

NETWORK ENHANCEMENT ALIGNMENT STUDY

“QUADRANT PLAN”

MAY 2017



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- Chronicles of Meetings and Presentations
- Examples of Typical Sections/Complete Streets
- Key Corridor Network Study
- Original Plans for Carolina Street
- Development Plans – Hidden Lakes
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- Environmental Report
- Utility Contact Information
- Bonita Beach Road Visioning
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- Network Evacuation, with & without Roundabout
- Lee County MPO Model Run
- Planning Level Cost Estimates
- Presentations to City & Various Agencies
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- Green sheet from City of Bonita Springs, dated March 15, 2107

Introduction

1.1 Project Description and Purpose

- As a coastal community, the majority of initial development of the City of Bonita Springs took place along the western region. With the continuing expansion of the community to the east, the major principle East-West route (Bonita Beach Road) has become overwhelmed. US-41 is constrained against further growth by the existing businesses along the corridor. The City of Bonita Springs has been coordinating with the Florida Department of Transportation (FDOT) and Lee County DOT to determine solutions to alleviate traffic congestion on US-41, along Bonita Beach Road (BBR) and US-41/South Tamiami Trail. This study will develop several alignments to provide solutions along Bonita Beach Road and US-41.
- The purpose of the Network Enhancement Alignment Study, also known as the “Quadrant Plan,” is to develop an expanded roadway network between Bonita Beach Road (BBR) with US-41, that improves the level of mobility in the area and maintains a high-quality environment for the community and minimizes impacts to the natural environment.
- As mentioned above with the Purpose of the project “Quadrant Plan,” several inter-related tenets were established and followed during the development of the project, and are as follows:
 - Inter-related with Goals; Priorities; and Vision is
 - Adherence to multi-modalism (incorporating all modes of transportation)
 - Prioritizing the plan’s focal point, US-41 and Bonita Beach Road, and expanding the network
 - Incorporation of elements of enhancement, and multi-modalism from the Bonita Beach Road Visioning Plan
- The proposed alignments will be a part of an overall solution to improve transportation by helping to alleviate the congestion on the roadway network system, offering not only more capacity but also an expanded roadway network in the vicinity of this major intersection between an FDOT Roadway (US-41) and a Lee County Roadway (Bonita Beach Road).
- In addition to this comprehensive alternative study and plan, the City required further evaluations to consider certain fatal-flaw features of the built environment. This included evaluating not only the transportation component, but also: i) property impacts; ii) environmental impacts; and iii) major utility impacts. All of these analyses will be accomplished through secondary sources, and other available sources, as well as field examination, where determined to further support any analyses.

1.2 Project Study Area

- The Alignment study area is bound by the Imperial River on the North, Vanderbilt Road on the West, Spanish Wells Boulevard on the East and Lee/Collier County line on the South. The study area, including major roadways, is shown on the right.
- This project does not involve transportation data collection or analyses for Levels-of-Service, or Capacities. It is a study driven by making feasible plans that are constructible, and providing a deliverable to the City of Bonita Springs to advance a decision-making process for a Planning Tool of an enhanced transportation network, centered around the confluence of the major intersection of US-41 and Bonita Beach Road.



1.3 Agency Coordination

Extensive agency coordination has occurred between all respective governmental agencies to identify the locations of potential expanding roadway alignments for the project. These agencies included the following:

- City of Bonita Springs
- Lee County Department of Transportation
- Lee County MPO
- Florida Department of Transportation (FDOT)
- Utility Agency Owners (UAO) in the project vicinity
- During the course of the project, there were numerous meetings and presentations to the previously named agencies. A listing of all project meetings can be found in the appendices.



1.4 Public Involvement

- Throughout the project process, ongoing coordination has occurred between government agencies, local engineering firms, developers, local business owners and residents. Public Workshops and Meetings were held to present the proposed alignments to the public and to obtain public feedback and comments.

2.0 Typical Section Options

McMahon considered a variety of typical sections based on right-of-way limitations, types of existing roadway connections, type of land use, etc. All the connections with existing collector or local roads have been made with two lanes/urban configurations. All typical sections consist of Complete Street Concepts with low design speed, i.e., 25 mph or 30 mph. This configuration will increase safety and provide cost savings to the project.

The Use of Complete Street Concepts

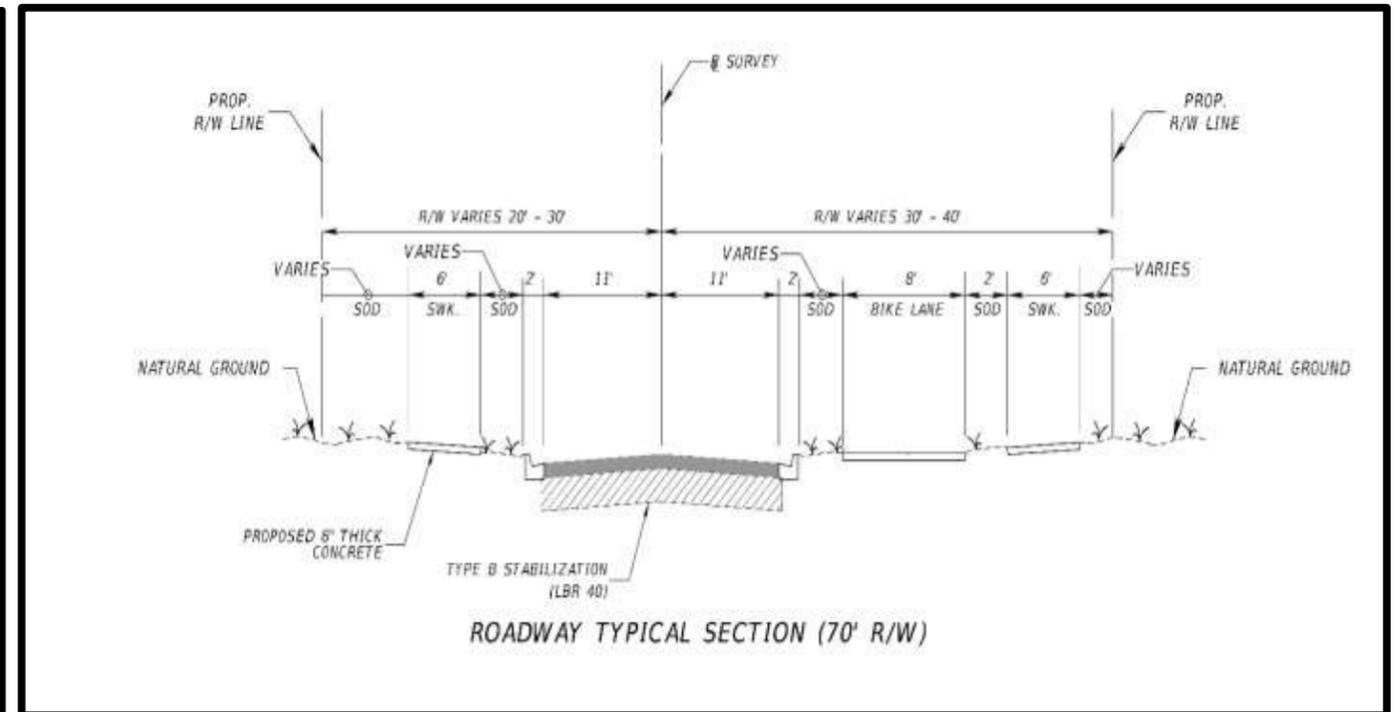
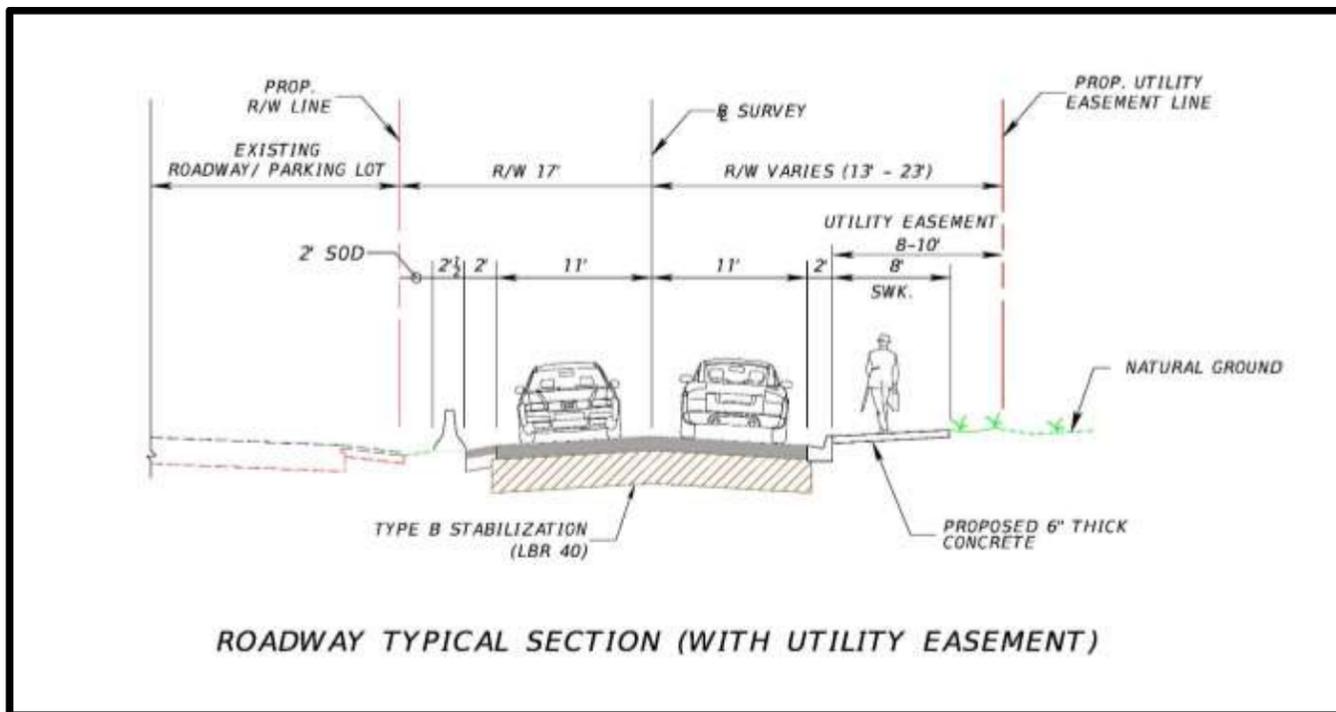
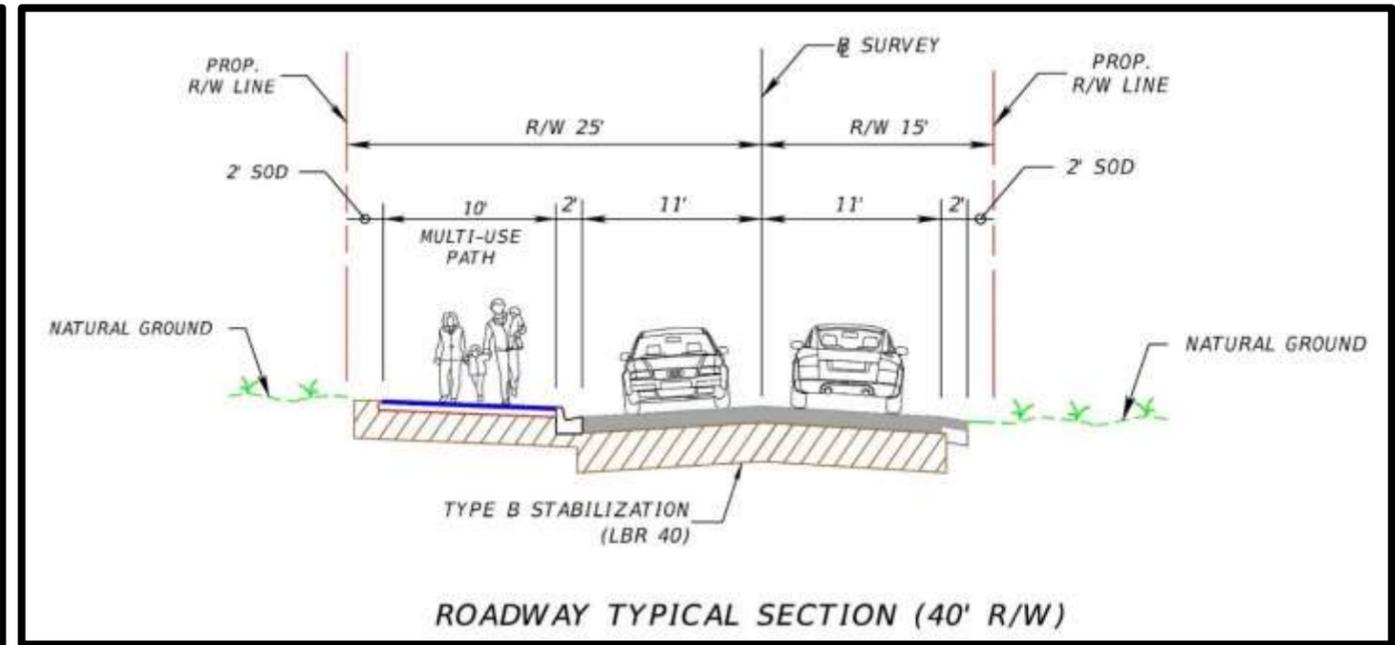
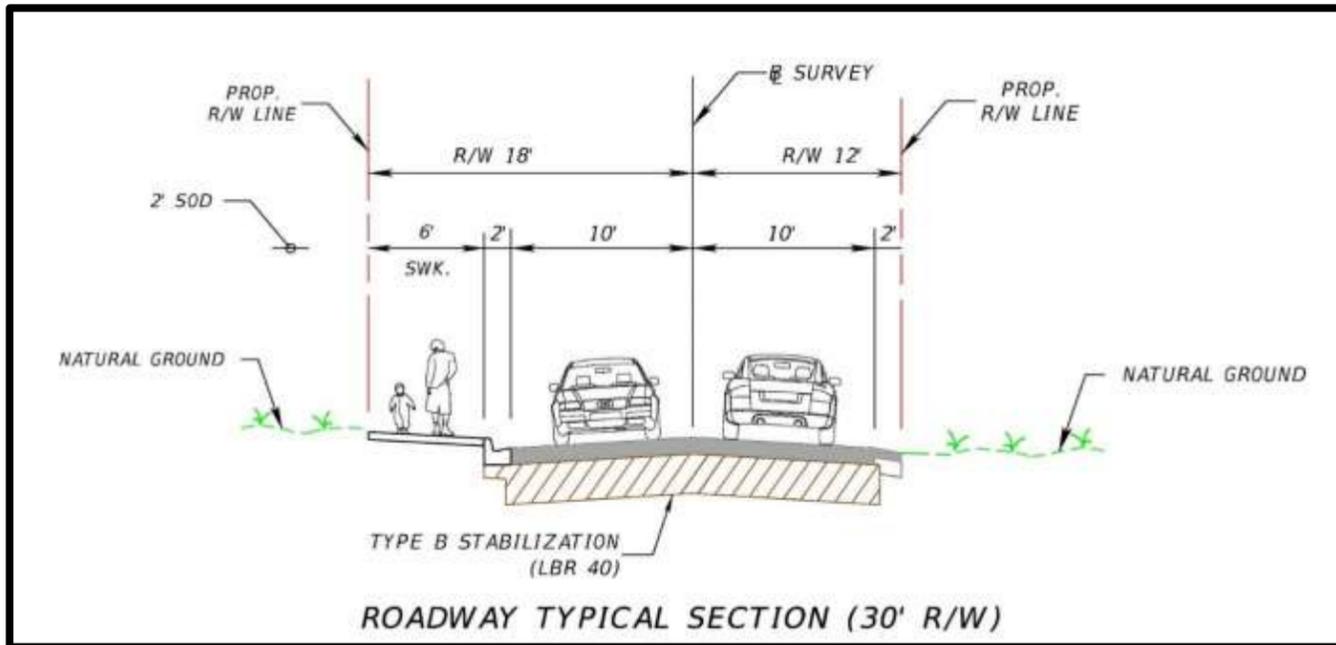
- During the planning stage of this alignment study, roadway sections were designed to provide safe access for all users, such that pedestrians, bicyclists, motorists and transit riders of all ages and abilities would be able to safely move along and across a street.
- The City's Complete Streets concepts were applied and largely followed previous plans and concepts developed in the Key Corridor Network project. Typical complete street elements that were considered include sidewalks, bicycle lanes, appropriate street widths and speeds, transit stops with benches, shelters, and access points that comply with Americans with Disabilities Act (ADA) requirements.
- Complete street design elements that emphasize safety, mobility, and accessibility for those using a variety of travel modes include: crosswalks, bus lanes, adequate separation between sidewalks and streets, street trees and other landscaping, lighting, and signal systems. Cross sections were designed with the intent to incrementally grow and develop an extensive network of complete streets.
- Due to their narrower roadway configuration, the collector road utilizes Complete Street concepts through roadway design that allow for a greater comfort level and improved safety across all modes, rather than relying solely on the physical demarcation of the roadway area by mode.

Proposed Roadway Cross Sections

Several roadway cross sections were proposed. They include the following:

- 30' Two Lane Urban Collector Road
- 40' Two Lane Urban Collector Road
- 50' Two Lane Urban Collector Road
- 70' Two Lane Urban Collector Road
- 70' Two Lane Bridge Typical Section

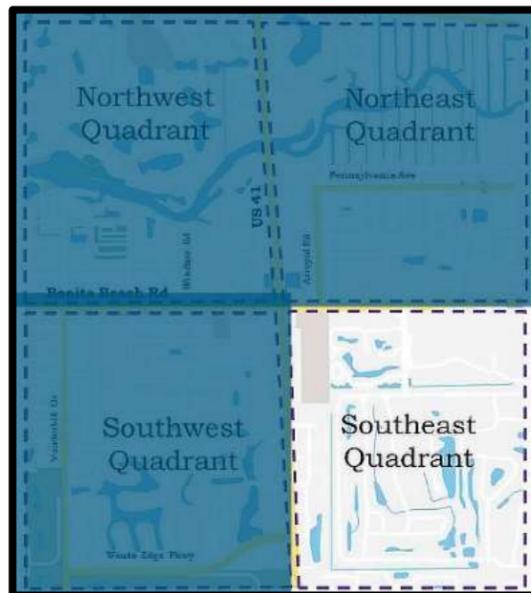
A typical example of these is found on the following page.



3.0 Preliminary Alternative Analysis/Quadrant Analysis

3.1 Review SE Quadrant

- Primarily stayed the same from previous Key Corridor Network Study
 - Effective networking
 - Promotes cross-access between adjacent properties



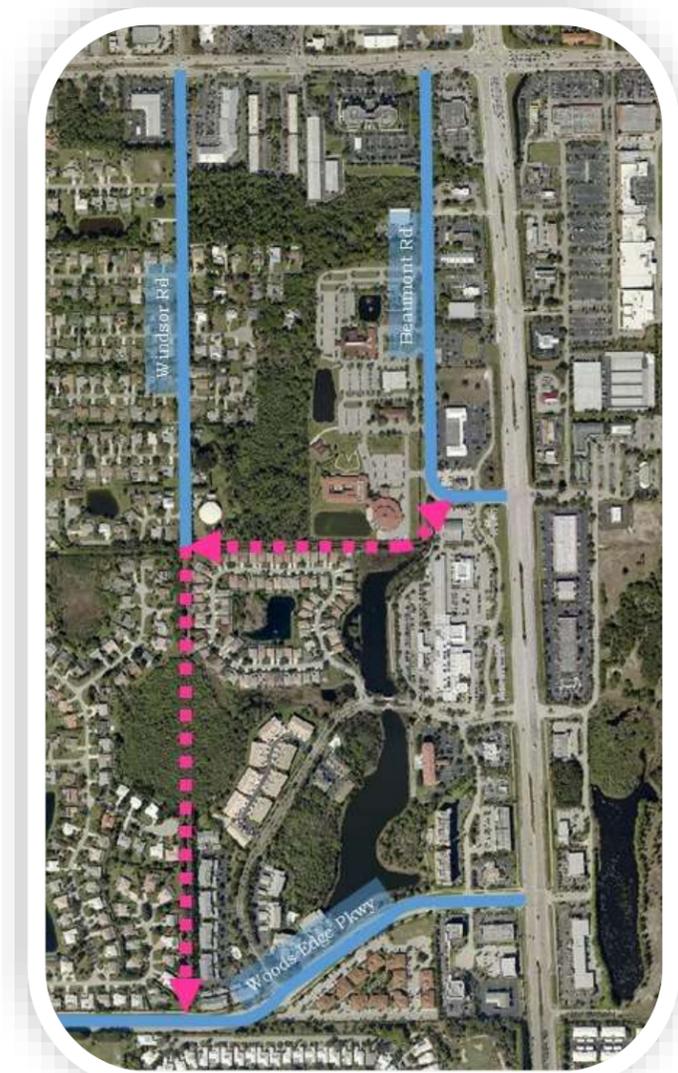
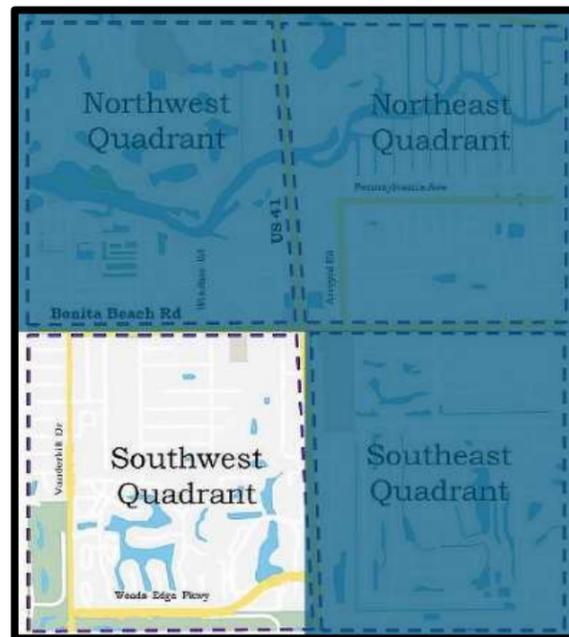
SE Quadrant

- The SE Quadrant presented several interesting opportunities. A connective adjacent frontage roadway system exists along the eastern side of US-41, and runs northerly along the properties abutting US-41, and connects to the shopping, and business needs along the corridor.
- There is an existing FP&L Easement behind the major shopping center property and as shown, extends southerly along the property, and through several other undeveloped properties, could enhance the network.
- One major access point and a benefit to this alignment is the conceptual connection which could be made using Shanna Lane. This particular connection point onto US-41 could result in the need for a traffic signalized location. Its location along US-41 is ideal for access management planning, as it would be half-way between US-41 and Bonita Beach Road, and the existing traffic signalized location of Woods Edge Parkway.



3.2 Review SW Quadrant

- Primarily limited Windsor Road improvements to McComb Lane
- Connection to Beaumont Road
 - Provides Multi-Use Path
 - Coordinated with commercial owners
- As can be seen in the exhibits below, Windsor Road was projected to extend southerly to connect with Woods Edge Parkway. Also, at the existing termini of Windsor Road, another proposed conceptual connection is shown from Windsor Road, extending easterly, and along the city owned property, and church/school property, to eventually connect to Beaumont Road.
- The extension of Windsor Road southerly, beyond the existing dead-end road termini, and across lands of a local development to Woods Edge Parkway was reviewed by City officials and their residents, and as a consideration for this project, although there is a preservation of right-of-way, for such a connection, it was REMOVED from further consideration in the Quadrant Plan.



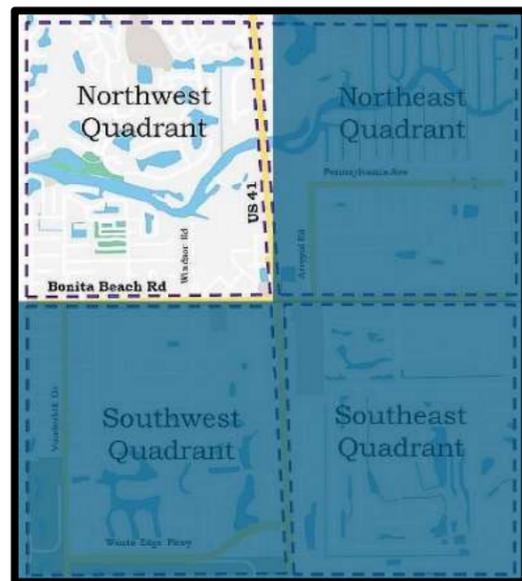
Review of SW Quadrant

- In the exhibit is a conceptual alignment, SW-1. This proposed conceptual alignment is a form of enhancement along Windsor Road, with an alignment extending easterly toward, and to eventually connect to Beaumont Road. There is a very narrow "pinch-point" at a property which is a self-storage facility. This right-of-way width, will still satisfy providing sidewalks, but it would require acquisition of property from the self-storage property facility. As you will see later in this document, the city and property owner met, and additional considerations arose, that enhance this alignment option.



3.3 Review NW Quadrant

- NW Quad Iterations
- Primarily focusing on mutually beneficial alignments
 - Balancing access; Environmental issues; Connections



First Iteration Alternative NW-1

- Proposed 'New' signalized location on US-41
 - Close proximity to bridge over Imperial River
 - Eliminate existing signalized location at shopping center
- Bi-Sected undeveloped property



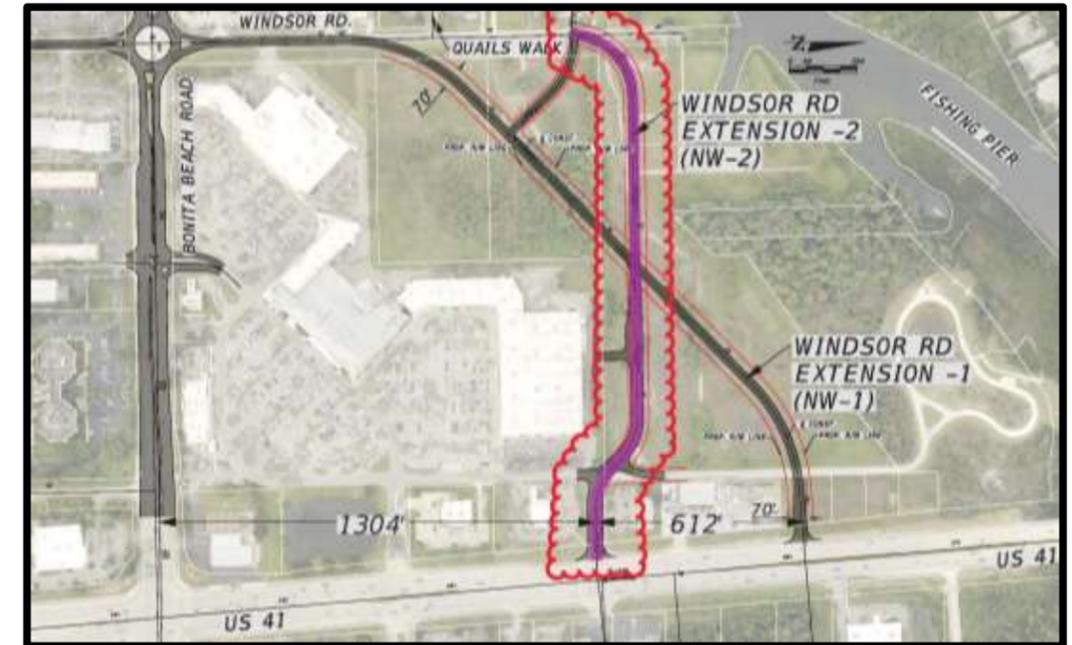
Second Alternative NW-2

- Produced Curvilinear Alignment
 - Designed to coordinate with development prospects
 - Proposed a small roundabout at Boston Road
 - Maintaining existing signalized location on US-41



Third Alternative Windsor Road Extension – 2

- Proposed alignment to coincide with Angler's Paradise development
 - Using existing right-of-way of 1st Avenue
 - Maintaining existing signalized location on US-41



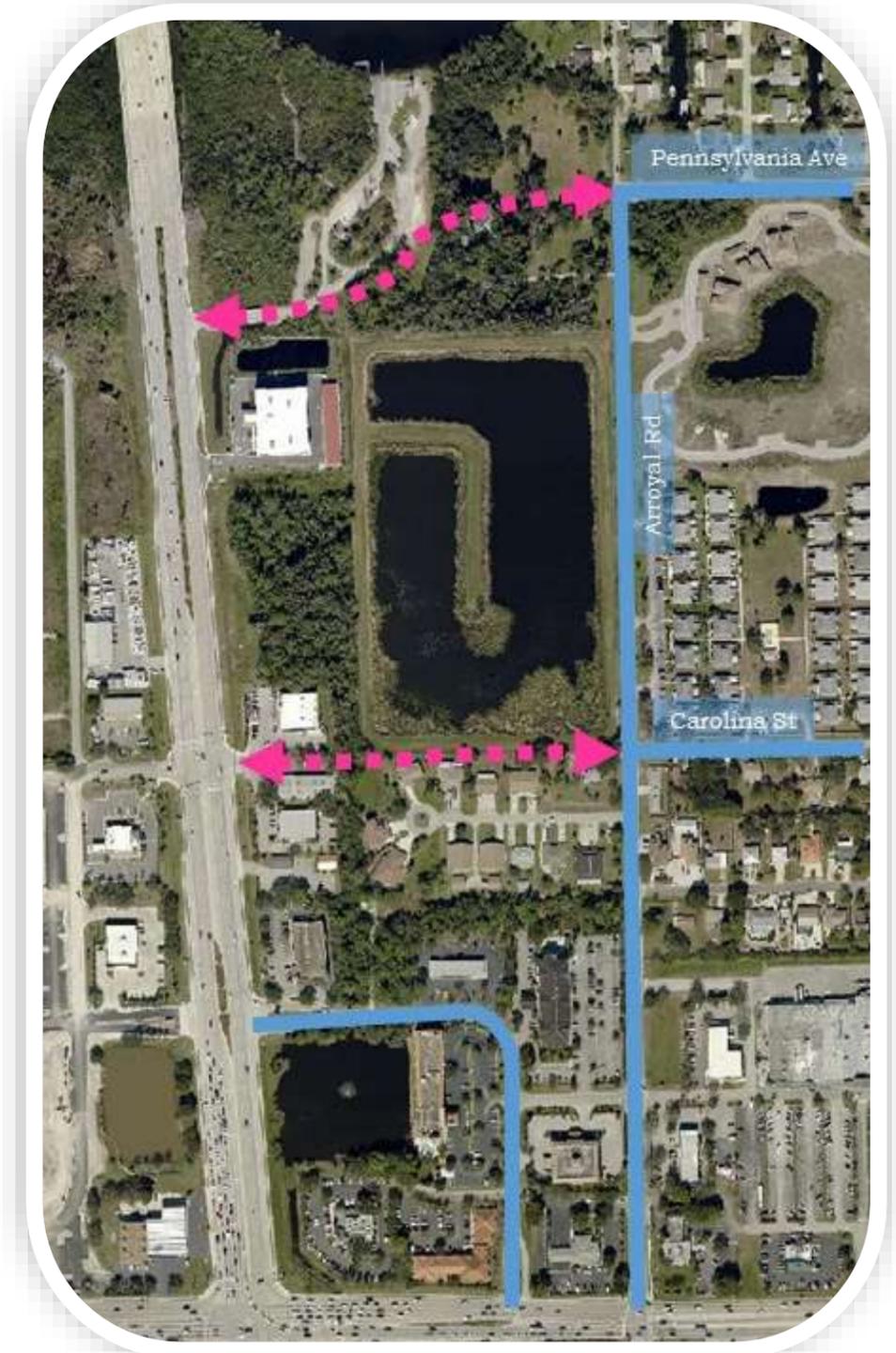
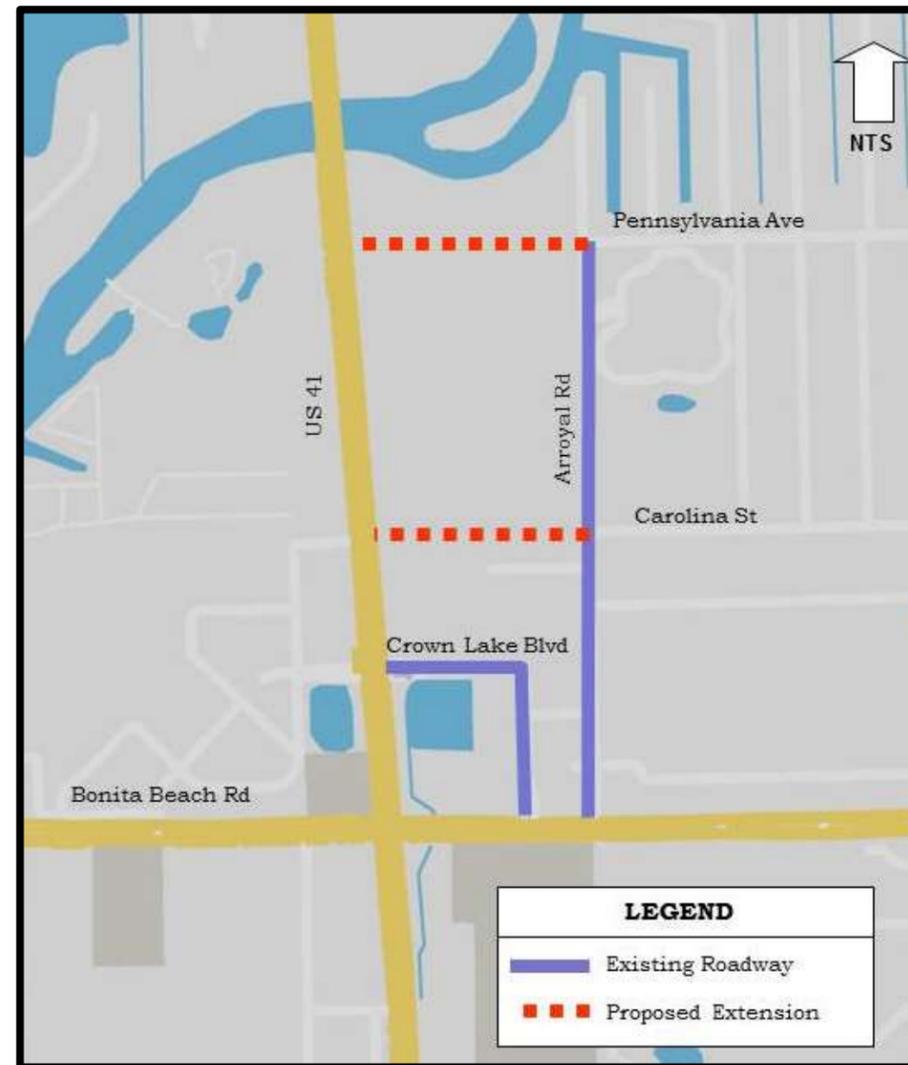
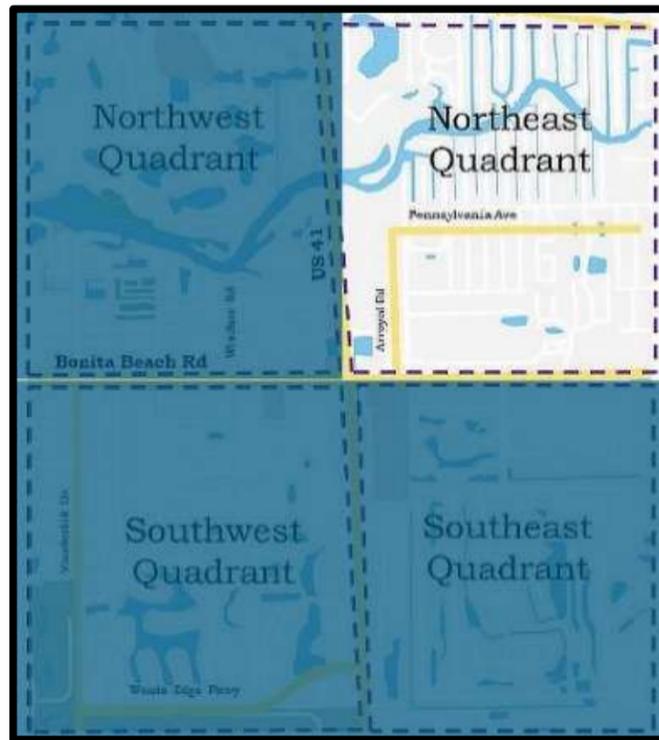
Fourth Alternative Windsor Road Extension – 3

- Combination of alignments to form fourth alternative
 - Maintaining existing signalized location on US-41
 - Eliminating an alternate intersection on US-41
 - Eliminating the use of existing right-of-way of 1st Avenue
 - Introducing an improved curvilinear alignment across the Windsor Road Extension



3.4 Review NE Quadrant

- Primarily focusing on options within City's Comprehensive Plan
 - Balancing connections; Neighborhood; Properties; FDOT Pond



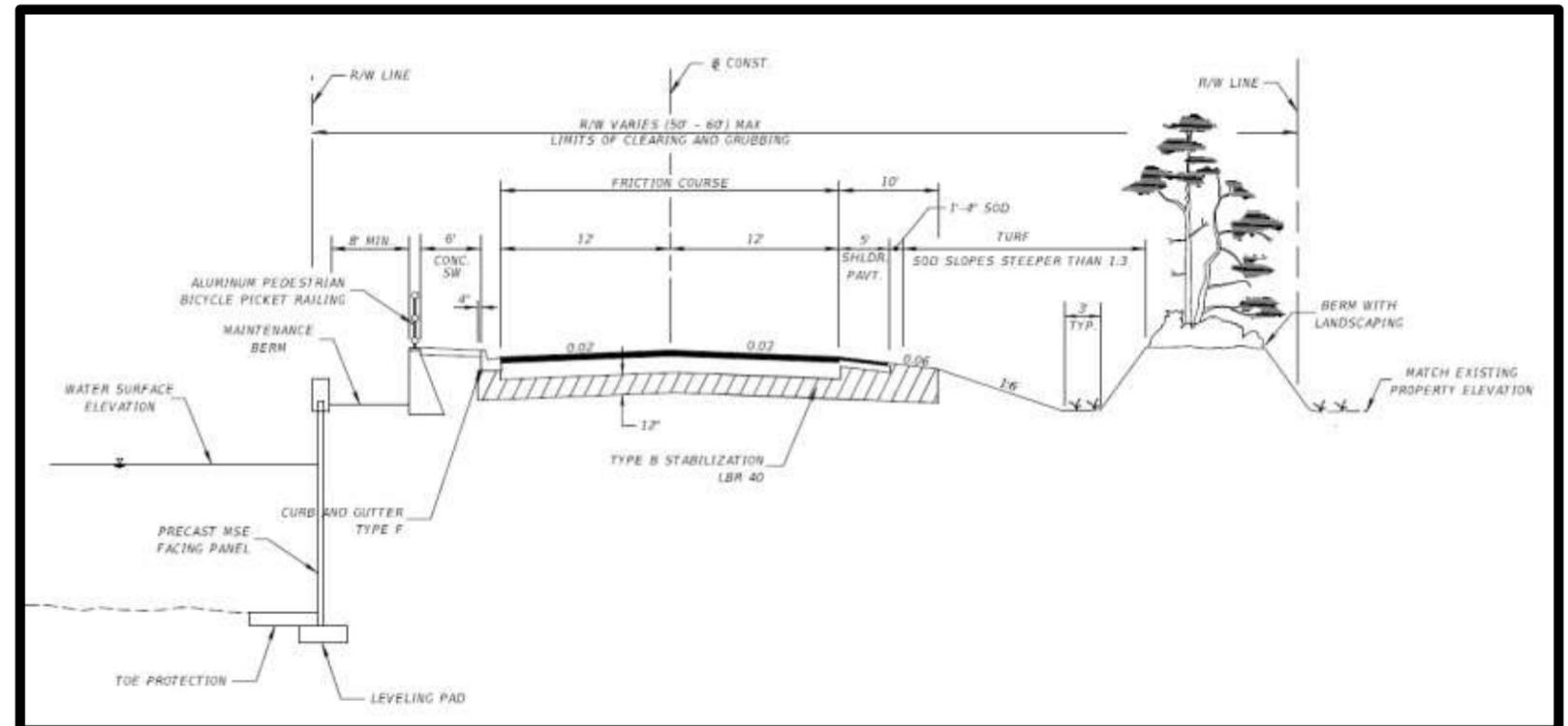
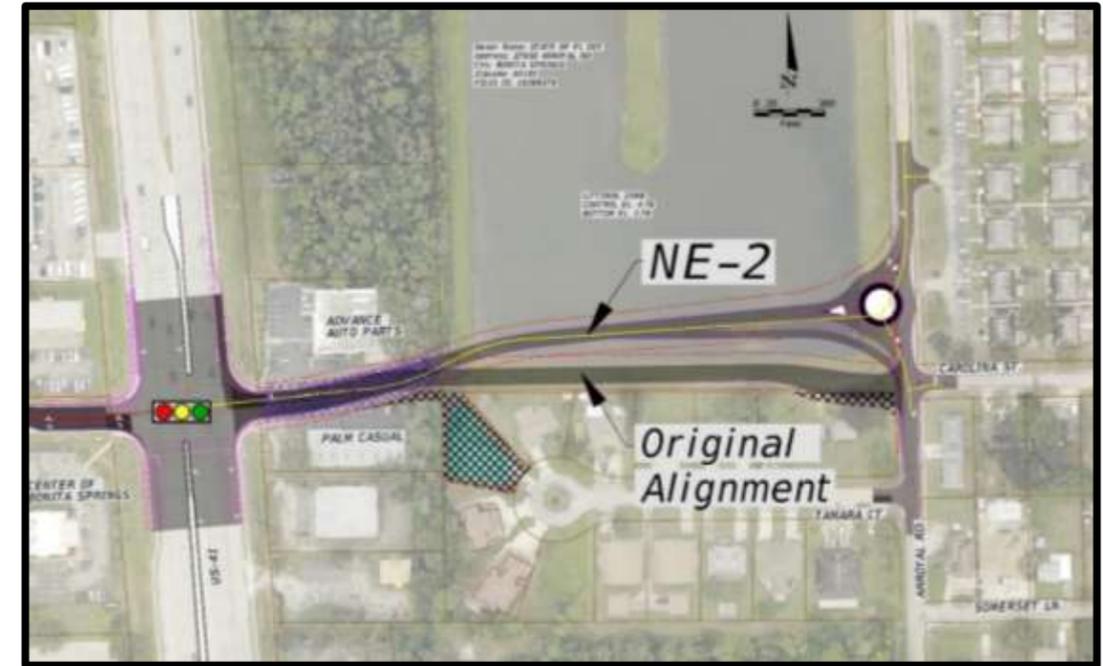
First Iteration Alternative NE-1

- Pennsylvania Avenue extension to cross FDOT Pond, and intersect US-41 at proposed "New" signalization
 - Follows City's Comprehensive Plan
 - Eliminates existing signalized location at shopping center
 - Close proximity to bridge over Imperial River
- Throughout the project development, and at periodic intervals coordination with specifically involved agencies occurred. In this First Iteration of the NW Quadrant alignment, NE-1, the concept was fluid from the previously prepared Key Corridor Network study, and is influenced by the NW Quadrant and its connection to US-41. Couple that with this first iteration of the NE Quadrant, and the proposed conceptual plan to enhance through-put traffic to use Pennsylvania Avenue.
- This concept forms a "new" traffic signalized intersection on US-41, which is in close proximity to the vertical geometric curve of US-41, and its bridge carrying the roadway over the Imperial River. This plan also requires the conceptual roadway crossing of the FDOT owned/maintained drainage pond. This crossing considered multiple roadway support types: mechanically stabilized earthen support structures; bridge structures; or a series of linked box-cell structure culverts. Preliminary coordination with the FDOT did NOT find this alignment attractive, due to several impacting factors –
 - The vertical geometric curve of the roadway, potentially could pose a sight distant condition; and
 - A newly formed traffic signalized intersection; and
 - The impacts to the Drainage Pond



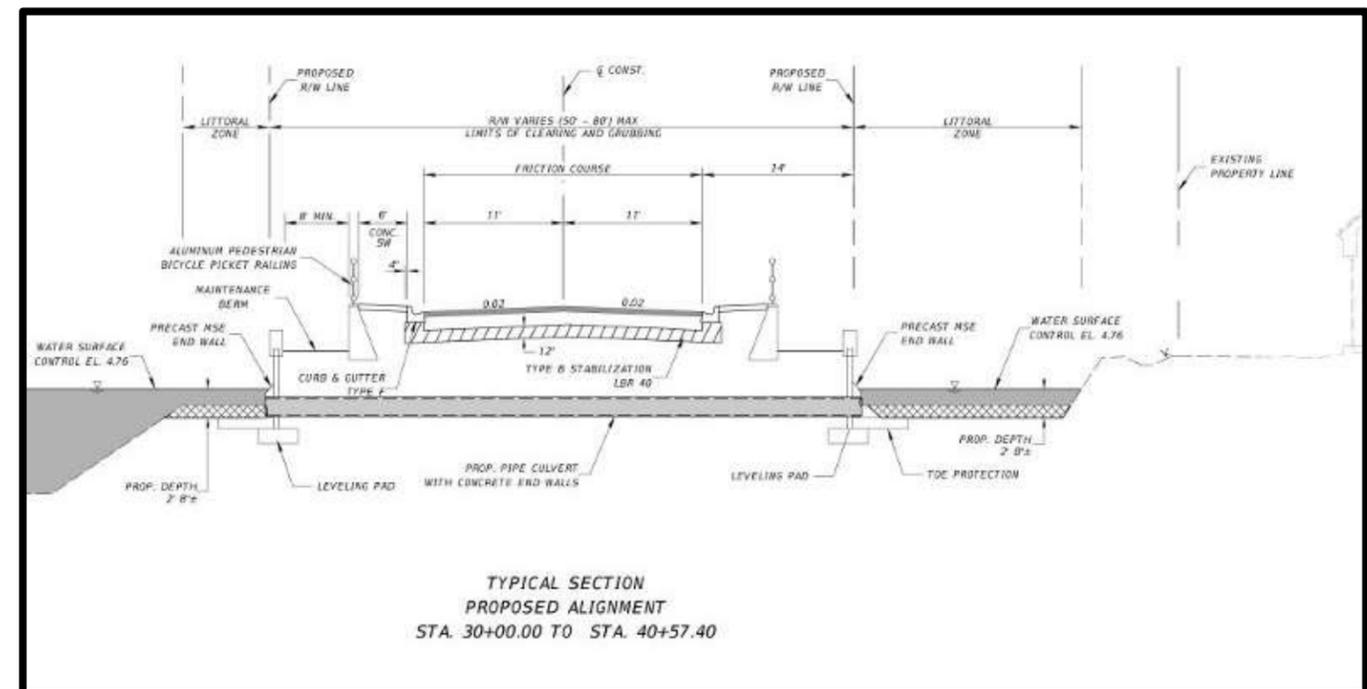
3.4 Second Alternative NE-2

- Minimize Right-of-Way impacts to properties along Tamara Court
- Original alignment of Carolina Street extended to intersect with US-41
 - Follows City's Comprehensive Plan
 - Original Plan included using a property at Cul-De-Sac for retention pond
 - Original Plan required right-of-way acquisition
 - Impacts FDOT Pond
 - Impacts to 2 Businesses adjacent to US-41
 - Takes advantage of existing signalized location
- Modified alignment NE-2, of Carolina Street
 - Follows City's Comprehensive Plan
 - Produces greater separation from properties along Tamara Court
 - See Typical Section view, at bottom right, and enhanced berm/landscape buffer to properties
 - Proposed roundabout on Arroyal Road
 - Impacts FDOT Pond
 - Impacts 2 businesses adjacent to US-41, similar to original plan.



Third Alternative NE-3

- Proposed alignment comprehensive alternatives
 - A modified split-phase signalized intersection using existing signalized location on US-41
 - Modified access to existing businesses on US-41 and rear access provided to make left-turns out of properties
 - Could provide for Improved access to Lee County Park for boat traffic
 - Proposed roundabout on Arroyal Road
 - Impacts FDOT Pond
 - Impacts 2 businesses adjacent to US-41, but significantly minimizes right-of-way acquisition for the businesses
 - Modifies access on US-41 to two (2) frontage businesses, but provides for left-turns-out through Rear-Access to traffic signal at US-41.
 - Potential proposed southern extension for access to Crown Lake Boulevard



4.0 Assessing Alternatives

- Comprehensive Plan
 - Consistent with objective 1.2 City's Comprehensive Plan, Transportation Element
 - City updating CLUP, and considering Quadrant Plan, a "Planning Tool"
- Traffic Control – Improved traffic signalization, and access control
- Assessing Alternatives
 - Southern-Half
 - Northern-Half
- Assessing Alternatives - In this section we will review the various alternatives, and what analyses were done, and begin to illustrate refined features of the Quadrant Plan alternatives, and as follows:
 - Southern-Half: the refinements and alternative processes will be examined for the southern-half, specifically, in SE and SW Quadrants; and
 - Northern-Half: the refinements and alternative processes will be examined for the northern-half, specifically, in NE and NW Quadrants



4.1 Traffic Control

- The exhibit at the right details the Existing Traffic Signalized locations along the corridors, within the Study area.
- Illustration is also provided for Access Management, which is the spacing and access control, based on an established set of criteria, such as number of lanes, abutting property access points (driveways); travel speed, etc. The dimensions shown are for traffic signalized location spacing; median access opening spacing, including major property access points/driveways, and which are controlled by traffic signalization.



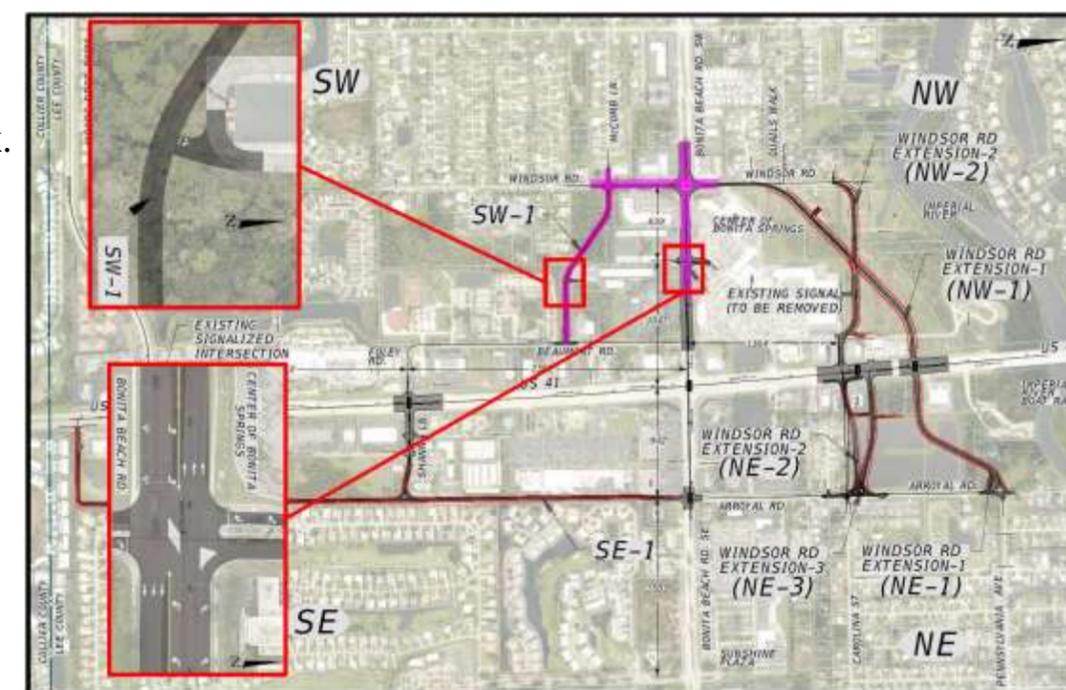
All traffic signalized locations in Bonita Springs and in particular this project, are controlled and maintained by Lee County DOT. This past Winter Season (2016-2017), the Lee County DOT began a more aggressive position on monitoring traffic signalized locations, and incidents. They used a form of Adaptive Traffic Signal Control, which was modified, and monitored by their Traffic Control Center.

4.2 Assessing Alternatives – Southern Half

SE Quad



SW Quad



- SE-1: Throughout the planning process in this quadrant, SE-1 basically remained the same, from previous studies and evaluations. The premise of this alternative was to take advantage of the existing corridor behind the shopping center, and extend it southerly to access the vacant undeveloped property, now being considered by a development, referred to as Hidden Lakes, a residential community. The considerations, take advantage of an existing utility easement, that is approximately 10-feet in width, and runs along the easterly property line of the shopping center, and to provide as many possible access points, which also may connect with the existing roadway network of Bonita Crossing Boulevard, and possible existing traffic signalized locations on US-41/Tamiami Trail, or even proposed new traffic signalized locations.
- Benefits: Expanded network; multiple Proposed connections; Proposed signal at Shanna Lane; Improved access management; Evaluated with proposed development of Hidden Lakes Residential property.

- SW-1: Throughout the planning process in this quadrant, changes progressed through interaction with the City, and their leadership and localized neighborhoods, as this alternative proposed alignment options of expanded network, in a localized neighborhood or residential homes. This quadrant had limited available right-of-way options to utilize to develop an expanded network. In addition, the frontage road, Beaumont Road, also did not offer connection points of convenience to US-41/Tamiami Trail. This quadrant primarily considered the alleviation of heavy right-turn movement at the major intersection of US-41 and Bonita Beach Road. A previous consideration, proposed the extension of improvements along Windsor Road, southerly, to eventually connect with Woods Edge Parkway, but that was dismissed. In lieu of that extension the proposed alignment/improvements, then extended south, from the roundabout at Bonita Beach Road, and Windsor Road, to just beyond the intersection of Macomb Lane. From its intersection with McComb Lane, the alignment extended easterly, along a curvilinear alignment, and a very narrow point, near a Storage Facility, to continue to align and form an intersection with Beaumont Road. With the proposed roundabout at Bonita Beach Road, and Windsor Road, this quadrant needed to evaluate the access to shopping center’s traffic signalized access, mid-way between Windsor Road, and US-41/Tamiami Trail. Basically, the roundabout processes more traffic than a traffic signalized location, and due to the close spacing of this location to both Windsor Rad,

and US-41, the existing traffic signal controlled access should be removed. This consideration to remove the traffic signalized access control also poses access issues for left-turns, for both the Shopping Center, and the Storage Facility. With the Storage facility, an inset diagram is shown on the previous page, which considers a rear access location to the proposed SW-1 Alignment corridor. The other inset diagram shows access control modifications to the shopping center, and the storage facility access points onto Bonita Beach Road. For left-turns out of the shopping center would have rear and side access points to the proposed alignment roadway in the NW quadrant. Both of these optional alternatives would provide left-turn access return points to a traffic signalized location. For the purposes of this project, coordination was established with the Storage Facility property, but not the Shopping Center at the time of completion of this work.

- Proposed connections; Access modifications; Improved access management; Coordinated with commercial property owner

4.3 Assessing Alternatives – Northern Half

NW Quad

- Northern-Half Quadrant Plan: The Northern-Half of the Quadrant Plan is an interrelated network, consisting of the NW Quadrant and NE Quadrant. While either quadrant may stand alone to satisfy the expanded network, as the study progressed the interrelationship developed, as the intersections with US-41/Tamiami Trail became apparent to the overall functionality of the network, and also began to see more cooperation between governing agencies. In this section, the following pages and exhibits will demonstrate the expansion and evolution of the iterations evaluated and their corresponding benefits.

- Combination NW-1 & NW-2/Windsor Road Extension.
- Proposed NW-3/Windsor Road Extension
- Proposed connections to all adjacent network and properties, are part of the plan
- Access and modifications will be provided at: 1) the Shopping Center Property; and 2) Boston Road
- Several coordination sessions took place with the developer for Angler’s Paradise
- Benefit of the NW-3/Windsor Road Extension alignment is the coordination to use the existing Signalization at US-41.
- Benefit of eliminating NW-1/Windsor Road Extension, and maintaining a combination of alignments, formed by NW-3/Windsor Road Extension is that the distance issue is eliminated from the bridge over the Imperial River on US-41



NW Quad

- Complex Intersection within shopping center at Boston Road and with signalized location of US-41, has benefits of:
 - Separation of shopping center through traffic
 - Separation for truck traffic to access shopping center
 - Modified parking circulation, and separated from internal through traffic, and truck traffic
 - Separated Boston Road intersection
 - Improved approach to signalized intersection at US-41



Proposed NW-3/Windsor Road Extension

- Proposed NW-3/Windsor Road Extension, used for further analysis considerations
- Proposed connections to all adjacent network and properties, are part of the plan
- Access and modifications provided for: 1) the Shopping Center Property; and 2) Boston Road
- Improved property owner access
- Improved sight distance from Imperial River Bridge

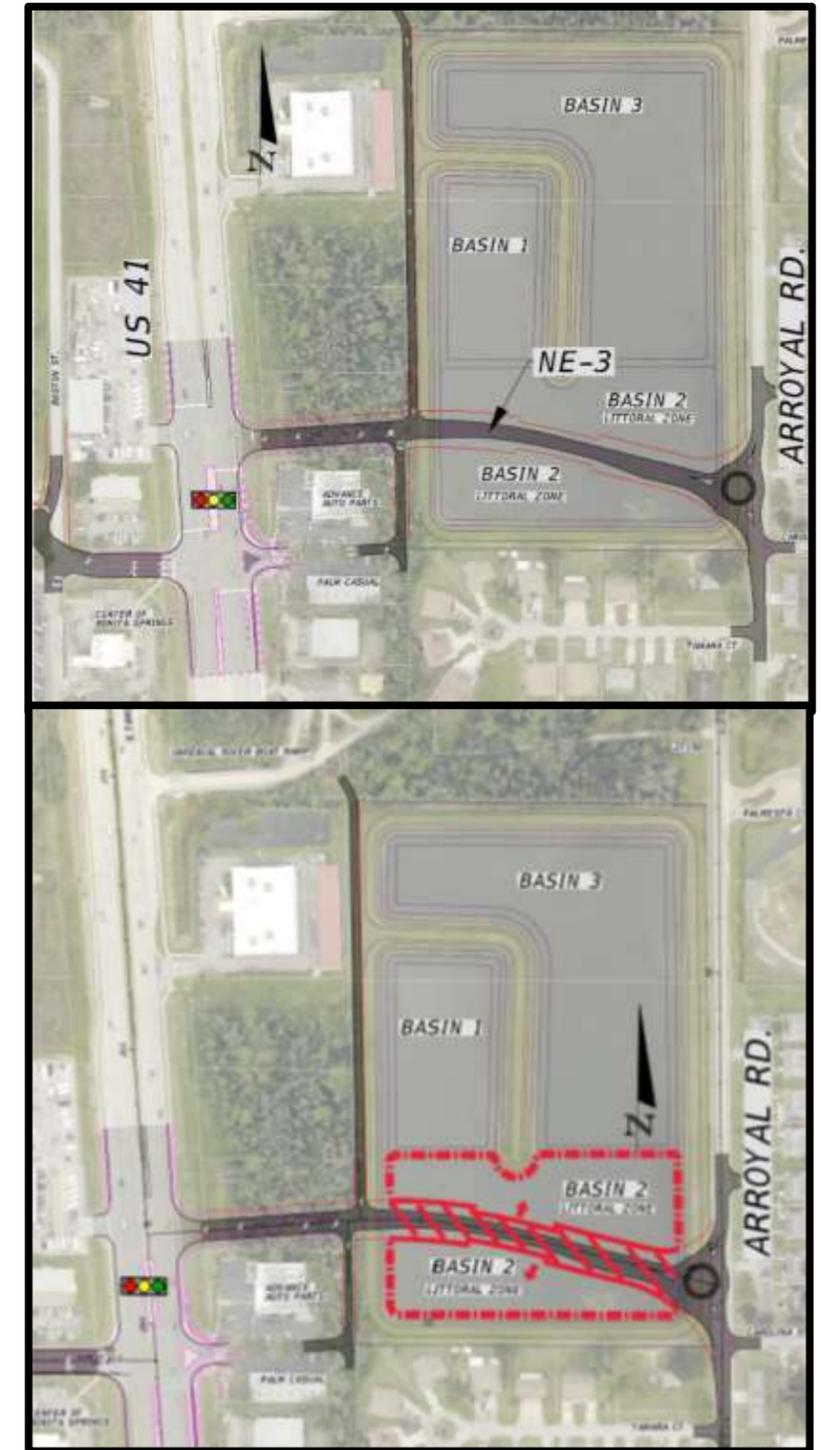


**NE Quad
NE-3/Windsor Road Extension**

As was previously stated, the interrelationship of the two (2) quadrants in the Northern-Half, produced several alignment alternatives. Likewise, the NE Quadrant went through several of those iterations. In the previous section, those iterations were evaluated, and as the NW Quadrant became further refined, so too, did this NE Quadrant, which produced the NE-3/Windsor Road Extension. Since this iteration proposed, also has impacts to the FDOT owned/maintained pond, it was this continued issue that saw further coordination with the DOT.

- Alignment detail of NE-3/Windsor Road Extension
 - Consistent with City Comprehensive Plan of extending Carolina Street
 - Proposing a split-intersection with existing signalized location at US-41 and shopping center. NOTE: This proposed option requires further coordination with FDOT
 - Proposing a roundabout on Arroyal Road – this is proposed to minimize and provide all various traffic circulation points for the corridor, such as: 1) Continue on to Pennsylvania Avenue; 2) Access to neighborhood and cut through traffic; and 3) Access to Bonita Beach Road, and east.
 - Modifying business access to right-in/right-out at US-41 (due to traffic signal Control modifications)
 - Providing rear access to businesses to permit left-turns out to signalized intersection at US-41
 - Proposing an optional improved access to Lee County Park/Boat Ramp. The existing U-Turn movement is still satisfactory to provide access to Lee County Park/Boat Ramp.
 - Crossing FDOT owned / Maintained Pond

- Alignment NE-3 / Windsor Road Extension crossing FDOT Pond
 - Basin has 3 zones
 - Inlet flow at Basin 1
 - Interior berm used to channel flows to Basin 3 – out flow basin
 - Roadway over Pond will be slightly reduced in width and include culverts to allow flows dividing Basin 2.
 - Impacts to Pond at Basin 2 will require further study, to determine full-extent of impacts. However, for preliminary analysis options such as: bridge crossing; culvert structures; and wall supports, along the embankment, may be considered.
 - Requires property acquisition for connection to US-41



- Currently City has joint Maintenance Agreement with FDOT. This agreement could be expanded between the parties to further enhance the alignment alternative.

5.0 Identifying Potential Impacts

Section 5, of this report, will provide details for the evaluations of the fatal-flaws of the project, such as:

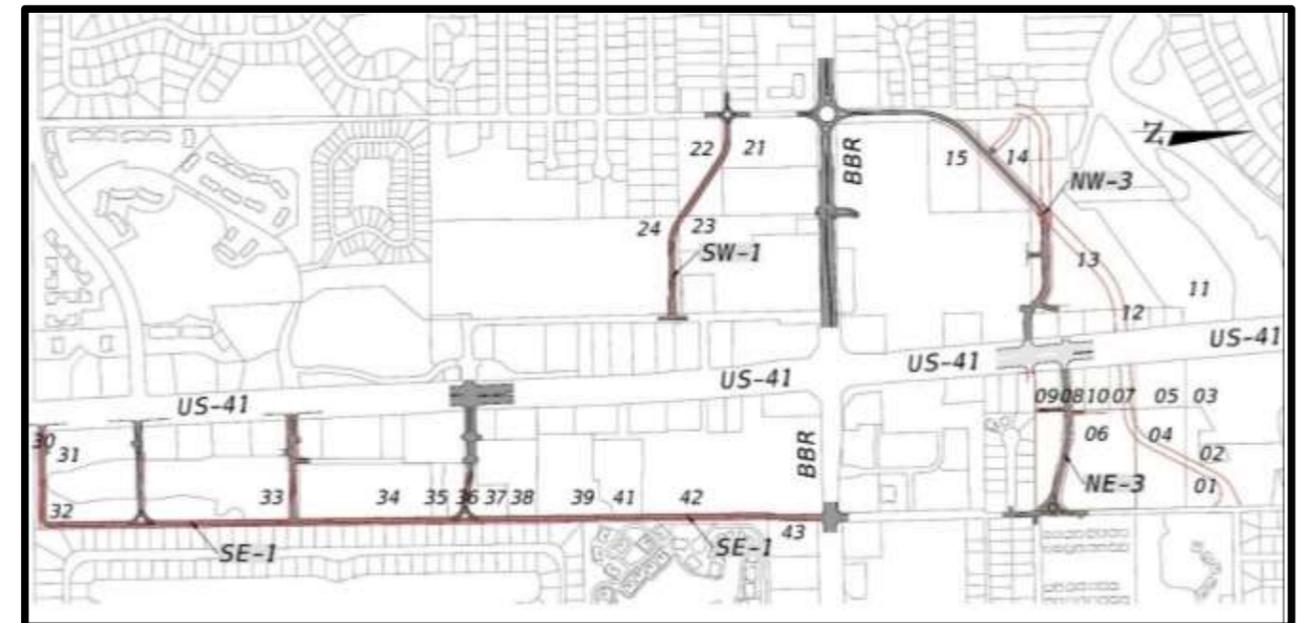
- Property Impacts
- Environmental Impacts
- Utility Impacts

On the following pages, this information will include graphic exhibits and narrative, as appropriate, to support the information that was analyzed. A complete set of separate reports and documents may also be found in the appendices.

Property Impacts were examined based on information from the Lee County Appraisers offices, and online, for individual property owners. For simplicity in detailing the impacts, the assessment is divided into the four quadrants:

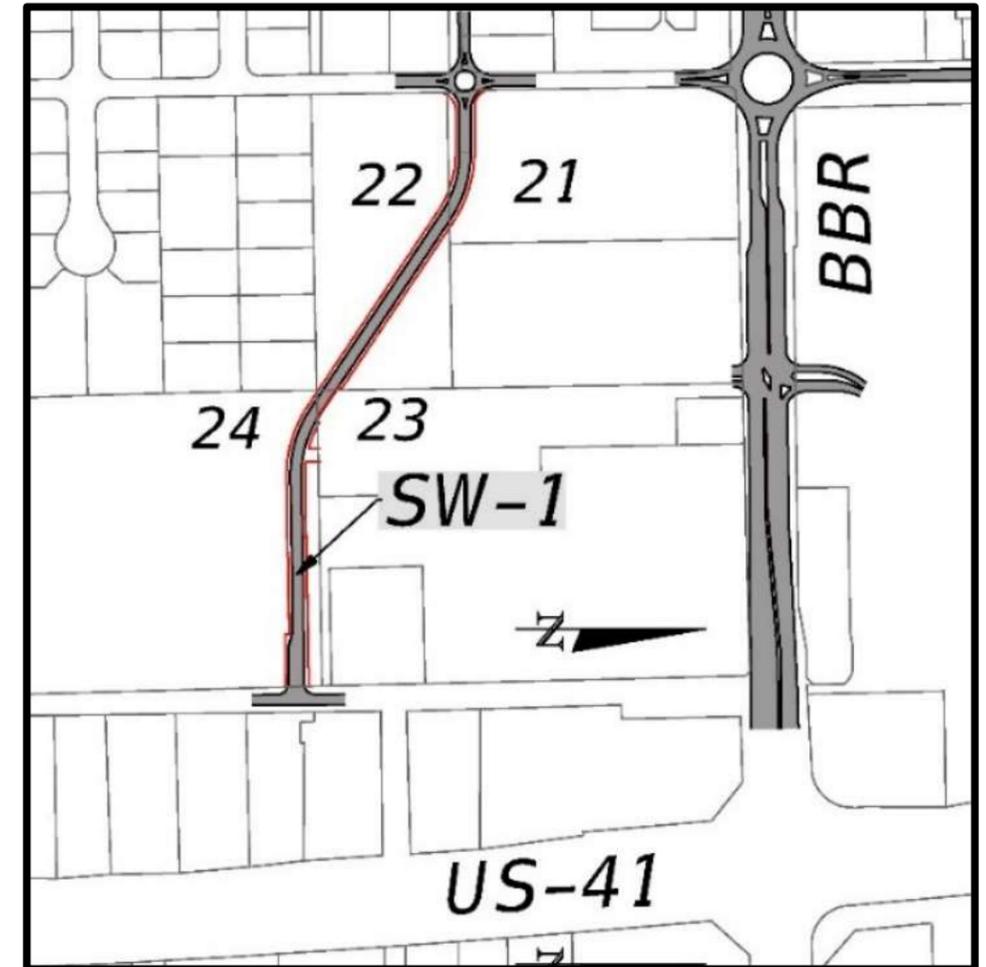
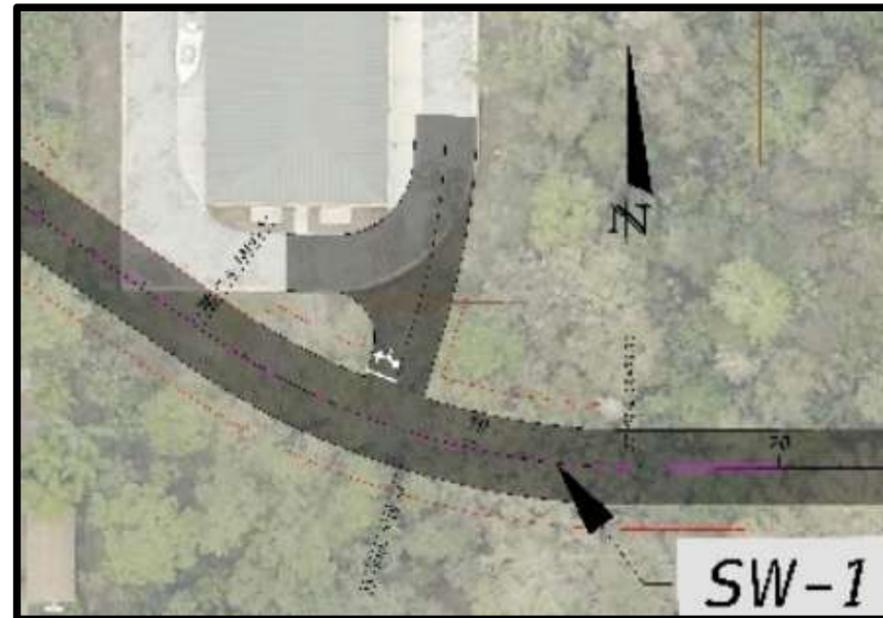
- SW Quad
- SE Quad
- NW Quad
- NE Quad

5.1 Property Impact Assessment



The SW Quadrant is the alignment of SW-1, and the exhibit to the right details its alignment, a curvilinear alignment, that impacts across four (4) properties. The Inset also illustrates modifications proposed for the Storage Facility property, ID #23, Beach Storage, LLC. This quadrant also has impacts to a commercial property and church property, and an undeveloped property (Vacant Residential).

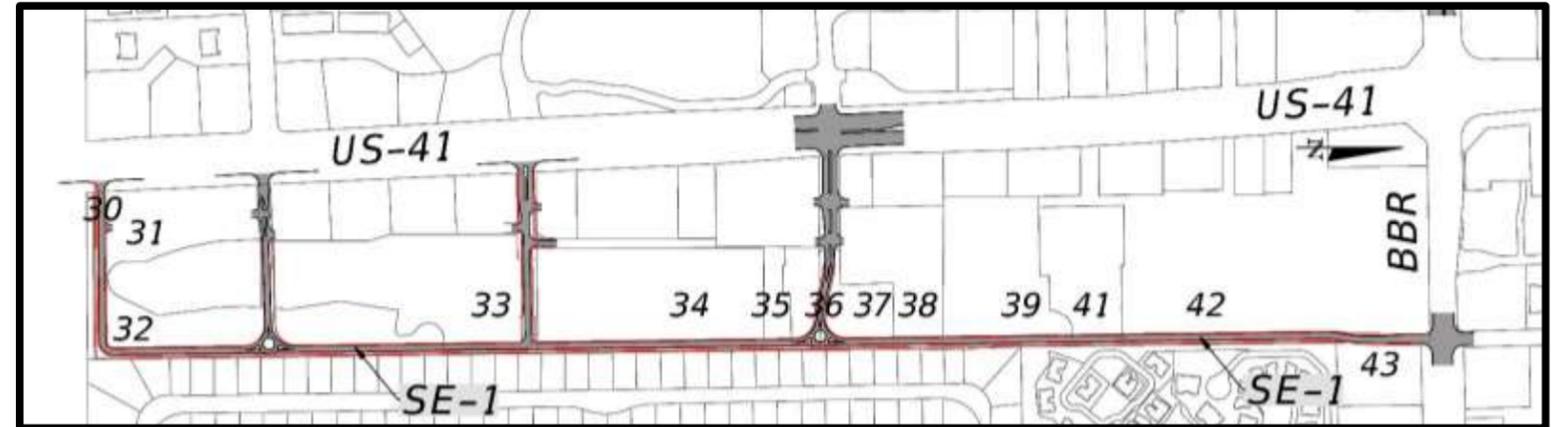
SW Quad



Alignment	ID	Folio ID	STRAP Number	I/W Req.	Lot Area	Prop. Ratio	Property Use	Taxable Value	Sale Price	Sale Date	Site Address	Road Name	Owner Name
SW-1	21	10296287	04482582000240030	11,141	204,944	5%	COMMUNITY SHOPPING CENTER	\$2,221,452	\$115,000	8/1/1993	3465	BONITA BEACH RD SW	JOHNSON SAMUEL V TR
	22	10296285	04482582000240000	18,518	186,245	10%	VACANT RESIDENTIAL	\$192,600	\$200,000	3/18/2011	28165	WINDSOR RD	BAREFOOT EXPRESS LLC
	23	10296290	04482582000260000	4,479	152,268	3%	WAREHOUSING, DISTRIBUTION TERMINALS	\$1,838,439	\$3,000,000	7/21/2006	3371	BONITA BEACH RD SW	BEACH STORAGE LLC
	24	10296294	04482582000270010	25,342	1,038,928	2%	CHURCHES, TEMPLES	\$10,245,198	\$100	1/29/2007	28270-388	BEAUMONT RD	DEWANE FRANK J

SE Quad

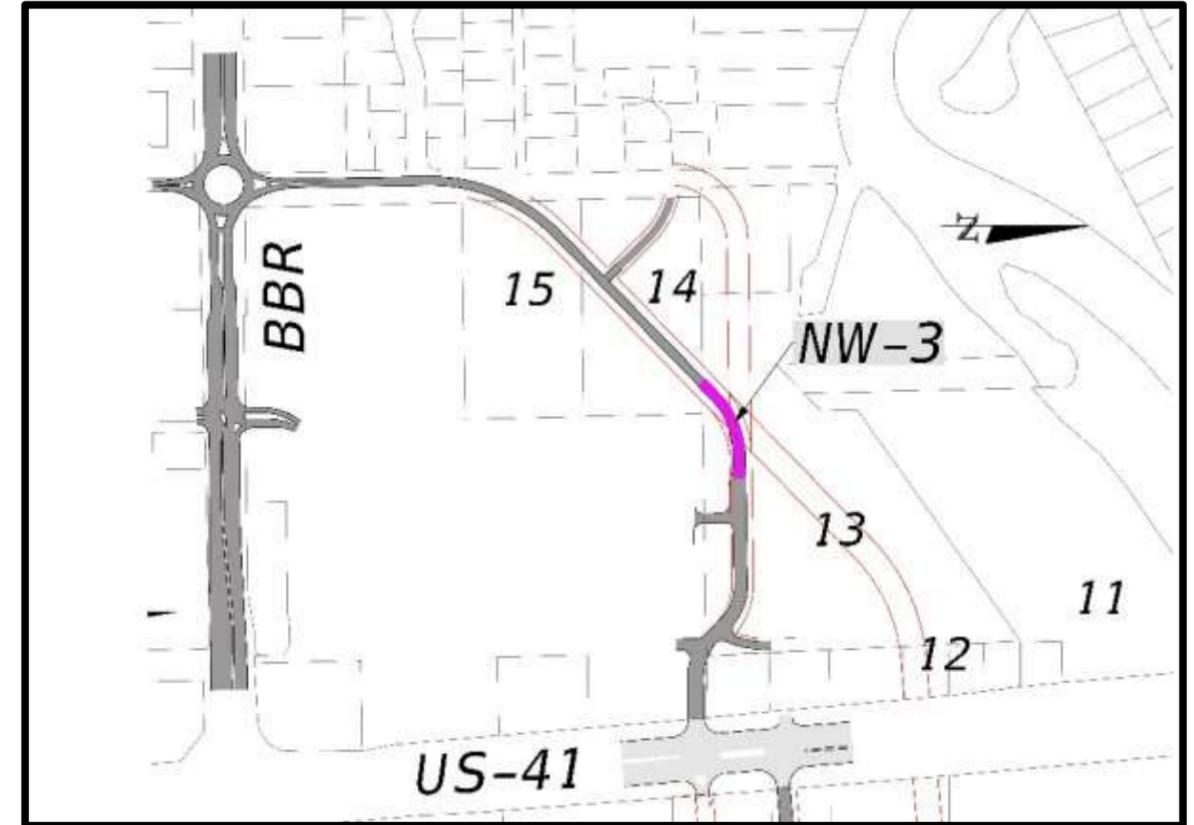
The SE Quadrant is the alignment of SE-1, and the exhibit to the right details its alignment, primarily a long tangent, or straight-segment of an alignment, and which impacts across fifteen (15) properties. These properties are primarily commercial and office type uses, except at the southerly end, where the impacts are across undeveloped/vacant properties of Hidden Lakes Holdings, LLC (ID #'s 30, 31, 32, 33, 33.1, and 33.2). ID #'s 34 & 35, of the Mer Rouge Properties, LTD., are also vacant and undeveloped, at this time.



Alignment	ID	Folio ID	STRAP Number	R/W Req.	Lot Area	Prop. Ratio	Property Use	Taxable Value	Sale Price	Sale Date	Site Address	Road Name	Owner Name
SE-1	30	10467732	044825830140F00CE	15,173	15,173	100%	RIGHT-OF-WAY	\$0	\$100	8/25/2013		RIGHT OF WAY	HIDDEN LAKES HOLDINGS LLC
	32	10467737	044825830140C0000	83,620	262,846	32%	VACANT RESIDENTIAL	\$273,150	\$100	8/25/2013		WAKE FERN DR	HIDDEN LAKES HOLDINGS LLC
	31	10467736	044825830140I00CE	15,850	15,850	100%	RIVERS, LAKES, SUBMERGED LAND	\$0	\$100	8/25/2013		SUBMERGED	HIDDEN LAKES HOLDINGS LLC
	33.1	10467730	044825830140B00CE	9,572	9,572	100%	RIVERS, LAKES, SUBMERGED LAND	\$0	\$100	8/25/2013		SUBMERGED	HIDDEN LAKES HOLDINGS LLC
	33.2	10467731	044825830140A00CE	4,125	24,914	17%	RIGHT-OF-WAY	\$0	\$100	8/25/2013		RIGHT OF WAY	HIDDEN LAKES HOLDINGS LLC
	33	10467734	044825830140D00CE	18,666	332,905	6%	RIVERS, LAKES, SUBMERGED LAND	\$0	\$100	8/25/2013		SUBMERGED	HIDDEN LAKES HOLDINGS LLC
	34	10451670	044825830290A0000	35,333	348,482	10%	VACANT COMMERCIAL	\$1,045,440	\$1,710,000	3/6/1998	28521	BONITA CROSSINGS BLVD	MER ROUGE PROPERTIES LTD
	35	10451176	0448258300027003J	4,188	36,327	12%	VACANT COMMERCIAL	\$138,882	\$235,100	7/21/1999	28471	BONITA CROSSINGS BLVD	MER ROUGE PROPERTIES LTD
	36	10296301	0448258200027003E	10,207	48,992	21%	ORPHANAGES, NON-PROFIT SERVICE	\$337,112	\$437,500	7/21/1999	28441	BONITA CROSSINGS BLVD	AMERICAN HEART ASSN INC
	37	10296936	04482582017000020	23,164	81,797	28%	OFFICE, COMMERCIAL	\$678,519	\$1,350,000	5/10/2004	28421	BONITA CROSSINGS BLVD	BONITA COAST ASSOCIATES INC
	38	10296937	0448258201700002A	8,520	165,766	5%	PROFESSIONAL BUILDING, COMMERCIAL	\$1,489,467	\$2,200,000	5/28/2015	28400-420	BONITA CROSSINGS BLVD	28321 SOUTH TAMAMI TRAIL LLC
	39	10296306	04482582000270050	20,655	235,371	9%	WAREHOUSING, DISTRIBUTION TERMINALS	\$5,041,694	\$7,820,000	5/1/2015		ACCESS UNDETERMINED	SOVRAN ACQUISITION LP
	41	10572023	04482582370000010	7,539	150,977	5%	COMMUNITY SHOPPING CENTER	\$3,999,225	\$23,700,000	10/21/2014	8951	BONITA BEACH RD SE	G&I VIII SPRINGS PLAZA LLC
	42	10572027	04482582370000050	43,116	787,374	5%	COMMUNITY SHOPPING CENTER	\$17,708,221	\$23,700,000	10/21/2014	8951	BONITA BEACH RD SE	G&I VIII SPRINGS PLAZA LLC
	43	10295359	03482581000010040	3,269	79,391	4%	FINANCIAL INSTITUTIONS, COMMERCIAL	\$2,092,081	\$1,496,200	3/13/2001	9021	BONITA BEACH RD SE	FIFTH THIRD BANK

NW Quad

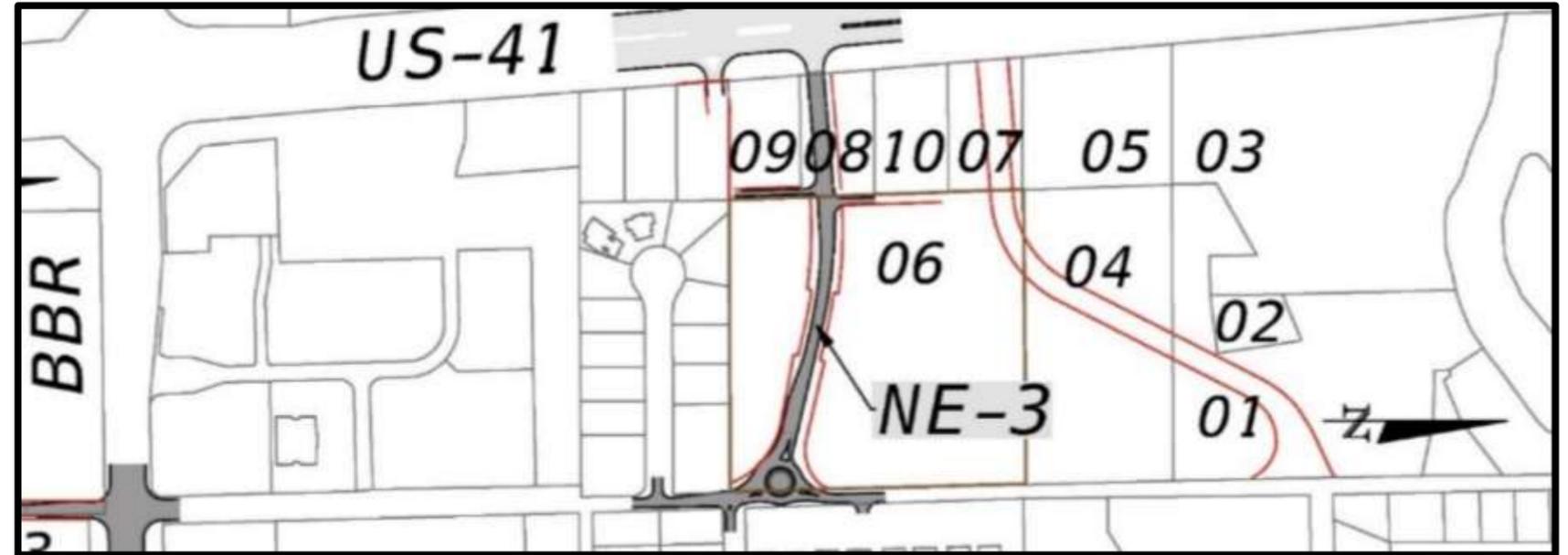
The NW Quadrant is the alignment of NW-3/Windsor Road Extension, and the exhibit to the right details its alignment, a curvilinear alignment, that impacts across three (3) properties. This ownership is detailed of two (2) different Owner names: Angler's Paradise, and Colts Run Development, LLC.



Alignment	ID	Folio ID	STRAP Number	R/W Req	Lot Area	Prop. Ratio	Property Use	Taxable Value	Sale Price	Sale Date	Site Address	Road Name	Owner Name
NW-3	13	10289347	33472583002220000	47,677	698,045	7%	VACANT COMMERCIAL	\$2,655,416	\$30,000	5/1/1974	27711	WINDSOR RD	ANGLERS PARADISE OF
	14	10289404	33472583002690000	44,391	198,970	22%	VACANT RESIDENTIAL	\$114,250	\$1,050,000	6/29/2004	27821	WINDSOR RD	COLTS RUN DEVELOPMENT LLC
	15	10289411	33472583002760000	17,838	198,126	9%	VACANT RESIDENTIAL	\$113,750	\$1,050,000	6/29/2004	27861	WINDSOR RD	COLTS RUN DEVELOPMENT LLC

NE Quad

The NE Quadrant is the alignment of NE-3/Windsor Road Extension, and the exhibit to the right details its alignment, a curvilinear alignment, that impacts across four (4) properties. This ownership is detailed of three (3) different Owner names: State of FL DOT; Cole AA Bonita Springs, FL, LLC; and 27761 Tamiami, LLC. However, two (2) of the 4 parcels impacted are owned by the State of FL DOT.



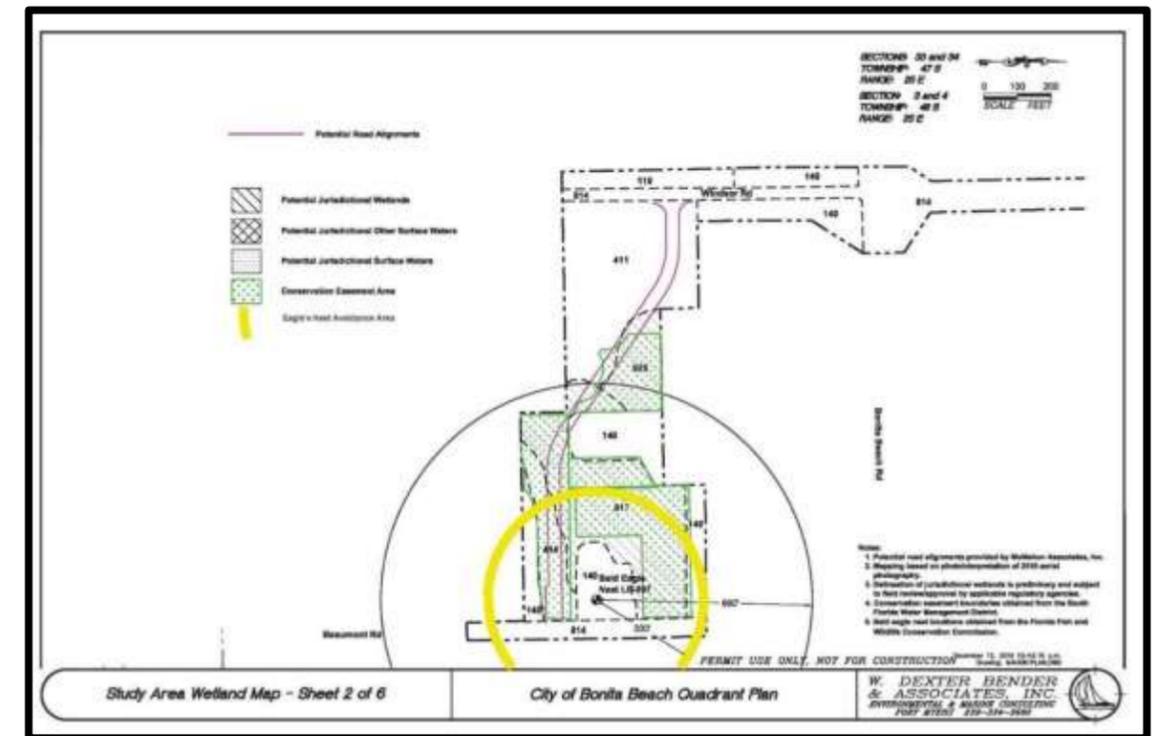
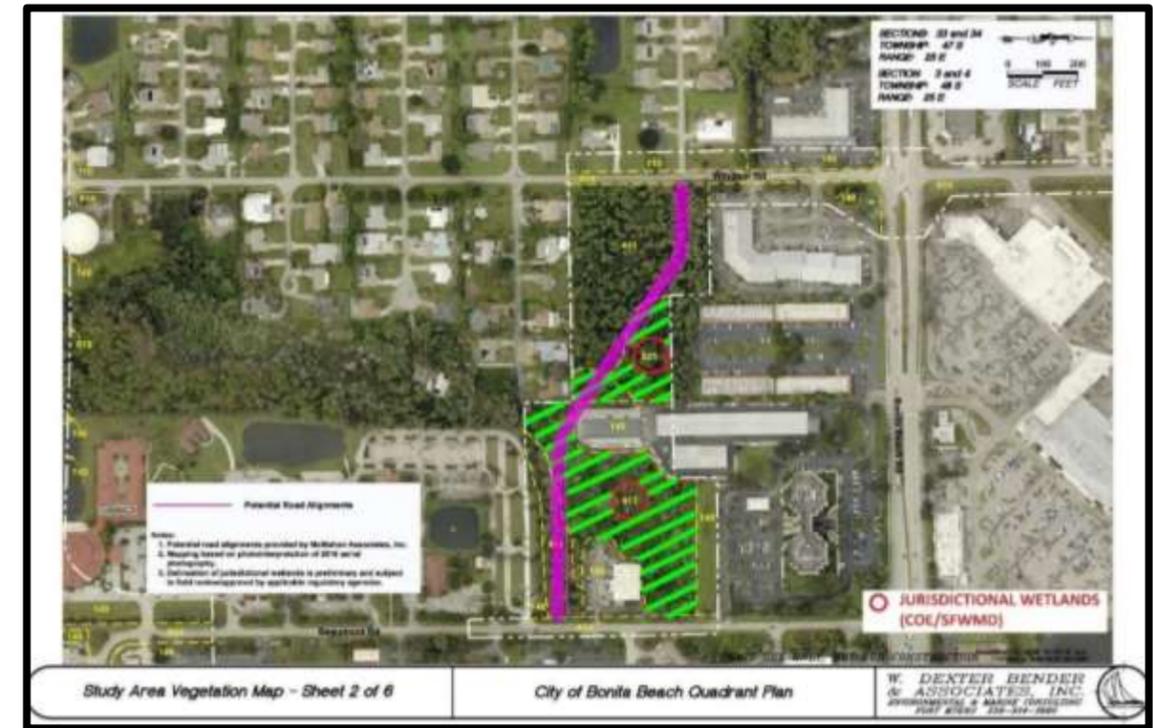
Alignment	ID	Folio ID	STRAP Number	R/W Req.	Lot Area	Prop. Ratio	Property Use	Taxable Value	Sale Price	Sale Date	Site Address	Road Name	Owner Name
NE-3	4	10289370	33472583002540000	6,841	216,594	3%	VACANT GOVERNMENTAL	\$249	\$100	5/27/2002	27520	ARROYAL RD	STATE OF FL DOT
	6	10289379	33472583002580000	57,926	427,606	14%	VACANT GOVERNMENTAL	\$500	\$100	5/27/2002	27650	ARROYAL RD	STATE OF FL DOT
	8	10289383	3347258300260002A	8,575	43,038	8%	STORES COMMERCIAL	\$913,325	\$2,838,200	9/22/2010	27791	S TAMIAMI TRL	COLE AA BONITA SPRINGS FL LLC
	10	10289380	33472583002600010	45,356	45,356	100%	VACANT COMMERCIAL	\$445,500	\$515,000	1/31/2014	27761	S TAMIAMI TRL	27761 TAMIAMI LLC

In summary, and building upon the total analyses of the Network Quadrant Plan, and from the Property Impact Assessment, the Northern-Half, illustrates the least number of impacts to overall properties, throughout the study area. A total of seven (7) parcels are impacted, which represents five (5) owners.

SW – Quad Alignment

In the SW Quadrant, the alignment impacts several undeveloped areas, and a commercial business. The details follow:

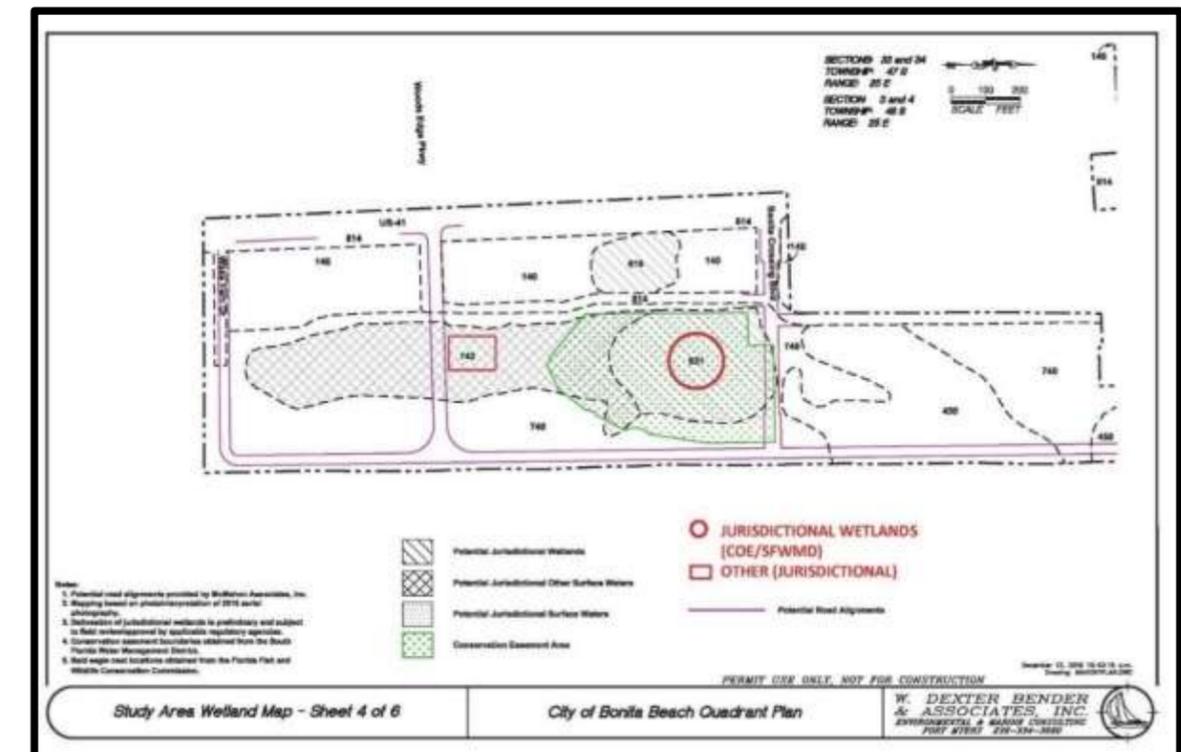
- Jurisdictional Wetlands Impacts (ACOE/SFWMD), identified by the "red" circle area to the right.
- Conservation Easement Area Impacts, identified by the "green" cross-hatched areas.
- 330ft eagles nest avoidance area (as stipulated by the governing agency)
- Removed from Endangered Species List in 2007
- Nest in this area has fallen from perch
- Not active since 2013-2014 nesting season
- Still would require review by Fish & Wildlife Commission
- Alignment requires ACOE/SFWMD Permits



SE Quad Alignment

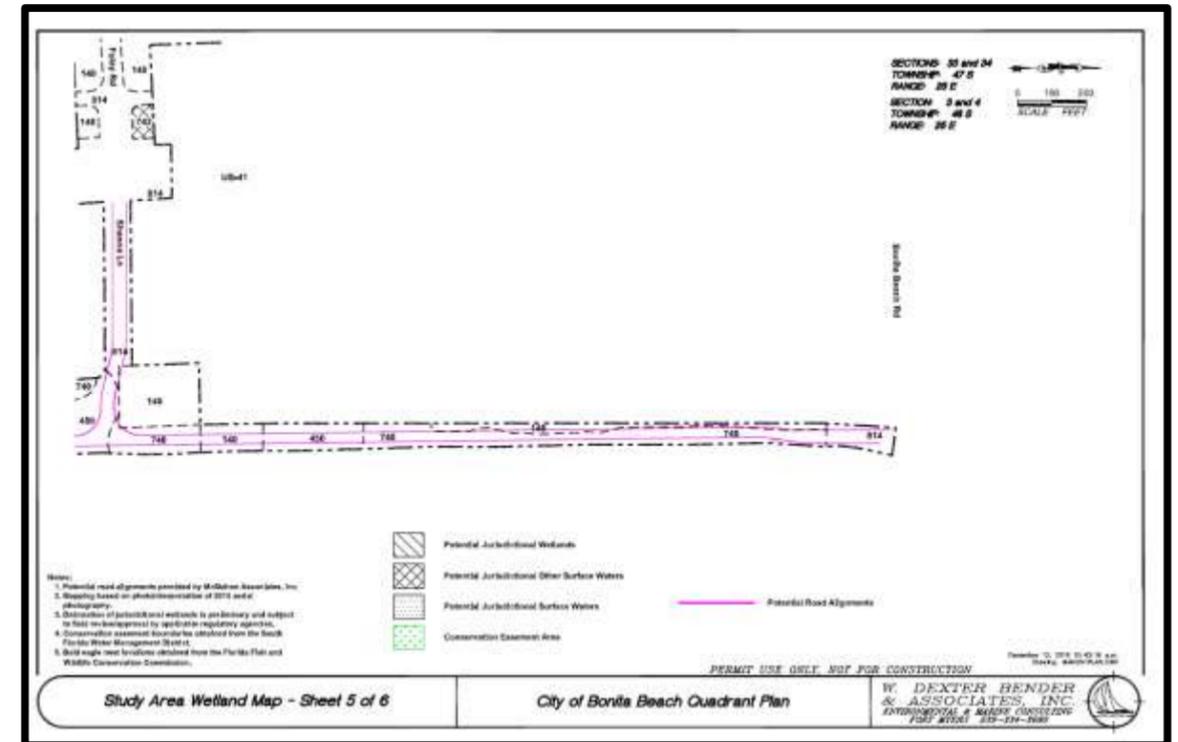
- In the SE Quadrant, the alignment impacts several undeveloped areas, and office use & commercial businesses. The details follow, beginning at the southern-most portion of this quadrant:

- Jurisdictional Wetlands Impacts (ACOE/SFWMD) -Southern Portion only
- Conservation Easement Area Impact Southern portion only
- Potential jurisdiction other surface waters
- No environmental impacts in northern portion
- Alignment requires ACOE/SFWMD permits



SE Quad Alignment

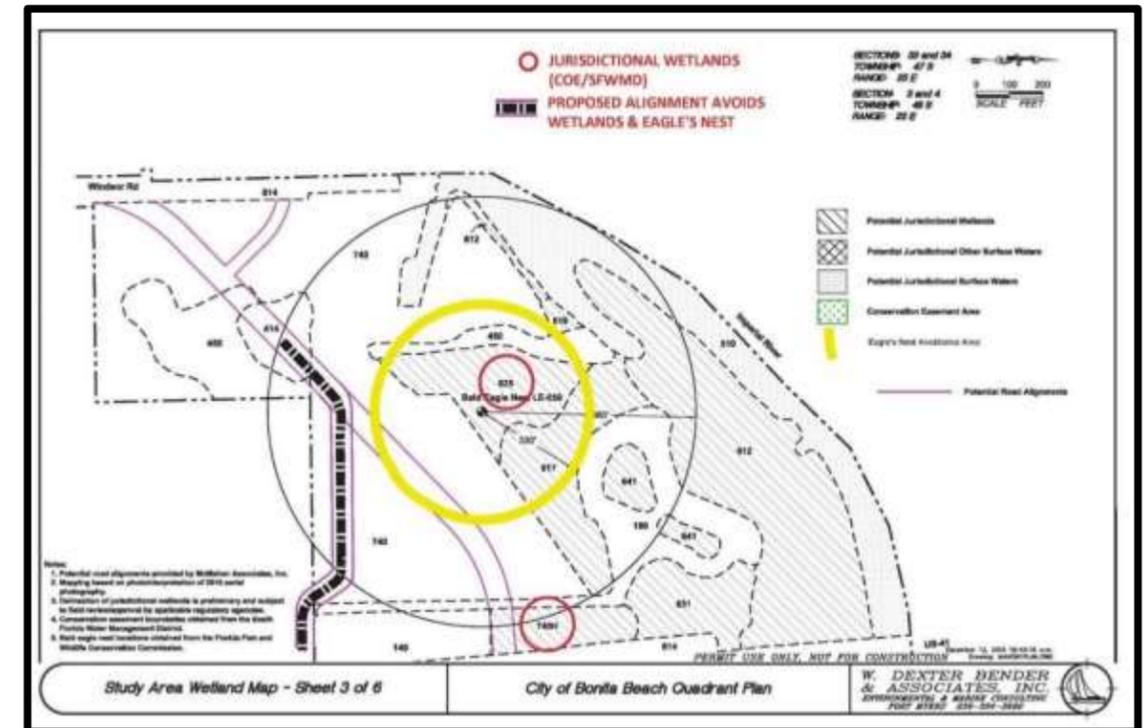
In the continuation of the SE Quadrant, and the northern portion, the alignment impacts mostly commercial business uses. In this portion of the SE Quadrant, there are NO environmental impacts.



NW Quad Alignment

In the NW Quadrant, the alignment impacts ONLY undeveloped areas, and commercial uses, where there are intersections/connections to the overall roadway network. The details follow:

- Previous alternative alignments were impactful:
 - Potential jurisdictional wetlands impact (ACOE/SFWMD)
 - 330ft eagles nest avoidance area
 - Nest still active
 - Removed from Endangered Species List in 2007
- Proposed alternative NW-3/Windsor Road extension avoids both jurisdictional wetlands and eagles nest 330ft avoidance area



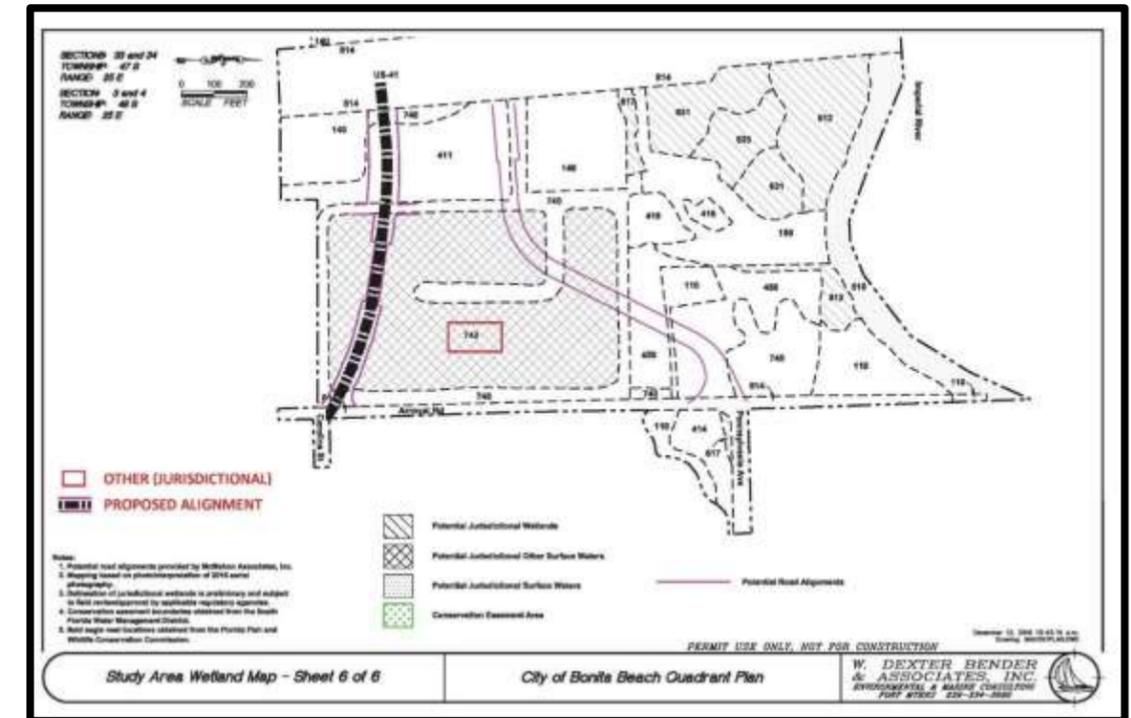
NE Quad Alignment

In the NE Quadrant, the alignment impacts undeveloped areas, government uses (i.e., the State of FL DOT Retention Pond), and commercial uses, where there are intersections/connections to the overall roadway network. The details follow:

- Previous alignments had no impact except potential jurisdictional other surface waters.
- Previous alignment only impacted FDOT Pond.
- Proposed alternative has impact to jurisdictional other surface water (FDOT Pond)



In summary, and building upon the total analyses of the Network Quadrant Plan, and from the Environmental Impact Assessment, the Northern-Half, illustrates the least amount of any environmental impacts to overall properties, throughout the study area. The major extent of the work required, going forward, should the City advance toward design and construction of the plan, is a more thorough and deeper-dive environmental assessment, and governing agency permitting, such as from the ACOE and the SFMWD. And both agencies would also prescribe specific aspects of the more thorough environmental work to be completed through design/permitting review submissions.

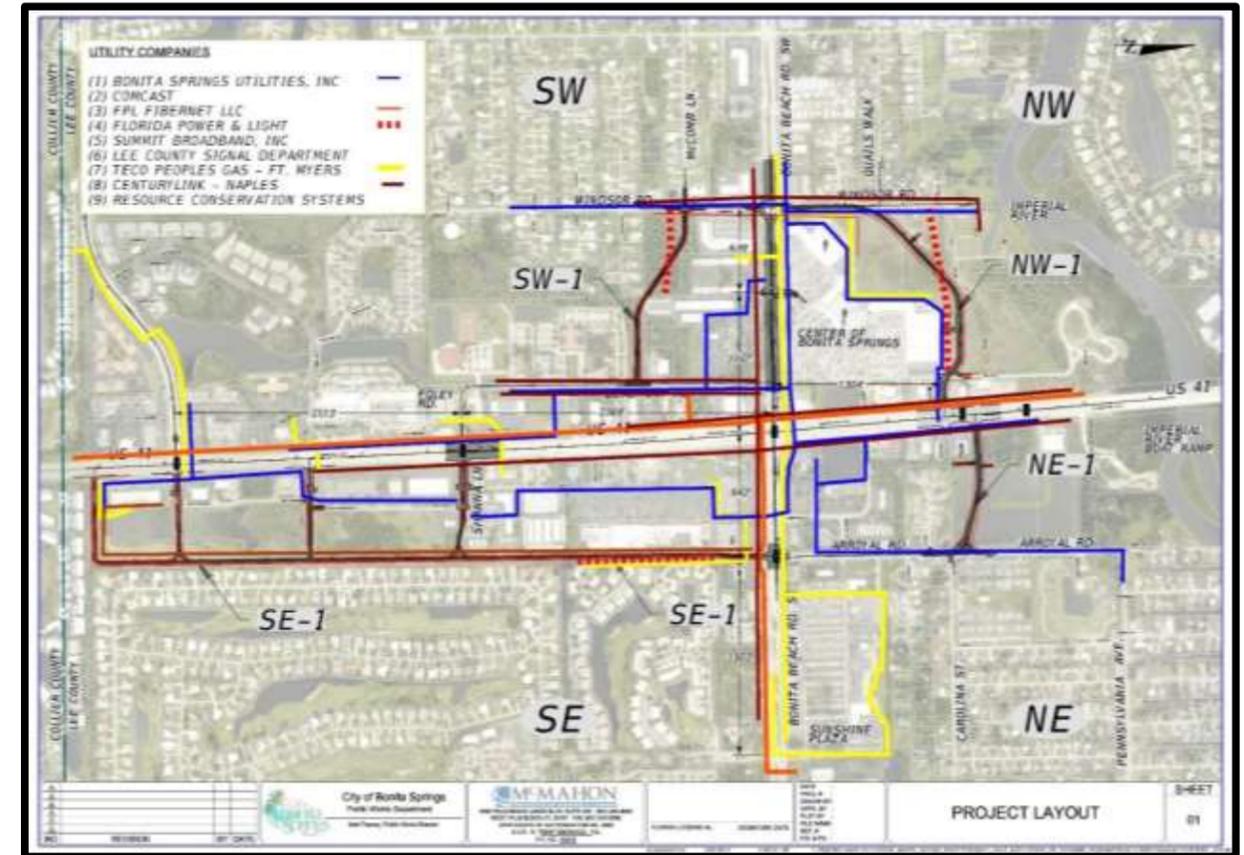


5.3 Utilities Assessment

This subsection of the Impact Assessment Report will focus on major utility impacts. The methodology included sending notices and base study area maps to all involved utility operators (see appendices for complete set of utility correspondence and interaction); a review of all existing utility mapping, and a field examination. The following is a brief summary of the tasks associated with this assessment, and mapping and inventory used:

- Identified utility operators in project area
 - Sunshine 811
 - Evaluated major utility facility impacts
 - Bonita Springs Utilities, Inc.
 - FPL FiberNet, LLC
 - Florida Power & Light
 - TECO Peoples Gas – Fort Myers
 - CenturyLink - Naples

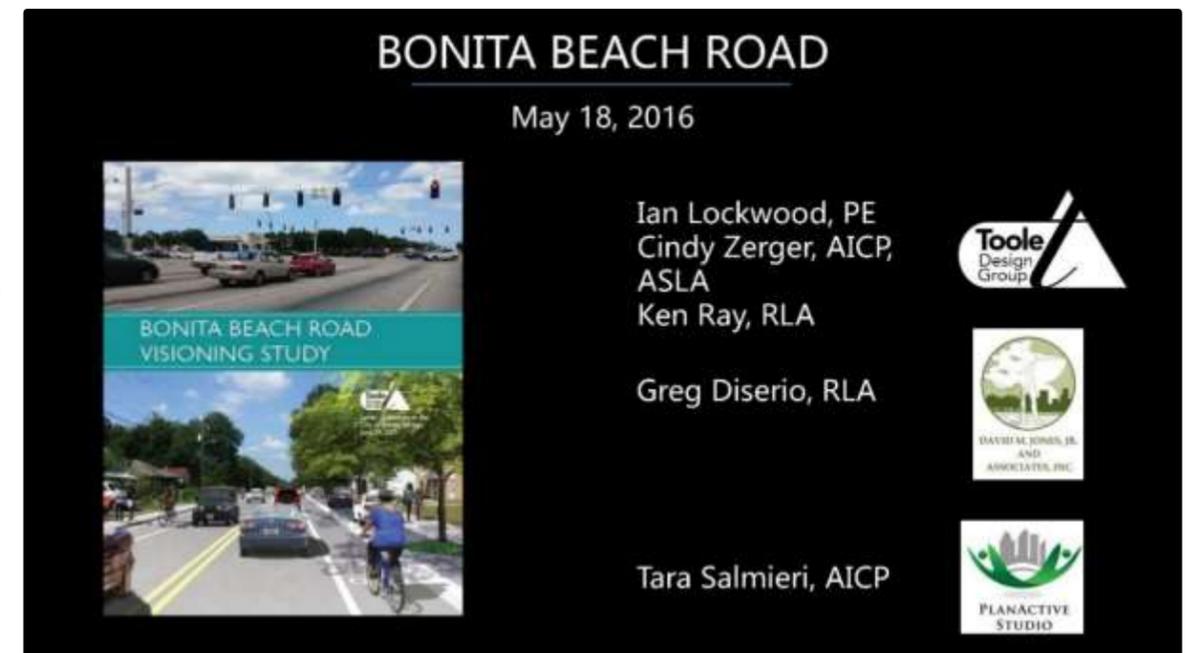
In summary, and building upon the total analyses of the Network Quadrant Plan, and from the Utility Impact Assessment, the Northern-Half illustrates the least number of impacts to overall Utility Operators and facilities, throughout the study area.



6.0 Coordinated Efforts with Bonita Beach Road Visioning Project

The City of Bonita Springs, has made an aggressive effort over the nearly last decade to address improving their transportation network and particularly evaluating the impacts of congestion in the area. Back in 2014, they had extensive coordination with the FDOT and the Lee County MPO, to have the planned Project Development and Environmental Project, removed from the regional long-range transportation listing. Those plans included a study for a grade-separated interchange style of project for the major intersection of US-41/Tamiami Trail and County Road 865/Bonita Beach Road. The City also coordinated with Lee County, to assess the proposed plans for widening of Bonita Beach Road, to six-lanes in the vicinity of Old 41 Road to US-41, as they wanted to find other transportation solutions. This project has been placed on hold. The City was looking for ways to add context sensitive solutions to address congestion and provide the appropriate levels of multi-modalism to their network. In 2015, the City evaluated a city-wide Key Corridor Network Assessment, which involved examining all of their local and collector roadways, and their interaction with other arterials, and applied Complete Streets as well as context sensitive transportation applications to the network. That plan also evaluated all modes of transportation, and looked at enhancing gaps in sidewalks, and transit facilities (the Lee County Transit provides 2 bus routes for the City). Then, in 2016, the City embarked on a major investment study (Network Enhancement Alignment Study “Quadrant” Plan) to address the major congested intersection of US-41/Tamiami Trail and Bonita Beach Road (CR-865). This study, was a major component that was identified in the Key Corridor Network Assessment and evaluated adding a gridded network to enhance mobility in the vicinity. Concurrently with this network enhancement work, the City hired another consultant, to create and prepare a “vision” for the Bonita Beach Road Corridor. And as part of the Network Enhancement Quadrant Plan, the city required the consultants, the City Staff and Governing Agencies to participate, as well as the public to develop these two (2) parallel inter-related plans.

- Awareness of Project/Concurrently with Quad Project
- Coordinated Efforts/Features/Consistency/Unity
- Traffic Evaluations
- Agency/Stakeholder Coordination
 - Lee County (DOT; Traffic; MPO)
 - FDOT
 - Numerous Presentations



7.0 Project Area Traffic Evaluations

As the study for this project was underway, it was primarily driven by expanding and enhancing the transportation network, around the focal point of the major intersection of US-414/Tamiami Trail and Bonita Beach Road (County Rd No. 865). The basis of the study was not going to be the collection of more data, but rather an examination of already collected data.

Working with the Florida Department of Transportation (FDOT), Lee County DOT, the Lee County Metropolitan Planning Organization (MPO), and outside consultants, the City assembled all of the information together, and largely focused on the Northern-Half (NW-3 & NE-3/Windsor Road Extension) enhanced roadway network (as yielded through numerous impact assessments), and the results and benefits are provided on the following pages.

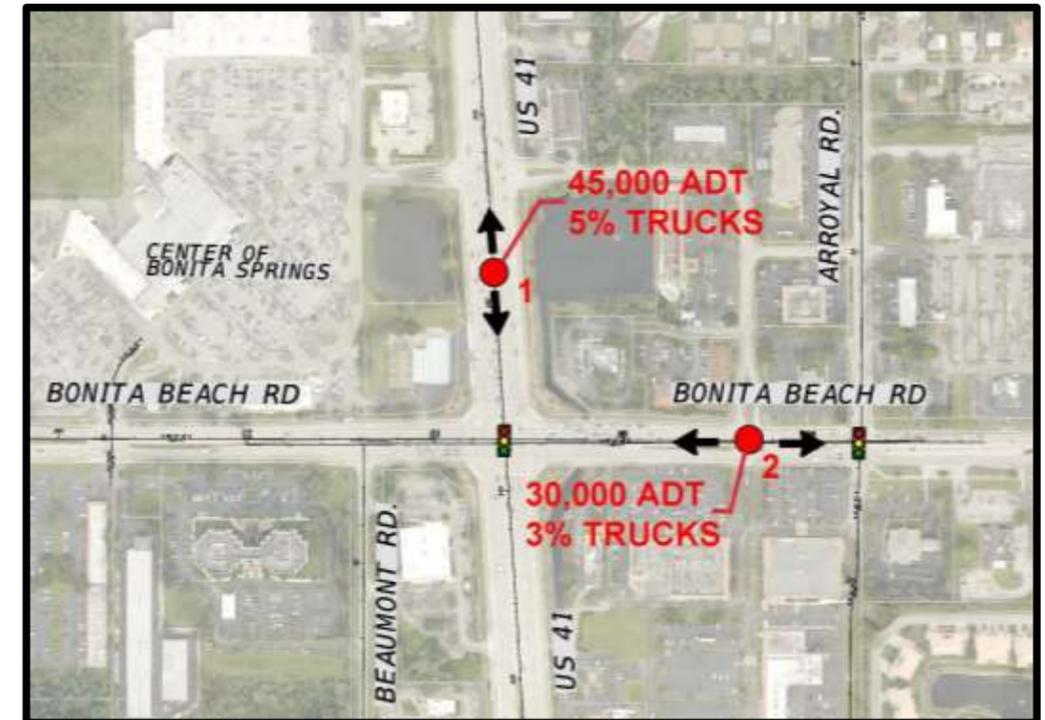
- Major Focus – Intersection of US-41/Bonita Beach Road
 - Including Northern-Half Alignment Alternatives
- Coordination with Bonita Beach Road Visioning Plans
- Employ Complete Streets objectives
- Utilizing existing available Traffic Data Resources
 - Coordination with FDOT
 - Coordination with Lee County DOT
 - Coordination with Lee County MPO

- Evaluate functionality of Network Expansion/Quad Plan
 - Coordination with Agencies
 - Evaluate Roundabout at Bonita Beach Road/Windsor Road
 - Model Roundabout and Roadway Network



Major Intersection Traffic Data

- Obtain ALL available count data from FDOT (2014)
- Coordinated with FDOT and Lee County DOT and MPO
- Correlated Facts of Highway Capacity for Multi-lane Facilities:
 - US-41 is a 6-lane divided highway
 - Bonita Beach Road is a 4-lane divided highway
 - LOS D; 6-lane Divided Highway is 59,900 ADT
 - LOS D; 4-lane Divided Highway is 32,400 ADT



Additional FDOT Collected Traffic Data

As was noted on the previous page, the FDOT provided all of the existing and available traffic data from 2014. The exhibit at the right, and particularly the locations represented by large "red" dots, are all locations where turning movement counts (TMC) were collected along US-41 and Bonita Beach Road. The traffic data, as well as pedestrian and bicycle data collected, will be further detailed on the next page. All of the extensive data collected can be found in the appendices of this report.



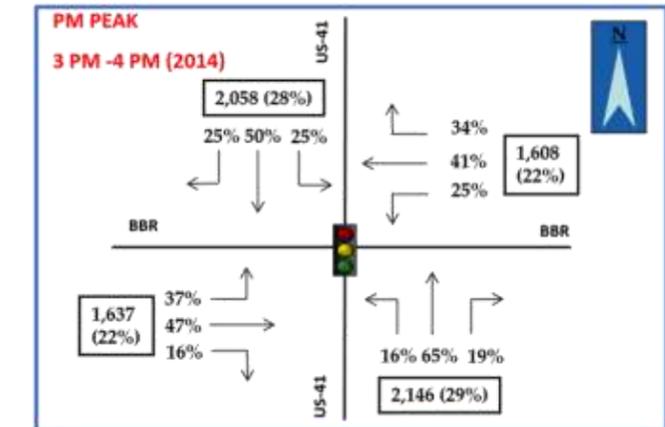
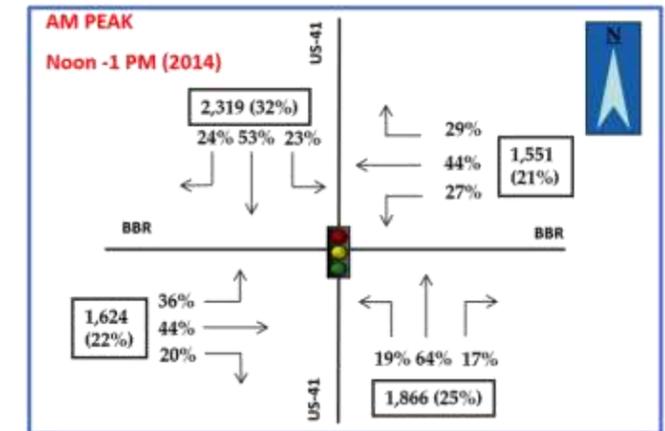
Peak Hour Intersection Volumes

AM Peak Period Traffic Assessment

- Heavy Movement LT-Turns E to N
- Heavy Movement RT-Turns S to W
- Heavy Movement LT-Turns S to E
- 57% of traffic on US-41 (vs. 43% on Bonita Beach Road); a fairly even split of traffic
- Predominate traffic leg is the south approach of US-41, carrying 32% of traffic.

PM Period Traffic Assessment

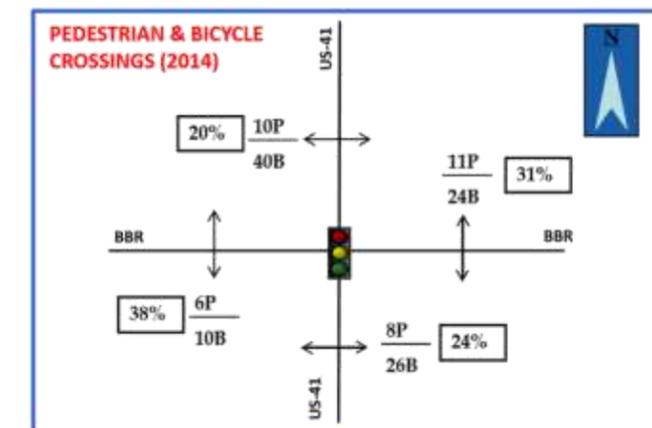
- Heavy Movement LT-Turns E to N
- Heavy Movement RT-Turns W to W
- 57% of traffic on US-41 (vs. 43% on Bonita Beach Road); a fairly even split of traffic
- Predominate traffic leg is the north approach of US-41, carrying 29% of traffic.



Pedestrian & Bicycle Crossings

Pedestrian and Bicycle Crossing Assessment

- West Side; Heavy Movement/Crossing N to S
- East Side; Heavy Movement/Crossing N to S
- 69% of movements/crossings are on Bonita Beach Road (38% and 31% respectively)



Evaluation of roundabout with Network at Bonita Beach Road & Windsor Road

In order to further validate the alignment and various project assumptions, an independent consultant was used to analyze the Northern-Half of the enhanced transportation network. Prior to commencing with this independent analysis our team and City staff met with Lee CO DOT/Traffic staff, to determine what methodology and what features to study, as with the proposed alignment a roundabout was being considered at the intersection of Bonita Beach Road, and Windsor Road, a full-access, non-signalized location. The County requested that we evaluate the Travel Time across the network, and the Delay.

Alternative Street Design, PA, and their principal, Michael Wallwork, a registered Professional Engineer, in Florida, prepared the analysis. The analysis utilized a software application, SIDRA. The SIDRA application is a software package used for intersection and network capacity, level of service and performance analysis by traffic design, operations and planning. SIDRA Intersection is a micro-analytical traffic evaluation software tool that employs lane-by-lane, and vehicle drive cycle models. It can be used to compare alternative treatments of individual intersections and networks of intersections involving signalized intersections (fixed-time/pre-timed and actuated), and including roundabouts (unsignalized), in the analyses.

The overall network analysis, included a “with” and “without” examination of the benefit of a roundabout, as proposed at the intersection of Bonita Beach Road, and Windsor Road. Along with the local road network the existing signals were maintained at the intersections of US-41 and Boston Road/Shopping Center (at the northern portion); at the major intersection of US-41 and Bonita Beach Road; but the existing signal at the Shopping Center and Bonita Beach Road was eliminated, as the roundabout would be able to process traffic more efficiently, and this signalized location would be a restriction. Based on these parameters, the analysis also included the free-flow movement, to measure Travel Time, where the delay took into account and factored the functionality of the traffic signal control and timings/phasing along the system.

In summary, and as illustrated in the table below, the results are provided for both WITHOUT and WITH the Roundabout, at the intersection of Bonita Beach Road and Windsor Road. The roundabout proves to be the most efficient traffic control feature for the network, and from a free-flow perspective, only increases travel time through the network by 22 seconds (both in the NB and SB directions). This is largely due to the design and purpose of a roundabout, to act as a traffic calming device. It also produces continually moving traffic, and its counterpart, a traffic signal control device, requires stop-and-go signal phasing interruptions, by its design purpose, as well as allowing other interruptions of pedestrian crossings.

The biggest benefit of the roundabout in the system, is in the reduction of delay. The network saves 213 seconds (or over 3.5 minutes) overall in NB traffic movement/circulation; and 96 seconds (or over 1.6 minutes) overall in SB traffic movement/circulation.



WITHOUT ROUNDABOUT (SEC.)/[MIN.]

	FREE FLOW	INTERSECTION DELAY	TOTAL TRAVEL TIME
NB	85/1.4	302/5.0	387/6.5
SB	85/1.4	104/1.7	189/3.0

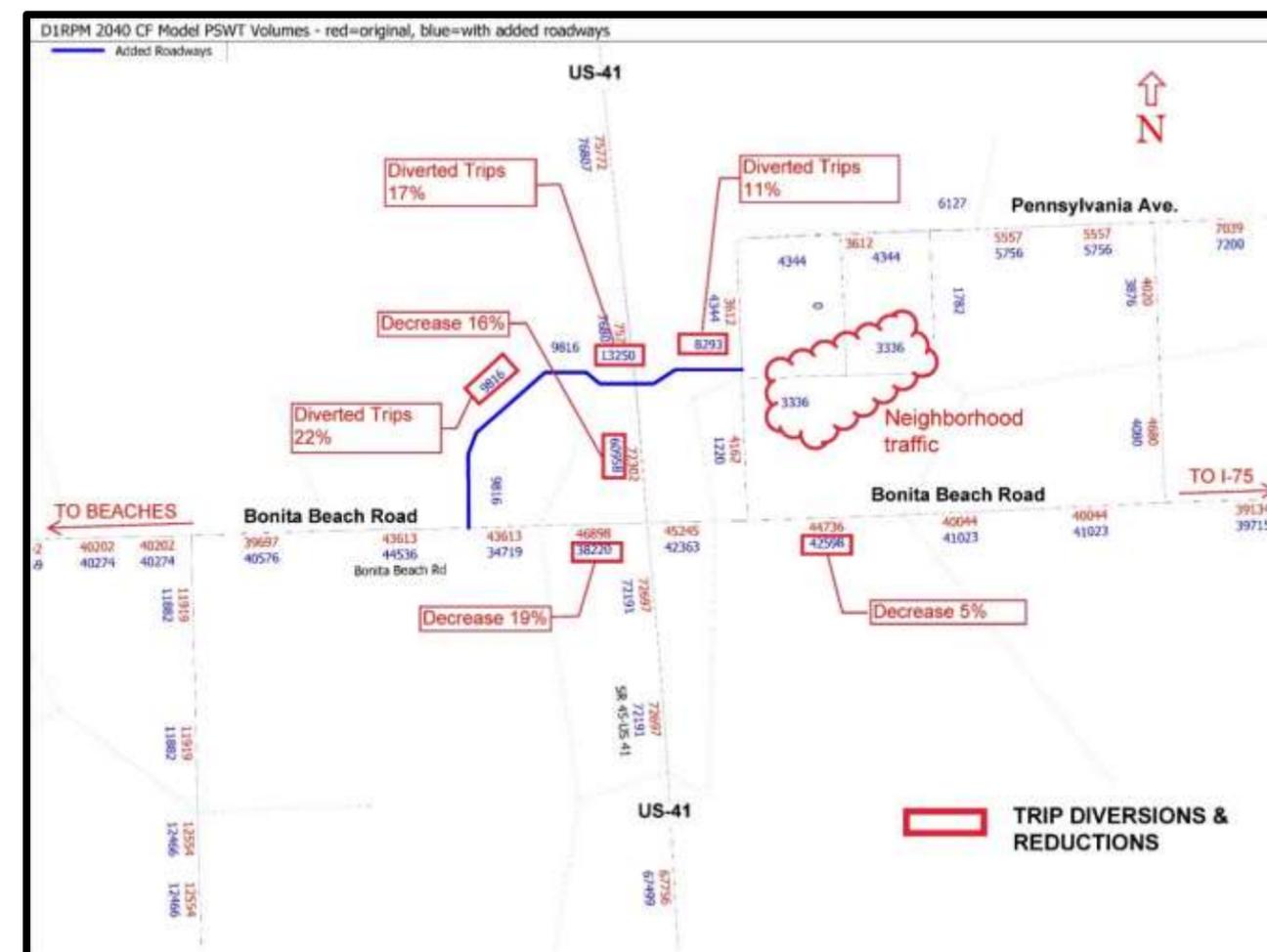
WITH ROUNDABOUT (SEC.)/[MIN.]

	FREE FLOW	INTERSECTION DELAY	TOTAL TRAVEL TIME
NB	107 (+22)/1.8	89 (-213)/1.5	196 (-191)/3.3
SB	107 (+22)/1.8	8 (-96)/0.1	115 (-74)/1.9

Traffic Evaluations > Modelling

To further enhance the analysis, the City coordinated with the Lee County MPO. The MPO was provided all of the data from the study, thus far, and used the Florida Standard Urban Transportation Modelling Structure, or FSUTMS, and the interactive modelling tool of CUBE, and performed an analysis on the network. The MPO utilized the northern-half alignment, of NW-3 & NE-3/Windsor Road Extension, and calibrated the other “friction” factors into the model, such as, but not limited to: number of travel lanes (and widths with curb); curvilinear alignment information; roundabout; and traffic signal control. The model also projected traffic growth, and calibrated it, as well, since the location of the project analysis is close to the County Line between Lee and Collier Counties, to consider the 2040 Cost Feasible Transportation Model.

In doing this the 2014 traffic data, as provided from FDOT, had Average Daily Traffic (ADT) volumes of 45,000 ADT, along US-41, and 30,000 ADT, along Bonita Beach Road. The 2040 Model analysis considered the corresponding volumes: 76,000 ADT for US-41; and 45,000 ADT for Bonita Beach Road. From the previous facts of Level of Service (LOS) , a 6-lane divided highway can adequately carry 59,900 ADT. In the 2040 Model Analysis, US-41 is beyond a level of service D capacity, and approaches an LOS F. Whereas, a 4-lane divided highway, by LOS standards, can adequately carry 32,400 ADT. In the 2040 Model Analysis, Bonita Beach Road, is also beyond capacity of level of service D, and is approaching LOS F.



In summary from the 2040 Model Analysis, as prepared by the MPO, the “new” and expanded network, diverts 9,816 trips from Bonita Beach Road (in the northbound direction); 13,250 trips from US-41; and processes 8,293 trips across the US-41 corridor to the east, to utilize the NE-3 alignment connection, which traffic from this point, either travels to Pennsylvania Avenue, or down Arroyal Road to Bonita Beach Road, east toward access Interstate 75. It further minimizes neighborhood cut-thru traffic east of the Arroyal Road corridor. The graphic at the right, is a snapshot from the FSUTMS/CUBE model output, and illustrates the trip diversions/percentages, and total volumes along the corridors. Taking a closer look at the volumes of the two (2) major roadways: US-41 and Bonita Beach Road, and along the immediate roadway segments near the vicinity of the “new” expanded network the volumes remaining, following the diversionary trips leave: 60,958/72,191 ADT on US-41, north and south of Bonita Beach Road. And for Bonita Beach Road: 38,220/42,363 ADT, west and east of US-41. The model shows that with the expanded network in place at the intersection of US-41/Bonita Beach Road, would maintain a level of service very close to LOS D, from 2014 ADT volumes [59,900 ADT/US-41; and 32,400 ADT/Bonita Beach Road] thru 2040 ADT volumes. Thus, demonstrating that over a quarter century growth period, the expanded network serves a valuable purpose, both locally for the City and users of Bonita Springs, but also from a regional perspective considering US-41, serves to provide access to the bordering county of Collier, and also access to the FDOT’s State Strategic Intermodal System (SIS), with close proximity to Interstate 75, utilizing Bonita Beach Road to access that system.

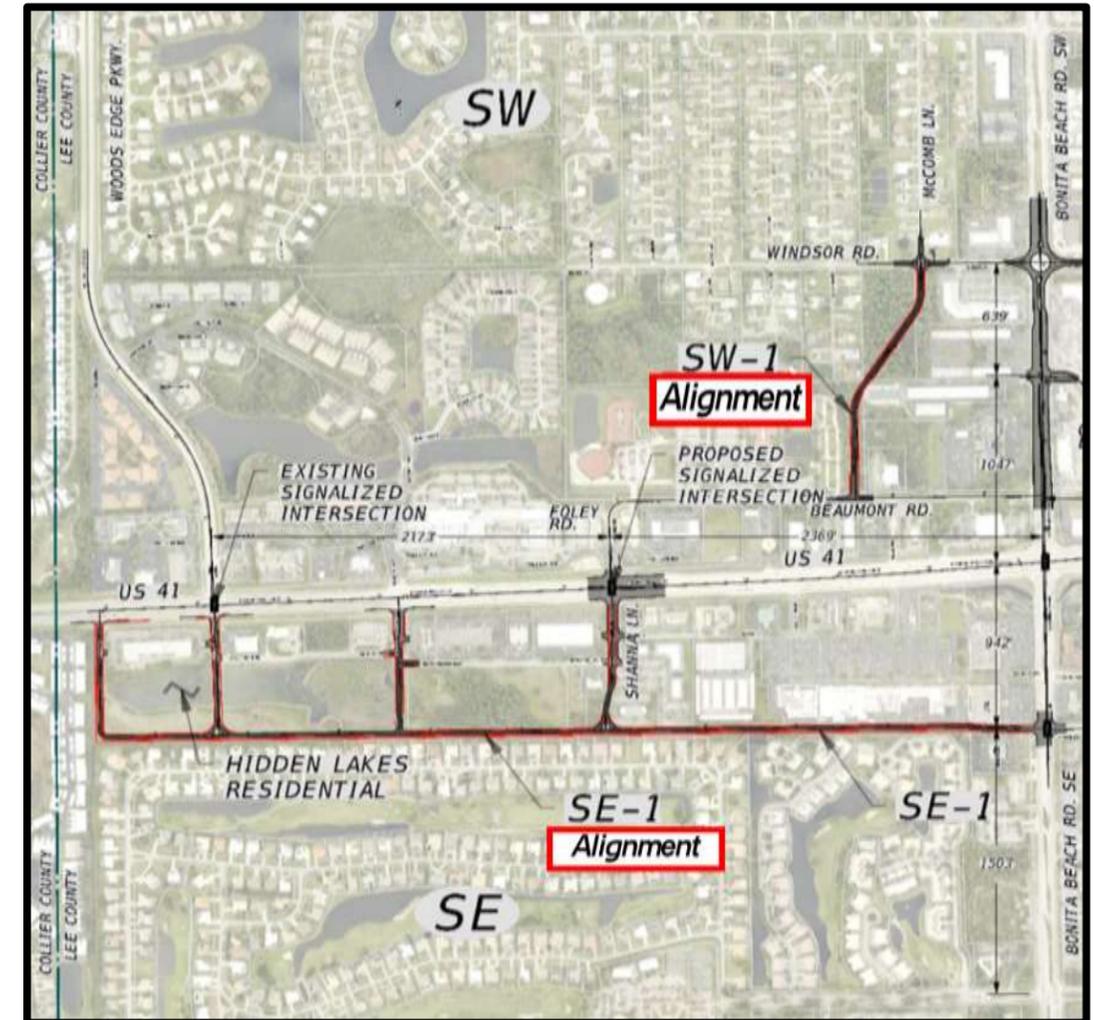
8.0 Alternative Alignment Summary

Southern-Half

This section of the report summarizes the various alternatives of each of the four (4) quadrants, and provides briefs comparisons; issues to be further addressed; and benefits, as follows:

- SE-1 Alignment (Bonita Beach Road to US-41)
 - Narrow Corridor/right-of-way behind shopping center (utilizes existing Utility Easement)
 - Difficult to achieve Complete Streets features
 - Need to provide for separation with through network roadway and truck traffic of the shopping center (all shipping/receiving in rear)
 - Requires proposed signalized location on US-41 at Shanna Lane
 - Need to further coordinate with Hidden Lakes Development in southerly portion

- SW-1 Alignment (Windsor Road to Beaumont Road)
 - Does NOT provide adequate connectivity, as a link to US-41
 - Requires circuitous route on Beaumont Road to Foley Road with proposed signalized location on US-41 (opposite Shanna Lane)
 - Narrow corridor/right-of-way; and property impacts
 - Requires rear access from 1 property to permit left-turns out onto US-41, West
 - Proposing a small roundabout on Windsor Road and McComb Lane



Northern-Half

- Third iteration of NW Quadrant Alignments
 - NW-3/Windsor Road Extension Alignment (Bonita Beach Road to US-41)
 - Roundabout at Bonita Beach Road provides desired efficiency over the network, versus a signal controlled intersection.
 - Alignment traverses undeveloped property; Requires coordination with Angler's Paradise MCP
 - Eliminates existing signalized location at Bonita Beach Road/shopping center
 - Provides improved traffic flow for shopping center at north end, with separation of conflicts with through traffic of shopping center, and internal traffic/parking; and truck/shipping and receiving traffic
 - Improved approach to existing signalized location at US-41



- Third iteration of NE Quadrant Alignments
 - NE-3/Windsor Road extension alignment (Arroyal Road to US-41)
 - Consistent with City's Comprehensive Plan to extend a corridor to US-41, in vicinity of Carolina Street
 - Provide for a Split-Intersection with existing signalized location at US-41
 - Modify access for businesses along US-41; provides rear access for ingress and egress, and left-turns out of business properties to US-41
 - Provide a southerly extension to Crown Lake Boulevard
 - Provide a roundabout at Arroyal Road

9.0 Planning Level Cost Estimates

- McMahon developed a planning level cost estimate based on the alternative horizontal alignments analyzed for this study. Each of these alignments are based on two-lane urban collector road characteristics, and with application of Complete Streets. The costs include modifications to the existing intersections, signal improvements and other factors. It also includes the multi-use path in most of the sections where there are no right-of-way restrictions. The table below summarizes the costs for each alternative.
- The planning level construction cost estimate was developed using itemized quantities from plan sheet take offs, as well as percentages and lump sum items where itemized quantities are not available. Unit costs are based on historic FDOT bid prices for similar contracted construction work.
- Itemized quantities from plan sheet take-offs were used for items such as excavation/borrow of earth fill, new roadway pavement, new curb & gutter, barriers, and intersection reconstruction. Percentage costs based on industry standards were used for items such as preliminary construction, drainage, and landscaping. Lump sum items include storm water management, utility modifications, and signing and pavement marking. A specific percent of contingency factor was also included to account for the conceptual/planning level of detail of these concept alignments, as well as for any unknown or unforeseen site conditions and changes to the plans. Should this alignment or any other alignment layouts be considered for further study or construction, a detailed construction cost estimate based on detailed planning and refined design, updated survey information, utility information, and comprehensive FDOT Greenbook and AASHTO standards is recommended.
- Cost for right-of-way utilizing fair market values (plus a 10% contingency) has been included in the estimate as the proposed alignment is outside of City, County or FDOT right-of-way. Percentage factors were used for other industry standards such as Engineering and Construction Inspection. Please refer to the Appendix for a more detailed cost estimate breakdown.

Alignment	Total segment length	Number of Intersection improvements	Number of minor intersection improvements	Number of mini roundabouts	Number of avg. roundabouts	Number of major roundabouts	Pond Area (Acre)	Bridge section length	Bridge surface area (SF)	Roadway section length	Aux. Roadway length	Roadway Construction Cost
SW-1	1370		1		1					1370	87	\$2,253,819.65
SE-1	7272	2	8	2				272	6528	7000		\$9,560,099.27
NE-3	854	1	2		1		3.473			854	1005	\$2,831,482.10
NW-3	2395	1	4	0				150	3600	2245		\$3,099,229.06
BBR	431	1				1				431		\$2,165,190.69

Alignment	MOT (12%)	Mobilization (10%)	Subtotal	Scope Contingency (20%)	Total Construction Cost	PE Design (15%)	CEI (15%)	Total Project Cost (Except R/W & Utility)	Utility Relocation Cost	Right of Way Aqu. Cost	Wetland Mitigation	Total Project Cost
SW-1	\$270,458	\$225,382	\$2,749,660	\$549,932	\$3,299,592	\$494,939	\$494,939	\$4,289,470	\$2,367	\$207,080	\$64,128	\$4,563,045
SE-1	\$1,147,212	\$956,010	\$11,663,321	\$2,332,664	\$13,995,985	\$2,099,398	\$2,099,398	\$18,194,781	\$86,979	\$41,610	\$41,610	\$18,364,980
NE-3	\$339,778	\$283,148	\$3,454,408	\$690,882	\$4,145,290	\$621,793	\$621,793	\$5,388,877	\$9,470	\$491,505		\$5,889,851
NW-3	\$371,907	\$309,923	\$3,781,059	\$756,212	\$4,537,271	\$680,591	\$680,591	\$5,898,453	\$15,009	\$267,375	\$10,350	\$6,191,187
BBR	\$259,823	\$216,519	\$2,641,533	\$528,307	\$3,169,839	\$475,476	\$475,476	\$4,120,791	\$37,879			\$4,158,670

10.0 Recommendations

The culmination of the Network Enhanced Alignment Study "Quadrant Plan" was presented to the City Council of the City of Bonita Springs, in a Workshop, on March 15, 2017. The study was presented utilizing a Power Point, which is provided in the appendices of this report, and included the various iterations that were analyzed over each of the four (4) quadrants. As the study progressed, it became clearer that the southerly portions basically remained the same from previous work and demonstrated very little need to modify their features. The only quadrant in the south that had further study and refinement was SW-1, where consideration was given to modify, and provide an improved access for an impacted commercial storage facility business.

The primary focus of the study quickly centered around the northern-half where options were evaluated, and extensive coordination progressed with the governing agencies. Also, additional analyses were performed from a traffic perspective, which led to modelling, studies of roundabouts, multiple intersection configurations, and right-of-way options. Multiple comparisons were also examined against the environmental data that was available.

As a result, all of the information was presented at the Workshop, providing the City Council with the direction to address the Quadrant Plan at the regularly scheduled Council meeting of March 15, 2017, that followed the Workshop. In conclusion, the City adopted the Quadrant Plan Maps, as a *Planning Tool*. At the direction of the City Attorney, they were provided an approach, which afforded them more flexibility to take advantage of the plan, and to work in tandem with the concurrent aspects of their Land Use and Transportation Planning elements. The elements of their Land Use plan required this updating and realignment, to match with this herein Quadrant Plan work, and for the City to gather the required public and agency comments. This work and plan can provide the City with a prioritized direction in the future, to further analyze and design the Northern Half of the Quadrant Plan.

BONITA SPRINGS CITY COUNCIL		GREEN SHEET:	17-05-0101
AGENDA ITEM SUMMARY			
REQUESTED NOTION: Accept and adopt the Quadrant Plan Maps from McMahon & Associates			
MEETING DATE: March 15, 2017			
AGENDA:	REQUIREMENT PURPOSE (Specify)	REQUESTOR OF INFORMATION:	
1. PUBLIC HEARING	Ordinance	Muel Peanny Public Works Director	
2. CITY COUNCIL	Action Code		
3. CITY MANAGER	Other		
BACKGROUND:			
April 20, 2016 - City Council retained McMahon & Associates to develop all grade additional roadway network alignments for US 41 and Bonita Beach Road Intersection. This study is known as the Quadrant Plan.			
April 2016 - March 2017 - McMahon & Associates developed four roadway alignments, one in each quadrant of the US 41 and Bonita Beach Road intersection. Existing and future traffic patterns were evaluated and reviewed. Many factors were considered in this evaluation related to the ultimate alignment corridor. Feedback from affected residents and property owners were considered. Alignments were modeled to provide the most effective relief of traffic, given existing development, natural environment and roadway functionality, along with resident and property owners and transportation agency concerns.			
Throughout the course of the year, McMahon and City staff met with representatives from Lee County Department of Transportation, Lee County Metropolitan Planning Organization, and Florida Department of Transportation to discuss modeling and design considerations.			
The plan provides a future road map that helps alleviate traffic congestion in the US 41 and Bonita Beach Road intersection.			
ATTACHMENTS: Attachment A and Attachment B			
IS THIS RELATED TO A STRATEGIC PLAN OBJECTIVE? X YES <input type="checkbox"/> NO			
IF YES, WHICH STRATEGIC OBJECTIVE? # 1			
STAFF RECOMMENDATIONS: Accept and adopt the Quadrant Plan Maps			
REVIEWED BY:			
City Manager:			
City Attorney:			
City Clerk:			
Department Director:			
COUNCIL ACTION:			
<input type="checkbox"/> APPROVED			
<input type="checkbox"/> DENIED			
<input type="checkbox"/> DEFERRED			
<input type="checkbox"/> OTHER			

