage.



**Live/Work Rowhouse**



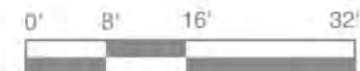
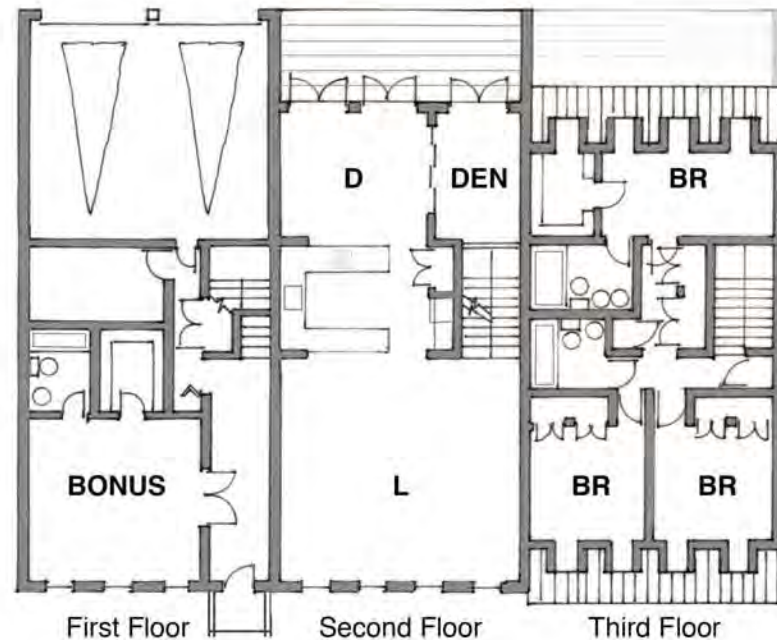
The Small Rowhouse is designed for shallow rowhouse lots—approximately 60 feet deep. Its first floor contains the house's public rooms and a two-car garage, and the front rooms are slightly elevated behind a typically-6-foot setback containing a stoop or porch. Its second floor holds three bedrooms and a rear deck. It is typically 22 to 25 feet wide by about 55 feet deep, and contains about 1750 interior square feet, plus garage.



**Small Rowhouse**

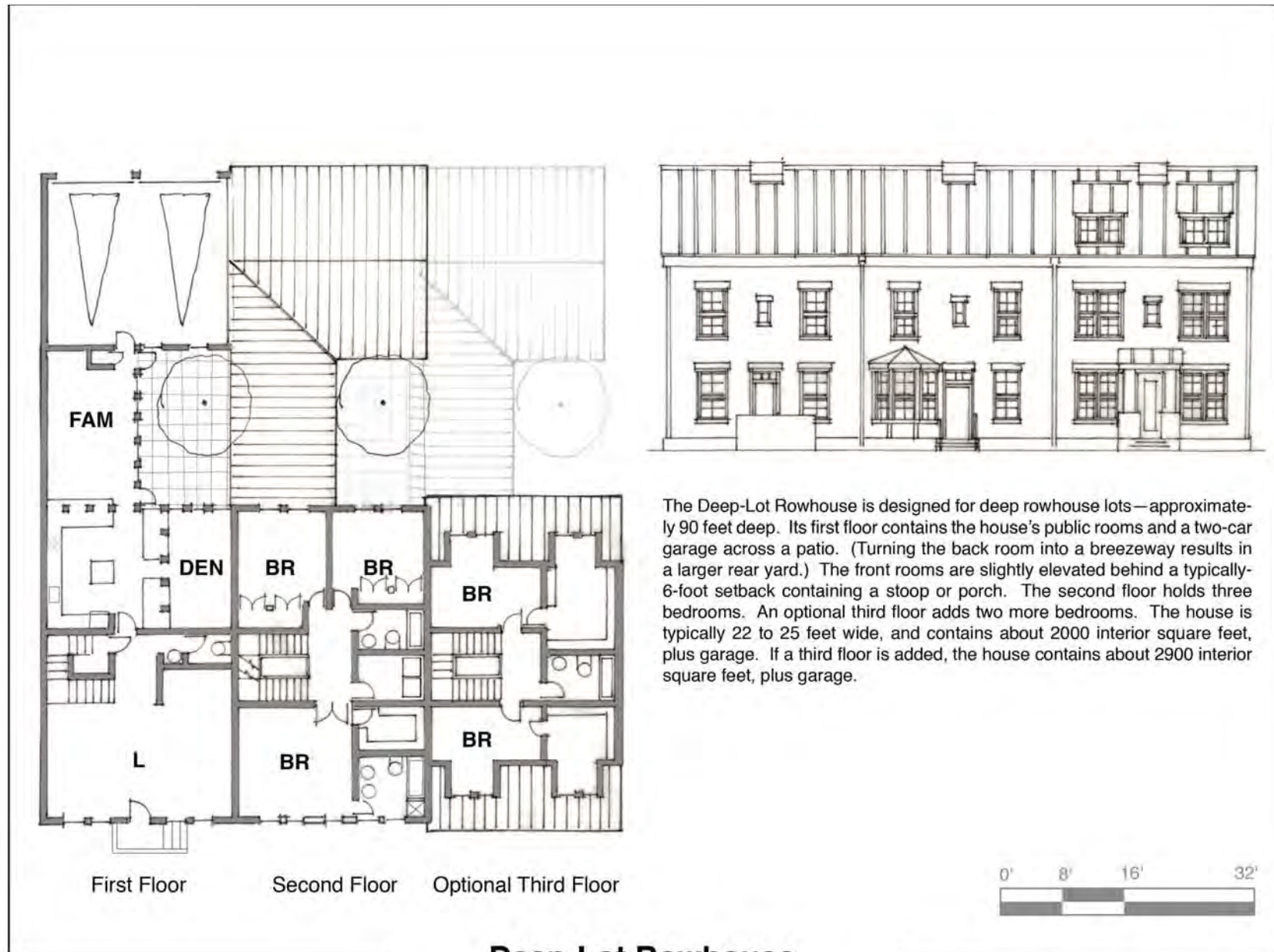


The Large Rowhouse is designed for shallow rowhouse lots—approximately 60 feet deep. Its first floor contains a front bonus suite—which can be rented out—and a two-car garage. The front rooms are slightly elevated behind a typically-6-foot setback containing a stoop or porch. The second floor holds the house's public rooms and a rear deck. Its third floor holds three bedrooms. The house is typically 22 to 25 feet wide by about 55 feet deep, and contains about 2750 interior square feet, plus garage.



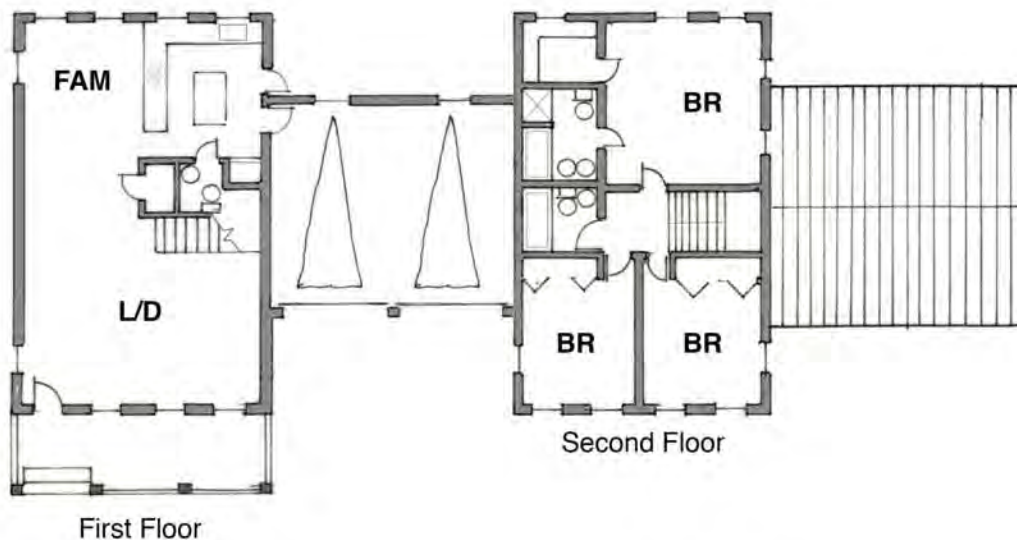
**Large Rowhouse**

## V: BUILDING TYPES



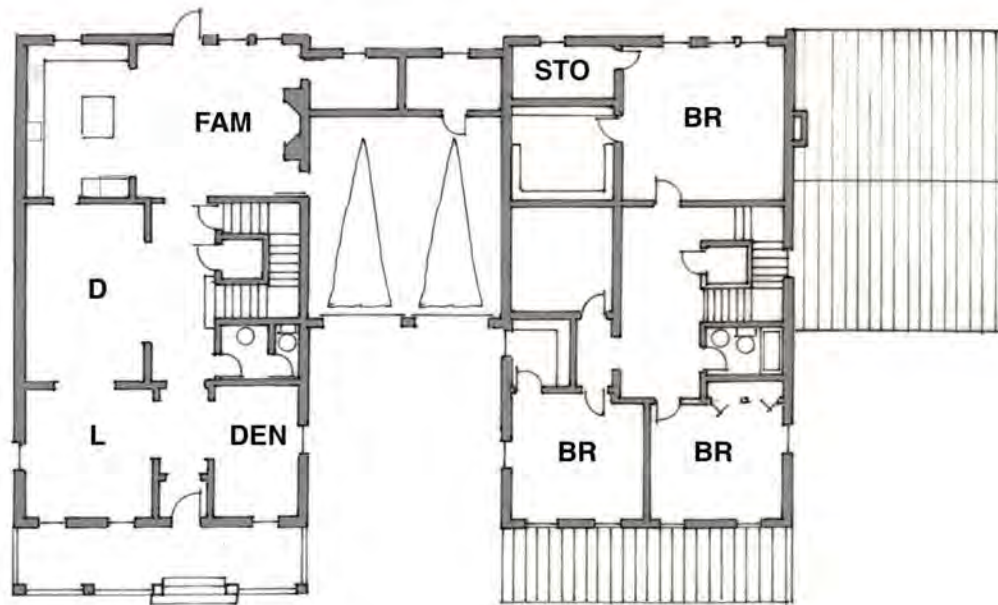


The Wide-Lot House is designed for wide and shallow lots that do not have rear lane access—such as in the Eastern Hamlet—which are about 50 feet wide. Although configured like freestanding houses, with side garages, these houses abut each other directly wherever side lot lines are parallel. The house's first floor contains the public rooms and a two-car garage. The first floor is slightly elevated behind a typically-15-foot setback containing a stoop or porch. The second floor holds three bedrooms. The house typically contains about 1800 interior square feet, plus garage.



**Wide-Lot House**

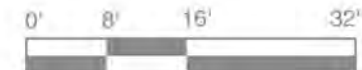
## V: BUILDING TYPES



First Floor

Second Floor

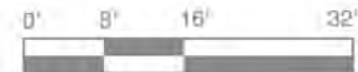
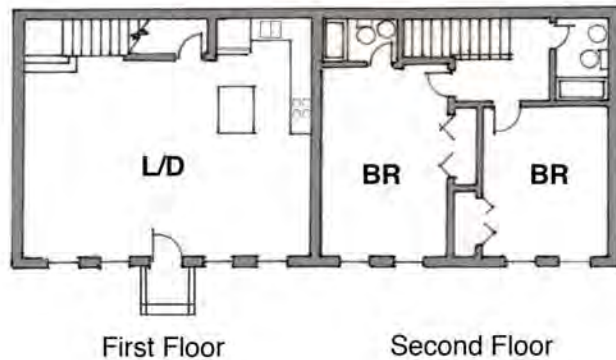
The Large Wide-Lot House is designed for wide lots that do not have rear lane access, such as in the Eastern Hamlet, which are about 50 feet wide. This building requires a slightly deeper lot than the standard Wide-Lot House. Although configured like a free-standing house, with side garages, these houses abut each other directly wherever side lot lines are parallel. The house's first floor contains the public rooms and a two-car garage. The first floor is slightly elevated behind a typically-15-foot setback containing a stoop or porch. The second floor holds three bedrooms. The house typically contains about 2700 interior square feet, plus garage.



**Large Wide-Lot House**



The Rear-Wall Rowhouse is specifically designed to sit against the side wall of a market or other mid-sized retailer, hiding that blank wall from the street. It occupies special 30-foot-deep lots that have been created for that purpose. Its first floor contains a single space for living, dining, and kitchen, and the second floor holds two bedrooms. The first floor is slightly elevated behind a typically-6-foot setback holding a stoop or porch. Each unit is approx. 25 feet deep by 30 feet wide, and contains about 1500 interior square feet. Parking is located on street and/or in a midblock lot.



**Rear-Wall Rowhouse**



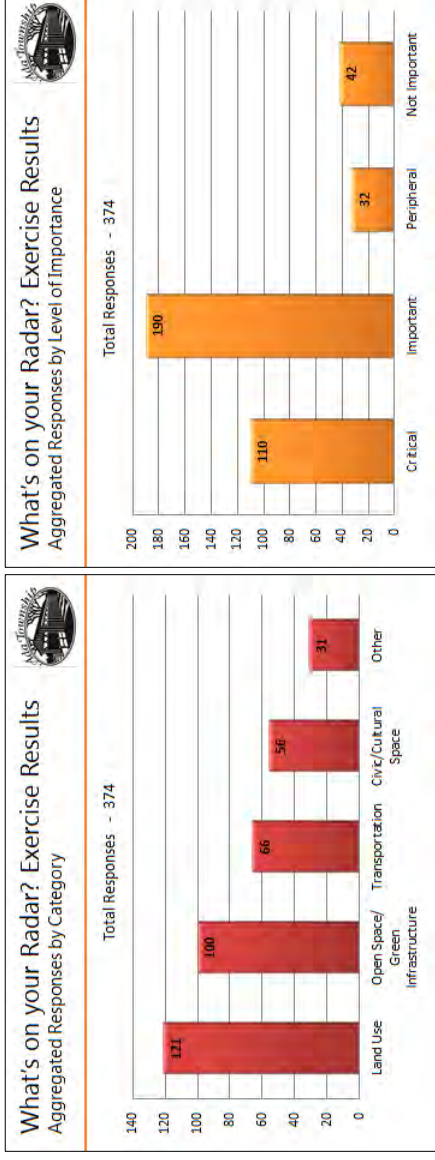




## Appendix 1.1:

### “What’s-on-your-Radar?” Exercise Results:

The twelve stakeholder meetings resulted in 374 responses from nearly 100 participants. The characteristics of the response were generally consistent across all twelve groups. Figures XX – XX indicate that land use and open space/green infrastructure generated the most responses and 80% of the responses consider proposed changes to the Village to be either critical or important.



The radar exercise tabulations as shown in Figures XX – XX generally reveal the following desired community characteristics.

The Village of Ada should be:

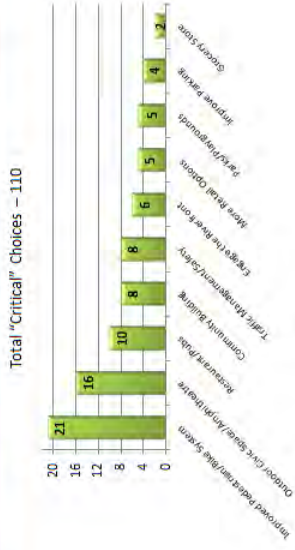
- A walkable, bikeable community with significant open space and meaningful engagement of the river.
- A vibrant mixed use commercial and cultural center with retail establishments, restaurants, pubs and housing options that respect and build upon the Village’s traditional, quaint character.

The Village of Ada should not be:

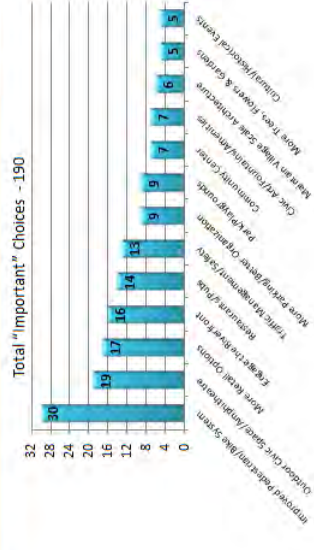
- Another anonymous retail center with big box stores and franchise developments.
- A community dominated by the automobile.



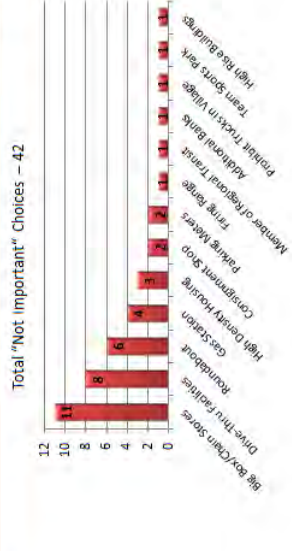
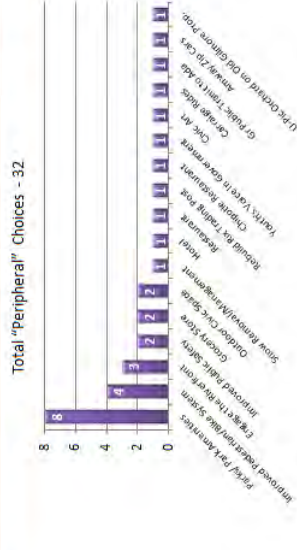
## What's on your Radar? Exercise Results Aggregated "Critical" Choices



## What's on your Radar? Exercise Results Aggregated "Important" Choices



## What's on your Radar? Exercise Results Aggregated "Peripheral" Choices







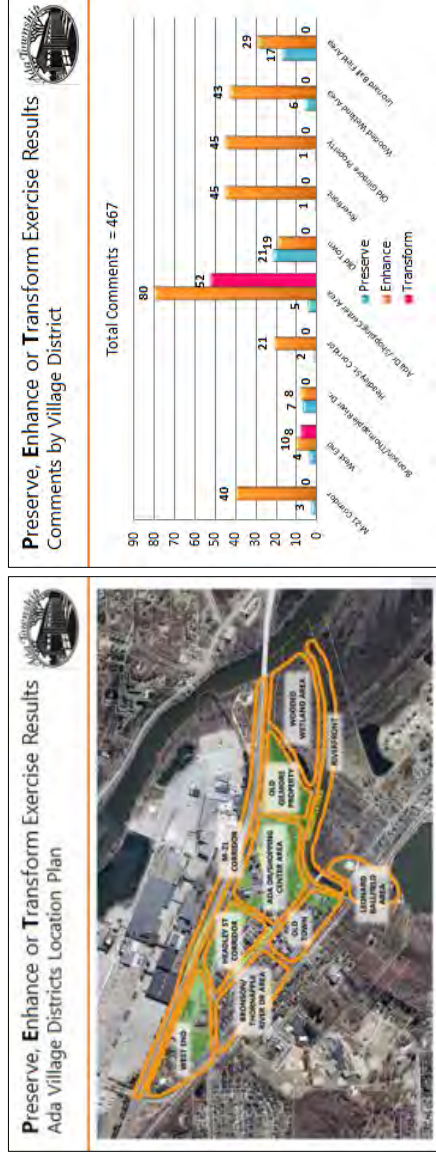


## Appendix 1.2

### Community Open House Exercise Results

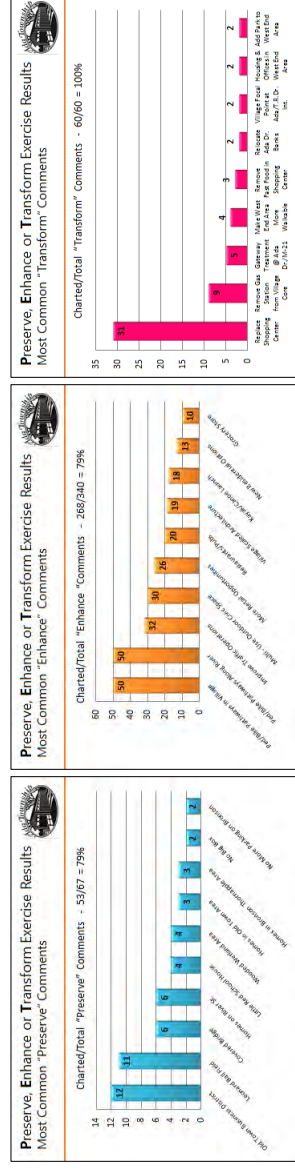
## PET (Preserve, Enhance Transform) Exercise:

The 467 comment notes from the PET exercise were recorded and tabulated. Most comments could be clustered into ten character districts (Figure XX). While not part of the study area, the Leonard Ball field area was identified as important facility and generated a significant amount of comments. Therefore, it was include in the results. By far the Thornapple Village Shopping Center received most of the attention from the community with nearly 30% of the comments (Figure XX).



In general, the PET Exercise as shown in Figures XX – XX revealed the following directions from the community:

- Preserve most of the existing homes and businesses south of Thornapple River Drive
- Improve the walkability in the Village
- Take advantage of the riverfront with better visibility, access and community spaces
- Provide more opportunities for retail and restaurants
- Replace the Thornapple Village Shopping Center
- Remove and/or relocate the more auto oriented uses from the village core



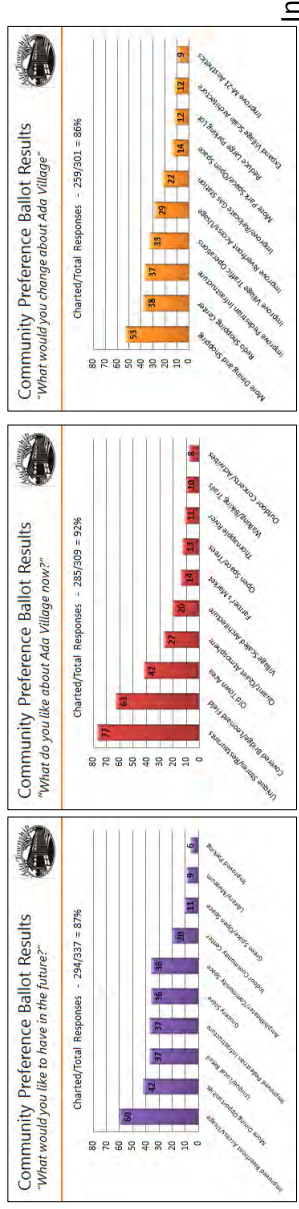


## Community Preference Ballot:

Over 300 responses were submitted for each of the ballot questions. The key preferences of the community include:

- Preserve and build upon the quaint, village-scaled character of Ada
- Make the Village walkable
- Provide more dining and shopping opportunities
- Improve the the riverfront with public spaces

Figures XX – XX show the detailed results.



## Design ElementPreference Ballot:

Six categories were identified on the ballots with several specific options oneach that the community had to rank. The top choices in each category are shown below and in Figures XX – XX.

- Land Use – New Restaurants, pubs, specialty food stores
- Housing – Preserve the single family homes and provide other options such as live/work units and attached townhomes
- Transportation – Develop a Complete Streets network in the Village, create traffic calming measures and plan for a by-pass route in the future if it becomes necessary.
- Parking – Provide on-street parking and create multiple, better dispersed, small parking lots
- Active Public Spaces – Give the farmer’s market a permanent home and create a community amphitheatre/open space.
- Passive Public Spaces – Create a riverfront walkway

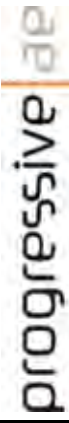












**Project : Ada Village Master Plan**

**Location : Ada , MI**

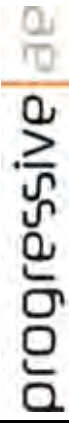
**Owner: Ada Township**

**Revision No.: 5**

**Date Revised: Jan. 13, 2014**

| <b>Overall Budget Estimate</b>                       |  | <b>Total<br/>Opinion Of<br/>Probable Cost</b> |
|--|--|---|
| <b>Phase 1</b>                                       |  |   |
| <b>Public Infrastructure</b>                         |  |   |
| Headley Street (Central Section) West end to Ada Dr. |  | \$ 3,605,700                                  |
| Garden Street from Headley to Thornapple             |  | \$ 308,200                                    |
| <i>Public Infrastructure subtotal</i>                |  | <i>\$ 3,913,900</i>                           |
| <b>Public Building</b>                               |  |   |
| Farmers Market & Community Center                    |  | \$ 2,464,200                                  |
| <i>Public Building subtotal</i>                      |  | <i>\$ 2,464,200</i>                           |
| <b>Private Infrastructure</b>                        |  |   |
| Site Improvements Phase 1                            |  | \$ 856,800                                    |
| Site Improvements Phase 1A                           |  | \$ 360,400                                    |
| Site Improvements Phase 1 B                          |  | \$ 690,400                                    |
| <i>Private Infrastructure subtotal</i>               |  | <i>\$ 1,907,600</i>                           |
| <b>Private Building</b>                              |  |   |
| Building and Fill Phase 1                            |  | \$ 9,540,200                                  |
| Building and Fill Phase 1B                           |  | \$ 11,135,500                                 |
| <i>Private Building subtotal</i>                     |  | <i>\$ 20,675,700</i>                          |
| <b>Private Building Demolition</b>                   |  |   |
| Demolition Phase 1                                   |  | \$ 189,300                                    |
| <i>Private Building Demolition subtotal</i>          |  | <i>\$ 189,300</i>                             |
| <b>Total Phase 1</b>                                 |  | <b>\$ 29,150,700</b>                          |





**Project : Ada Village Master Plan**

**Location : Ada , MI**

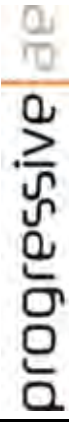
**Owner: Ada Township**

**Revision No.: 5**

**Date Revised: Jan. 13, 2014**

| <b>Overall Budget Estimate</b>                        |   | <b>Total<br/>Opinion Of<br/>Probable Cost</b> |
|---|---|---|
| <b>Phase 2</b>  |   |   |
| <b>Public Infrastructure</b>                          |   |   |
| Village Green   |   | \$ 1,121,100                                  |
| Headley Street Ada Dr. to Thornapple                  |   | \$ 714,600                                    |
| Fulton Streetscape                                    |   | \$ 2,268,900                                  |
| Thornapple Drive, Ada Dr. to Church                   |   | \$ 267,300                                    |
|   | <i>Public Infrastructure subtotal</i>       | \$ 4,371,900                                  |
| <b>Private Building</b>                               |   |   |
| Building and Fill for private residential             |   | \$ 5,590,800                                  |
|   | <i>Private Building subtotal</i>            | \$ 5,590,800                                  |
| <b>Private Infrastructure</b>                         |   |   |
| Site Improvements for residential west end of Headley |   | \$ 1,326,800                                  |
|   | <i>Private Infrastructure subtotal</i>      | \$ 1,326,800                                  |
| <b>Private Building Demolition</b>                    |   |   |
| Demolition Phase 2: Village Green and Headley         |   | \$ 47,200                                     |
|   | <i>Private Building Demolition subtotal</i> | \$ 47,200                                     |
|   | <b>Total Phase 2</b>                        | <b>\$ 11,336,700</b>                          |
| <b>Phase 3</b>  |   |   |
| <b>Public Infrastructure</b>                          |   |   |
| Riverfront Improvements                               |   | \$ 2,377,600                                  |
| Riverside Drive 3A: Headley to Ph 4                   |   | \$ 1,010,700                                  |
| Riverside Drive 3B: Ph. 5 to ph 7                     |   | \$ 1,583,200                                  |
|   | <i>Public Infrastructure subtotal</i>       | \$ 4,971,500                                  |
| <b>Private Building Demolition</b>                    |   |   |
| Demolition Phase 3: Riverfront and Headley            |   | \$ 195,100                                    |
|   | <i>Private Building Demolition subtotal</i> | \$ 195,100                                    |
|   | <b>Total Phase 3</b>                        | <b>\$ 5,166,600</b>                           |





**Project : Ada Village Master Plan**

**Location : Ada , MI**

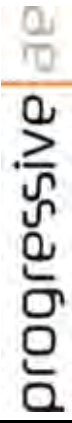
**Owner: Ada Township**

**Revision No.: 5**

**Date Revised: Jan. 13, 2014**

| <b>Overall Budget Estimate</b>                  |  | <b>Total<br/>Opinion Of<br/>Probable Cost</b> |
|---|--|---|
| <b>Phase 4</b>                                  |  |   |
| <b>Public Infrastructure Phase 4A</b>           |  |   |
| Ada Drive                                       |  | \$ 2,496,200                                  |
| <i>Public Infrastructure subtotal</i>           |  | \$ 2,496,200                                  |
| <b>Private Infrastructure Phase 4B</b>          |  |   |
| Site Improvements for Private Development       |  | \$ 1,940,100                                  |
| Private drive connector from River to Ada Drive |  | \$ 454,200                                    |
| <i>Private Infrastructure subtotal</i>          |  | \$ 2,394,300                                  |
| <b>Private Building Phase 4B</b>                |  |   |
| Building and Fill                               |  | \$ 11,874,700                                 |
| <i>Private Building subtotal</i>                |  | \$ 11,874,700                                 |
| <b>Total Phase 4</b>                            |  | <b>\$ 16,765,200</b>                          |
| <b>Phase 5</b>                                  |  |   |
| <b>Private Infrastructure</b>                   |  |   |
| Site Improvements for Private Development       |  | \$ 2,146,500                                  |
| <i>Private Infrastructure subtotal</i>          |  | \$ 2,146,500                                  |
| <b>Private Building</b>                         |  |   |
| Building and Fill                               |  | \$ 6,953,200                                  |
| <i>Private Building subtotal</i>                |  | \$ 6,953,200                                  |
| <b>Total Phase 5</b>                            |  | <b>\$ 9,099,700</b>                           |
| <b>Phase 6</b>                                  |  |   |
| <b>Public Infrastructure</b>                    |  |   |
| New Street, Ada Dr. to M-21                     |  | \$ 832,500                                    |
| Roundabout at M21                               |  | \$ 870,000                                    |
| <i>Public Infrastructure subtotal</i>           |  | \$ 1,702,500                                  |
| <b>Private Building</b>                         |  |   |
| Building and Fill                               |  | \$ 15,305,200                                 |
| <i>Private Building subtotal</i>                |  | \$ 15,305,200                                 |
| <b>Private Infrastructure</b>                   |  |   |
| Site Improvements for Private Development       |  | \$ 974,200                                    |
| <i>Private Infrastructure subtotal</i>          |  | \$ 974,200                                    |
| <b>Private Building Demolition</b>              |  |   |
| Demolition Phase 6:                             |  | \$ 100,400                                    |
| <i>Private Building Demolition subtotal</i>     |  | \$ 100,400                                    |
| <b>Total Phase 6</b>                            |  | <b>\$ 18,082,300</b>                          |
| <b>Phase 7</b>                                  |  |   |
| <b>Private Building</b>                         |  |   |
| Building and Fill                               |  | \$ 21,457,100                                 |
| <i>Private Building subtotal</i>                |  | \$ 21,457,100                                 |
| <b>Private Infrastructure</b>                   |  |   |
| Site Improvements for Private Development       |  | \$ 1,715,200                                  |





Project : Ada Village Master Plan

Location : Ada , MI

Owner: Ada Township

Revision No.: 5

Date Revised: Jan. 13, 2014

| Overall Budget Estimate         |           | Total<br>Opinion Of<br>Probable Cost |
|---------------------------------|-----------|--------------------------------------|
| Private Infrastructure subtotal | \$        | 1,715,200                            |
| <b>Total Phase 7</b>            | <b>\$</b> | <b>23,172,300</b>                    |
| Project total                   |           |                                      |
| Public Infrastructure subtotal  | \$        | 17,456,000                           |
| Public Building subtotal        | \$        | 2,464,200                            |
| <b>Total Public Costs</b>       | <b>\$</b> | <b>19,920,200</b>                    |
| Private Infrastructure subtotal | \$        | 10,464,600                           |
| Private Building subtotal       | \$        | 81,856,700                           |
| Private Building Demolition     | \$        | 532,000                              |
| <b>Total Private Costs</b>      | <b>\$</b> | <b>92,853,300</b>                    |
|                                 |           |                                      |
| <b>Total Project Cost</b>       | <b>\$</b> | <b>112,773,500</b>                   |
|                                 |           |                                      |



**Project :** Ada Village Master Plan

**Location :** Ada , MI

**Owner:** Ada Township

**Phase:** Various

**Private building and fill cost**

**Revision No.:** 5

**Date Revised:** Jan. 13, 2014

| <b>Phase 1</b>   |  | <b>Qty</b> | <b>Unit</b> | <b>Cost</b> | <b>Total</b>         |
|--|--|------------|-------------|-------------|----------------------|
| Mixed Use ( Retail/Office/Residential) 2-3 story           |  | 50,250     | SF          | \$ 100.00   | \$ 5,025,000         |
| Medical Office   |  | 10,000     | SF          | \$ 150.00   | \$ 1,500,000         |
| Pad Ready Fill ( 3 ')                                      |  | 1,650      | CY          | \$ 15.00    | \$ 24,750            |
| Excavation for flood plain compensation                    |  | 1,650      | CY          | \$ 18.00    | \$ 29,700            |
| <b>Sub total</b>   |  |            |             |             | <b>\$ 6,579,450</b>  |
| Engineering and Design Fee (20%)                           |  |            |             |             |                      |
| 25% Contingency ,General Conditions, and Soft Costs        |  |            |             |             | \$ 1,315,890         |
| <b>Total</b>   |  |            |             |             | <b>\$ 9,540,203</b>  |
| <b>Phase 1B</b>  |  |            |             |             |                      |
| Live/Work with 1st floor retail                            |  | 8,750      | SF          | \$ 100.00   | \$ 875,000           |
| Live/Work with 1st floor garage space                      |  | 5,000      | SF          | \$ 25.00    | \$ 125,000           |
| Live/Work with 2nd/3rd floor living, 2 bedroom             |  | 27,500     | SF          | \$ 100.00   | \$ 2,750,000         |
| Attached Condominium, 2 story, 2,000 sf, 11 units          |  | 22,000     | SF          | \$ 100.00   | \$ 2,200,000         |
| Attached Condominium, garages, 11 units                    |  | 5,500      | SF          | \$ 100.00   | \$ 550,000           |
| Mixed Use ( Retail/Office/Residential) 2-3 story           |  | 11,500     | SF          | \$ 100.00   | \$ 1,150,000         |
| Pad Ready Fill ( 3 ')                                      |  | 898        | CY          | \$ 15.00    | \$ 13,475            |
| Excavation for flood plain compensation                    |  | 898        | CY          | \$ 18.00    | \$ 16,170            |
| <b>Sub total</b>   |  |            |             |             | <b>\$ 7,679,645</b>  |
| Engineering and Design Fee (20%)                           |  |            |             |             |                      |
| 25% Contingency ,General Conditions, and Soft Costs        |  |            |             |             | \$ 1,535,929         |
| <b>Total</b>   |  |            |             |             | <b>\$ 11,135,485</b> |
| <b>Phase 2</b>   |  |            |             |             |                      |
| Attached Condominium, 2 story, 1,600 sf per unit, 19 units |  | 30,400     | SF          | \$ 125.00   | \$ 3,800,000         |
| Pad Ready Fill ( 3 ')                                      |  | 3,716      | CY          | \$ 15.00    | \$ 55,733            |
| <b>Sub total</b>   |  |            |             |             | <b>\$ 3,855,733</b>  |
| Engineering and Design Fee (20%)                           |  |            |             |             |                      |
| 25% Contingency ,General Conditions, and Soft Costs        |  |            |             |             | \$ 771,147           |
| <b>Total</b>   |  |            |             |             | <b>\$ 5,590,813</b>  |
| <b>Phase 4</b>   |  |            |             |             |                      |
| Mixed Use ( Retail/Office/Residential) 2-3 story           |  | 79,750     | SF          | \$ 100.00   | \$ 7,975,000         |
| Pad Ready Fill ( 5 ')                                      |  | 6,498      | CY          | \$ 15.00    | \$ 97,472            |
| Excavation for flood plain compensation                    |  | 6,498      | CY          | \$ 18.00    | \$ 116,967           |
| <b>Sub total</b>   |  |            |             |             | <b>\$ 8,189,439</b>  |
| Engineering and Design Fee (20%)                           |  |            |             |             |                      |
| 25% Contingency ,General Conditions, and Soft Costs        |  |            |             |             | \$ 1,637,888         |
| <b>Total</b>   |  |            |             |             | <b>\$ 11,874,686</b> |



**Project :** Ada Village Master Plan

**Location :** Ada , MI

**Owner:** Ada Township

**Phase:** Various

**Private building and fill cost**

**Revision No.:** 5  
**Date Revised:** Jan. 13, 2014

| <b>Phase 5</b>   |  | <b>Qty</b>                       | <b>Unit</b> | <b>Cost</b>  | <b>Total</b>         |
|--|--|----------------------------------|-------------|--------------|----------------------|
| Mixed Use ( Retail/Office/Residential) 2-3 story           |  | 22,500                           | SF          | \$ 100.00    | \$ 2,250,000         |
| Grocery Store  |  | 14,950                           | SF          | \$ 100.00    | \$ 1,495,000         |
| Attached Condominium, 2 story, 1,800 sf per unit, 4 units  |  | 7,200                            | SF          | \$ 125.00    | \$ 900,000           |
| Pad Ready Fill ( 4 ')                                      |  | 4,555                            | CY          | \$ 15.00     | \$ 68,322            |
| Excavation for flood plain compensation                    |  | 4,555                            | CY          | \$ 18.00     | \$ 81,987            |
| <b>Sub total</b>   |  |                                  |             |              | <b>\$ 4,795,309</b>  |
|  |  | Engineering and Design Fee (20%) |             |              | \$ 959,062           |
| 25% Contingency ,General Conditions, and Soft Costs        |  |                                  |             | <b>Total</b> | \$ 1,198,827         |
|  |  |                                  |             | <b>Total</b> | <b>\$ 6,953,198</b>  |
| <b>Phase 6</b>   |  |                                  |             |              |                      |
| Mixed Use ( Retail/Office/Residential) 2-3 story           |  | 78,000                           | SF          | \$ 100.00    | \$ 7,800,000         |
| Lower level parking garage                                 |  | 31,200                           | SF          | \$ 80.00     | \$ 2,496,000         |
| Pad Ready Fill ( 3')                                       |  | 5,084                            | CY          | \$ 15.00     | \$ 76,267            |
| Excavation for flood plain compensation ( 8 feet)          |  | 10,169                           | CY          | \$ 18.00     | \$ 183,040           |
| <b>Sub total</b>   |  |                                  |             |              | <b>\$ 10,555,307</b> |
|  |  | Engineering and Design Fee (20%) |             |              | \$ 2,111,061         |
| 25% Contingency ,General Conditions, and Soft Costs        |  |                                  |             | <b>Total</b> | \$ 2,638,827         |
|  |  |                                  |             | <b>Total</b> | <b>\$ 15,305,195</b> |
| <b>Phase 7</b>   |  |                                  |             |              |                      |
| Attached Condominium, 2 story, 1,600 sf per unit, 29 units |  | 46,400                           | SF          | \$ 125.00    | \$ 5,800,000         |
| Detached Residential, 2 story, 2200 sf per unit, 28 units  |  | 61,600                           | SF          | \$ 145.00    | \$ 8,932,000         |
| Pad Ready Fill ( 1 ')                                      |  | 4,400                            | CY          | \$ 15.00     | \$ 66,000            |
| <b>Sub total</b>   |  |                                  |             |              | <b>\$ 14,798,000</b> |
|  |  | Engineering and Design Fee (20%) |             |              | \$ 2,959,600         |
| 25% Contingency ,General Conditions, and Soft Costs        |  |                                  |             | <b>Total</b> | \$ 3,699,500         |
|  |  |                                  |             | <b>Total</b> | <b>\$ 21,457,100</b> |

**Total all phases \$ 81,856,680**



**Phase 1 : Public Infrastructure**

**Headley Street Reconstruction - West end to Ada Drive**

| Roadway : Headley St. Central Section                              |  | Qty   | Unit | Cost          | Total             |
|--|--|-------|------|---------------|-------------------|
| New Road : 2,000 lf includes intersection with M-20, boulevard     |  | 20    | STA  |               |                   |
| Sand sub base - 18" to 2.25 feet                                   |  | 7,115 | CY   | \$ 10.00      | \$ 71,153         |
| Aggregate base MDOT 21A 8" thick                                   |  | 2,685 | CY   | \$ 50.00      | \$ 134,250        |
| Bituminous Road - 1 1/2" 4C, 2" 3C                                 |  | 1,906 | tons | \$ 85.00      | \$ 162,040        |
| Conc. Curb - MDOT F4   |  | 5,120 | LF   | \$ 20.00      | \$ 102,400        |
| Underdrain, both sides 6"  |  | 4,000 | LF   | \$ 25.00      | \$ 100,000        |
| Machine Grading  |  | 20.00 | STA  | \$ 4,200.00   | \$ 84,000         |
| Fill Material to raise above flood plain ( 3' road section, fill ) |  | 7,778 | CY   | \$ 10.00      | \$ 77,778         |
| Remove Existing Headley Street : 1530 feet long                    |  | 4,675 | SY   | \$ 7.50       | \$ 35,063         |
| Excavation for flood plain compensation                            |  | 7,778 | CY   | \$ 18.00      | \$ 140,000        |
| Traffic Signal   |  | 1     | Each | \$ 80,000.00  | \$ 80,000         |
| <b>Sub total</b>   |  |       |      |               | <b>\$ 986,683</b> |
| <b>Utility</b>   |  |       |      |               |                   |
| 8" watermain and valves  |  | 2,000 | LF   | \$ 100.00     | \$ 200,000        |
| Electrical lines - Relocate oh lines from old headley              |  | 1     | LS   | \$ 100,000.00 | \$ 100,000        |
| Gas Main   |  | 1     | LS   | \$ 50,000.00  | \$ 50,000         |
| 12" storm sewer  |  | 500   | LF   | \$ 40.00      | \$ 20,000         |
| 18" storm sewer  |  | 700   | LF   | \$ 50.00      | \$ 35,000         |
| 24" storm sewer  |  | 800   | LF   | \$ 65.00      | \$ 52,000         |
| Manholes/ CB - Storm   |  | 15    | Each | \$ 2,000.00   | \$ 30,000         |
| 8" Sanitary Sewer  |  | 2,000 | LF   | \$ 100.00     | \$ 200,000        |
| Stormwater Filtration  |  | 1     | LS   | \$ 15,000.00  | \$ 15,000         |
| <b>Sub total</b>   |  |       |      |               | <b>\$ 702,000</b> |



| Streetscape   |        |          |    |           |            |
|---|--------|----------|----|-----------|------------|
| Specialty Pavement south side                       | 4,800  | SF       | \$ | 12.00     | \$ 57,600  |
| Concrete Pavement south side                        | 9,300  | SF       | \$ | 4.00      | \$ 37,200  |
| Concrete side walk (6' wide) North side             | 13,800 | SF       | \$ | 4.00      | \$ 55,200  |
| Planters Curb (6 ea. in-ground, 45' x 6')           | 684    | LF       | \$ | 16.00     | \$ 10,944  |
| Trees/Landscape in Planters (5 shrub + 1 tree)      | 6      | Each     | \$ | 1,000.00  | \$ 6,000   |
| Grass Parkway ( 6 feet wide)                        | 12,000 | SF       | \$ | 3.50      | \$ 42,000  |
| Trees in Grates                                     | 36     | Each     | \$ | 3,500.00  | \$ 126,000 |
| Bike Path ( 10 feet wide, 3" bituminous, 6" gravel) | 2,222  | SY       | \$ | 22.00     | \$ 48,889  |
| Irrigation  | 1      | Lump Sum | \$ | 50,000.00 | \$ 50,000  |
| Benches   | 10     | Each     | \$ | 1,500.00  | \$ 15,000  |
| Freestanding Planters                               | 10     | Each     | \$ | 1,000.00  | \$ 10,000  |
| Waste Receptacles                                   | 10     | Each     | \$ | 1,200.00  | \$ 12,000  |
| Bike Racks  | 6      | Each     | \$ | 1,200.00  | \$ 7,200   |
| Street Lighting                                     | 40     | Each     | \$ | 8,000.00  | \$ 320,000 |
| Subtotal  |        |          |    |           | \$ 798,033 |

## Phase 1 : Private Infrastructure

| Building and Parking Demolition                |           |        |    |    |      |           |                |
|--|-----------|--------|----|----|------|-----------|----------------|
| Building Demolition (7300 Fulton; Building 38) |           | 6,000  | SF | \$ | 3.50 | \$        | 21,000         |
| Building Demolition (7171 Headley)             |           | 14,000 | SF | \$ | 3.50 | \$        | 49,000         |
| Building Demolition (527 Ada Dr. )             |           | 2,100  | SF | \$ | 3.50 | \$        | 7,350          |
| Parking Demolition (7300 Fulton; Building 28)  | 30,000 sf | 3,333  | SY | \$ | 5.50 | \$        | 18,333         |
| Parking Demolition (7171 Headley)              | 57,100 sf | 6,344  | SY | \$ | 5.50 | \$        | 34,894         |
|  |           |        |    |    |      |           |                |
| <b>Sub total</b>                               |           |        |    |    |      | <b>\$</b> | <b>130,578</b> |

**NOTE: MDEQ may require a 12" watermain extension across Thornapple River prior to allowing this watermain extension. Estimated to cost \$500,000.**

|   |           |                    |
|---|-----------|--------------------|
| Engineering and Design Fee (20%)                    | \$        | 26,116             |
| 25% Contingency ,General Conditions, and Soft Costs | \$        | 32,644             |
| <b>Total</b>  | <b>\$</b> | <b>189,338</b>     |
| <hr/>   |           |                    |
| <b>Total Cost Phase 1</b>                           |           | <b>\$3,795,075</b> |



**Phase 1 : Public Infrastructure**

**Garden Street from Headley to Thornapple**

| Roadway                                | Qty   | Unit     | Cost        | Total             |
|--|-------|----------|-------------|-------------------|
| New Road : 300 LF includes garden      | 3     | STA      |             |                   |
| Sand sub base - 18" to 2.25 feet       | 572   | CY       | \$ 10.00    | \$ 5,724          |
| Aggregate base MDOT 21A 8" thick       | 216   | CY       | \$ 50.00    | \$ 10,800         |
| Bituminous Road - 1 1/2" 4C, 2" 3C     | 153   | tons     | \$ 85.00    | \$ 13,036         |
| Conc. Curb - MDOT F4                   | 834   | LF       | \$ 20.00    | \$ 16,680         |
| Underdrain, both sides 6"              | 600   | LF       | \$ 25.00    | \$ 15,000         |
| Machine Grading                        | 3.00  | STA      | \$ 4,200.00 | \$ 12,600         |
| <b>Sub total</b>                       |       |          |             | <b>\$ 73,840</b>  |
| <b>Utility</b>                         |       |          |             |                   |
| 8" watermain and valves                | -     | LF       | \$ 100.00   | \$ -              |
| 12" storm sewer                        | 100   | LF       | \$ 40.00    | \$ 4,000          |
| 18" storm sewer                        | 200   | LF       | \$ 50.00    | \$ 10,000         |
| 24" storm sewer                        | -     | LF       | \$ 65.00    | \$ -              |
| Manholes/ CB - Storm                   | 6     | Each     | \$ 2,000.00 | \$ 12,000         |
| 8" Sanitary Sewer                      | -     | LF       | \$ 100.00   | \$ -              |
| Stormwater Filtration                  | 1     | LS       | \$ 5,000.00 | \$ 5,000          |
| <b>Sub total</b>                       |       |          |             | <b>\$ 31,000</b>  |
| <b>Streetscape</b>                     |       |          |             |                   |
| Concrete side walk                     | 1,800 | SF       | \$ 4.00     | \$ 7,200          |
| Grass Parkway ( 6 feet wide)           | 1,800 | SF       | \$ 3.50     | \$ 6,300          |
| Trees in Grates                        | 8     | Each     | \$ 3,500.00 | \$ 28,000         |
| Irrigation                             | 1     | Lump Sum | \$ 3,000.00 | \$ 3,000          |
| Benches                                | 2     | Each     | \$ 1,500.00 | \$ 3,000          |
| Freestanding Planters                  | 4     | Each     | \$ 1,000.00 | \$ 4,000          |
| Waste Receptacles                      | 2     | Each     | \$ 1,200.00 | \$ 2,400          |
| Bike Racks                             | 1     | Each     | \$ 1,200.00 | \$ 1,200          |
| Street Lighting                        | 6     | Each     | \$ 8,000.00 | \$ 48,000         |
| <b>Sub total</b>                       |       |          |             | <b>\$ 103,100</b> |
| <b>Building and Parking Demolition</b> |       |          |             |                   |
| Parking and drive demo 7,500 sf        | 833   | SY       | \$ 5.50     | \$ 4,583          |
| <b>Sub total</b>                       |       |          |             | <b>\$ 4,583</b>   |

**Subtotal \$ 212,523**  
 Engineering and Design Fee (20%) \$ 42,505  
 25% Contingency ,General Conditions, and Soft Costs \$ 53,131  
**Total \$ 308,158**



Project : Ada Village Master Plan

Location : Ada , MI

Owner: Ada Township

Revision No.: 5

Date Revised: Jan. 13, 2014

**Phase 1 : Public Building**

**Farmer's Market & Commons Area**

| <b>Farmer's Market/Community Bldg</b>        | <b>Qty</b> | <b>Unit</b> | <b>Cost</b>  | <b>Total</b>        |
|--|------------|-------------|--------------|---------------------|
| Clearing                                     | 1          | Lump Sum    | \$ 5,000.00  | \$ 5,000            |
| Grading/Earthwork                            | 1          | Lump Sum    | \$ 50,000.00 | \$ 50,000           |
| Farmer's Market Structure Open sided shed    | 5,000      | SF          | \$ 100.00    | \$ 500,000          |
| Community Center: restroom, storage, kitchen | 5,000      | SF          | \$ 150.00    | \$ 750,000          |
| Bituminous Pavement                          | 21,900     | SF          | \$ 5.00      | \$ 109,500          |
| Specialty Pavement                           | 9,300      | SF          | \$ 15.00     | \$ 139,500          |
| Concrete Pavement                            | 2,820      | SF          | \$ 4.00      | \$ 11,280           |
| Site Lighting                                | 10         | Each        | \$ 8,000.00  | \$ 80,000           |
| Landscaping                                  | 1          | Lump Sum    | \$ 35,000.00 | \$ 35,000           |
| Site Amenities (benches, receptacles)        | 16         | Each        | \$ 1,200.00  | \$ 19,200           |
| <b>Sub total</b>                             |            |             |              | <b>\$ 1,699,480</b> |

**Subtotal \$ 1,699,480**  
 Engineering and Design Fee (20%) \$ 339,896  
 25% Contingency ,General Conditions, and Soft Costs \$ 424,870  
**Total \$ 2,464,246**



**Phase 1: Private Infrastructure**  
**Mixed use, West end Headley**

|  | Qty    | Unit     | Cost         | Total             |
|--|--------|----------|--------------|-------------------|
| Parking area                           |        |          |              |                   |
| Parking and drive area                 | 74,500 | SF       |              |                   |
| Sand sub base - 12"                    | 3,311  | CY       | \$ 10.00     | \$ 33,111         |
| Aggregate base MDOT 21A 8" thick       | 2,218  | CY       | \$ 50.00     | \$ 110,922        |
| Bituminous pavement - 1 1/2" 4C, 2" 3C | 1,912  | tons     | \$ 85.00     | \$ 162,534        |
| Conc. Curb -                           | 2,000  | LF       | \$ 20.00     | \$ 40,000         |
| Grading                                | 75,000 | SF       | \$ 0.50      | \$ 37,500         |
| <b>Sub total</b>                       |        |          |              | <b>\$ 384,068</b> |
| <b>Utility</b>                         |        |          |              |                   |
| 8" watermain and valves                | -      | LF       | \$ 100.00    | \$ -              |
| Electrical lines                       | 1      | LS       | \$ 10,000.00 | \$ 10,000         |
| Gas Main                               | 1      | LS       | \$ 10,000.00 | \$ 10,000         |
| 12" storm sewer                        | 400    | LF       | \$ 40.00     | \$ 16,000         |
| 18" storm sewer                        | 400    | LF       | \$ 50.00     | \$ 20,000         |
| 24" storm sewer                        |        | LF       | \$ 65.00     | \$ -              |
| Manholes/ CB - Storm                   | 8      | Each     | \$ 2,000.00  | \$ 16,000         |
| 8" Sanitary Sewer                      |        | LF       | \$ 120.00    | \$ -              |
| Stormwater Filtration                  | 1      | LS       | \$ 15,000.00 | \$ 15,000         |
| <b>Sub total</b>                       |        |          |              | <b>\$ 87,000</b>  |
| <b>Streetscape</b>                     |        |          |              |                   |
| Specialty Pavement                     |        | SF       | \$ 12.00     | \$ -              |
| Concrete sidewalks                     | 4,800  | SF       | \$ 4.00      | \$ 19,200         |
| Trees                                  | 32     | Each     | \$ 500.00    | \$ 16,000         |
| Irrigation                             | 1      | Lump Sum | \$ 10,000.00 | \$ 10,000         |
| Benches                                | 2      | Each     | \$ 1,500.00  | \$ 3,000          |
| Freestanding Planters                  | 4      | Each     | \$ 1,000.00  | \$ 4,000          |
| Waste Receptacles                      | 2      | Each     | \$ 1,200.00  | \$ 2,400          |
| Bike Racks                             | 1      | Each     | \$ 1,200.00  | \$ 1,200          |
| Site Lighting                          | 8      | Each     | \$ 8,000.00  | \$ 64,000         |
| <b>Sub total</b>                       |        |          |              | <b>\$ 119,800</b> |

**Subtotal \$ 590,868**  
 Engineering and Design Fee (20%) \$ 118,174  
 25% Contingency ,General Conditions, and Soft Costs \$ 147,717  
**Total \$ 856,758**



**Phase 1A: Private Infrastructure  
Mixed use, Headley & Ada Dr.**

|  | Qty    | Unit     | Cost         | Total             |
|--|--------|----------|--------------|-------------------|
| Parking area: west end                   |        |          |              |                   |
| Parking and drive area                   | 16,000 | SF       |              |                   |
| Sand sub base - 12"                      | 711    | CY       | \$ 10.00     | \$ 7,111          |
| Aggregate base MDOT 21A 8" thick         | 476    | CY       | \$ 50.00     | \$ 23,822         |
| Bituminous pavement - 1 1/2" 4C, 2" 3C   | 411    | tons     | \$ 85.00     | \$ 34,907         |
| Conc. Curb -                             | 760    | LF       | \$ 20.00     | \$ 15,200         |
| Grading                                  | 16,000 | SF       | \$ 0.50      | \$ 8,000          |
| Fill Material for Parking and Drive (3') | 1,778  | CY       | \$ 10.00     | \$ 17,778         |
| Excavation for flood plain compensation  | 1,778  | CY       | \$ 18.00     | \$ 32,000         |
| <b>Sub total</b>                         |        |          |              | <b>\$ 138,818</b> |
| <b>Utility</b>                           |        |          |              |                   |
| 8" watermain and valves                  | -      | LF       | \$ 100.00    | \$ -              |
| Electrical lines                         | 1      | LS       | \$ 8,000.00  | \$ 8,000          |
| Gas Main                                 | 1      | LS       | \$ 5,000.00  | \$ 5,000          |
| 12" storm sewer                          | 400    | LF       | \$ 40.00     | \$ 16,000         |
| 18" storm sewer                          | -      | LF       | \$ 50.00     | \$ -              |
| 24" storm sewer                          |        | LF       | \$ 65.00     | \$ -              |
| Manholes/ CB - Storm                     | 4      | Each     | \$ 2,000.00  | \$ 8,000          |
| 8" Sanitary Sewer                        | -      | LF       | \$ 120.00    | \$ -              |
| Stormwater Filtration                    | 1      | LS       | \$ 15,000.00 | \$ 15,000         |
| <b>Sub total</b>                         |        |          |              | <b>\$ 52,000</b>  |
| <b>Streetscape</b>                       |        |          |              |                   |
| Specialty Pavement                       |        | SF       | \$ 12.00     | \$ -              |
| Concrete sidewalks                       | 3,500  | SF       | \$ 4.00      | \$ 14,000         |
| Trees                                    | 8      | Each     | \$ 500.00    | \$ 4,000          |
| Irrigation                               | 1      | Lump Sum | \$ 5,000.00  | \$ 5,000          |
| Benches                                  | 1      | Each     | \$ 1,500.00  | \$ 1,500          |
| Freestanding Planters                    | -      | Each     | \$ 1,000.00  | \$ -              |
| Waste Receptacles                        | 1      | Each     | \$ 1,200.00  | \$ 1,200          |
| Bike Racks                               | -      | Each     | \$ 1,200.00  | \$ -              |
| Site Lighting                            | 4      | Each     | \$ 8,000.00  | \$ 32,000         |
| <b>Sub total</b>                         |        |          |              | <b>\$ 57,700</b>  |

|   |                   |
|---|-------------------|
| <b>Subtotal</b>                                     | <b>\$ 248,518</b> |
| Engineering and Design Fee (20%)                    | \$ 49,704         |
| 25% Contingency ,General Conditions, and Soft Costs | \$ 62,129         |
| <b>Total</b>  | <b>\$ 360,351</b> |



**Phase 1B: Private Infrastructure  
Mixed use, Headley South side**

|  | Qty    | Unit     | Cost         | Total             |
|--|--------|----------|--------------|-------------------|
| Parking area                           |        |          |              |                   |
| Parking and drive area                 | 62,000 | SF       |              |                   |
| Sand sub base - 12"                    | 2,756  | CY       | \$ 10.00     | \$ 27,556         |
| Aggregate base MDOT 21A 8" thick       | 1,846  | CY       | \$ 50.00     | \$ 92,311         |
| Bituminous pavement - 1 1/2" 4C, 2" 3C | 1,591  | tons     | \$ 85.00     | \$ 135,263        |
| Conc. Curb -                           | 1,200  | LF       | \$ 20.00     | \$ 24,000         |
| Grading                                | 62,000 | SF       | \$ 0.50      | \$ 31,000         |
| <b>Sub total</b>                       |        |          |              | <b>\$ 310,130</b> |
| <b>Utility</b>                         |        |          |              |                   |
| 8" watermain and valves                | -      | LF       | \$ 100.00    | \$ -              |
| Electrical lines                       | 1      | LS       | \$ 8,000.00  | \$ 8,000          |
| Gas Main                               | 1      | LS       | \$ 8,000.00  | \$ 8,000          |
| 12" storm sewer                        | 500    | LF       | \$ 40.00     | \$ 20,000         |
| 18" storm sewer                        | 200    | LF       | \$ 50.00     | \$ 10,000         |
| 24" storm sewer                        |        | LF       | \$ 65.00     | \$ -              |
| Manholes/ CB - Storm                   | 8      | Each     | \$ 2,000.00  | \$ 16,000         |
| 8" Sanitary Sewer                      |        | LF       | \$ 120.00    | \$ -              |
| Stormwater Filtration                  | 1      | LS       | \$ 15,000.00 | \$ 15,000         |
| <b>Sub total</b>                       |        |          |              | <b>\$ 77,000</b>  |
| <b>Streetscape</b>                     |        |          |              |                   |
| Specialty Pavement                     |        | SF       | \$ 12.00     | \$ -              |
| Concrete sidewalks                     | 3,600  | SF       | \$ 4.00      | \$ 14,400         |
| Trees                                  | 12     | Each     | \$ 500.00    | \$ 6,000          |
| Irrigation                             | 1      | Lump Sum | \$ 10,000.00 | \$ 10,000         |
| Benches                                | 2      | Each     | \$ 1,500.00  | \$ 3,000          |
| Freestanding Planters                  | 4      | Each     | \$ 1,000.00  | \$ 4,000          |
| Waste Receptacles                      | 2      | Each     | \$ 1,200.00  | \$ 2,400          |
| Bike Racks                             | 1      | Each     | \$ 1,200.00  | \$ 1,200          |
| Site Lighting                          | 6      | Each     | \$ 8,000.00  | \$ 48,000         |
| <b>Sub total</b>                       |        |          |              | <b>\$ 89,000</b>  |

**Subtotal \$ 476,130**  
 Engineering and Design Fee (20%) \$ 95,226  
 25% Contingency ,General Conditions, and Soft Costs \$ 119,033  
**Total \$ 690,389**



**Phase 2: Public Infrastructure  
Village Green**

| Site Improvements                                   | Qty    | Unit     | Cost          | Total               |
|---|--------|----------|---------------|---------------------|
| Clearing  | 1      | Lump Sum | \$ 5,000.00   | \$ 5,000            |
| Grading/Earthwork                                   | 1      | Lump Sum | \$ 50,000.00  | \$ 50,000           |
| Concrete Sidewalk                                   | 1,760  | SF       | \$ 4.00       | \$ 7,040            |
| Specialty Pavement                                  | 14,400 | SF       | \$ 12.00      | \$ 172,800          |
| Site Lighting                                       | 12     | Each     | \$ 8,000.00   | \$ 96,000           |
| Landscaping   | 1      | Lump Sum | \$ 35,000.00  | \$ 35,000           |
| Site Amenities (benches, receptacles)               | 16     | Each     | \$ 1,200.00   | \$ 19,200           |
| Plaza with Fountain                                 | 1      | Lump Sum | \$ 350,000.00 | \$ 350,000          |
| <b>Sub total</b>                                    |        |          |               | <b>\$ 735,040</b>   |
| <b>Demolition</b>                                   |        |          |               |                     |
| Building Demolition (Speedway)                      | 5,000  | SF       | \$ 3.50       | \$ 17,500           |
| Remove Thornapple Road                              | 1,778  | SY       | \$ 7.50       | \$ 13,333           |
| Remove Pavement at Speedway                         | 1,333  | SY       | \$ 5.50       | \$ 7,333            |
|   |        |          |               |                     |
| <b>Sub total</b>                                    |        |          |               | <b>\$ 38,167</b>    |
| <b>Subtotal</b>                                     |        |          |               | <b>\$ 773,207</b>   |
| Engineering and Design Fee (20%)                    |        |          |               | \$ 154,641          |
| 25% Contingency ,General Conditions, and Soft Costs |        |          |               | \$ 193,302          |
| <b>Total</b>  |        |          |               | <b>\$ 1,121,150</b> |

**Phase 2: Private Infrastructure**

|   |       |    |         |                  |
|---|-------|----|---------|------------------|
| <b>Demolition</b>                                   |       |    |         |                  |
| Building Demolition (Speedway)                      | 5,000 | SF | \$ 3.50 | \$ 17,500        |
| <b>Sub total</b>                                    |       |    |         | <b>\$ 17,500</b> |
| <b>Subtotal</b>                                     |       |    |         | <b>\$ 17,500</b> |
| Engineering and Design Fee (20%)                    |       |    |         | \$ 3,500         |
| 25% Contingency ,General Conditions, and Soft Costs |       |    |         | \$ 4,375         |
| <b>Total</b>  |       |    |         | <b>\$ 25,375</b> |



Project : Ada Village Master Plan

Location : Ada , MI

Owner: Ada Township

Revision No.: 5

Date Revised: Jan. 13, 2014

**Phase 2 : Public Infrastructure****Headley Street Reconstruction - Ada Drive to Thornapple**

| Roadway   | Qty   | Unit     | Cost         | Total             |
|---|-------|----------|--------------|-------------------|
| New Road : 350 LF                                   | 350   | STA      |              |                   |
| Sand sub base - 18" to 2.25 feet                    | 1,113 | CY       | \$ 10.00     | \$ 11,130         |
| Aggregate base MDOT 21A 8" thick                    | 420   | CY       | \$ 50.00     | \$ 21,000         |
| Bituminous Road - 1 1/2" 4C, 2" 3C                  | 298   | tons     | \$ 85.00     | \$ 25,347         |
| Conc. Curb - MDOT F4                                | 735   | LF       | \$ 20.00     | \$ 14,700         |
| Underdrain, both sides 6"                           | 735   | LF       | \$ 25.00     | \$ 18,375         |
| Machine Grading                                     | 350   | STA      | \$ 4,200.00  | \$ 14,700         |
| Misc. Fill material                                 | 2,074 | CY       | \$ 10.00     | \$ 20,741         |
| <b>Sub total</b>                                    |       |          |              | <b>\$ 125,993</b> |
| <b>Utility</b>                                      |       |          |              |                   |
| 8" watermain and valves                             | 350   | LF       | \$ 100.00    | \$ 35,000         |
| Electrical lines -                                  | 1     | LS       | \$ 20,000.00 | \$ 20,000         |
| Gas Main  | 1     | LS       | \$ 20,000.00 | \$ 20,000         |
| 12" storm sewer                                     | 100   | LF       | \$ 40.00     | \$ 4,000          |
| 24" storm sewer                                     | 100   | LF       | \$ 65.00     | \$ 6,500          |
| 36" storm sewer                                     | 450   | LF       | \$ 80.00     | \$ 36,000         |
| Manholes/ CB - Storm                                | 8     | Each     | \$ 2,000.00  | \$ 16,000         |
| 8" Sanitary Sewer                                   | 350   | LF       | \$ 100.00    | \$ 35,000         |
| Stormwater Filtration                               | 1     | LS       | \$ 15,000.00 | \$ 15,000         |
| <b>Sub total</b>                                    |       |          |              | <b>\$ 187,500</b> |
| <b>Streetscape</b>                                  |       |          |              |                   |
| Specialty Pavement south side                       | 2,100 | SF       | \$ 12.00     | \$ 25,200         |
| Concrete Pavement south side                        | 2,100 | SF       | \$ 4.00      | \$ 8,400          |
| Concrete side walk (6' wide) North side             | 2,100 | SF       | \$ 4.00      | \$ 8,400          |
| Planters Curb (2 ea. in-ground, 45' x 6')           | 228   | LF       | \$ 16.00     | \$ 3,648          |
| Trees/Landscape in Planters (5 shrub + 1 tree)      | 2     | Each     | \$ 1,000.00  | \$ 2,000          |
| Grass Parkway ( 6 feet wide)                        | 2,100 | SF       | \$ 3.50      | \$ 7,350          |
| Trees in Grates                                     | 8     | Each     | \$ 3,500.00  | \$ 28,000         |
| Bike Path ( 10 feet wide, 3" bituminous, 6" gravel) | 389   | SY       | \$ 22.00     | \$ 8,556          |
| Irrigation  | 1     | Lump Sum | \$ 20,000.00 | \$ 20,000         |
| Benches   | 2     | Each     | \$ 1,500.00  | \$ 3,000          |
| Freestanding Planters                               | 4     | Each     | \$ 1,000.00  | \$ 4,000          |
| Waste Receptacles                                   | 2     | Each     | \$ 1,200.00  | \$ 2,400          |
| Bike Racks  | 2     | Each     | \$ 1,200.00  | \$ 2,400          |
| Street Lighting                                     | 7     | Each     | \$ 8,000.00  | \$ 56,000         |
| <b>Sub total</b>                                    |       |          |              | <b>\$ 179,354</b> |
| <b>Subtotal</b>                                     |       |          | <b>\$</b>    | <b>\$ 492,846</b> |
| Engineering and Design Fee (20%)                    |       |          |              | \$ 98,569         |
| 25% Contingency ,General Conditions, and Soft Costs |       |          |              | \$ 123,212        |
| <b>Total</b>  |       |          |              | <b>\$ 714,627</b> |

**Phase 2 : Private Infrastructure**

|  |   |      |             |                  |
|--|---|------|-------------|------------------|
| <b>Building and Parking Demolition</b> |   |      |             |                  |
| House Demolition                       | 3 | each | \$ 5,000.00 | \$ 15,000        |
| <b>Sub total</b>                       |   |      |             | <b>\$ 15,000</b> |

**Subtotal \$ 15,000**

Engineering and Design Fee (20%) \$ 3,000

25% Contingency ,General Conditions, and Soft Costs \$ 3,750

**Total \$ 21,750**



**Phase 2: Public Infrastructure**  
**Fulton St. Improvements**

| Roadway : add 10 ft wide lane                       |  | Qty    | Unit     | Cost         | Total             |
|---|--|--------|----------|--------------|-------------------|
| New Road Lanes                                      |  | 48.0   | STA      |              |                   |
| Sand sub base - 18" to 2.25 feet                    |  | 4,579  | CY       | \$ 10.00     | \$ 45,792         |
| Aggregate base MDOT 21A 8" thick                    |  | 1,728  | CY       | \$ 50.00     | \$ 86,400         |
| Bituminous Road - 3" 4C, 4" 3C                      |  | 1,963  | tons     | \$ 85.00     | \$ 166,856        |
| Conc. Curb - MDOT F4                                |  | 4,300  | LF       | \$ 30.00     | \$ 129,000        |
| Underdrain, under new lane, 6"                      |  | 4,800  | LF       | \$ 25.00     | \$ 120,000        |
| Machine Grading                                     |  | 48.00  | STA      | \$ 1,000.00  | \$ 48,000         |
| Remove Curb & Gutter                                |  | 4,800  | LF       | \$ 10.00     | \$ 48,000         |
| Remove Pavement for Island                          |  | 2,533  | SY       | \$ 8.00      | \$ 20,267         |
| Curb & Gutter for Island                            |  | 3,960  | LF       | \$ 30.00     | \$ 118,800        |
|   |  |        |          |              |                   |
| <b>Sub total</b>                                    |  |        |          |              | <b>\$ 783,114</b> |
| <b>Streetscape</b>                                  |  |        |          |              |                   |
| Concrete side walk                                  |  | 28,800 | SF       | \$ 4.00      | \$ 115,200        |
| Bike Path ( 10 feet wide, 3" bituminous, 6" gravel) |  | 5,333  | SY       | \$ 22.00     | \$ 117,333        |
| Grass Median ( 17 feet wide)                        |  | 32,300 | SF       | \$ 0.15      | \$ 4,845          |
| Trees - Shade                                       |  | 82     | Each     | \$ 400.00    | \$ 32,800         |
| Trees - Ornamental                                  |  | 13     | Each     | \$ 250.00    | \$ 3,250          |
| Irrigation  |  | 1      | Lump Sum | \$ 80,000.00 | \$ 80,000         |
| Benches   |  | 6      | Each     | \$ 1,500.00  | \$ 9,000          |
| Waste Receptacles                                   |  | 12     | Each     | \$ 1,200.00  | \$ 14,400         |
| Bike Racks  |  | 4      | Each     | \$ 1,200.00  | \$ 4,800          |
| Street Lighting                                     |  | 50     | Each     | \$ 8,000.00  | \$ 400,000        |
| <b>Sub total</b>                                    |  |        |          |              | <b>\$ 781,628</b> |

**Subtotal \$ 1,564,743**

Engineering and Design Fee (20%) \$ 312,949

25% Contingency ,General Conditions, and Soft Costs \$ 391,186

**Total \$ 2,268,877**



**Phase 2 : Public Infrastructure**  
**Thornapple Dr. from Ada Dr. to Church**

| Roadway : Infill parking bump outs     | Qty   | Unit     | Cost        | Total             |
|--|-------|----------|-------------|-------------------|
| New Parking Lanes                      | 2.5   | STA      |             |                   |
| Sand sub base - 18" to 2.25 feet       | 191   | CY       | \$ 10.00    | \$ 1,908          |
| Aggregate base MDOT 21A 8" thick       | 72    | CY       | \$ 50.00    | \$ 3,600          |
| Bituminous Road - 1 1/2" 4C, 2" 3C     | 51    | tons     | \$ 85.00    | \$ 4,345          |
| Conc. Curb - MDOT F4                   | 734   | LF       | \$ 20.00    | \$ 14,680         |
| Underdrain, both sides 6"              | 250   | LF       | \$ 25.00    | \$ 6,250          |
| Machine Grading                        | 2.50  | STA      | \$ 4,200.00 | \$ 10,500         |
| <b>Sub total</b>                       |       |          |             | <b>\$ 41,283</b>  |
| <b>Streetscape</b>                     |       |          |             |                   |
| Concrete side walk                     | 3,600 | SF       | \$ 4.00     | \$ 14,400         |
| Specialty Pavement south side          | 3,600 | SF       | \$ 12.00    | \$ 43,200         |
| Grass Parkway ( 6 feet wide)           | 1,800 | SF       | \$ 3.50     | \$ 6,300          |
| Trees in Grates                        | 6     | Each     | \$ 3,500.00 | \$ 21,000         |
| Irrigation                             | 1     | Lump Sum | \$ 3,000.00 | \$ 3,000          |
| Benches                                | 2     | Each     | \$ 1,500.00 | \$ 3,000          |
| Freestanding Planters                  | 4     | Each     | \$ 1,000.00 | \$ 4,000          |
| Waste Receptacles                      | 2     | Each     | \$ 1,200.00 | \$ 2,400          |
| Bike Racks                             | 1     | Each     | \$ 1,200.00 | \$ 1,200          |
| Street Lighting                        | 5     | Each     | \$ 8,000.00 | \$ 40,000         |
| <b>Sub total</b>                       |       |          |             | <b>\$ 138,500</b> |
| <b>Building and Parking Demolition</b> |       |          |             |                   |
| Parking and drive demo 7,500 sf        | 833   | SY       | \$ 5.50     | \$ 4,583          |
| <b>Sub total</b>                       |       |          |             | <b>\$ 4,583</b>   |

**Subtotal \$ 184,367**  
 Engineering and Design Fee (20%) \$ 36,873  
 25% Contingency ,General Conditions, and Soft Costs \$ 46,092  
**Total \$ 267,331**



**Phase 2 : Private Infrastructure**

**Private Development Residential west end Headley**

| Parking area                           | Qty    | Unit     | Cost         | Total             |
|--|--------|----------|--------------|-------------------|
| Parking and drive area                 | 36,320 | SF       |              |                   |
| Sand sub base - 12"                    | 1,614  | CY       | \$ 10.00     | \$ 16,142         |
| Aggregate base MDOT 21A 8" thick       | 1,082  | CY       | \$ 50.00     | \$ 54,076         |
| Bituminous Road - 1 1/2" 4C, 2" 3C     | 932    | tons     | \$ 85.00     | \$ 79,238         |
| Conc. Curb -                           | 1,840  | LF       | \$ 20.00     | \$ 36,800         |
| Grading                                | 36,320 | SF       | \$ 0.50      | \$ 18,160         |
| Fill Material for walk out sites ( 5') | 16,667 | CY       | \$ 15.00     | \$ 250,000        |
| <b>Sub total</b>                       |        |          |              | <b>\$ 454,417</b> |
| <b>Utility</b>                         |        |          |              |                   |
| 8" watermain and valves                | 800    | LF       | \$ 100.00    | \$ 80,000         |
| Electrical lines                       | 1      | LS       | \$ 20,000.00 | \$ 20,000         |
| Gas Main                               | 1      | LS       | \$ 10,000.00 | \$ 10,000         |
| 12" storm sewer                        | 300    | LF       | \$ 40.00     | \$ 12,000         |
| 18" storm sewer                        | 300    | LF       | \$ 50.00     | \$ 15,000         |
| 24" storm sewer                        |        | LF       | \$ 65.00     | \$ -              |
| Manholes/ CB - Storm                   | 6      | Each     | \$ 2,000.00  | \$ 12,000         |
| 8" Sanitary Sewer                      | 550    | LF       | \$ 120.00    | \$ 66,000         |
| Stormwater Filtration                  | 1      | LS       | \$ 15,000.00 | \$ 15,000         |
| <b>Sub total</b>                       |        |          |              | <b>\$ 230,000</b> |
| <b>Streetscape</b>                     |        |          |              |                   |
| Concrete sidewalks                     | 16,000 | SF       | \$ 4.00      | \$ 64,000         |
| Trees in Grates                        | 16     | Each     | \$ 3,500.00  | \$ 56,000         |
| Irrigation                             | 1      | Lump Sum | \$ 4,000.00  | \$ 4,000          |
| Benches                                | 2      | Each     | \$ 1,500.00  | \$ 3,000          |
| Freestanding Planters                  | 4      | Each     | \$ 1,000.00  | \$ 4,000          |
| Waste Receptacles                      | 2      | Each     | \$ 1,200.00  | \$ 2,400          |
| Bike Racks                             | 1      | Each     | \$ 1,200.00  | \$ 1,200          |
| Site Lighting                          | 12     | Each     | \$ 8,000.00  | \$ 96,000         |
| <b>Sub total</b>                       |        |          |              | <b>\$ 230,600</b> |

**Subtotal \$ 915,017**  
 Engineering and Design Fee (20%) \$ 183,003  
 25% Contingency ,General Conditions, and Soft Costs \$ 228,754  
**Total \$ 1,326,774**



Project : Ada Village Master Plan

Location : Ada , MI

Owner: Ada Township

Revision No.: 5

Date Revised: Jan. 13, 2014

**Phase 3: Public Infrastructure  
Riverfront and Amphitheater**

|                                       | Qty    | Unit        | Cost  | Total               |
|---------------------------------------|--------|-------------|---|---------------------|
| <b>Riverfront Promenade</b>           |        |             |   |                     |
| Clearing                              | 1      | Lump Sum    | \$ 55,000   | \$ 55,000           |
| Grading/Earthwork                     | 1      | Lump Sum    | \$ 30,000   | \$ 30,000           |
| Park Restroom and Storage, 1,000 sf   | 1,000  | SF          | \$ 225  | \$ 225,000          |
| Boardwalk                             | 12,600 | SF          | \$ 25   | \$ 315,000          |
| Concrete Walk                         | 2,160  | SF          | \$ 4  | \$ 8,640            |
| Over looks (2 @ 900 sf each) )        | 1,800  | SF          | \$ 50   | \$ 90,000           |
| Railing                               | 2,200  | LF          | \$ 60   | \$ 132,000          |
| Site Lighting                         | 25     | Each        | \$ 8,000  | \$ 200,000          |
| Landscaping                           | 1      | Lump Sum    | \$ 25,000   | \$ 25,000           |
| Site Amenities (benches, receptacles) | 30     | Each        | \$ 1,200  | \$ 36,000           |
| Pedestrian Bridge across river        | 1      | Lump Sum    | \$ 150,000  | \$ 150,000          |
| <b>Sub total</b>                      |        |             |   | <b>\$ 1,266,640</b> |
| <b>Riverfront Plaza</b>               |        |             |   |                     |
| Clearing                              | 1      | Lump Sum    | \$ 40,000   | \$ 40,000           |
| Grading/Earthwork                     | 1      | Lump Sum    | \$ 30,000   | \$ 30,000           |
| Site Utilities                        | 1      | Lump Sum    | \$ 10,000   | \$ 10,000           |
| Specialty Pavement                    | 13,000 | Square Feet | \$ 15   | \$ 195,000          |
| Planter Curb                          | 318    | LF          | \$ 16   | \$ 5,088            |
| Railing                               | 200    | Linear Feet | \$ 60   | \$ 12,000           |
| Site Lighting                         | 6      | Each        | \$ 8,000  | \$ 48,000           |
| Landscaping                           | 1      | Lump Sum    | \$ 15,000   | \$ 15,000           |
| Site Amenities (benches, receptacles) | 15     | Each        | \$ 1,200  | \$ 18,000           |
| <b>Sub total</b>                      |        |             |   | <b>\$ 373,088</b>   |
|                                       |        |             | <b>Subtotal</b>                                     | <b>\$ 1,639,728</b> |
|                                       |        |             | Engineering and Design Fee (20%)                    | \$ 327,946          |
|                                       |        |             | 25% Contingency ,General Conditions, and Soft Costs | \$ 409,932          |
|                                       |        |             | <b>Total</b>  | <b>\$ 2,377,606</b> |

**Phase 3: Private Infrastructure**

|  |       |    |             |                  |
|--|-------|----|-------------|------------------|
| <b>Building and Parking Demolition</b> |       |    |             |                  |
| Building Relocation C: School House    | 1     | LS | \$ 8,000.00 | \$ 8,000         |
| Building Demolition D: Mud Room        | 1,400 | SF | \$ 3.50     | \$ 4,900         |
| Building Demolition E: Chloe Elian     | 6,300 | SF | \$ 3.50     | \$ 22,050        |
| Parking Demolition                     | 867   | SY | \$ 5.50     | \$ 4,767         |
| <b>Sub total</b>                       |       |    |             | <b>\$ 39,717</b> |

**Subtotal** \$ **39,717**  
 Engineering and Design Fee (20%) \$ 7,943  
 25% Contingency ,General Conditions, and Soft Costs \$ 9,929  
**Total** \$ **57,589**



**Phase 3A: Public Infrastructure  
Riverside Drive: Headley to phase 5**

| Roadway  | Qty   | Unit     | Cost         | Total             |
|--|-------|----------|--------------|-------------------|
| New Road :450 LF   | 4.50  | STA      |              |                   |
| Sand sub base - 18" to 2.25 feet                                   | 1,560 | CY       | \$ 10.00     | \$ 15,598         |
| Aggregate base MDOT 21A 8" thick                                   | 589   | CY       | \$ 50.00     | \$ 29,430         |
| Bituminous Road - 1 1/2" 4C, 2" 3C                                 | 418   | tons     | \$ 85.00     | \$ 35,522         |
| Conc. Curb - MDOT F4   | 945   | LF       | \$ 20.00     | \$ 18,900         |
| Underdrain, both sides 6"  | 945   | LF       | \$ 25.00     | \$ 23,625         |
| Machine Grading  | 4.50  | STA      | \$ 4,000.00  | \$ 18,000         |
| Fill Material to raise above flood plain ( 7' road section, fill ) | 7,000 | CY       | \$ 10.00     | \$ 70,000         |
| Excavation for flood plain compensation                            | 7,000 | CY       | \$ 18.00     | \$ 126,000        |
|  |       |          |              |                   |
| <b>Sub total</b>   |       |          |              |                   |
|  |       |          |              |                   |
| <b>Utility</b>   |       |          |              | <b>\$ 337,075</b> |
| 8" watermain and valves  | 400   | LF       | \$ 100.00    | \$ 40,000         |
| Electrical lines -   | 1     | LS       | \$ 20,000.00 | \$ 20,000         |
| Gas Main   | 1     | LS       | \$ 20,000.00 | \$ 20,000         |
| 12" storm sewer  | 100   | LF       | \$ 40.00     | \$ 4,000          |
| 24" storm sewer  | 100   | LF       | \$ 65.00     | \$ 6,500          |
| 36" storm sewer  | 450   | LF       | \$ 80.00     | \$ 36,000         |
| Manholes/ CB - Storm   | 8     | Each     | \$ 2,000.00  | \$ 16,000         |
| 8" Sanitary Sewer  |       | LF       | \$ 100.00    | \$ -              |
| Stormwater Filtration  | 1     | LS       | \$ 15,000.00 | \$ 15,000         |
|  |       |          |              | <b>\$ 157,500</b> |
| <b>Streetscape</b>   |       |          |              |                   |
| Specialty Pavement one side  | 2,700 | SF       | \$ 12.00     | \$ 32,400         |
| Concrete Pavement one side   | 2,700 | SF       | \$ 4.00      | \$ 10,800         |
| Concrete side walk (6' wide) one side                              | 2,700 | SF       | \$ 4.00      | \$ 10,800         |
| Planters Curb (2 ea. in-ground, 45' x 6')                          | 228   | LF       | \$ 16.00     | \$ 3,648          |
| Trees/Landscape in Planters (5 shrub + 1 tree)                     | 2     | Each     | \$ 1,000.00  | \$ 2,000          |
| Grass Parkway ( 7 feet wide)                                       | 3,150 | SF       | \$ 3.50      | \$ 11,025         |
| Trees in Grates  | 8     | Each     | \$ 3,500.00  | \$ 28,000         |
| Irrigation   | 1     | Lump Sum | \$ 20,000.00 | \$ 20,000         |
| Benches  | 2     | Each     | \$ 1,500.00  | \$ 3,000          |
| Freestanding Planters  | 4     | Each     | \$ 1,000.00  | \$ 4,000          |
| Waste Receptacles  | 2     | Each     | \$ 1,200.00  | \$ 2,400          |
| Bike Racks   | 2     | Each     | \$ 1,200.00  | \$ 2,400          |
| Street Lighting  | 9     | Each     | \$ 8,000.00  | \$ 72,000         |
|  |       |          |              |                   |
| <b>Sub total</b>   |       |          |              | <b>\$ 202,473</b> |

**Subtotal \$ 697,048**

Engineering and Design Fee (20%) \$ 139,410

25% Contingency ,General Conditions, and Soft Costs \$ 174,262

**Total \$ 1,010,719**



Project : Ada Village Master Plan

Location : Ada , MI

Owner: Ada Township

Revision No.: 5

Date Revised: Jan. 13, 2014

**Phase 3: Public Infrastructure****Riverside Drive : from phase 4 thru phase 7**

|  | Qty   | Unit     | Cost            | Total               |
|--|-------|----------|-----------------|---------------------|
| Roadway  |       |          |                 |                     |
| New Road : 600 LF  | 6.00  | STA      |                 |                     |
| Sand sub base - 18" to 2.25 feet                                   | 2,080 | CY       | \$ 10.00        | \$ 20,797           |
| Aggregate base MDOT 21A 8" thick                                   | 785   | CY       | \$ 50.00        | \$ 39,240           |
| Bituminous Road - 1 1/2" 4C, 2" 3C                                 | 557   | tons     | \$ 85.00        | \$ 47,363           |
| Conc. Curb - MDOT F4   | 1,260 | LF       | \$ 20.00        | \$ 25,200           |
| Underdrain, both sides 6"  | 1,260 | LF       | \$ 25.00        | \$ 31,500           |
| Machine Grading  | 6.00  | STA      | \$ 4,000.00     | \$ 24,000           |
| Fill Material to raise above flood plain ( 7' road section, fill ) | 9,333 | CY       | \$ 10.00        | \$ 93,333           |
| Excavation for flood plain compensation                            | 9,333 | CY       | \$ 18.00        | \$ 168,000          |
| <b>Sub total</b>   |       |          |                 | <b>\$ 449,433</b>   |
| <b>Utility</b>   |       |          |                 |                     |
| 8" watermain and valves  | 300   | LF       | \$ 100.00       | \$ 30,000           |
| 12" watermain and valves   | 1,500 | LF       | \$ 120.00       | \$ 180,000          |
| Electrical lines -   | 1     | LS       | \$ 20,000.00    | \$ 20,000           |
| Gas Main   | 1     | LS       | \$ 20,000.00    | \$ 20,000           |
| 12" storm sewer  | 500   | LF       | \$ 40.00        | \$ 20,000           |
| 18" storm sewer  | 100   | LF       | \$ 50.00        | \$ 5,000            |
| 24" storm sewer  | 450   | LF       | \$ 65.00        | \$ 29,250           |
| Manholes/ CB - Storm   | 12    | Each     | \$ 2,000.00     | \$ 24,000           |
| 8" Sanitary Sewer  | 300   | LF       | \$ 100.00       | \$ 30,000           |
| Stormwater Filtration  | 1     | LS       | \$ 15,000.00    | \$ 15,000           |
| <b>Sub total</b>   |       |          |                 | <b>\$ 373,250</b>   |
| <b>Streetscape</b>   |       |          |                 |                     |
| Specialty Pavement one side  | 3,600 | SF       | \$ 12.00        | \$ 43,200           |
| Concrete Pavement one side   | 3,600 | SF       | \$ 4.00         | \$ 14,400           |
| Concrete side walk (6' wide) one side                              | 3,600 | SF       | \$ 4.00         | \$ 14,400           |
| Planters Curb (2 ea. in-ground, 45' x 6')                          | 228   | LF       | \$ 16.00        | \$ 3,648            |
| Trees/Landscape in Planters (5 shrub + 1 tree)                     | 2     | Each     | \$ 1,000.00     | \$ 2,000            |
| Grass Parkway ( 7 feet wide)                                       | 4,200 | SF       | \$ 3.50         | \$ 14,700           |
| Trees in Grates  | 14    | Each     | \$ 3,500.00     | \$ 49,000           |
| Irrigation   | 1     | Lump Sum | \$ 20,000.00    | \$ 20,000           |
| Benches  | 2     | Each     | \$ 1,500.00     | \$ 3,000            |
| Freestanding Planters  | 4     | Each     | \$ 1,000.00     | \$ 4,000            |
| Waste Receptacles  | 2     | Each     | \$ 1,200.00     | \$ 2,400            |
| Bike Racks   | 2     | Each     | \$ 1,200.00     | \$ 2,400            |
| Street Lighting  | 12    | Each     | \$ 8,000.00     | \$ 96,000           |
| <b>Sub total</b>   |       |          |                 | <b>\$ 269,148</b>   |
| <b>Subtotal</b>  |       |          | <b>Subtotal</b> | <b>\$ 1,091,831</b> |

Engineering and Design Fee (20%) \$ 218,366  
25% Contingency ,General Conditions, and Soft Costs \$ 272,958

**Total \$ 1,583,155**

**Phase 3: Private Infrastructure**

|  |        |    |   |                   |
|--|--------|----|---|-------------------|
| <b>Building and Parking Demolition</b> |        |    |   |                   |
| Building Demolition A                  | 27,100 | SF | \$ 3.50   | \$ 94,850         |
| <b>Sub total</b>                       |        |    |   | <b>\$ 94,850</b>  |
| <b>Subtotal</b>                        |        |    | <b>Subtotal</b>                                     | <b>\$ 94,850</b>  |
|  |        |    | Engineering and Design Fee (20%)                    | \$ 18,970         |
|  |        |    | 25% Contingency ,General Conditions, and Soft Costs | \$ 23,713         |
| <b>Total</b>                           |        |    | <b>Total</b>  | <b>\$ 137,533</b> |



## Phase 4A: Public Infrastructure

## Ada Drive

|  | Qty    | Unit     | Cost          | Total             |
|--|--------|----------|---------------|-------------------|
| <b>Roadway</b>   |        |          |               |                   |
| New Road : 1000 lf including intersection with M-20                | 10     | STA      |               |                   |
| Sand sub base - 18" to 2.25 feet                                   | 5,088  | CY       | \$ 10.00      | \$ 50,880         |
| Aggregate base MDOT 21A 8" thick                                   | 1,920  | CY       | \$ 50.00      | \$ 96,000         |
| Bituminous Road - 1 1/2" 4C, 2" 3C                                 | 1,363  | tons     | \$ 85.00      | \$ 115,872        |
| Conc. Curb - MDOT F4   | 2,100  | LF       | \$ 20.00      | \$ 42,000         |
| Underdrain, both sides 6"  | 2,100  | LF       | \$ 25.00      | \$ 52,500         |
| Machine Grading  | 10.00  | STA      | \$ 4,200.00   | \$ 42,000         |
| Fill Material to raise above flood plain ( 5' road section, fill ) | 12,222 | CY       | \$ 10.00      | \$ 122,222        |
| Remove Existing Ada Drive : 1000 feet long                         | 3,056  | SY       | \$ 7.50       | \$ 22,917         |
| Excavation for flood plain compensation                            | 12,222 | CY       | \$ 18.00      | \$ 220,000        |
| Traffic Signal Upgrades  | 1      | LS       | \$ 40,000.00  | \$ 40,000         |
| <b>Sub total</b>   |        |          |               | <b>\$ 804,391</b> |
| <b>Utility</b>   |        |          |               |                   |
| 12" watermain and valves   | 1,000  | LF       | \$ 100.00     | \$ 100,000        |
| Electrical lines - Relocate oh lines underground                   | 1      | LS       | \$ 100,000.00 | \$ 100,000        |
| Gas Main   | 1      | LS       | \$ 50,000.00  | \$ 50,000         |
| 12" storm sewer  | 200    | LF       | \$ 40.00      | \$ 8,000          |
| 18" storm sewer  | 500    | LF       | \$ 50.00      | \$ 25,000         |
| 24" storm sewer  | 500    | LF       | \$ 65.00      | \$ 32,500         |
| Manholes/ CB - Storm   | 12     | Each     | \$ 2,000.00   | \$ 24,000         |
| Storm water filtration   | 1      | LS       | \$ 15,000.00  | \$ 15,000         |
| <b>Sub total</b>   |        |          |               | <b>\$ 354,500</b> |
| <b>Streetscape</b>   |        |          |               |                   |
| Specialty Pavement both sides                                      | 12,000 | SF       | \$ 12.00      | \$ 144,000        |
| Concrete Pavement both sides                                       | 12,000 | SF       | \$ 4.00       | \$ 48,000         |
| Planters Curb (4 ea. in-ground, 45' x 6')                          | 456    | LF       | \$ 16.00      | \$ 7,296          |
| Trees/Landscape in Planters (5 shrub + 1 tree)                     | 4      | Each     | \$ 1,000.00   | \$ 4,000          |
| Trees in Grates  | 36     | Each     | \$ 3,500.00   | \$ 126,000        |
| Irrigation   | 1      | Lump Sum | \$ 50,000.00  | \$ 50,000         |
| Benches  | 5      | Each     | \$ 1,500.00   | \$ 7,500          |
| Freestanding Planters  | 5      | Each     | \$ 1,000.00   | \$ 5,000          |
| Waste Receptacles  | 5      | Each     | \$ 1,200.00   | \$ 6,000          |
| Bike Racks   | 4      | Each     | \$ 1,200.00   | \$ 4,800          |
| Street Lighting  | 20     | Each     | \$ 8,000.00   | \$ 160,000        |
| <b>Sub total</b>   |        |          |               | <b>\$ 562,596</b> |

|   |                     |
|---|---------------------|
| <b>Subtotal</b>                                     | <b>\$ 1,721,487</b> |
| Engineering and Design Fee (20%)                    | \$ 344,297          |
| 25% Contingency ,General Conditions, and Soft Costs | \$ 430,372          |
| <b>Total</b>  | <b>\$ 2,496,156</b> |



**Phase 4B: Private Infrastructure  
Thornapple Drive, Headley, River Private Dev.**

|  | Qty    | Unit     | Cost         | Total             |
|--|--------|----------|--------------|-------------------|
| Parking area   |        |          |              |                   |
| Parking and drive area                                 | 50,000 | SF       |              |                   |
| Sand sub base - 12"                                    | 2,222  | CY       | \$ 10.00     | \$ 22,222         |
| Aggregate base MDOT 21A 8" thick                       | 1,489  | CY       | \$ 50.00     | \$ 74,444         |
| Bituminous Road - 1 1/2" 4C, 2" 3C                     | 1,283  | tons     | \$ 85.00     | \$ 109,083        |
| Conc. Curb -   | 1,100  | LF       | \$ 20.00     | \$ 22,000         |
| Grading  | 50,000 | SF       | \$ 0.50      | \$ 25,000         |
| Fill Material for Parking and Drive (5')               | 19,444 | CY       | \$ 10.00     | \$ 194,444        |
| Excavation for flood plain compensation                | 19,444 | CY       | \$ 18.00     | \$ 350,000        |
| <b>Sub total</b>                                       |        |          |              | <b>\$ 797,194</b> |
| <b>Utility</b>   |        |          |              |                   |
| 8" watermain and valves                                | -      | LF       | \$ 100.00    | \$ -              |
| Electrical lines                                       | 1      | LS       | \$ 20,000.00 | \$ 20,000         |
| Gas Main   | 1      | LS       | \$ 20,000.00 | \$ 20,000         |
| 12" storm sewer  | 400    | LF       | \$ 40.00     | \$ 16,000         |
| 18" storm sewer  | -      | LF       | \$ 50.00     | \$ -              |
| 24" storm sewer  | 200    | LF       | \$ 65.00     | \$ 13,000         |
| Manholes/ CB - Storm                                   | 6      | Each     | \$ 2,000.00  | \$ 12,000         |
| 8" Sanitary Sewer                                      | 700    | LF       | \$ 120.00    | \$ 84,000         |
| Stormwater Filtration                                  | 1      | LS       | \$ 15,000.00 | \$ 15,000         |
| <b>Sub total</b>                                       |        |          |              | <b>\$ 180,000</b> |
| <b>Streetscape</b>                                     |        |          |              |                   |
| Specialty Pavement                                     | 9,900  | SF       | \$ 12.00     | \$ 118,800        |
| Concrete sidewalks                                     | 8,000  | SF       | \$ 4.00      | \$ 32,000         |
| Trees in Grates  | 24     | Each     | \$ 3,500.00  | \$ 84,000         |
| Irrigation   | 1      | Lump Sum | \$ 10,000.00 | \$ 10,000         |
| Benches  | 4      | Each     | \$ 1,500.00  | \$ 6,000          |
| Freestanding Planters                                  | 8      | Each     | \$ 1,000.00  | \$ 8,000          |
| Waste Receptacles                                      | 4      | Each     | \$ 1,200.00  | \$ 4,800          |
| Bike Racks   | 2      | Each     | \$ 1,200.00  | \$ 2,400          |
| Site Lighting  | 6      | Each     | \$ 8,000.00  | \$ 48,000         |
| <b>Sub total</b>                                       |        |          |              | <b>\$ 314,000</b> |
| <b>Building and Parking Demolition</b>                 |        |          |              |                   |
| House Demolition                                       | -      | each     | \$ 5,000.00  | \$ -              |
| Building Demolition (Elzinga/Heidi Christine)          | 3,000  | SF       | \$ 3.50      | \$ 10,500         |
| Building Demolition (496 Ada)                          | 6,000  | SF       | \$ 3.50      | \$ 21,000         |
| Parking Demolition (Elzinga/Heidi Christine) 12,000 sf | 1,333  | SY       | \$ 5.50      | \$ 7,333          |
| Parking Demolition (496 Ada) 13,000 sf                 | 1,444  | SY       | \$ 5.50      | \$ 7,944          |
| <b>Sub total</b>                                       |        |          |              | <b>\$ 46,778</b>  |

**Subtotal \$ 1,337,972**  
 Engineering and Design Fee (20%) \$ 267,594  
 25% Contingency ,General Conditions, and Soft Costs \$ 334,493  
**Total \$ 1,940,060**



**Phase 4B: Private Infrastructure  
Riverside Drive Connector to Ada Drive**

| Roadway  | Qty   | Unit     | Cost        | Total             |
|--|-------|----------|-------------|-------------------|
| New Road : 300 LF  | 3.00  | STA      |             |                   |
| Sand sub base - 18" to 2.25 feet                                   | 810   | CY       | \$ 10.00    | \$ 8,100          |
| Aggregate base MDOT 21A 8" thick                                   | 302   | CY       | \$ 50.00    | \$ 15,120         |
| Bituminous Road - 1 1/2" 4C, 2" 3C                                 | 216   | tons     | \$ 85.00    | \$ 18,360         |
| Conc. Curb - MDOT F4   | 630   | LF       | \$ 20.00    | \$ 12,600         |
| Underdrain, both sides 6"  | 630   | LF       | \$ 25.00    | \$ 15,750         |
| Machine Grading  | 3.00  | STA      | \$ 4,000.00 | \$ 12,000         |
| Fill Material to raise above flood plain ( 5' road section, fill ) | 3,333 | CY       | \$ 10.00    | \$ 33,333         |
| Excavation for flood plain compensation                            | 3,333 | CY       | \$ 18.00    | \$ 60,000         |
| <b>Sub total</b>   |       |          |             | <b>\$ 175,263</b> |
| <b>Streetscape</b>   |       |          |             |                   |
| Specialty Pavement one side  | 1,800 | SF       | \$ 12.00    | \$ 21,600         |
| Concrete Pavement one side   | 1,800 | SF       | \$ 4.00     | \$ 7,200          |
| Concrete side walk (6' wide) one side                              | 1,800 | SF       | \$ 4.00     | \$ 7,200          |
| Grass Parkway ( 7 feet wide)                                       | 2,100 | SF       | \$ 3.50     | \$ 7,350          |
| Trees in Grates  | 8     | Each     | \$ 3,500.00 | \$ 28,000         |
| Bike Path ( 8 feet wide, 3" bituminous, 6" gravel)                 | -     | SY       | \$ 22.00    | \$ -              |
| Irrigation   | 1     | Lump Sum | \$ 8,000.00 | \$ 8,000          |
| Benches  | 2     | Each     | \$ 1,500.00 | \$ 3,000          |
| Freestanding Planters  | 4     | Each     | \$ 1,000.00 | \$ 4,000          |
| Waste Receptacles  | 2     | Each     | \$ 1,200.00 | \$ 2,400          |
| Bike Racks   | 1     | Each     | \$ 1,200.00 | \$ 1,200          |
| Street Lighting  | 6     | Each     | \$ 8,000.00 | \$ 48,000         |
| <b>Sub total</b>   |       |          |             | <b>\$ 137,950</b> |

**Subtotal \$ 313,213**  
 Engineering and Design Fee (20%) \$ 62,643  
 25% Contingency ,General Conditions, and Soft Costs \$ 78,303  
**Total \$ 454,159**



**Phase 5: Private Infrastructure**

**Main Shopping Center**

|   | Qty     | Unit     | Cost         | Total             |
|---|---------|----------|--------------|-------------------|
| Parking area                                |         |          |              |                   |
| Parking and drive area                      | 103,250 | SF       |              |                   |
| Sand sub base - 12"                         | 4,589   | CY       | \$ 10.00     | \$ 45,889         |
| Aggregate base MDOT 21A 8" thick            | 3,075   | CY       | \$ 50.00     | \$ 153,728        |
| Bituminous Road - 1 1/2" 4C, 2" 3C          | 2,650   | tons     | \$ 85.00     | \$ 225,257        |
| Conc. Curb -                                | 1,100   | LF       | \$ 20.00     | \$ 22,000         |
| Grading                                     | 103,250 | SF       | \$ 0.50      | \$ 51,625         |
| Fill Material for Parking and Drive (4')    | 15,556  | CY       | \$ 10.00     | \$ 155,556        |
| Excavation for flood plain compensation     | 15,556  | CY       | \$ 18.00     | \$ 280,000        |
| <b>Sub total</b>                            |         |          |              | <b>\$ 934,054</b> |
| <b>Utility</b>                              |         |          |              |                   |
| 8" watermain and valves                     | 200     | LF       | \$ 100.00    | \$ 20,000         |
| Electrical lines                            | 1       | LS       | \$ 20,000.00 | \$ 20,000         |
| Gas Main                                    | 1       | LS       | \$ 20,000.00 | \$ 20,000         |
| 12" storm sewer                             | 200     | LF       | \$ 40.00     | \$ 8,000          |
| 18" storm sewer                             | -       | LF       | \$ 50.00     | \$ -              |
| 24" storm sewer                             | 200     | LF       | \$ 65.00     | \$ 13,000         |
| Manholes/ CB - Storm                        | 6       | Each     | \$ 2,000.00  | \$ 12,000         |
| 8" Sanitary Sewer                           | 200     | LF       | \$ 120.00    | \$ 24,000         |
| Stormwater Filtration                       | 1       | LS       | \$ 15,000.00 | \$ 15,000         |
| <b>Sub total</b>                            |         |          |              | <b>\$ 132,000</b> |
| <b>Streetscape</b>                          |         |          |              |                   |
| Specialty Pavement                          | 7,500   | SF       | \$ 12.00     | \$ 90,000         |
| Concrete sidewalks                          | 6,400   | SF       | \$ 4.00      | \$ 25,600         |
| Trees in Grates                             | 16      | Each     | \$ 3,500.00  | \$ 56,000         |
| Irrigation                                  | 1       | Lump Sum | \$ 8,000.00  | \$ 8,000          |
| Benches                                     | 2       | Each     | \$ 1,500.00  | \$ 3,000          |
| Freestanding Planters                       | 8       | Each     | \$ 1,000.00  | \$ 8,000          |
| Waste Receptacles                           | 2       | Each     | \$ 1,200.00  | \$ 2,400          |
| Bike Racks                                  | 2       | Each     | \$ 1,200.00  | \$ 2,400          |
| Site Lighting                               | 8       | Each     | \$ 8,000.00  | \$ 64,000         |
| <b>Sub total</b>                            |         |          |              | <b>\$ 259,400</b> |
| <b>Building and Parking Demolition</b>      |         |          |              |                   |
| Building Demolition B: Ameriprise           | 1,200   | SF       | \$ 3.50      | \$ 4,200          |
| Building Demolition F:Sheldon               | 3,200   | SF       | \$ 3.50      | \$ 11,200         |
| Building Demolition G: Lake Mi Credit Union | 3,000   | SF       | \$ 3.50      | \$ 10,500         |
| Building Demolition H: Brewery              | 4,800   | SF       | \$ 3.50      | \$ 16,800         |
| Parking Demolition total site               | 20,400  | SY       | \$ 5.50      | \$ 112,200        |
| <b>Sub total</b>                            |         |          |              | <b>\$ 154,900</b> |

**Subtotal \$ 1,480,354**

Engineering and Design Fee (20%) \$ 296,071

25% Contingency ,General Conditions, and Soft Costs \$ 370,089

**Total \$ 2,146,514**



Project : Ada Village Master Plan

Location : Ada , MI

Owner: Ada Township

Revision No.: 5

Date Revised: Jan. 13, 2014

### Phase 6: Public Infrastructure New Street from Ada to M-21

| Roadway  | Qty   | Unit     | Cost         | Total             |
|--|-------|----------|--------------|-------------------|
| New Road : 450' If including intersection with M-20                | 4.5   | STA      |              |                   |
| Sand sub base - 18" to 2.25 feet                                   | 1,481 | CY       | \$ 10.00     | \$ 14,811         |
| Aggregate base MDOT 21A 8" thick                                   | 559   | CY       | \$ 50.00     | \$ 27,945         |
| Bituminous Road - 1 1/2" 4C, 2" 3C                                 | 397   | tons     | \$ 85.00     | \$ 33,730         |
| Conc. Curb - MDOT F4   | 945   | LF       | \$ 20.00     | \$ 18,900         |
| Underdrain, both sides 6"  | 945   | LF       | \$ 25.00     | \$ 23,625         |
| Machine Grading  | 4.50  | STA      | \$ 4,200.00  | \$ 18,900         |
| Fill Material to raise above flood plain ( 4' road section, fill ) | 3,333 | CY       | \$ 10.00     | \$ 33,333         |
| Excavation for flood plain compensation ( 4')                      | 3,333 | CY       | \$ 18.00     | \$ 60,000         |
| <b>Sub total</b>   |       |          |              | <b>\$ 231,244</b> |
| <b>Utility</b>   |       |          |              |                   |
| 8" watermain and valves  | -     | LF       | \$ 100.00    | \$ -              |
| Gas Main   |       | LS       | \$ 10,000.00 | \$ -              |
| 12" storm sewer  | 200   | LF       | \$ 40.00     | \$ 8,000          |
| 18" storm sewer  | 300   | LF       | \$ 50.00     | \$ 15,000         |
| 24" storm sewer  | 200   | LF       | \$ 65.00     | \$ 13,000         |
| Manholes/ CB - Storm   | 8     | Each     | \$ 2,000.00  | \$ 16,000         |
| 8" Sanitary Sewer  | -     | LF       | \$ 100.00    | \$ -              |
| Stormwater Filtration  | 1     | LS       | \$ 15,000.00 | \$ 15,000         |
| <b>Sub total</b>   |       |          |              | <b>\$ 67,000</b>  |
| <b>Streetscape</b>   |       |          |              |                   |
| Specialty Pavement both sides                                      | 5,400 | SF       | \$ 12.00     | \$ 64,800         |
| Concrete Pavement both sides                                       | 5,400 | SF       | \$ 4.00      | \$ 21,600         |
| Planters Curb (4 ea. in-ground, 45' x 6')                          | 456   | LF       | \$ 16.00     | \$ 7,296          |
| Trees/Landscape in Planters (5 shrub + 1 tree)                     | 4     | Each     | \$ 1,000.00  | \$ 4,000          |
| Trees in Grates  | 20    | Each     | \$ 3,500.00  | \$ 70,000         |
| Irrigation   | 1     | Lump Sum | \$ 15,000.00 | \$ 15,000         |
| Benches  | 4     | Each     | \$ 1,500.00  | \$ 6,000          |
| Freestanding Planters  | 8     | Each     | \$ 1,000.00  | \$ 8,000          |
| Waste Receptacles  | 4     | Each     | \$ 1,200.00  | \$ 4,800          |
| Bike Racks   | 2     | Each     | \$ 1,200.00  | \$ 2,400          |
| Street Lighting  | 9     | Each     | \$ 8,000.00  | \$ 72,000         |
| <b>Sub total</b>   |       |          |              | <b>\$ 275,896</b> |
| <b>Subtotal</b>  |       |          | <b>\$</b>    | <b>\$ 574,140</b> |
| Engineering and Design Fee (20%)                                   |       |          |              | \$ 114,828        |
| 25% Contingency ,General Conditions, and Soft Costs                |       |          |              | \$ 143,535        |
| <b>Total</b>   |       |          |              | <b>\$ 832,503</b> |

### Phase 6: Private Infrastructure

|  |       |    |         |                  |
|--|-------|----|---------|------------------|
| <b>Building and Parking Demolition</b> |       |    |         |                  |
| Building Demolition (5/3rd)            | 2,800 | SF | \$ 3.50 | \$ 9,800         |
| Building Demolition (Chase)            | 4,700 | SF | \$ 3.50 | \$ 16,450        |
| Parking Demolition (5/3rd) 36,400 sf   | 4,044 | SY | \$ 5.50 | \$ 22,244        |
| Parking Demolition (Chase) 34,000 sf   | 3,778 | SY | \$ 5.50 | \$ 20,778        |
| <b>Sub total</b>                       |       |    |         | <b>\$ 69,272</b> |

**Subtotal** \$ **69,272**

Engineering and Design Fee (20%) \$ 13,854

25% Contingency ,General Conditions, and Soft Costs \$ 17,318

**Total** \$ **100,445**



**Project : Ada Village Master Plan**

**Location : Ada , MI**

**Owner: Ada Township**

**Revision No.: 5**

**Date Revised: Jan. 13, 2014**

**Phase 6: Public Infrastructure  
Roundabout at M-21 and Main**

|                             | Qty | Unit | Cost          | Total             |
|-----------------------------|-----|------|---------------|-------------------|
| Roundabout at M-21 and Main | 1   | LS   | \$ 600,000.00 | \$ 600,000        |
|                             |     |      |               | \$ -              |
| <b>Sub total</b>            |     |      |               | <b>\$ 600,000</b> |

**Subtotal \$ 600,000**  
 Engineering and Design Fee (20%) \$ 120,000  
 25% Contingency ,General Conditions, and Soft Costs \$ 150,000  
**Total \$ 870,000**



**Phase 6: Private Infrastructure**

**Private Dev. Connector road to Ada Dr.**

| Parking area                             | Qty    | Unit     | Cost        | Total             |
|--|--------|----------|-------------|-------------------|
| Parking and drive area                   | 48,600 | SF       |             |                   |
| Sand sub base - 12"                      | 2,160  | CY       | \$ 10.00    | \$ 21,600         |
| Aggregate base MDOT 21A 8" thick         | 1,447  | CY       | \$ 50.00    | \$ 72,360         |
| Bituminous Road - 1 1/2" 4C, 2" 3C       | 1,247  | tons     | \$ 85.00    | \$ 106,029        |
| Conc. Curb -                             | 600    | LF       | \$ 20.00    | \$ 12,000         |
| Grading                                  | 48,600 | SF       | \$ 0.50     | \$ 24,300         |
| Fill Material for Parking and Drive (4') | 7,200  | CY       | \$ 10.00    | \$ 72,000         |
| Excavation for flood plain compensation  | 7,200  | CY       | \$ 18.00    | \$ 129,600        |
| <b>Sub total</b>                         |        |          |             | <b>\$ 437,889</b> |
| <b>Streetscape</b>                       |        |          |             |                   |
| Specialty Pavement                       | 1,000  | SF       | \$ 12.00    | \$ 12,000         |
| Concrete sidewalks                       | 3,200  | SF       | \$ 4.00     | \$ 12,800         |
| Trees in Grates                          | 16     | Each     | \$ 3,500.00 | \$ 56,000         |
| Irrigation                               | 1      | Lump Sum | \$ 4,000.00 | \$ 4,000          |
| Benches                                  | 4      | Each     | \$ 1,500.00 | \$ 6,000          |
| Freestanding Planters                    | 8      | Each     | \$ 1,000.00 | \$ 8,000          |
| Waste Receptacles                        | 4      | Each     | \$ 1,200.00 | \$ 4,800          |
| Bike Racks                               | 2      | Each     | \$ 1,200.00 | \$ 2,400          |
| Site Lighting                            | 16     | Each     | \$ 8,000.00 | \$ 128,000        |
| <b>Sub total</b>                         |        |          |             | <b>\$ 234,000</b> |
| <b>Building and Parking Demolition</b>   |        |          |             |                   |
| See Road Phase 6 for these costs         |        |          |             |                   |

**Subtotal \$ 671,889**  
 Engineering and Design Fee (20%) \$ 134,378  
 25% Contingency ,General Conditions, and Soft Costs \$ 167,972  
**Total \$ 974,239**



**Phase 7: Private Infrastructure  
 Private Development Residential**

|  | Qty    | Unit     | Cost         | Total             |
|--|--------|----------|--------------|-------------------|
| Parking area & East Hamlet Loop        |        |          |              |                   |
| Parking and drive area                 | 90,000 | SF       |              |                   |
| Sand sub base - 12"                    | 4,000  | CY       | \$ 10.00     | \$ 40,000         |
| Aggregate base MDOT 21A 8" thick       | 2,680  | CY       | \$ 50.00     | \$ 134,000        |
| Bituminous Road - 1 1/2" 4C, 2" 3C     | 2,310  | tons     | \$ 85.00     | \$ 196,350        |
| Conc. Curb -                           | 2,800  | LF       | \$ 20.00     | \$ 56,000         |
| Grading                                | 90,000 | SF       | \$ 0.50      | \$ 45,000         |
| <b>Sub total</b>                       |        |          |              | <b>\$ 471,350</b> |
| <b>Utility</b>                         |        |          |              |                   |
| 8" watermain and valves                | 1,000  | LF       | \$ 100.00    | \$ 100,000        |
| Electrical lines                       | 1      | LS       | \$ 50,000.00 | \$ 50,000         |
| Gas Main                               | 1      | LS       | \$ 20,000.00 | \$ 20,000         |
| 12" storm sewer                        | 800    | LF       | \$ 40.00     | \$ 32,000         |
| 18" storm sewer                        | 500    | LF       | \$ 50.00     | \$ 25,000         |
| 24" storm sewer                        | 300    | LF       | \$ 65.00     | \$ 19,500         |
| Manholes/ CB - Storm                   | 16     | Each     | \$ 2,000.00  | \$ 32,000         |
| 8" Sanitary Sewer                      | 1,000  | LF       | \$ 120.00    | \$ 120,000        |
| Stormwater Filtration                  | 1      | LS       | \$ 15,000.00 | \$ 15,000         |
| <b>Sub total</b>                       |        |          |              | <b>\$ 413,500</b> |
| <b>Streetscape</b>                     |        |          |              |                   |
| Concrete sidewalks                     | 12,000 | SF       | \$ 4.00      | \$ 48,000         |
| Trees                                  | 16     | Each     | \$ 1,000.00  | \$ 16,000         |
| Irrigation                             | 1      | Lump Sum | \$ 10,000.00 | \$ 10,000         |
| Site Lighting                          | 28     | Each     | \$ 8,000.00  | \$ 224,000        |
| <b>Sub total</b>                       |        |          |              | <b>\$ 298,000</b> |
| <b>Building and Parking Demolition</b> |        |          |              |                   |
| See Road Phase 6 for these costs       |        |          |              |                   |

**Subtotal \$ 1,182,850**  
 Engineering and Design Fee (20%) \$ 236,570  
 25% Contingency ,General Conditions, and Soft Costs \$ 295,713  
**Total \$ 1,715,133**



# ADA VILLAGE DESIGN REGULATIONS

## TABLE OF CONTENTS:

Purpose and Intended Use: ..... Page 2

I. Definitions ..... Page 2

II. Civic Spaces ..... Page 2

III. Civic Structures ..... Page 4

IV. Street Types ..... Page 5

V. Street Design ..... Page 6

VI. Parking ..... Page 7

VII. Parking Design ..... Page 7

VIII. Building Uses ..... Page 7

IX. General Building Design ..... Page 8

X. Heights ..... Page 8

XI. Building Fronts ..... Page 8

XII. Building Attachments ..... Page 9

XIII. Openings ..... Page 10

XIV. Roofs ..... Page 10

XV. Retail Design ..... Page 10

XVI. Retail Signage ..... Page 11

XVII. Details ..... Page 11

XVIII. Existing Buildings and Uses ..... Page 11

## VI: REGULATIONS

### PURPOSE AND INTENDED USE:

The successful implementation of the plan set forth in this report will depend in no small part on the Township's development regulations being consistent with the urban design principles that underlie the plan. In many communities, Ada Township included, the typical suburban pattern of public space and adjacent private development that is auto-dominated and unfriendly and unsafe for pedestrians has been reinforced by, if not directly the result of, the community's own zoning regulations. Ada Township has already adopted "form-based" zoning regulations that seek to remedy this drawback of conventional suburban zoning standards. The standards contained herein are recommended for inclusion into the Township's existing form-based zoning regulations, to help ensure that future re-development of land in the study area will realize the vision set forth in this plan.

It is recognized that the process of amending the zoning regulations is the primary responsibility of the Planning Commission and Township Board, and will involve a separate process of soliciting public input on the proposed regulations. The standards in this Appendix should be viewed as an initial draft in beginning this process.

### I. DEFINITIONS

**Block:** An area surrounded by Streets. Note that Streets are distinct from Rear Lanes, which occur in the middle of Blocks

**Bulbout:** An area where the sidewalk expands to include the width of the parking lane in order to narrow a Street's crossing distance.

**Civic Space:** An open space in the Plan that is neither a right of way nor a platted private property. Civic Spaces may ultimately belong to Ada Township, a homeowners' association, or another entity identified by the Township.

**Civic Structure:** A structure specifically built to enhance the public realm, which may also include certain public functions.

**Curb Cut:** A location where a private drive or driveway crosses a sidewalk along a Frontage.

**Frontage:** An edge of a property that faces a public space such as a Street or square. Edges along Rear Lanes, for example, are not Frontages. Frontages are marked in the Regulating Plan with Frontage Lines.

**Frontage Line:** As indicated in the Regulating Plan, a Frontage Line designates the location of a building edge.

**Frontage Setback:** The distance of a building's Frontage Line from its front property line.

**Granny Flat:** An apartment located atop a single-family house's garage.

**Mews:** A very low-capacity urban thoroughfare serving only abutting property. And shared by pedestrian, bicycle and vehicular traffic. Pedestrians may be accommodated on a raised adjacent sidewalk.

**Parking Zone:** A location that may only hold parking lots (including their landscape).

**Path:** A surface within a Civic Space that supports pedestrian use.

**Rear Lane:** A public service thoroughfare that provides vehicular access to the rears of properties and the centers of Blocks. A Rear Alley is a Rear Lane serving non-residential properties.

**Rear Lane Opening:** The corner where a Rear Lane opens onto a Street.

**Regulating Plan:** The Ada Village Regulating Plan, which applies the details of these Regulations to the redevelopment area.

**Regulations:** When capitalized, the Ada Village Design Regulations—this document.

**Retail:** For the purposes of this document, Retail refers to retail, dining, entertainment, or similar uses.

**Rowhouse:** A single-family house that is attached on one or both sides to another similar house and served by a Rear Lane.

**Setback:** See *Frontage Setback*

**Street:** A public thoroughfare typically handling vehicular, bicycle, and pedestrian traffic. For the purposes of these Regulations, all thoroughfares—be they streets, road, drives, alleys, or lanes—are designated as streets.

**Tree, Flowering:** A tree that produces flowers and reaches a height of approximately 30 feet at maturity, such as a Cleveland Pear or Japanese Flowering Cherry. Ginkgo Biloba and other tall, slim trees may also substitute.

**Tree, Street:** A tree that reaches a height of more than 30 feet at maturity, such as an Elm or Sycamore.

**Vista Termination:** As indicated on the Regulating Plan, a location on a building that is perspectively framed by a long view down a Street, and required to receive an appropriately-scaled architectural feature.

## II. CIVIC SPACES

A number of both public and private Civic Spaces are indicated in the Regulating Plan. They include the following (with key numbers from the Regulating Plan), with requirements as noted:

**The Western Hamlet Green [1]:** A privately-owned and maintained green located within the residential hamlet on the north side of Headley St., near its intersection with Bronson St., this triangle frames a view to the Western Hamlet Mews behind. It shall provide one or more paved pedestrian paths from the street frontage extending to the north edge of the hamlet. It features existing preserved mature trees, additional landscape plantings and pedestrian amenities such as benches.

**The Median Green [2]:** This small linear green is located in the median of Headley St., south and east of its new intersection with Fulton St. (M-21). This green contains groundcover below Street Trees that have been planted to align with consistently-placed Street Trees located to the north and south side of the street, with the outcome being three aligned rows of roughly identical trees.

**The Commons [3]:** This large publicly-owned and maintained green shall include the following features:

To the north of the Headley St. Median Green, it shall receive a thick copse of evergreen trees, to shelter Headley Street from Fulton Street. It shall feature a pedestrian plaza that provides a new, highly-visible and accessible location for the Rix Robinson monument that is currently located in an obscure, neglected location near the south edge of the Fulton St. (M-21) pavement. At its east end shall be located a combined Civic Building, Farmers' Market Pavilion and adjacent parking, as more thoroughly described under Civic Structures.

**Paseos I and II [4][5] :** Privately-owned and maintained paved pedestrian passageways, with public access easements, connecting the Headley Street sidewalk to the midblock parking lot. The pavement in these two passageways shall have a minimum width of 5-feet, and shall be flanked by landscaped area separating the paved walkways from the adjacent buildings.

**The Village Green [6]:** This publicly-owned and maintained green is surrounded by the sidewalks of its surrounding streets, and shall contain public walkways, landscaping, canopy trees and pedestrian amenities surrounding a large central

## APPENDIX 3.1

visual feature, such as a fountain, statute, sculpture or monument. *This Civic Space shall only be built upon the successful relocation of the Speedway gas station and adjacent properties.*

**The Township Path [7]:** To the west of the parking lot in front of the Township Offices, there is room on the Township Office property to insert a 5-foot-wide concrete sidewalk to provide a dedicated public pedestrian connection from the Thornapple River Dr. sidewalk to the front door of the Township Offices.

**Corner Green 1 [8]:** This privately-owned and maintained Green shall provide a 6-foot-wide sidewalk connection, from the public street corner to the midblock parking lot behind, and shall be subject to a public access easement. The two triangle-shaped areas between the sidewalk and the adjacent buildings shall either be privately-owned and maintained landscaped area, or alternatively may be outdoor seating area for businesses in the adjacent buildings.

**Corner Green 2 [9]:** This privately-owned and maintained green is essentially the mirror image of Corner Green 1.

**Corner Green 3 [10]:** This green is similar to Corner Green 1.

**The Commercial Mews [11]:** A larger retail building (approx 12,000 SF) is located to the east of this Civic Space, facing it. Connecting Riverside Drive to midblock parking, the privately-owned and maintained Commercial Mews shall be approximately forty feet wide and paved in bricks or similar, and shall contain public walkways, landscaping, canopy trees and pedestrian amenities.

**The Riverfront Green [12]:** This large, publicly-owned and maintained green consists of four sections, from west to east, as follows:  
From the adjacent street frontages, the turf shall gently slope towards the riverbank. While it is not required, this Plan recommends that this turf be further shaped with stones into the terraced seating area of an Amphitheatre, to be more thoroughly described under Civic Structures, ahead. The residual land between the Amphitheater area and surrounding sidewalks (along Thornapple River Drive and Riverside Drive) shall each receive a dense planting of Street Trees. As indicated in the Regulating Plan, an 8-foot-wide asphalt Path shall continue the southward trajectory of the new street to its north to connect to a new pedestrian bridge across the Thornapple River, to be more thoroughly described under Civic

Structures, ahead. . To the east of this path, the grassy area between Riverside Drive and the River shall be left in its current condition and/ or depressed to assist in storm water retention.

Along the entire riverfront, starting from Thornapple River Dr. and extending north and east into the existing Township-owned open space at the confluence of the Thornapple and Grand Rivers, interrupted only by the Amphitheater's stage zone, an 8-foot-wide asphalt non-motorized trail shall run along the riverbank. Subject to State permitting processes, this trail may potentially extend underneath the west side of the M-21 bridge over the Grand River, and connect to the existing Township non-motorized trail that extends across the Grand River on the north side of the M-21 bridge deck.

**The Eastern Hamlet Green [13]:** This privately-owned and maintained green forms the centerpiece of the Eastern Hamlet. This area shall be landscaped and furnished with pedestrian amenities such that it provides an attractive and functional outdoor amenity for residents of the adjacent residential development.

### III. CIVIC STRUCTURES

The Regulating Plan designates the following Civic Structures (with key numbers from the Regulating Plan) designed to play important placemaking roles within the community. They are as follows:

**The Market Hall ①:** The Market Hall includes indoor civic space and roofed, outdoor pavilion for the Ada Farmers' Market. The specific functions served by the civic space will be determined through future space programming by the Township. The design of this structure will include a visually-prominent architectural feature that will function as a Vista Termination when viewed from Headley St., to the southeast. The Farmers' Market pavilion shall be adjoined by a paved parking area for vendor vehicles.

**The New Footbridge ②:** A publicly-owned and maintained bridge designed to support pedestrian and low-speed bicycle traffic shall be placed where indicated in the Regulating Plan, sited along the trajectory of the Path that continues from the Plan's new north-south street to the river.

**The Eastern Overlook ③:** Where a Path connects another new north-south street to the river, a small overlook shall be located on the water's edge.

## IV. STREET TYPES

Twenty-five different Street types occur in the Regulating Plan. (Many of these are slight variations of each other, based upon the addition or subtraction of a flank of parking, thus the large number.) These Streets are indicated by the letters A - U in the Plan and described in the chart here.

The specifications of the attached chart are fully a part of this Code. The chart describes each street in terms of its constituent parts, as follows:

**Figure VI-82.**

**Action:** Some of the streets in the Regulating Plan do not currently exist, and will be built from scratch. Others are existing, but will require some reconstruction to conform to the Plan. Others require only restriping.

**Street Type:** Streets are described as Highways, Streets, One-Ways, Alleys, or Lanes.

**ROW Width:** The full width of the public right of way.

**# Driving Lanes:** The # of lanes for through traffic, not for bikes or parking.

**Driving Lane Width:** The width of all driving lanes. On *Yield Streets*, one 12-foot lane handles traffic in both directions.

**# Parking Lanes:** Streets have parallel parking on both sides, one side, or none.

**Parking Lane Width:** All parking lanes are 8' in width. This column also indicates which side of the street receives parking, if it is only one side.

**Sidewalk Width:** On commercial streets, the sidewalk is typically 12 feet wide, with trees placed in planters. On non-commercial streets, a sidewalk typically 5 feet wide is placed inboard of a tree lawn that is typically 7 feet wide. These measurements vary in special locations.

**Tree Lawn Width:** See above.

**Bike Facilities:** Some streets receive Sharrow markings, others Integrated Lanes, and others Cycle Tracks, as noted.

**Notes:** These address unique conditions, but also direct readers to Sections IV.2 and IV.3 of this report, where many of the designs are illustrated and described.

## V. STREET DESIGN

**Crosswalk Materials:** Crosswalks shall be located to continue all sidewalk trajectories across all intersections and shall be surfaced in a material that contrasts with the Street surface.

**Curbs:** Curbs shall be vertical. Rollover or rounded curbs are only permitted where required to facilitate truck motions.

**Left Hand Turn Lanes:** Left hand turn lanes shall be limited to the shortest length deemed reasonable to handle peak turning demands.

**Curb Radii:** The curb return radius at Street corners shall be 10 feet. The curb return radius at Rear Lane ends shall be 5 feet. If such radii are not adequate to provide for the turning motions of trucks—with the truck allowed to swerve temporarily into the opposing lane—then they may be increased by only as much as is necessary to make such turning motions possible.

**Curb Cuts:** Curb Cuts are permitted at Frontages only in those locations specifically indicated in the Plan. Standard Curb Cuts may not exceed 20 feet in width, plus 3 feet corner curb radii where necessary. Residential Curb Cuts, also indicated, may not exceed 12 feet in width, plus 1 foot corner curb radii where necessary. (Houses with a double garage facing a street may provide a double-width driveway from the garage to the sidewalk edge but, once in the public right of way, the pavement must narrow to 12 feet maximum.) Curb Cuts are not regulated in non-Frontage locations.

**Street Planting:** Street Trees shall be planted along both sides of all new and

## APPENDIX 3.1

---

reconstructed streets, except Rear Lanes, and spaced consistently at an average on-center distance of approximately 30 feet. Street Trees shall be located at corners as described ahead, and then spaced regularly from corner to corner. At corners, the corner tree's distance from the intersection shall be ten feet further from the intersection than a line that extends (across the sidewalk) the front property line of the property around the corner.

**Tree Type/Quality:** Each Street shall appear to have a single consistent tree species for its entire length. With the exception of the Commons and the Riverside Green, each Civic space shall appear to have no more than a single species of Street Tree and/or single species of Flowering Tree, as further limited by the specifications for each space—already listed—but each of these civic spaces shall receive a unique species, to develop its own character. The term *appear* is used above because it is recommended that similar-appearing but genetically-distinct species be interspersed judiciously to avoid blight. Trees shall have a minimum height of 10 feet and a minimum caliper of 2 inches at time of planting.

**Lighting:** Street lights shall be located at the outer edge of all new sidewalks, shall be 12 feet to 15 feet tall, and shall be spaced regularly. Street lights shall be spaced approximately 50 feet on-center on commercial sidewalks (identified by containing trees in planters rather than in a tree lawn), and approximately 150 feet on-center elsewhere.

**Lighting Standards:** Street lighting standards shall be sized appropriately to their low height. Light fixtures shall use an energy-efficient L.E.D. lamp. Lights shall not be sized and located around the goal of providing uniform coverage, as varying lighting levels are more attractive to pedestrians.

**Sidewalk Objects:** Any fire hydrants, mailboxes, parking meters, bicycle racks, or other impediments to foot traffic shall be located in the planting zone towards the curb. Benches shall be provided at retail Frontages at a minimum of one per Block face. Benches shall be located facing the Street with their backs against the building fronts. Benches built into building facades are encouraged and may encroach upon the sidewalk to a maximum depth of 2 feet. Bicycle Racks are required at a minimum of one rack having a minimum capacity of 4 bicycles per 300 linear feet of sidewalk edge on all commercial sidewalks (identified by containing trees in planters rather than in a tree lawn).

**Rear Alleys and Lanes:** Wherever possible, Rear Alleys, Lanes, and midblock parking lots shall be the principal location of utilities such as water, sewer, electricity, gas, cable television, and trash pickup. Rear Lanes shall have a reverse crown, with French drains where necessary. Transformers, lift stations, traffic signal control boxes, utility meters, HVAC equipment, and other such machinery shall not be located at Frontages or where they are readily visible at Frontages, but shall instead be located in Rear Lanes and parking lots.

## VI. PARKING

**General Approach:** Parking demand in mixed-use development functions differently from parking demand in conventional suburban development, for several reasons:

A pedestrian-friendly environment allows people to walk rather than drive such that, for example, a resident or office worker does not need a parking space at a nearby store or restaurant. Large amounts of on-street parking contribute to the number of spaces available. A collective parking supply (rather than site-by-site) allows the system to function and be regulated as an integrated organism. Complementary uses surrounding the collective parking supply allow spaces to serve different functions around the clock, such that, for example, a single space can serve an office worker during the day and a resident at night. These four factors—a park-once environment, on-street parking, collective supply, and complimentary loads—all impact the off-street parking requirements, as follows:

**Park-Once Environment:** Efficiencies due to increased pedestrian activity lead to the following general requirements:

Single-family homes, including all Rowhouses except those lining the blank wall of the market on Riverside Drive, shall provide a minimum of 2 off-street spaces per unit. Unlike with other uses, these shall be located on site, and are thus not impacted by the factors that follow. (The market-lining “Rear-Wall Rowhouses” on Riverside Drive shall each be assigned one on-street parking space and one parking space in the midblock lot.) All other Residential uses shall provide a minimum of 1.5 spaces per unit, on or off site.

All other uses shall provide a minimum of 3 spaces per 1000 interior square feet, on or off-site. Sidewalk dining is encouraged and thus shall not count towards this total.

**On-Street Parking:** Parking supply calculations shall include adjacent on-street parking spaces as the full equivalent of off-street parking spaces.

**Collective Parking Supply:** Parking calculations may be made comprehensively across multi-Block areas. If not otherwise assigned, any spot within 750 feet of its use may be counted towards that use if not otherwise assigned.

**Complimentary Loads:** The minimum required quantity of parking may be reduced when shared parking is used. The following share factors shall be used to determine the reductions due to shared parking:

|                               |     |
|-------------------------------|-----|
| Residential and Office: ..... | 1.4 |
| Residential and Retail: ..... | 1.2 |
| Residential and Lodging:..... | 1.1 |
| Office and Retail: .....      | 1.3 |
| Office and Lodging:.....      | 1.7 |
| Retail and Lodging: .....     | 1.3 |

To determine the Shared Parking Factor, divide the sum of the parking requirements for two functions by the applicable ratio to arrive at the total number of required spaces. For example, a combination of 10,000 square feet of retail and 40 apartments would be required to provide on- and off-street parking totaling  $((10 * 3) + (40 * 1.5)) / 1.2 = (30 + 60) / 1.2 = 75$  spaces.

Shared parking, to qualify as such, shall be located within 750 feet of each use.

## VII. PARKING DESIGN

**Building Orientation:** Buildings that abut Rear Lanes or parking lots at their rears shall allow only secondary access from these edges, maintaining principal orientation and access towards their Frontages.

## VIII. BUILDING USES

**Mixed Use:** This plan is intended to include a wide range of uses, including Retail, Residential, Office, Lodging, Institutional, and other non-nuisance uses.

**Retail:** Ground-floor Retail (or dining/entertainment) use is required at certain Frontages and allowed at others, as indicated in the Plan. Such use is prohibited at all other Frontages.

**Loft Buildings:** The plan anticipates the development of many loft-style buildings that contain upper stories above a ground floor that may or may not contain Retail. In areas where Retail is required, all upper floors of these buildings may contain offices, residences, or some combination thereof. In areas where Retail is not required, all floors of these buildings may contain offices, residences, or some combination thereof.

**Residential:** While the Regulations are flexible, the Plan anticipates the following distribution of different residential Building Types:

Residential Lofts that place one or several stories of residential above a ground floor of Retail or residential use. These are typically parked in lots to the rear, but may occasionally place parking in a basement where a change in grade allows such access from the rear.

Live/Work Rowhouses that place a single-family residence atop a ground floor containing a commercial space at the front and a garage to the rear, situated in a party-wall arrangement with its neighbors.

Standard Rowhouses that contain a single-family residence and an integral rear garage, situated in a party-wall arrangement with its neighbors.

Deep-Lot Rowhouses that contain a single-family residence with a private rear garden between it and a rear garage, situated in a party-wall arrangement with its neighbors.

Rear-Wall Rowhouses that contain a single-family residence with its back wall built adjacent to the blank wall of the commercial building proposed near Riverside Drive. These are shallow, receiving light only from the front, and are situated in a party-wall arrangement with their neighbors.

Wide Lot Houses, to be located in the Eastern Hamlet only, where all vehicular access to the lot comes from the street at front. These houses are organized like conventional single-family homes, with garages to one side, except that, where side lot lines are parallel, houses directly abut their neighbors with their garages.

For informational purposes only, each of these Building Types is illustrated and described in section V of this report.

## IX: GENERAL BUILDING DESIGN

**Rowhouse Requirements:** The following rules apply to Rowhouses:

All Rowhouses on a given straight Block segment shall be attached into a single group. In other words, gaps between Rowhouses shall only occur at rights of way or other public spaces, or where a bend in the road creates a non-parallel side-lot-line condition.

Rowhouses at Street corners shall locate their entrance on the long façade (turning the corner), centered beneath the gable, but not where the flanking street is a Rear Lane.

Rowhouse lots shall be between 12 feet and 25 feet in width, with that distance supplemented on corner lots by any required side Setback.

For Deep-Lot Rowhouses, the rear garage shall be separated from the principal structure by a patio no less than 15 feet deep. A rear wing or breezeway may connect the house to the garage, as long as a 12-foot patio width is maintained. Each patio shall contain a shade tree.

Granny Flats are allowed only on Deep Lot Rowhouses, and are required on such houses at all Rear Lane Openings—where a rear lane meets a street. Granny Flats may contain a finished (third floor) attic story.

## X. HEIGHTS

**Building Heights:** Heights are measured in reference to the sidewalk at the center of the front façade. Each Frontage is assigned a minimum and a maximum allowed building height, as further defined in the Regulations. When two different height requirements meet at a corner, the taller requirement takes precedence around the corner to a distance of at least 30 feet but no more than 60 feet from the Frontage Line.

**Towers:** To encourage an interesting skyline, building areas with a footprint of less than 200 square feet shall have no height limit.

**Story Heights:** Retail spaces shall have a minimum ceiling height of 12 feet, but 18 feet is recommended. Office spaces shall have a minimum ceiling height of 10 feet. Residential spaces shall have a minimum ceiling height of 8 feet for upper stories and 9 feet for the first floor.

**Ground Floor Heights:** All retail spaces shall be located on a ground floor placed at grade. Buildings with residential first floors shall locate all first-floor residences a minimum of 18 inches above adjacent sidewalk grade. This requirement becomes 30 inches when said floors are located within 5 feet of the sidewalk edge. Handicapped access, when provided on a building with an elevated first floor, shall be located in non-Frontage locations whenever possible.

**Tall Frontages:** One-story commercial buildings, where permitted, shall maintain a minimum 18 foot parapet height at the Frontage Line. Single-family houses with sections of different height shall place the taller section at the Frontage Line and the lower section behind.

## XI. BUILDING FRONTS

**Frontages:** The Regulating Plan distinguishes between Frontages and other property edges. Frontages require a higher level of urban performance, as further defined in the Regulations.

**Frontage Lines:** All Frontages are assigned Frontage Lines in the Plan. These are both *setback* lines and *build-to* lines: they specify the proper location of the building façade, as further defined in these Regulations.

**Percent Frontages:** All buildings shall place a building edge along no less than 60% of their Frontage Lines.

**Sight Triangles:** While they improve visibility, sight triangles increase vehicle speeds and can undermine pedestrian safety. Any requirements pertaining to sight triangles in currently enforced codes shall be waived when in conflict with the Frontage Lines in the Regulating Plan, or with these Regulations' tree-planting requirements.

**Rear Lane Openings:** To limit views into Rear Lanes, all buildings at Rear Lane entrance corners shall maintain a 0-foot Setback from the Rear Lane at the corner.

**Vista Terminations:** The Plan contains several locations on buildings that are perspectively framed by a long view down a Street—called a Vista Termination. Buildings located at Vista Terminations shall respond with an appropriately-scaled architectural feature, such as a tower or multi-story portico, in order to properly receive the vista. These shall be aligned properly to be framed symmetrically in the vista. Proper Vista Terminations include large bay windows, prominent gables, grouped window compositions, towers, and cupolas.

**Materials:** Building materials shall be used in a manner appropriate to their intrinsic formal properties, including their structural capacities as demonstrated in openings and spans. Metal elements shall be natural colored galvanized steel, stainless steel, anodized or electrostatic plated aluminum, marine-grade aluminum, copper, or bronze. Wood elements shall be painted or sealed with an opaque or semisolid stain, except walking surfaces, which may be left natural. Siding shall be wood or cementitious (Hardie Board or equivalent) and present 8 inches maximum siding width to the weather. All stucco shall be steel troweled with no evidence of the mark of the trowel. Sand cement render shall be applied without control joints. Corner beads are prohibited. Exterior trim shall be indistinguishable from wood when painted and shall be sized appropriately to its location.

**Wall Configurations:** Each building façade shall contain at most two different wall materials (not counting foundation walls and trim). Building walls shall be one color per material used (excluding trim). Materials may only transition across horizontal lines, for example, between building stories, and not across vertical lines, except in the case of attachments such as bay windows. When two materials are stacked horizontally, the heavier-looking material shall sit below the lighter-looking material, such as brick below Hardie-board or stone below stucco. When a material transition occurs around a corner, the transition shall occur at a distance from the corner that is appropriate for the materials represented, for example 12 or 16 inches for brick. Expansion joints shall be a rational part of the wall composition and shall be colored to match the wall. Trim, except at stucco, is required where there is a change in material or plane. Trim around lights, outlets, vents, meters, etc. shall match the wall color, not the object color.

**Style:** Buildings shall not present a historical pastiche. Buildings designed in a traditional style shall limit themselves to that style alone and shall embody that style convincingly. Keystones, quoins, and superimposed multiple gables (one gable overlapping another) are prohibited. Double front doors are prohibited on single-family homes.

## XII. BUILDING ATTACHMENTS

**Location:** Any attachments such as bay windows, balconies, porches, stoops, awnings, and eaves shall extend forward of the line of the building front. Single-family houses shall provide either a stoop or a porch at the front door. All other buildings shall provide some form of shelter from rain at the front door.

**Encroachments:** Awnings are the only first-floor attachments allowed to occupy the public right-of-way. On the second floor and above, balconies, bay windows, eaves, lights, and signs may occupy the public right-of-way. No attachment may extend above a vehicular roadbed at a height of less than 15 feet, or above a sidewalk at a height of less than 7 feet.

**Awnings:** Awnings shall be a minimum of 6 feet deep and shall be metal with colored fabric or glass. Fabric awnings shall have a metal structure covered with canvas or synthetic canvas, and be rectangular in shape with straight edges and no side panels or soffit. Awnings shall not be backlit or used as signs, except for

# APPENDIX 3.1

---

a possible single inscription on the flap, not to exceed 6 inches in height. All awnings on a single shop shall have the same depth, material, and color. Fabric awnings are permitted only above Retail windows.

**Attachment Dimensions:** Bay windows and balconies shall be no more than 3 feet deep; stoops shall be 3 feet to 6 feet deep; porches shall be between 6 feet and 10 feet deep.

**Limited Balconies:** Balconies and porches shall not constitute more than 50% of any facade.

**Railings:** Railings shall have top and bottom rails. The openings between spindles or balusters may not exceed 4 inches. Bottom rails shall clear the floor.

**Privacy Walls and Fences:** Single-family houses shall provide a wall or fence 5 feet to 6 feet in height between rear yards and against Rear Lanes and/or parking lots where no garage is present.

**Yard Trees:** All single-family houses with front Setbacks of 10 feet or greater shall be required to plant a front yard tree of a species matching the adjacent Street Tree if front attachments (such as a front porch) within the Setback provide an available space no less than 100 square feet in size. Said tree shall be located 5 feet from the front property line and 5 feet minimum from any side property line.

## XIII. OPENINGS

**Fenestration Ratio:** The ratio of fenestration to area of the building façade shall be between 25% and 75%, except for retail Frontages where it shall be 60% to 95%. Retail establishments shall place windows regularly at all Frontages. Each facade shall be measured independently.

**Blank Walls:** Walls at Frontages may not be blank, and shall have at least one window per structural bay per floor, in a pattern that suggests habitation.

**Window Materials:** Windows shall have clear (not tinted) glass.

**Window Panes:** Each building façade shall be composed of windows that are all constructed from the same size or proportion of window pane, with the exception of a single custom window used in one or several special locations.

**Mullions:** Mullions, if used, shall either be true divided lights or be affixed to the exterior surface of the window to cast a shadow line. Mullions are recommended for residential windows where stylistically appropriate, and discouraged for retail windows.

**Shutters:** Vertically hinged shutters, when provided, shall coincide in size to the opening with which they are associated, such that closing them would cover the window area.

**Grouped Windows:** When two or more windows occur in a single opening or dormer, they shall be separated by a 4"x4" post.

## XIV. ROOFS

**Rooftop Equipment:** The screening of rooftop mechanical equipment is required. All rooftop mechanical equipment, with the exception of solar panels, shall be screened from view from all directions, and from all elevations of equal height or lower, to minimize the negative aesthetic impact upon the view from neighboring buildings and from street level. Said screening shall be consistent with the architecture of the building.

**Dormers:** Dormers shall be habitable and sized no larger than necessary to hold window(s) and framing.

**Skylights:** Bubble skylights shall not be visible at Frontages. Flush skylights, where visible at Frontages, shall be organized into a composed pattern.

## XV. RETAIL DESIGN

**No Malls:** All retail spaces shall give direct access to a public sidewalk. No retail space may exist above the ground floor except as a mezzanine within a space that faces a ground-floor sidewalk.

**Kneewall:** Front glazing on retail establishments shall begin above a kneewall located 12 inches to 18 inches above sidewalk grade.

**Blocked Windows:** Retail uses shall not place inner partitions in windows that significantly block views into the store.

**Sidewalk extension:** All retail uses shall pave their Setbacks to match the adjoining sidewalk.

**Alcove:** All retail uses shall locate their primary entrances within a small additional Setback between 30 and 100 square feet in size, paved to match the sidewalk.

**Sidewalk Use:** Retail establishments are encouraged to place tables, chairs, and temporary displays on the public sidewalk as long a 5-foot-wide clear corridor is maintained for pedestrians.

## XVI. RETAIL SIGNAGE

**Limitations:** The shop-front door, signage and lighting shall be designed as a unified design. There are four types of signage permitted on businesses: a) a signage band, b) a pedestrian blade sign, c) a window logo, and d) an awning band. These are further limited as follows:

**Sign Band:** Each building may have a single sign band 60% maximum of the width of the building Frontage max., with a height not to exceed eighteen inches. If a building holds multiple tenants, the use of the sign band width shall be divided among tenants on a prorata basis determined by their ground-floor square footage. The sign shall be integrally designed with the building or the associated storefronts in material and color. The sign band may not be internally lit.

**Blade Sign:** One two-sided blade sign is permitted for each business with a door on the sidewalk level. The blade sign shall be securely affixed to the facade or storefront and may project over the sidewalk so long as it does not interfere with pedestrian flow. The blade sign may not exceed 6 square feet (including mounting hardware) in area in any shape, shall provide a minimum clearance above grade of 8 feet, shall be no less than 2 feet from the curb line, and shall not project further than 4 feet from the building wall. The sign shall not be translucent.

**Logo:** A logo inscribed on the storefront glass is permitted (one per business per building face), or the name of the store in permanently-affixed cutout lettering. Logos shall not have an area greater than 25% of the area of the window to which

they are attached. Upstairs businesses are also allowed logos with the same limitations.

**Other Signage:** Billboards and other freestanding advertisements are prohibited, as are rooftop, flashing, moving, or intermittently illuminated signs, including digital changeable message signs. No sign shall be attached above the second story of any structure.

## XVII. DETAILS

**Consistency:** Streets, squares, and other public spaces shall be designed with a common vocabulary of paving, curbing, fencing and walls, landscaping, signage, and lighting. This does not mean that all details will be consistent, but rather that all details will be understood to belong to the same family and/ or era of design.

**Building Variety:** Buildings used repeatedly in the plan, such as Rowhouses and Loft Buildings, may only be repeated with similar facades to the degree that such repetition adds up to a total front footage of 75 feet or less. For example, a 25 foot-wide Rowhouse may be repeated only 3 times. Beyond this point, a truly distinct façade shall be introduced, as if a different architect was responsible.

**Eyesores:** Antennas, radar dishes, chain link fence, Vinyl fencing, barbed wire, razor wire, and chicken wire shall not be permitted where visible from Frontages. Dumpsters and trash shall be screened behind enclosures built for that purpose, and said enclosures shall not occur at Frontages.

## XVIII. EXISTING BUILDINGS AND USES

**General:** In a number of locations on the Regulating Plan, requirements are shown for properties containing existing buildings and uses. While these requirements pertain to the replacement of existing buildings and uses with new ones, they do not mandate such replacement, and such redevelopment can only occur with the owner's consent. Existing uses are thus "grandfathered" in. However, when existing buildings and uses are replaced, they shall be replaced according to the requirements of these Regulations.



# REGULATING PLAN

