# **VILLAGE OF RIVER FOREST**

# APPLICATION FOR PLANNED DEVELOPMENT



**Bonnie Brae Homes** 

# **APPLICANT**

BONNIE BRAE CONSTRUCTION, LLC. 3528 Walnut Ave. Wilmette, Illinois 60091 847-401-2642 artg1234@hotmail.com

# VILLAGE OF RIVER FOREST PLANNED DEVELOPMENT APPLICATION

1101-1111 Bonnie Brae Place

February 7, 2020

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Tab 1

# INTRODUCTION AND EXECUTIVE SUMMARY APPLICANT INFORMATION

# Introduction and Executive Summary

Bonnie Brae Construction, LLC. is pleased to present its new townhomes development to be located at 1101 -1111 Bonnie Brae Place.

The property is currently improved with a 34 car parking lot, 2 garage buildings for 9 cars, and a 3 story, 6 unit apartment building.

The parking lot is currently used by the residents from the neighboring apartment building. The apartment building is mostly occupied by Concordia University students under annual leases.

Under the proposed plan, the developer will demolish the apartment building and construct 4 new, 3 story townhome buildings on combined parcel.

The 2 buildings fronting on Bonnie Brae Place will consist of 3 units each, with a landscaped space between them. The interior building will consist of 7 units and the building backing up to the alley will consist of 6 units for a total of 19 townhome units in the proposed development.

Parking will be provided at a rate of 2 parking spaces per a townhome. The proposed site plan provides an additional parking for 4 guests.

The new buildings will be constructed using brick masonry with lime stone details. Other prominent features will include oversize windows, 9 foot ceilings, roof top decks, balconies, premium interior finishes, hardwood floors throughout, natural stone or porcelain bathrooms with heated floors, custom cabinetry and natural stone countertops, commercial grade stainless steel appliances, and many other luxury features. Each townhome will have approximately 2,000 square feet of living space on 3 levels and a 2 car garage at grade level.

The design of the building is consistent with high quality architecture of the Village of River Forest - specifically some of the masonry buildings on the Concordia Campus. The design will add to the character of the neighborhood.

### **APPLICANT INFORMATION**

Property Owner Applicant Development Entity: Bonnie Brae Construction, LLC 3528 Walnut Ave. Wilmette, Illinois 60091

# Principals: Art Gurevich and Marko Boldun

Over the last 20 years, Mr. Mark Boldun and Mr. Art Gurevich built several dozen projects varying in size from custom single family homes to many mid-size (6-13) unit elevator buildings, to several townhome development (15-18 units). Mr. Mark Boldun and Mr. Art Gurevich buildings received 2 awards: The New Construction Award from the Chicago Commission on Landmarks (4510 S. Greenwood and 4512 S. Greenwood) and The Good Neighbor Award from the Chicago Association of Realtors (4115 S. Drexel Blvd.). Current projects consist of an 15 townhomes in Palatine, 10 townhomes in Chicago, 6 single family homes in Chicago, 14 unit residential condominium in Oak Park at 717 South Blvd., a single family home in Glenview, 6 unit residential condominium in Chicago at 1218 W. Belmont. There are also several projects in a design stage in Chicago and suburbs. Mr. Mark Boldun and Mr. Art Gurevich are involved in every phase of the project development, from acquisition of land, to working with an architect on concept development and layouts optimization, to planning and zoning issues, to building permits, construction, inspections, certificates of occupancy, and legal issues related to units closings. Mr. Mark Boldun and Mr. Art Gurevich have excellent working relationship with the City of Chicago Aldermen in the wards where they have their projects -Toni Preckwinkle, former Alderman of 4<sup>th</sup> Ward (now Chairman of the Cook County Board); and Alderman Tom Tunney, 44<sup>rd</sup> Ward (Lake View). We also enjoy excellent working relationship with the City of Chicago Department of Planning and the City of Chicago Building Department. Mr. Mark Boldun and Mr. Art Gurevich have an unblemished reputation with all of these agencies and have never been involved in a law suit in relation to their product.

During the last recession, Mr. Boldun and Mr. Gurevich acquired many foreclosed distressed projects from area banks and successfully brought them to completion and sale.

Mr. Gurevich and Mr. Boldun have financial, technical and management wherewithal to successfully complete the proposed development at 1101 – 1111 Bonnie Brae Place in River Forest.

**Mr. Marko Boldun, BSCE.** Mr. Boldun is career construction industry professional, with more than 40 years of experience encompassing all phases of construction. After graduating from the Ukrainian Institute of Construction Engineering with a degree in Civil Engineering, he rose through the ranks in one of the largest state owned construction companies in Ukraine, from the Project Superintendent to Chief Engineer to 10 years as the Assistant General Director. The 1,500 employee company was one of the largest residential builders in Ukraine, with annual production of 1,100,000 square feet of living space.

**Mr. Art Gurevich, BSCE, MBA.** Mr. Gurevich is a career construction industry professional, with more than 30 years of experience encompassing all phases of construction. After Graduating from the Illinois Institute of Technology with a degree in Civil Engineering, Mr. Gurevich worked as a Structural Designer for one of the leading nuclear power station design firms and attended a Graduate Management School at the University of Illinois. After receiving his MBA, Mr. Gurevich worked as a Supervisor of Inspectional Services for the Village of Hanover Park, Illinois, and later, for almost 9 years, as a Building Commissioner for the Village of Vernon Hills, Illinois. In this position, Mr. Gurevich, with a staff of 10, oversaw all phases of the planning, zoning and building function of the Village of Vernon Hills, with over 200 million dollars annual construction volume. Since 1999, Mr. Gurevich has been developing residential projects with Mr. Boldun in the City of Chicago and neighboring suburbs.

# Gurevich + Boldun Development Projects

Mr. Art Gurevich and Mr. Mark Boldun have developed more than 80 construction developments in the Chicago area in the past 20 years. A complete list and description of these projects is available upon request.



Commercial *About* Contact

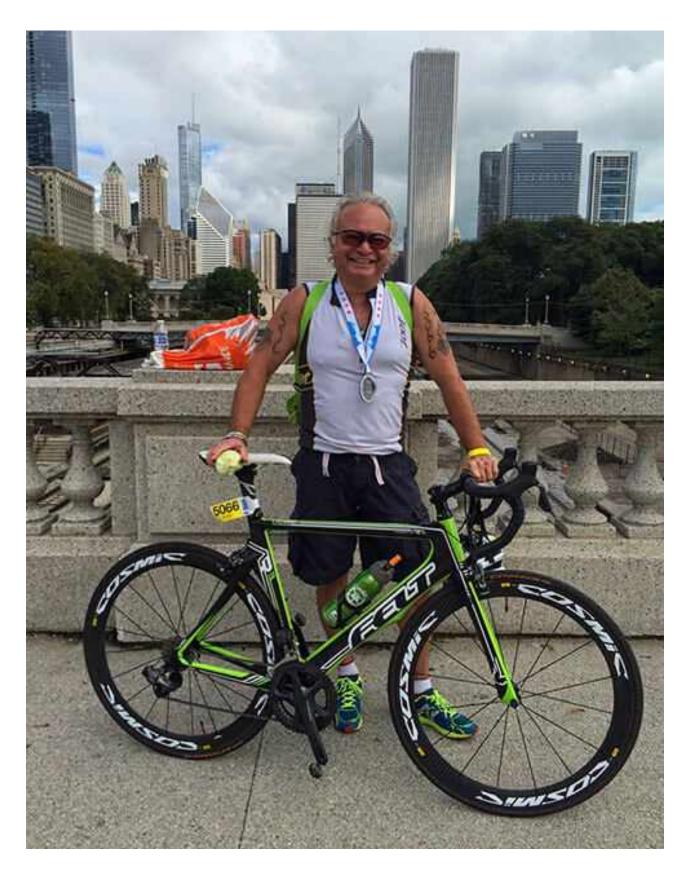
# **About JCSA**





JCSA is a full service architectural design firm, bringing a wealth of varied qualifications and experiences to every project taken on. The firm offers a unique blend of architectural design plus the proven ability to ensure development clients realize their project visions. In addition to years of design excellence, including award–winning designs, JCSA has over 20 years of success in helping their clients gain necessary governmental approvals such as discretionary permits, historic preservation certificates and land use entitlements.

JCSA specializes in a collaborative approach that includes working with neighborhood groups, municipal staff, and policy makers to build consensus and turn project visions into reality.



John Conrad Schiess, president of JCSA, is licensed to practice

architecture in both California and Illinois, and is also a LEED Accredited Professional. He is fluent in both English and Spanish, his native language. Over the years he has served on numerous community advisory commissions in Oak Park, Illinois, a Chicago suburb, including the Historic Preservation Commission. John also taught architecture for 10 years at a local Chicago area community college.

Triathlon training and competition brings joy to John's life. He is an accomplished Triathlete having successfully competed in 20 triathlons in Chicago, Wisconsin, Montana, California and London since 2011.

John Conrad Schiess Architect also designs energy efficient and sustainable homes for MiGreen Home Corporation. Visit www.migreenhome.com to see exciting single family home designs.

# Press

"Schiess' style has been one of the more successful in Oak Park and should in many ways be viewed as a model".

A Planning Process That Works The Wednesday Journal

"This development (presented by JCSA) shows the exact creativity that the Plan Development Ordinance calls for." Gail Moran, Plan Commissioner, Village of Oak Park Record of Public Hearing *Plan Commission 2015* 

# "The work of Oak Park Architect John Schiess ... points to a world that is changing rapidly".

A House Without Studs The Wednesday Journal

> john conrad schiess architect, ltd. 2019 Website and video by Textbook Productions







#### **Environmental Expertise**

We at Greengard, Inc. believe in conservation of our natural resources with the integration of the terrain, lowland wetlands, upland savannahs, woodlands, waterways and vistas, thus creating developed sites that have increased land value, by providing a sense of maturity and place.

#### **Client Communication**

Approaching every client relationship as a partner, is the philosophy of Greengard, Inc. We know that our clients are our most valuable resource and communication is the key to successful projects. Through our daily communications with e-mails and phone calls, we keep our clients "in the loop", updating project status on a regular basis. To enter the global communication era of 24/7 access, our clients each have their own secure username and password to our website, where they can download their most recent drawings, invoices, permit letters or any other correspondence at their convenience.

#### Governmental Relationships - Teamwork

Being in business since 1952, Greengard, Inc. has over 55 years of service in the Chicagoland area. This has enabled us to establish very close relationships with many of the governmental agencies. With these established relationships, we have been able to work with them as a team to maintain a win/win situation for our client and the village, city or township, which expedites the permit and approval process.

#### Leading Technology

Greengard, Inc. ensures that we are using the most recent technology available to the Engineering and Surveying field. Our engineers and technicians use the most current version of AutoCad Civil 3D for design software and our field crews are equipped with the latest technology of GPS and Robotic Equipment. By investing in technology, Greengard, Inc. will continue to provide accurate and timely solutions, helping to meet our client's needs and financial goals.

#### Strategic Alliances

By making use of our strategic alliances, Greengard, Inc. has the ability to provide services of a larger firm, while at the same time giving the personal attention that a client gets from a smaller firm. We have established relationships with the most qualified firms in the Chicagoland area that share our vision. We assemble, coordinate and lead the development team to provide our clients the expertise required for a successful project. These specialties include, tree inventories, wetland delineations, floodplain analysis and topographic surveys, which we use to assess the property's natural resource value.

#### **Financial Goals**

Greengard, Inc. realizes that one of the most important concerns from our client is the bottom line; (i.e. what the project is going to cost). When designing our sites, sound engineering and planning concepts integrated with the natural landscape and topography saves significant construction dollars by minimizing earthwork, pipe installation and landscape screening costs.



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GREENGARD

# Build for the Future.

Greengard, Inc. was founded in 1952 in Highland Park by engineer Charles W. Greengard and was incorporated in 1964.

Under his direction, Greengard was one of the first engineering firms to venture out from the city and work directly with municipalities and private clients.

In 1980 Don Fielding became President of the firm. He went on to purchase the firm from Charles Greengard upon his retirement. Many of Greengard, Inc.'s employees have had a long tenure with the company and have come to specialize in specific areas of land development.

Through the years, Greengard, Inc. has represented many Lake County municipalities, but for the past 20 years has made its primary focus private residential, commercial, and industrial land development. Along the way, the firm has been deeply involved in the changing growth patterns of the north suburban Chicago metropolitan area, and is well known to many suburban municipalities.

Greengard, Inc. has developed into a highly personalized, progressive organization, well-qualified to handle engineering projects of any size or scope. Please contact us to find out how Greengard can help you realize the full potential of your project.







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# From the ground up.

Greengard, Inc, offers a broad spectrum of services ranging from initial site feasibility assessment to permitting to construction services. We offer each client prompt, personal attention, a wide range of professional services, the best possible engineering solutions, and the most cost-effective materials for construction and maintenance.

For many clients, Greengard is actively involved during the municipal approval process, expediting the many permits required. We also specialize in environmentally sensitive problem-solving.

We encourage the "team approach" to problem solving and the firm is often the lead professional of the development team. We often work in conjunction with several strategic alliances, expanding our array of services to suit any engineering project.

### Site Engineering

Planning and Zoning Feasibility Studies Subdivision Design Resource Preservation Drainage and Flood Control Water-Wastewater Highway Geometrics

### Land Surveying

ALTA Surveys Boundary Surveys Topographic Surveys Tree Surveys Utility Surveys Subdivision Plats Condo Surveys Building Layout

- Construction Permitting Administration Bidding Layout
- Infill Development Boundary Surveys Site Topographies Site Development Plans Permitting House Line Surveys -Construction Layout -Spot Surveys -Final Surveys

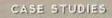




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# Success stories.

Every project is a new journey. Every parcel of land has its own challenges and opportunities. The unique organization of Greengard, including our strategic alliances, allows us to tackle diverse projects with extraordinary demands. Below are several examples of these ideas in action.



### Tetra Pak, Vernon Hills, IL

In a densely wooded site, this two-story office building with its allglass exterior was designed to preserve the natural landscape so that the tenants feel that they are surrounded by the woods.



### Liberty Lakes, Wauconda, IL

Liberty Lakes is an 800 unit development that preserves all of the environmentally-sensitive wetlands and creates additional wetlands to store and treat the storm water run-off.



#### City Park, Lincolnshire, IL

City Park is a 50 Acre mixed use facility consisting of a 20 screen theater, three story office building with structured parking, hotel, two free-standing restaurants, storage facility and commercial strip mall.



#### Renaissance.com House, Vernon Hills, IL

This classically styled brick, limestone, and simulated limestone house embraces the natural resources of the parcel, preserving the vistas upon a heavily wooded ravine.



#### Middlefork Farm, Lake Forest, IL

Middlefork Parm is a 200 acre historical farm that was subdivided into 74 lots, leaving 140 acres in active open space and preserving flood plains, a bur oak savanna, and restored prairies and wetlands.



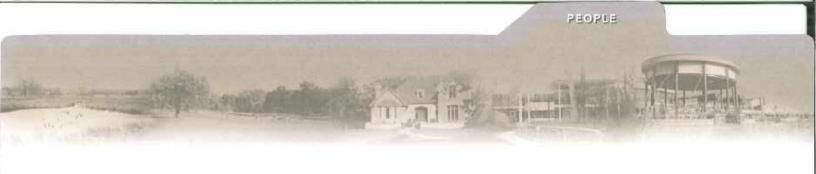


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# Our people. Your success.

We will assemble a team for your project from a well-stocked list of experts in their field. Following are a few of the key people that make Greengard, Inc. work.







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### Don Fielding, P.E. – President Managing Partner

Don Fielding, President of Greengard, Inc. is a civil engineering graduate of Bradley University class of 1965. He came to Greengard, Inc. in 1970 after spending 5 years with Caterpillar Tractor Company, where he acted as the Northeastern regional sales and service representative, calling on 7 dealers and 27 stores.

He purchased Greengard, Inc. from Charles Greengard in 1981 with his partner John Boden and became president. He changed the focus of the company to concentrate on private clients by phasing out the four municipal accounts. He grew the organization from a staff of 9 to 21, which includes 6 Professional Engineers, 3 Professional Land Surveyors and 2 Graduate Engineers. In 1998 he added a full service surveying department to the company's pallet, which has grown to 4 field crews with office supports. In 2006 he took on 3 partners, all employees of Greengard, Inc who have risen through the ranks.

He has spent 39 years in consulting engineering, representing private interest in the building industry. He participates in many professional societies and associations, including a lifetime director of the Lake County Homebuilders Association. He is a national speaker on environmental sensitive land developments and has had numerous award winning developments.

His passion is his work. He prides himself in helping his clients and employees create designs that provide value by building to the land; not on the land.

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### Joe Sadoski, PLS Land Survey Manager

Joe has been with Greengard, Inc. for over 3 years supervising Greengard's Surveying department. With an associate's degree in civil technology from the Morrison Institute of Technology, Joe has been working in the land surveying field for more than 23 years, 15 of those years in a management position. He began his career with a small survey firm, where he learned the basic skills needed to further his career. Soon after, he moved to a larger engineering and land surveying firm. Where his knowledge of Land Surveying continued to grow, he was soon in charge of surveying large projects in the residential, commercial, and medical fields, both public and private. His typical experience includes shopping centers office and industrial buildings, residential subdivisions, custom homes, highways, topographic surveys to ALTA Land Title Surveys.

Since Joe has been with Greengard, Inc. he has been integral in keeping the company's field and office equipment on the cutting edge of technology with usage of robotic total stations, GPS receivers and AutoCad 3D Software. He is active in the Illinois Professional Land Surveyors Association and currently holds licenses in both Illinois and Wisconsin.



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### Douglas White, P.E., DECI Project Manager

Douglas White, Project Engineer has been with Greengard, Inc. for 2 years. Douglas graduated with a Bachelor of Science from the University of Illinois at Chicago in 2001. He has been working within the Civil Engineering field since 1990. He started his career on construction staking and surveying crews during the summer months through high school and the start of college.

During the later portion of his collegiate studies, Douglas began working for a Civil Engineering firm in Chicago. There he participated in over fifty connections between the Chicago Freight Tunnel System and street level Telecommunication infrastructure within the Chicago Central Business District. Duties included the layout and monitoring of the drilling apparatus during construction to ensure a proper bore location within the freight tunnel system. There are over 55 miles of freight tunnel below the Central Business District and Douglas walked every mile countless times while performing as-constructed measurements for fiber routing within the freight tunnel system.

After graduation, Douglas began working for a Civil Engineering and Surveying firm within the southwest suburbs specializing in municipal, residential, and commercial development. He began learning the design processes for traditional site development and infrastructure in McHenry, Lake, Cook, DuPage, Kane, Kendall, Will, Kankakee, and Iroquois Counties. The design firm also acted as the Civil Engineer for the Villages of Justice, Bedford Park, Bridgeview, and Willow Springs. One particular development in the south suburbs of Chicago required permitting through the Cook County Highway Department and the Illinois Department of Transportation, while requiring plan coordination between three Engineering firms and two Villages for an off-site detention pond.

Site development including wetland style detention ponds, rain gardens, bio-swales and infiltration basins to ensure groundwater recharge are becoming the norm. Douglas has fully embraced the "Green" design concept as Greengard Inc. is forward thinking in this regard.

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# Partner with the best.

At Greengard, we understand that every challenge is unique, and that every solution should be unique as well. After carefully considering the demands of a job, we assemble a team with the talents best suited to it. To maintain a knowledge resource both broad and deep, we partner with those at the top of their highly specialized fields. Listed below are several of our valued strategic partners:

Wetland Delineation and Mitigation: Hey and Associates (www.heyassoc.com)

Tree Inventory, Evaluation, and Preservation: Urban Forest Management

Environmental Planning / Landscape Architecture: Stephen Christy (schristy@lfola.org)

Forest Restoration and Rehabilitation: The Care of Trees (www.thecareoftrees.com)

Tree Transplanting: Gro Horticultural Enterprises, Inc. (www.grohort.com)

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# AvenueOne

### Marketing and Sales

AvenueOne is committed to providing a positive real estate experience for our clients, associates, and the community. We provide superior service through professional guidance and client tailoring.

The combined experience of our brokers and marketing team paired with inventive strategies and pricing structures provide our clients with the necessary advantages to succeed in today's real estate market.

Our core values are the fundamental drive of our business, energy, creativity and innovation surpassing the industry standards.

Over the past two decades AvenueOne has been consult and marketing team to many of the areas most noted developments. From single family homes to large scale developments AvenueOne is a trusted development partner from ideation to close and beyond.

energy creativity and innovation in home sales

# DEVELOPMENT

Mariano Mollo Managing Broker **Stephanie Mack** Broker Riley Mockler Broker

AvenueOne | av1realty.com | Forest Park | 7415 Madison Street Forest Park IL, 60130 | 773 622 4663

# EXHIBIT H

**GEWALT HAMILTON ASSOCIATES, INC.** is a multidisciplinary civil engineering and surveying firm. Founded in 1981 in a small home office, the firm began with two engineers – Dave Gewalt and Bob Hamilton – driven to deliver service that exceeded clients' expectations. Through decades of diversification and growth, we have continuously provided an increasing array of professional services to municipalities, educational institutions, recreation districts, transportation agencies, healthcare institutions, and commercial developers. Today, Gewalt Hamilton is a multi-disciplinary organization providing comprehensive services in the fields of Civil Engineering, Land Surveying, Construction Engineering, Traffic Engineering and Transportation Planning, Traffic Data Collection, and Environmental Consulting.

### TRANSPORTATION

At Gewalt Hamilton, we understand the inseparable link between transportation and land use. No matter the project – a site, corridor, community or region – we will plan and design a livable, buildable and cost-conscious



transportation system that considers all modes of travel, as well as the physical and aesthetic impacts of the surrounding environment. Our years of experience working with public agencies and reviewing plans on their behalf, gives us an unparalleled perspective to the services we provide our clients.

Our firm is pre-qualified with IDOT in the following categories:

- Highways Roads & Streets
- Hydraulic Reports Waterways Complex
- Hydraulic Reports Waterways Typical
- Location Design Studies Reconstruction/Major Rehabilitation
- Location Design Studies Rehabilitation
- Special Services Electrical Engineering
- Special Services Construction Inspection
- Special Services Sanitary
- Special Services Surveying
- Special Studies Feasibility
- Special Studies Location Drainage
- Special Studies Safety
- Special Studies Signal Coordination & Timing (SCAT)
- Special Studies Traffic Signals
- Special Studies Traffic Studies

### SURVEY

Gewalt Hamilton offers professional land surveying services to meet the demands of businesses, developers, law firms, architects, engineers and contractors. Our surveying team utilizes state-of-the-art equipment, including Global Positioning Systems (GPS), Robotic Total Stations, and High Definition Scanning (HDS) for the most efficient and cost-effective systems for delivering timely, accurate results. Our computer-aided operators enjoy the benefit of utilizing high performance workstations running a vast array of software packages including the latest version of Autodesk and Microstation products for post process of field data. Gewalt Hamilton is a member of the Illinois Society of Professional Land Surveyors.

We are continuously expanding our surveying operations to include a diverse spectrum of services employing the latest technological advances.



### SIGNAL COORDINATION & TIMING

Using system review, optimization, implementation, and field refinement, Gewalt Hamilton performs timely, cost-effective reviews of intersection operations in all traffic signal platforms, helping re-



duce delays, emissions, and energy costs. We offer monitoring of traffic signal operations and maintenance; temporary and permanent traffic signal coordination, timing, and optimization; transit signal priority; adaptive control strategies, and railroad interconnect studies.

### DATA COLLECTION

Gewalt Hamilton provides a wide range of traffic data collection services to clients throughout the United States, including volume and classification counts, turning movement counts, speed and congestion studies, origin-destina-



tion and travel time studies, and parking counts. With nearly 20 years of experience collecting traffic and parking data, Gewalt Hamilton has one of the largest inventories of road tubes, plate counters, and video collection units in the country – we have the equipment and trained technical staff to handle any size project, and the processes to complete the work quickly, efficiently and accurately. We have partnered with Miovision Technologies to collect video data, using the most advanced video processing capabilities for quick and accurate counts.

### CONSTRUCTION

Our field staff represents clients in dealings with contractors, cooperating governmental agencies, the traveling public and the taxpayer. It is our practice to collaborate with the construction industry to achieve maximum efficien-



cy in producing a quality product. We are devoted to being proactive and keeping an open line of communication with you and the community. Each of our construction staff is equipped with state-of-the-art equipment required for the most efficient and cost-effective systems for delivering timely, budget-sensitive results. Our construction phase services are provided by licensed professional engineers, career-degreed professionals and technicians with a wealth of experience and knowledge in all types of public and private site construction.

Our engineering team works tirelessly on behalf of our clients and is dedicated to careful project management, the latest technological advances and monitoring of the construction process.

### SITE DESIGN

Our site design team approaches every site improvement project with the intent that it will serve as an example of stewardship within the community. We take pride in our work and the legacy each project leaves behind.



Our familiarity with the approval process allows us to prepare plans that address regulatory requirements up front and facilitate quick turnaround. While keeping our clients' goals in mind, we work closely with local officials and county, state and federal agencies to ensure compliance with stormwater management, floodplain development, zoning and other applicable regulations.

Projects range from development and implementation of campus- or district-wide improvement programs to building additions, flood reduction and drainage improvements, and new developments for public and private sector clients.

### WATER RESOURCES

For nearly every project, the competing concerns of site drainage, offsite impacts and preservation of water quality must all be addressed in compliance with overlapping and sometimes conflicting federal, state and local regulations.



Gewalt Hamilton is thoroughly familiar with the requirements of Chicago-area county and municipal stormwater ordinances, and we regularly prepare documentation and permit submittals to meet these regulatory requirements. Our strategies combine proven stormwater management approaches with innovative naturalized systems to both reduce stormwater runoff volume and enhance downstream water quality.

Our engineering staff combines design expertise with thorough regulatory understanding to provide clients superior water resources solutions.

### MUNICIPAL

For more than 30 years, Gewalt Hamilton has partnered with municipalities, county and state agencies, transportation agencies, stormwater commissions, and townships. We are particularly aware of the potentially con-



troversial nature of public projects, planning issues, and the need to maintain a positive relationship with local residents and businesses.

A number of our professionals currently serve as full-time municipal engineers for 13 Chicago-area municipalities and on an as-need basis for more than 40 additional communities. Our wide range of services allows communities access to the resources of a full-service engineering firm without having to fund these services on a full-time basis.

### SUSTAINABLE DESIGN

Gewalt Hamilton focuses on designing solutions with enduring results. Our relationship with sustainable design is fostered not only through ordinance provisions and best management practices, but also through our commitment



to making positive impacts on the world around us.

For every project, we analyze the potential for applied best management practices and sustainable design. Whether you are considering rain gardens, restoring natural areas or installing permeable pavement, we strive to achieve effective sustainable benefits while providing exceptional site functionality. To forward our commitment, our firm actively participates in sustainability discussions and our associates sit on various committees focused on sustainable goals. We often look to increase the feasibility of sustainable design by searching for and winning grant monies for our clients.

### **ENVIRONMENT & FORESTRY CONSULTING**

Our environmental staff works closely with civil design and water resources teams to incorporate sustainable design elements that minimize the impact of development on the environment.

Gewalt Hamilton helps clients understand and abide by the often complicated range of federal, state and local regulations relating to wetlands and environmentally sensitive areas. We consistently pro-



duce designs that balance project function and economics with natural resource preservation, increasing project appeal to both the public and regulatory agencies.

Many of our clients have been with us for years, providing us with the most authentic assurance that our work consistently meets expectations – their loyalty. Both public and private agencies have come to rely on the professional, personal and timely service we provide. At Gewalt Hamilton, we treat every project as just one shared experience in what we hope will be a long-term relationship. We work with our clients, not for them, bringing a team approach to every assignment. Our clients trust us to listen to their needs, provide honest and thoughtful feed-back, and deliver exceptional results.

We invite you to experience the Gewalt Hamilton difference and find out why dozens of repeat clients choose Gewalt Hamilton for their civil engineering and surveying projects, large and small. Tab 2

## SURVEY

# LEGAL DESCRIPTION

### DESCRIPTION OF THE PROPERTY

### 1001-07 Bonnie Brae Place

LOTS 15 AND 16 IN GREY AND BRAESE'S RESUBDIVISION OF BLOCK 1 IN THE SUBDIVISION OF BLOCKS 1, 8, 9, 10, 11, 14, 15 AND 16 IN BOGU'S ADDITION TO OAK PARK BEING A SUBDIVISION OF THE EAST  $\frac{1}{2}$  OF THE SOUTHEAST  $\frac{1}{4}$  AND THE EAST  $\frac{1}{3}$  OF THE WEST  $\frac{1}{2}$  OF SAID SOUTHEAST  $\frac{1}{4}$  OF SECTION 1, TOWNSHIP 39 NORTH, RANGE 12 EAST THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS

Commonly known as: 1101-1107 Bonnie Brae Place, River Forest Illinois 60305

P.I.N.'s (undivided and underlying): 15-01-403-020-0000

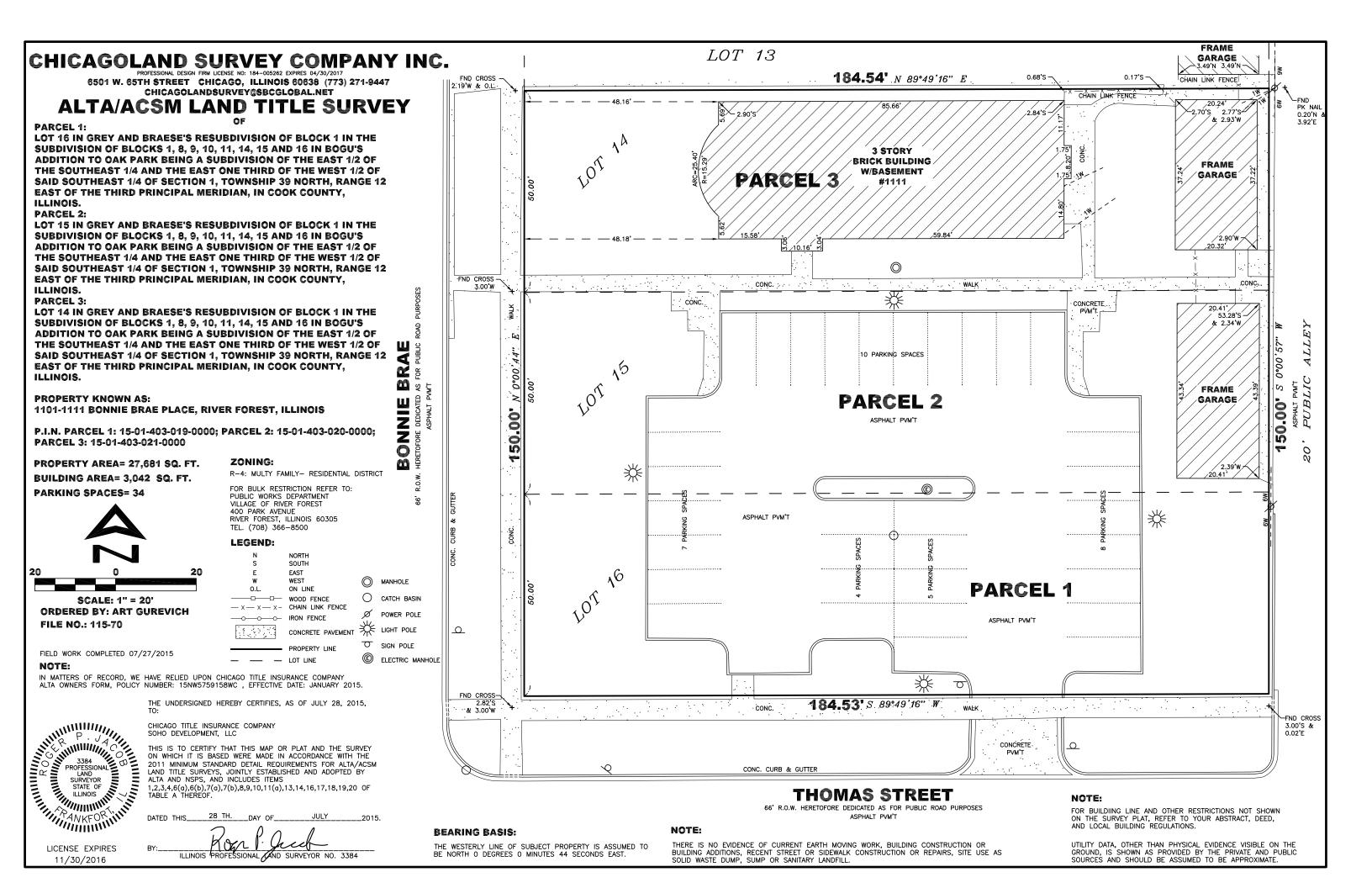
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1111 Bonnie Brae Place

LOT 14 IN GREY AND BRAESE'S RESUBDIVISION OF BLOCK 1 IN THE SUBDIVISION OF BLOCKS 1, 8, 9, 10, 11, 14, 15 AND 16 IN BOGU'S ADDITION TO OAK PARK BEING A SUBDIVISION OF THE EAST  $\frac{1}{2}$  OF THE SOUTHEAST  $\frac{1}{4}$  AND THE EAST 1/3 OF THE WEST  $\frac{1}{2}$  OF SAID SOUTHEAST  $\frac{1}{4}$  OF SECTION 1, TOWNSHIP 39 NORTH, RANGE 12 EAST THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS

Commonly known as: 1111 Bonnie Brae Place, River Forest Illinois 60305

P.I.N.'s (undivided and underlying): 15-01-403-019-0000



Tab 3

# COMPLIANCE WITH COMPREHENSIVE PLAN COMPLIANCE WITH STANDARDS AND OBJECTIVES

# Compliance with the Comprehensive Plan

# Land Use and Development

**Core Objectives** 

1. Ensure the quality, stability, and attractiveness of residential neighborhoods.

The proposed development transforms a parking lot and an under invested three unit building into 19 market ready for sale townhomes that have been crafted to fit into the residential neighborhood.

2. Promote economic development of the Village's commercial corridors and mixed-use areas.

The proposed development in transforming the parking lot and three unit building brings an investment of \$9,000,000 into the Village of River Forest and when occupied will substantially contribute to the Village's real estate tax base while also welcoming 19 new families to River Forest who will thereby contribute to the Village's economic health.

3. Appropriately balance the need to safeguard residential neighborhoods and the need for commercial area development and improvement.

While this development does not add to commercial development, the 19 new residents of the Village will contribute to the local economy through spending in local shops and restaurants like Whole Foods, Walgreens and Starbucks to name a few.

4. Protect open space and environmental areas from development encroachment.

The proposed development does not encroach on open space. It replaces a parking lot.

5. Encourage sustainable best practices for all development.

The proposed townhomes will be built to the current IBC building codes which have energy efficiency guidelines and targets that far exceed the average energy efficiency of the average River Forest home.

6. Minimize the impacts of incompatible land use arrangements.

The proposed development is compatible with surrounding existing uses in that the entire 1000 block and 1100 block of Bonnie Brae on the east side is multi-family.

### **Residential Neighborhoods**

**Core Objectives** 

1. Ensure that home improvements, additions and new housing construction are compatible with, complement, and enhance the existing scale and character of the neighborhoods.

The proposed townhomes are scaled to be in harmony with nearby residential buildings - specifically on the east side of the 1000 block and 1100 block of Bonnie Brae. The proposed use, multifamily, is similar to adjacent uses and the proposed development's character, materials and detailing compliments the character of nearby buildings.

2. Maintain the appropriate balance of housing types within the community to provide for the housing needs of residents at all stages of life.

The proposed development provides a housing type not found near the Site. Additionally, townhomes, as a housing type, is a unique housing type that transitions from single family homes to multi-family or condominium types. In that sense, the proposed development fills a need in the built environment that is not met by either single family homes nor condominiums.

3. Encourage new residential development that provides for the needs of the Village's population.

Similar to the statement on Objective 2, the proposed development provides a housing type not found near the Site. Additionally, townhomes, as a housing type, is a unique housing type that transitions from single family homes to multi-family or condominium types. In that sense, the proposed development fills a need in the built environment that is not met by either single family homes nor condominiums.

## SITE DEVELOPMENT ALLOWANCES:

In order to implement the proposed development, the Developer is seeking several variances from the underlying zoning provisions. These variances are detailed in the Code Variances section of this Application (Tab 15).

The proposed new townhome units will feature attractive contemporary architectural design, premium façade materials, attractive landscaping, oversize windows and other features and amenities that will make the proposed development an enhancement to the surrounding area.

The Developer is proposing to build a premium product that is currently desirable in the market. Without the requested variances, the proposed development will not be economically feasible and the desired product will not be achieved. The impact of the variances requested by the Developer will be mitigated by the ease of the site ingress/ egress, attractive landscaping, guest parking, high quality of the building architecture and materials, ample private and common open space, and a replacement of a neighborhood incompatible use with a high quality residential buildings.

A waiver may be granted for any of the requirements set forth in subsection <u>10-19-30</u> of this chapter for any planned development containing multi-family housing which replaces an existing structure on the same site containing multi-family housing or submitted by the applicant as part of a master plan. (Ord. 2941, 10-22-2001)

The Applicant is seeking several waivers under this Section as described above. Specifically this waivers include the requirements for a maximum lot coverage of no more than 70% and 2,800 square feet of lot area per each dwelling unit and 2.5 parking spaces per each dwelling unit and front yard setback and rear yard setback and rear yard area.

The proposed development is an attached multi-family housing development and is a part of a master plan that involves the development of 4 buildings containing 19 townhouse units.

Tab 4

- TOPOGRAPHY, TRANSPORTATION, UTILITIES
- LAND USE AND ZONING INFORMATION







John Conrad Schiess Architect+LEED AP John @jcsacchitect.com 708 366 1500

400 Ashland Avenue River Forest, Illinois 60305

oak Park. Illinois 60302

jesarchitect.com

architecture +

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### OWNER:

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ISSUED FOR REVIEW:	03/11/19
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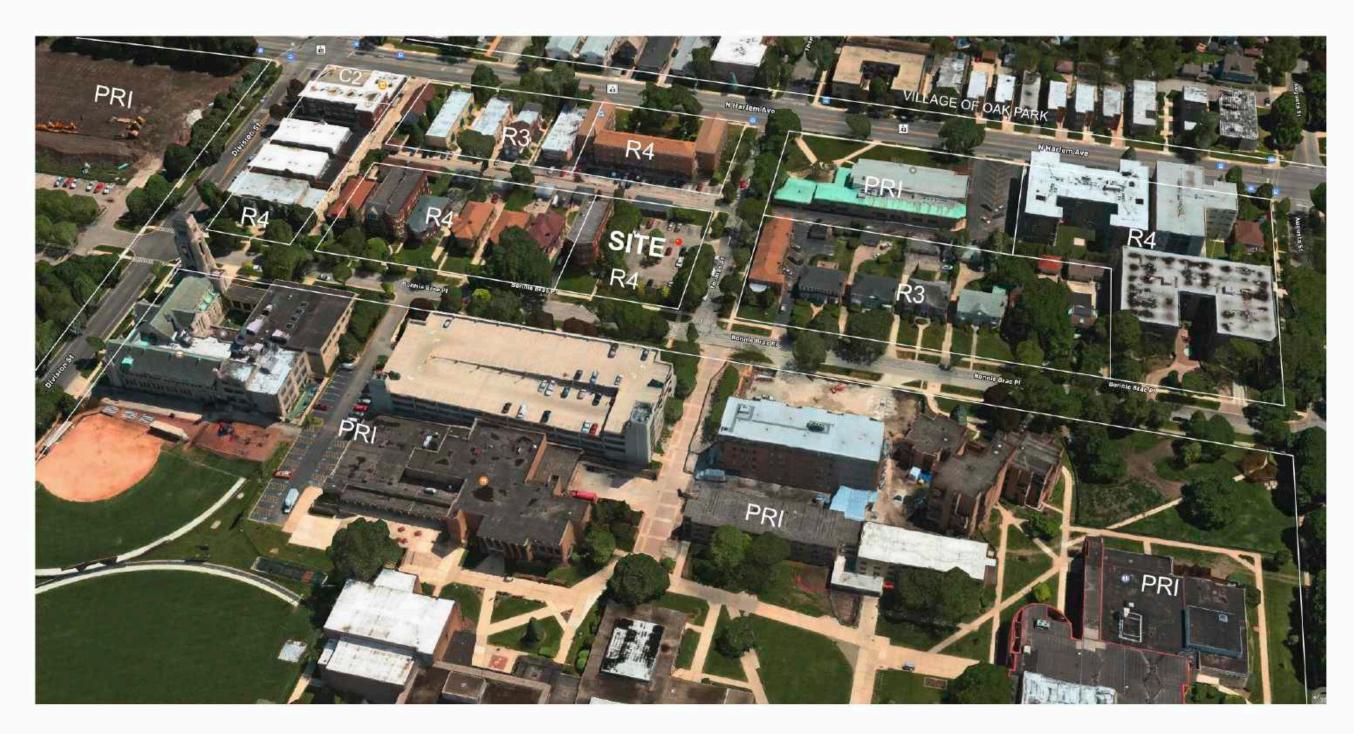
# BONNIE/THOMAS DEVELOPMENT

1110 Bonnie Brae River Forest, Illinois

P1.1

Sheet Title SITE PHOTOS

Sheet No.



### ZONING DISTRICT

C2: Commercial

R3: Single-Family Residential R4: Multi-Family Residential PRI: Public/Recreational/Institutional



Sheet Title AERIAL VIEW

P1.2

Sheet No.



# ZONING DISTRICT

C2: Commercial

R3: Single-Family Residential R4: Multi-Family Residential PRI: Public/Recreational/Institutional



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> other 400 Ashland Avenue River Forest, Illinois 60305

studio Oak Park. Illinois 60302

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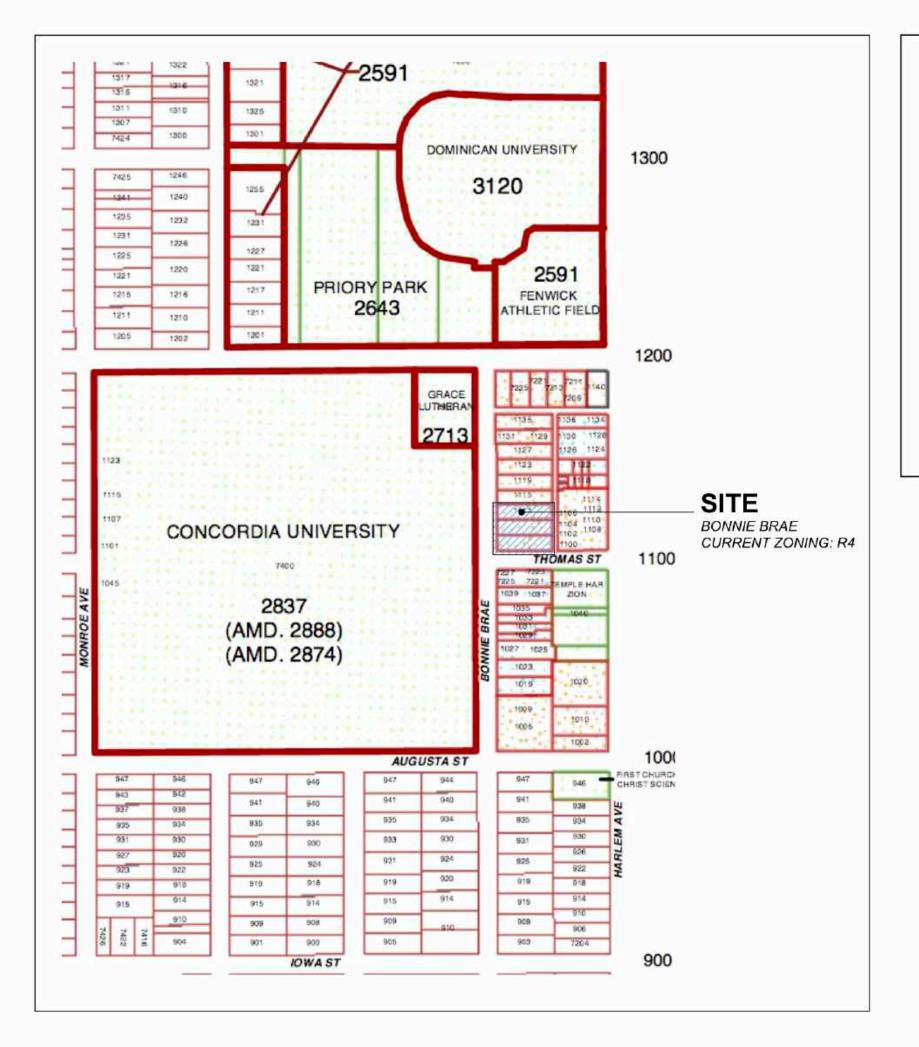
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ISSUED FOR DRB:	10/24/19
ISSUED FOR PD:	2/7/20
	1

# **BONNIE/THOMAS** DEVELOPMENT

1110 Bonnie Brae **River Forest, Illinois** 

P1.3

Sheet Title AERIAL VIEW





# Village of River Forest



John Conrad Schiess Architect+LEED AP 708 366 1500

other 400 Ashland Avenue River Forest, Illinois 60305

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ISSUED FOR REVIEW:	03/11/19
	Date

# **BONNIE/THOMAS** DEVELOPMENT

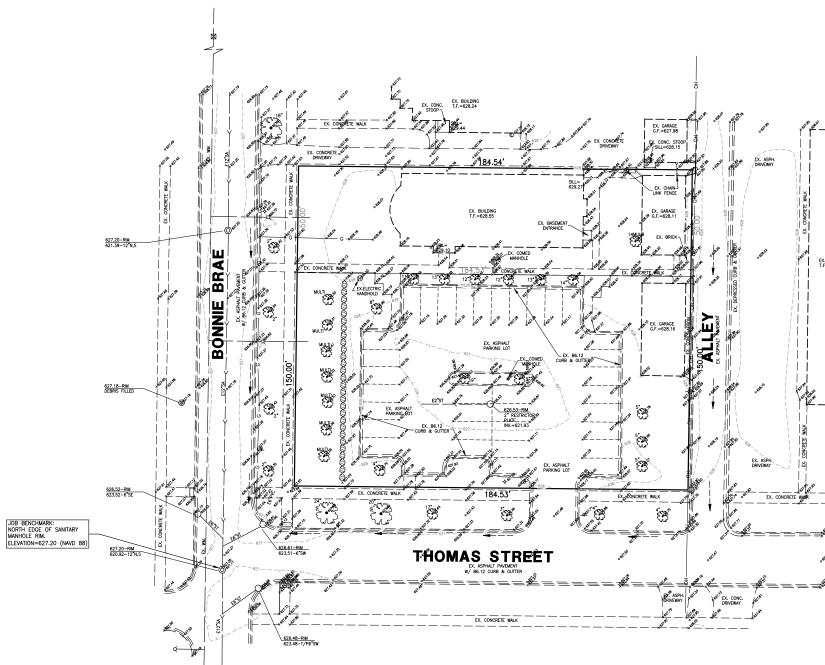
1110 Bonnie Brae **River Forest, Illinois** 

A1.0

Sheet Title zoning map

#### LEGAL DESCRIPTION

LOTS 14,15 AND 16 IN GREY AND BRAESE'S RESUBDIVISION OF BLOCK 1 IN THE SUBDIVISION OF BLOCKS 1,8,9,10,11,14,15 AND 16 IN BOGU'S ADDITION TO OAK PARK BEING A SUBDIVISION OF THE EAST 1/2 OF THE SOUTHEAST 1/4 AND THE EAST ONE THIRD OF THE WEST 1/2 OF SAID SOUTHEAST 1/4 OF SECTION 1, TOWNSHIP 39 NORTH, RANGE 12, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.



NOTE BOUNDARY TAKEN FROM PLAT OF SURVEY PREPARED BY CHICAGOLAND SURVEY COMPANY, INC DATED JULY 28, 2015. BOUNDARY SHOWN IS ONLY AN ESTIMATE. THIS DRAWING IS NOT A PLAT OF SURVEY.							Ong Hu SIGN 11-2 Di EXPIRES
0 20 40 60 80					DESIGNED BY: DATE: DMW/MRT 11-26-19	GREENGARD, INC.	SCALE:
SCALE IN FEET					CHECKED BY: DATE: DMW 11-26-19	111 Barclay Blvd., Suite 310, Lincolnshire, Illinois 60069-3623	DRAWING No.
SOLE PROPERTY OF GREENGARD, INC. AND NO REPRODUCTION OR USE, IN WHOLE OR PART WITHOUT WRITTEN PERMISSION OF GREENGARD, INC.	DRAWN BY: DATE:	REVISIONS	DRAWN BY: DATE:	REVISIONS	APPROVED BY: DATE: DRF 11-26-19	PHONE: 847-634-3883 E-MAIL: 2310GREENGARDINC.COM FAX: 847-634-0687 ILL. REGISTRATION NO. 184-000995	SHEET

	Å
	U
BUILDING =628.03	
	SOURCE BENCHMARK: NGS MONUMENT "ME1649" LOCATED AT 6478 W. NORTH AVENUE ±50' EAST
	6478 W. NORTH AVENUE ±50' EAST OF NATCHES AVENUE. ELEVATION=643.63 (NAVD 88)
·	
 \$	
9 9 9	
8	
	× 105.08 SPOT ELEVATION CONFEROUS TREE W/DIA. CONFEROUS TREE W/DI
	☑     VALVE & VAULT       ♡     FIRE HYDRANT       -O-     UTILTY POLE       -Q-     LIGHT STANDARD
WD P.E.	⊢ — ⊣ STORM CULVERT — —E8"S&— -< SANITARY SEWER — —E12"ST— -< STORM SEWER
NATURE - <b>26–19</b>	— — E6°₩— — WATER MAIN
MTE 11-30-21	DIRECTION SURFACE DRAINAGE     DIRECTION SURFACE DRAINAGE     OFFORT
1"=20' 1101 61246	BONNIE BRAE PLACE - RIVER FOREST, ILL.
1 of 3	EXISTING TOPOGRAPHY

Tab 5

# **BUILDINGS DESIGN**

- SITE PLAN
- RENDERINGS
- ELEVATIONS
- FLOOR PLANS
- LANDSCAPING PLAN
- TRASH AND FENCE DETAILS
- SHADOW STUDY
- EXTERIOR LIGHT SPECIFICATIONS



# SITE DATA:

PROPOSED: 3 STORY 19 UNITS 38 PRIVATE PARKING SPACES + 4 GUEST PARKING SPACES
ZONING DISTRICT: R4 (MULTI-FAMILY RESIDENTIAL)
LOT AREA: 27,681 SQ FT
BUILDING FOOTPRINT: 14,134 SQ FT
GREEN AREA (PERVIOUS): 6,212.27 SQ FT
LOT COVERAGE: 21,468.73 SQ FT
GROSS FLOOR AREA: 37,715 SQ FT
BUILDING HEIGHT: 40'-8"
BUILDING SETBACKS NORTH: 5'-0" (SIDE) SOUTH : 5'-0" (SIDE)

EAST: 6'-0" (REAR)

WEST: 13'-0" (FRONT)

# 5' X 10' CANTILEVERED BALCONY ABOVE -TYP.



Sheet Title SITE PLAN

 $\Delta$  1



# John Conrad Schiess Architect + LEED AP

chicago

400 Ashland Avenue River Forest Illinois 60305 tel. 708.366.1500 john@jcsarchitect.com tecture

archi

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# BONNIE/THOMAS DEVELOPMENT

1110 Bonnie Brae River Forest, Illinois Sheet Title ELEVATION

A3.9



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chicago

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# BONNIE/THOMAS DEVELOPMENT 1110 Bonnie Brae River Forest, Illinois

Sheet Title ELEVATION

A3.10



WEST ELEVATION

scale: 1" = 10'-0"



σ 2' 5' 10 20'



SOUTH ELEVATION









building 1

EAST ELEVATION

scale: 1\* = 10:0\*





EAST ELEVATION

scala: 1" = 10:0"







WEST ELEVATION

scale: 1" - 10"0"



0 2

5'

10

20

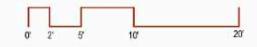


building 4

WEST ELEVATION

scale: 1" = 10'-0"







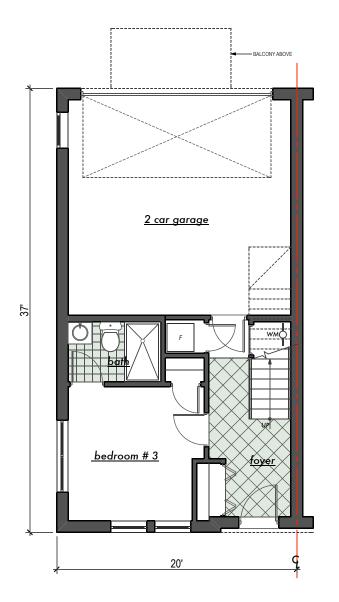
building 4

EAST ELEVATION

scale: 1" = 10'.0"

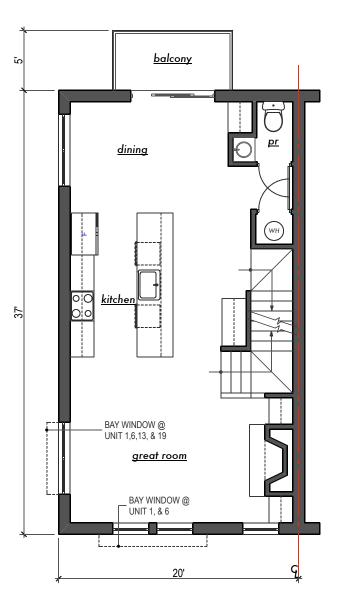






# TYPICAL FIRST FLOOR PLAN

scale: 1/8"= 1'-0"



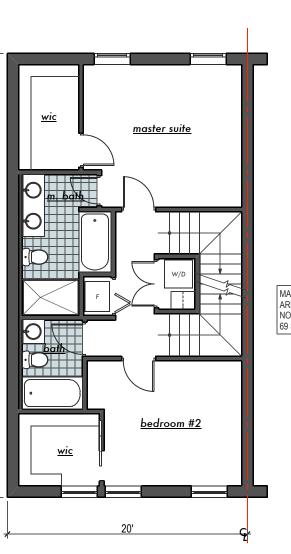
# TYPICAL SECOND FLOOR PLAN

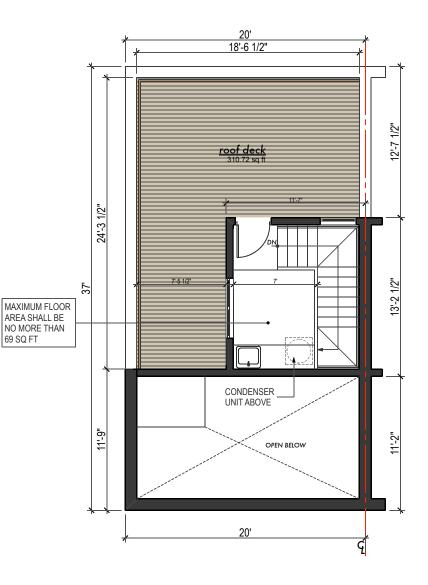
scale: 1/8"= 1'-0"

TYPICAL THIRD FLOOR PLAN scale: 1/8"-- 1'-0"



37





# TYPICAL ROOF DECK

scale: 1/8"= 1'-0"



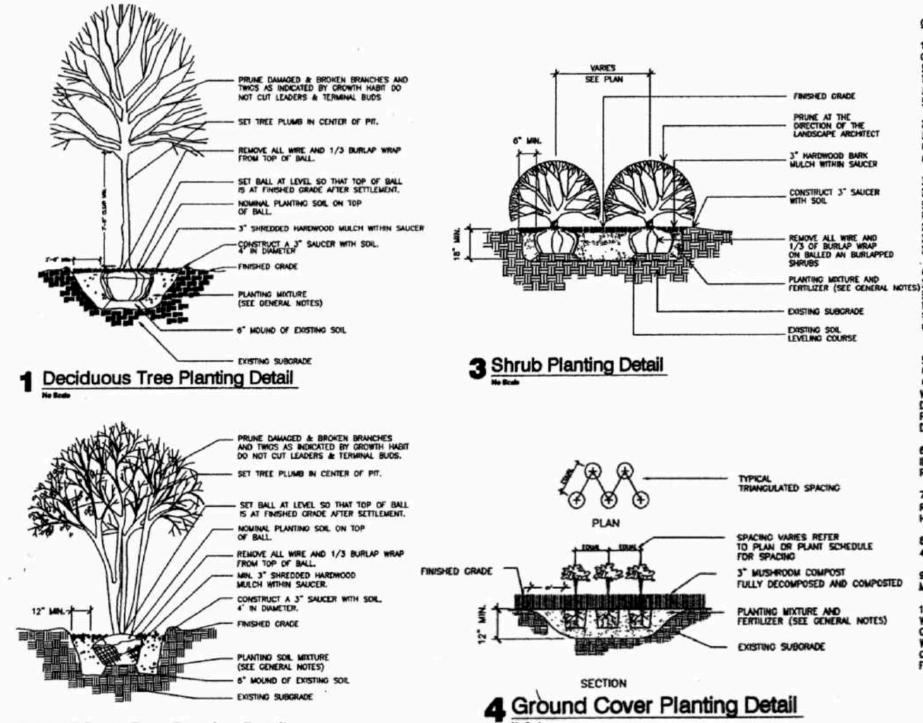
# ISSUED FOR 2/7/20 PD: ISSUED FOR 10/24/19 DRB: Date **BONNIE/THOMAS** DEVELOPMENT 1110 Bonnie Brae **River Forest, Illinois**

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Bonnie Brae Construction, LLC

Sheet Title LANDSCAPING PLAN



#### GENERAL NOTES:

1. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES CONTRACTOR SHALL NOTIFY J.U.L.I.E. TO DETERMINE THE LOCATION OF ANY UNDERGROUND UTILITIES WHICH MAY AFFECT PROPOSED SITE WORK.

2. CONTRACTOR SHALL NOTIFY ANDSCAPE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES, OBSTACLES AND/OR PROBLEMS.

3. VERIFICATION OF DIMENSIONS AND GRADES. BOTH EXISTING AND PROPOSED. SHALL BE THE CONTRACTOR'S RESPONSIBILITY PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY DISCREPANCIES.

4. ALL SURFACE DRAINAGE SHALL BE DIRECTED AWAY FROM STRUCTURES. SURFACE DRAINAGE SHALL BE DIRECTED TO EXISTING CATCH BASINS DESIGNATED FOR THE COLLECTION OF SURFACE RUN-OFF.

5. CONTRACTOR SHALL NOTIFY DWNER OF ANY UNDESIRABLE DRAINAGE CONDITIONS AND RECOMMEND SUITABLE SOLUTIONS. WHERE NECESSARY TO ACHIEVE PROPER DRAINAGE, UNDER DRAINAGE FOR TREE PITS SHALL BE INSTALLED AT THE DIRECTION OF THE LANDSCAPE ARCHITECT.

6. LANDSCAPE CONTRACTOR SHALL REPAIR IN KIND ALL AREAS DAMAGED AS A RESULT OF LANDSCAPE OPERATIONS.

7. ALL TREE AND SHRUB BEDS TO RECEIVE A MINIMUM 4" OF SHREDDED HARDWOOD MULCH.

8. ALL SODDED LAWN TO BE PLACED ON 4" DEPTH OF TOPSOIL

9. SIZES SHOWN ON PLANTING PLAN ARE MINIMUM ACCEPTABLE SIZES.

10. LANDSCAPE CONTRACTOR SHALL WARRANT ALL TREES, SHRUBS, VINES AND GROUNDCOVERS UNDER THIS CONTRACT WILL BE HEALTHY AND IN FLOURISHING CONDITION OF ACTIVE GROWTH ONE YEAR FROM DATE OF FINAL ACCEPTANCE.

# DI ANITINO COLLEDUILE

			(	
LEGEND	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
DICIDUOUS	AND ORNAM	MENTAL TREES	101	
CC	3	CERCIS CANADENSIS	EASTERN REDBUD	
AA	7	AMELANCHIER ARBOREA	SERVICEBERRY	
SHRUBS + O	RNAMENTA			hu ha
SJ	28	SPIRAEA JAPONICA	JAPANESE MEADOWSWEET	3 gallon
НМ	27	HYDRANGEA MACROPHYLLA 'BAILMER' ENDLESS SUMMER	BIGLEAF HYDRANGEA	5 gallon
то	28	THUJA OCCIDENTALLIS 'FILIP'S MAGIC MOMENT'	AMERICAN ARBORVITAE	5 gallon
TM	7	TAXUS X MEDIA 'DENSIFORMIS'	YEW	5 gallon
CA	38	CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	30" ht.
BGV	14	BUXUS 'GREEN VELVET'	BOXWOOD	5 gallon
SROUND CO	VER			Et constant for the
VM	100	VINCA MINOR	COMMON PERIWINKLE	

2 Multi-Stem Tree Planting Detail

11. SOIL TO BE USED FOR THE PLANTING MEDIUM FOR THE PROJECT SHALL BE FERTILE, WELL DRAINED. OF UNIFORM QUALITY, FREE OF STONES OVER 1" IN DIAMETER, STICKS, OILS, CHEMICALS, PLASTER, CONCRETE AND OTHER DELETERIOUS MATERIALS.

12. THE LANDSCAPE CONTRACTOR SHALL PREPARE PLANTING BEDS BY ADDING SOIL AMENDMENTS TO TOPSOIL MIX IN THE FOLLOWING QUANTITIES: TOPSOIL MIX FOR TREES AND SHRUBS SHALL BE THREE (3) PARTS TOPSOIL. ONE (1) PART PEAT, AND ONE (1) PART SAND. TOPSOIL MAX FOR PERENNIALS, BULBS, AND GROUND COVERS SHALL BE THREE (3) PARTS TOPSOIL, ONE (1) PART SAND AND TWO (2) PARTS DECOMPOSED MUSHROOM COMPOST, SOIL SHALL MEET THE FOLLWING REQUIREMENTS: SOIL COMPOSITION -- 45-77% SET. 0-25% CLAY, 25-33% SAND; SOIL ACIDITY: Ph 8.0-7.0; SOIL ORGANIC CONTENT: THREE (3) TO FIVE (5) PERCENT.

13. ALL PLANTS TO BE BALLED IN BURLAP OR CONTAINER GROWN AS SPECIFIED ON PLANTING PLAN. ALL PLASTIC ROOT WRAPPING MATERIAL AND WETAL WIRE BASKETS SHALL BE REMOVED.

14. LANDSCAPE CONTRACTOR SHALL STAKE THE LOCATION OF ALL TREES AND PLANTING BED LINES AND HAVE LAYOUT APPROVED BY LANDSCAPE ARCHITECT/OWNER PRIOR TO PLANTING.

15. WATER ALL PLANTS IMMEDIATELY AFTER PLANTING. FLOOD PLANTS TWICE DURING FIRST TWENTY-FOUR HOUR PERIOD AFTER PLANTING.

18. ALL NEW AND TRANSPLANTED PLANTS TO BE SPRAYED WITH AN ANTIDESSICANT WITHIN TWENTY FOUR HOURS AFTER PLANTING. ANTI-TRANSPIRANT SHALL BE EQUAL TO "WILTPRUF."

17. ALL MUD SHALL BE REMOVED FROM ALL TIRES BEFORE LEAVING THE SITE AND ROADS SHALL BE KEPT CLEAR OF MUD AND DEBRIS AT ALL TIMES.

18. LONG TERM WATERING OF EACH TOWNHOME GREEN SPACE WILL BE BY INDIVIDUAL HOME OWNERS AND COMMON AREAS BY THE TOWNHOME ASSOCIATION.

#### OWNER:

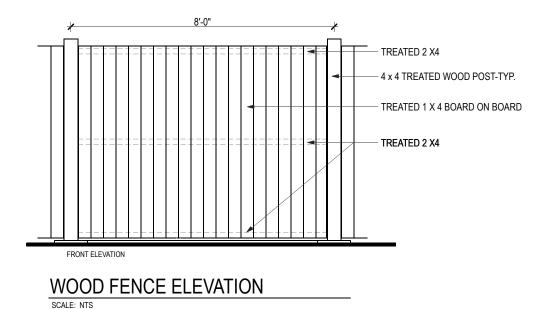
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# BONNIE/THOMAS DEVELOPMENT

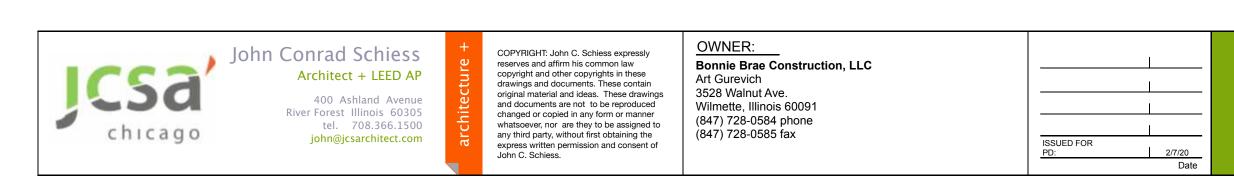
1110 Bonnie Brae **River Forest, Illinois** 

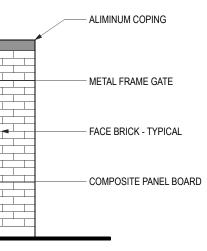
Sheet Title LANDSCAPING DETAILS AND SCHEDULE



FRONT ELEVATION

WASTE + RECYLE CORRAL ELEVATION

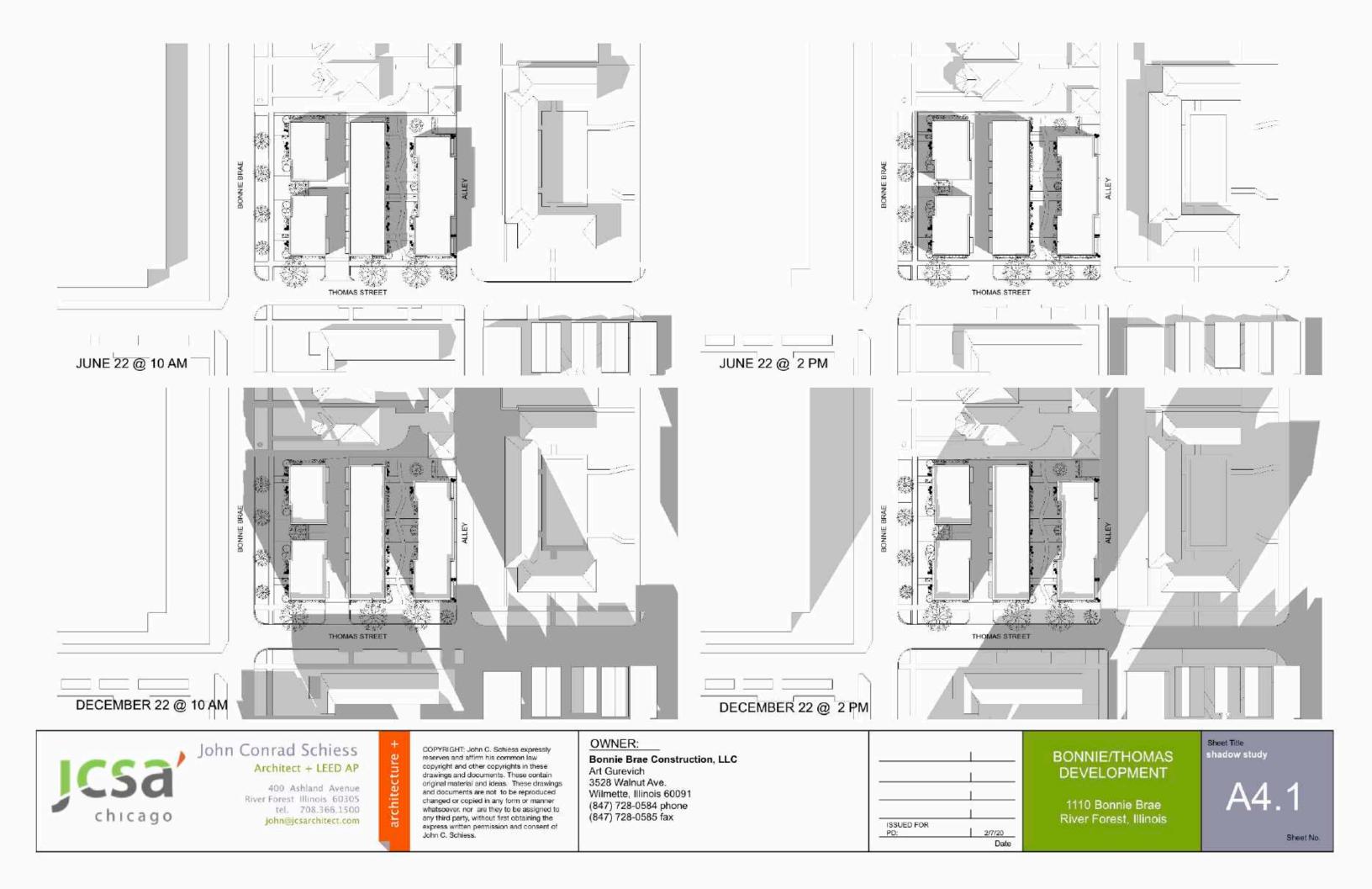






1110 Bonnie Brae River Forest, Illinois Sheet Title details

A5.1



# **SPI** SPECIFICATION SHEET

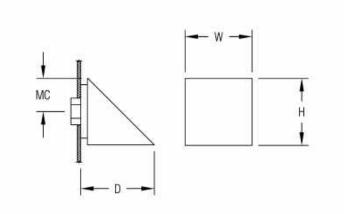
# EASTLAND EXTERIOR WALL AEW8094

JOB NAME

TYPE



A reverse wedge, the Eastland works well for illuminating walkways, grazing a wall's surface to highlight its texture or provide general illumination along a building. Choose from a palette of both painted and metal finishes.



#### Dimensions

W	Н	D	MC	
10.0 in	10.0 in	11.0 in	5.0 in	
25.4 cm	25.4 cm	27.9 cm	12.7 cm	

Weight

Hanging weight: 25.0 lb (11.4 kg).

# Features

- Formed metal construction provides durable protection for internal components and is recyclable.
- Integral Class II power supply included, eliminating the need for remote mounting, simplifying installation.
- Ballast has minimum start temperature of 0° F, suitable for most exterior applications.
- Interior family fixtures available to carry a consistent lighting design throughout a project.

#### **Technical Notes**

Electrical

- HID versions have remote ballasts easing maintenance and installation by allowing for the consolidation of ballasts.
- ETL listed to UL standards (US and Canada) for use in wet locations.
- Integral electronic fluorescent ballast utilizes the latest energy-saving technology to maintain consistent color temperature, CRI and lumen maintenance, while eliminating the need for remote mounting and simplifying installation.
- SPI uses strict quality guidelines in LED selection to ensure the white LED's we use meet or exceed ANSI Binning Standards (ANSI C78.733).
- EMR option is damp location listed, must be mounted in interior location.

Lamping/lamp

- Fluorescent lamps are 3500K unless specified.
- L70 life = 50,000 + hours.

#### Mounting

Mounts to standard 4" octagonal junction box

Additional Documents

Color Chart (http://www.spilighting.com/PDFs/SPI\_Color\_Chart.pdf)

# SPI SPECIFICATION SHEET

MODEL NUMBER	LIGHT SOURCE	FINISH	VOLTAGE	LAMP OPTIONS

#### Not all options are available in all configurations, consult factory for details.

Light Source		Photometry	Voltage	
L10.8W	White 10.8W 3.2W/6" LED Light Engine		120-277V	Universal Voltage
	Delivered Lumens:		120V	120 Volt
L21.5W	White 21.5W 6.4W/6" LED Light Engine Delivered Lumens:		277V	277 Volt
1F32	1CFTR32W/GX24q		347V	347 Volt
1F42	1CFTR42W/GX24q		Lamp Options	
2F13	2CFQ13W/G24q		3000K	3000K CCT
2F26	2CFQ26W/G24q		DML <sup>2</sup>	0-10V Dimming
1M70	1PSCMH70/ED17/MED/C/U	ITL50989	3500K	3500K CCT
1M100	1PSMH100/ED17/MED/C/U	ITL50989	4000K	4000K CCT
1M150	1PSMH150/ED17/MED/C/U	ITL50989	EMR	Emergency Ballast Remote
1N100	1INC100W/A19			

1 Incandescent/Quartz Lamp(s) Not Included 2 DML with LED light engine only.

#### Painted Finishes

PT01	Super White	PT07	Light Taupe		PT13	Warm Gray	PT19	Blue	PT29	Red Brass	PT42	Sky Blue	PT48	Brass
PT02	White	PT08	Medium Tau	be	PT14	Light Gray	PT20	Dark Green	PT31	Medium Bronze	PT43	Teal	PT49	Bronze
PT03	Morning Light	PT09	Medium Gray	/	PT15	Sage	PT21	Pearl White	PT32	Dark Bronze	PT44	Green	PT51	Matte White
PT04	Warm White	PT10	Dark Gray		PT16	Spruce	PT22	Platinum	PT33	Dark Blue	PT45	Purple		
PT05	Putty	PT11	Black		PT17	Red	PT27	Deep Copper	PT40	Yellow	PT46	Aluminum		
PT06	Warm Beige	PT12	Dark Chocola	ite	PT18	Deep Red	PT28	Dark Stainless	PT41	Orange	PT47	Deep Red Brass		
Metal a	and Plated Finishes													
BAL	Brushed Aluminum			ATBR	Antiqu	ie Tinted Brass		CUI	Vatural Copp	)er				
BBR	Brushed Brass	ed Brass DTBR Dark Tint Brass												

Tab 6

DRAFT HOA DECLARATION

# DECLARATION OF COVENANTS, RESTRICTIONS, EASEMENTS AND PARTY WALL RIGHTS FOR

# BONNIE BRAE TOWNHOMES HOME OWNERS ASSOCIATION 1101-1111 BONNIE BRAE PLACE RIVER FOEST, ILLINOIS 60305

THIS DECLARATION is made this \_\_\_\_\_\_ day of \_\_\_\_\_\_ by Bonnie Brae COnstruction, LLC, an Illinois Limited Liability Company ("The Declarant")

#### **RECITALS:**

**THIS DECLARANT** is the Owner in fee simple of the tract of land in the **Village of River Forest**, County of Cook and State of Illinois, said land being referred to as the "Townhomes" or "Lot" or "Lots", and more fully described on Exhibit "A".

The Townhomes consist of ninetinen (19) single-family residences, having one or more party walls, (herein referred to as the "parcels"), which are to be and/or have been constructed on the following land; herein referred to as the "Development Site".

**Legal Description:** 

#### 1001-07 Bonnie Brae Place

LOTS 15 AND 16 IN GREY AND BRAESE'S RESUBDIVISION OF BLOCK 1 IN THE SUBDIVISION OF BLOCKS 1, 8, 9, 10, 11, 14, 15 AND 16 IN BOGU'S ADDITION TO OAK PARK BEING A SUBDIVISION OF THE EAST 1/2 OF THE SOUTHEAST 1/4 AND THE EAST 1/3 OF THE WEST 1/2 OF SAID SOUTHEAST 1/4 OF SECTION 1, TOWNSHIP 39 NORTH, RANGE 12 EAST THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS

Commonly known as: 1101-1107 Bonnie Brae Place, River Forest Illinois 60305 P.I.N.'s (undivided and underlying): 15-01-403-020-0000; 15-01-403-021-0000 1111 Bonnie Brae Place

LOT 14 IN GREY AND BRAESE'S RESUBDIVISION OF BLOCK 1 IN THE SUBDIVISION OF BLOCKS 1, 8, 9, 10, 11, 14, 15 AND 16 IN BOGU'S ADDITION TO OAK PARK BEING A SUBDIVISION OF THE EAST ½ OF THE SOUTHEAST ¼ AND THE EAST 1/3 OF THE WEST ½ OF SAID SOUTHEAST ¼ OF SECTION 1, TOWNSHIP 39 NORTH, RANGE 12 EAST THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS

Commonly known as: 1111 Bonnie Brae Place, River Forest Illinois 60305 P.I.N.'s (undivided and underlying): 15-01-403-019-0000

and as more fully described on: Exhibit "A" the Survey WHEREAS, substantial sums of money have been expended by the Declarant to create an architectural style and design for consistency and compatibility of the Townhomes to each other and to the remainder of the neighborhood in general.

WHEREAS, the Declarant intends to convey the Townhomes to individual or multiple purchasers who will accept title to said Townhomes subject to the terms and conditions of this Declaration.

#### THE PURPOSES OF THIS DECLARATION ARE AS FOLLOWS:

A. To provide for the conservation of the values and amenities of the Townhomes.

B. To provide for the conservation and enhancement of the values of all residences comprised by the Townhomes and for the conservation of the integrity, character and architectural uniqueness of said residences.

C. To establish the terms of party wall / party floors agreements relative to the shared walls and floors of the Townhomes.

D. To create cross easement among the Townhome units in order to facilitate ease of access to and maintenance off the individual and the Home Owners Association properties.

**NOW, THEREFORE,** the Declarant hereby declares that the Townhomes shall hereafter be held, transferred, sold, conveyed, occupied, mortgaged and encumbered subject to the covenants, conditions, restrictions, easements, hereinafter set forth, all of which shall run with the land and are or shall be binding on all parties having any interest in the Townhomes or any part thereof and shall inure to the benefit of each owner thereof.

#### ARTICLE I

#### **DEFINITIONS**

**1.1** <u>**MEANINGS:**</u> As used herein (unless the context shall prohibit), the following words shall have the following meanings:

## A. <u>Declarant</u>: <u>Bonnie Brae Construction, LLC, an Illinois Limited Liability Company</u>

# B. <u>Townhomes:</u> The **BONNIE BRAE TOWNHOMES HOME OWNERS** ASSOCIATION is located <u>1101-1111 Bonnie Brae Place, River Forest, Illinois 60305, as</u> described above.

C. <u>Party Wall/Floors</u>: The demising wall and floors that exists between two (2) Townhomes.

D. <u>Dwelling Unit:</u> One (1) housing unit or residence in each Townhome, consisting of a group of rooms within the demising walls. As more fully described on Exhibit "A".

E. <u>Occupant:</u> A person or persons in lawful possession of a dwelling unit.

F. <u>Guest:</u> An invitee or visitor of any occupant of a dwelling unit.

G. <u>Owner:</u> A record owner, whether one or more persons or entities (including the Declarant), of a fee simple title to any lot upon which a Townhome is constructed, but excluding those having such interest as security for the performance of an obligation.

**1.2 FEE SIMPLE INTEREST:** The Townhomes which are subject to the Declaration are considered to be fee simple units and the purpose of this Declaration is limited solely to the matters set forth herein as they relate to easements, party walls and restrictions, affecting the fee simple interest of the owners of said

Townhome units. The owners of the Townhome shall also have an interest in the Association as specified in Article VIII herein.

# ARTICLE II

# **EASEMENTS**

2.1 <u>MISCELLANEOUS UTILITIES:</u> Where any pipes, wires, conduits and public utility lines lie within the boundaries of a Townhome Lot, any portions thereof servicing only that lot shall be deemed a part of that lot. Each Townhome has been provided with its own electric and telephone service. Easements are hereby declared and granted for utility purposes, including the right to install, lay, maintain, repair and replace water mains and pipes, sewer lines, gas mains, telephone wires and equipment and electrical conduits, wires and equipment, over, under, along and on any part of the Townhome Lots, including the temporary parking of service vehicles for emergency purposes except for those areas upon which any improvements lie, as they exist on the date of the recording hereof.

**2.2** <u>VILLAGE OF RIVER FOREST EASEMENT:</u> An easement is hereby granted to the Village of River Forest to go upon the Townhome Lots at any time for the purpose of maintenance, replacement and repair of water, sewer and any other facilities as may be under the control of the said Village.

**CONSTRUCTION EASEMENT:** Declarant reserves for itself and each owner an 2.3 easement and right to overhang and encroach upon, over and on any portion of adjacent Townhomes with a roof, portico, retaining wall or other projections, appurtenance or fixture to any building situated on a lot as the same exists on the date of the recording hereof, but not otherwise, together with the right to go upon each such portion of an adjacent Townhome for the purpose of reconstructing, repairing, maintaining, inspecting or replacing such roof, portico, retaining wall or other projection, appurtenance or fixture to any such building. In the event that, by the reason of the construction, settlement or shifting of any building as originally constructed or as now existing, any part of a residential unit encroaches or shall hereafter encroach upon any part of or any Townhome lot, or, if by reason of the design or construction of utility and ventilation systems, any main pipes, ducts or conduits serving more than one Townhome Lot encroach or shall hereafter encroach upon any part of any Lot, valid easements for the maintenance of such encroachment, are hereby established and shall exist for the benefit of such Lot, so long as all or any part of the building in which such Townhome is located shall remain standing, provided, however, that in no event shall a valid easement for any encroachment be created in favor of any owner if such encroachment or use is detrimental to or interferes with the reasonable use and enjoyment of the adjacent Townhome by the other owners and if it occurred due to the willful conduct of any owner.

2.4 <u>ACCESS EASEMENT:</u> Declarant reserves for itself and each Owner an easement and right of access upon and through any and all areas under the ownership and control of the Home Owner Association and any and all areas that may be owned by the individual Owners, but which are outside of the walls of the individual Townhome units. Such rights and easements shall not extend to the balconies accessible only from inside of a Townhome unit and to the parking spaces owned by individual Owners.

**2.4 EASEMENT IN PERPETUITY:** All easements and rights described herein are easements appurtenant, running with the land, and shall inure to the benefit of and be binding on the undersigned, its successors and assigns and any owner, purchaser, mortgagee or other person having an interest in said land, or any part or portion thereof.

**2.5** <u>**REFERENCE TO EASEMENTS:** Reference in the respective deeds of conveyance, or in any mortgage or trust deed or other evidence of obligation, to the easements and rights described in this Declaration, shall not be required, but any such reference in an instrument, if contained therein, shall be sufficient to create and reserve such easements and rights to the respective grantees, mortgagees and trustees of such parcels as fully and completely as though such easements and rights were recited fully and set forth in their entirety in such documents.</u>

2.6 <u>EASEMENT FOR UNINTENTIONAL ENCROACHMENTS</u>: In the event that, by reason of construction, settlement or shifting of any Dwelling Unit or Units located on any Townhome Lot encroaches or shall hereafter encroach upon any portion of any other Townhome Lot which is not owned by the Owner of the Dwelling Unit or Units so encroaching, valid easements for the maintenance of such encroachment are

hereby established and shall exist for the benefit of the Owner of the Dwelling Unit or Units so encroaching; provided, however, that in no event shall a valid easement for any encroachment be created in favor of any Owner if such encroachment or use is detrimental to or materially interferes with the reasonable use and enjoyment of the Townhome Lot burdened thereby or such encroachment results from the willful conduct of the Owner of the Dwelling Unit or Units so encroaching.

# ARTICLE III

# **RESTRICTIONS**

**3.1 EXTERIOR:** Declarant has taken great care and expended substantial sums to create an architectural design and style reflecting continuity of the Townhomes with each other and neighborhood in general. Accordingly, any structural or physical alterations or modifications to the exterior or structure of the Townhome is expressly prohibited. This prohibition includes, but is not limited to, the masonry and wooden portions, as well as doors, windows and rooflines.

**3.2** <u>ADDITIONS:</u> Declarant has caused the design of the Townhomes to provide for a maximum amount of living space in proportion to the size of the lot upon which the Townhome is constructed. Accordingly, no additions or structures or other enclosures may be constructed on the Townhomes, or the lots, which they occupy.

**3.3 <u>INSURANCE</u>:** No owner shall permit anything to be done or kept in the Townhome which will result in the increase in the rate charged or in the cancellation of any insurance carried by any other Townhome owner, or which would be in violation of any law.

**3.4 NOXIOUS USE:** Nothing shall be done in any Townhome of a noxious or offensive nature, nor shall any outside lighting or loudspeakers or other sound producing devices be used which will interfere with the quiet use and enjoyment of other adjacent Townhome owners. Townhome owners shall be prohibited from using the areas located under the overhangs and soffits above common areas of the Townhome for open fires, barbecues, or other flammable uses. Waste shall be kept in sanitary containers. The interior and exterior of the Townhomes shall be maintained by the owner in a clean, sanitary and attractive condition. Owners shall also maintain, cultivate and keep in good condition all trees, grass, shrubs and other landscaping.

#### ARTICLE IV

## PARTY WALLS / PARTY FLOORS AND COMMON ROOF AND OTHER ELEMENTS

**4.1 DESCRIPTION:** Each Townhome has either one (1) or two (2) party walls and/or party floors comprising the side demising walls and floors of the dwelling unit as shown on Survey Exhibit "A" and running in either East-West direction or a North-South direction. Said party walls are constructed of either masonry or of wood frame and plasterboard materials. The wall separating one Townhome from another is herewith declared as a party wall.

## 4.2 **DECLARATION:**

A. The party wall separating two (2) Townhomes shall be for the exclusive use and benefit of the Townhomes that share said wall or floor, their respective owners, heirs, legal representatives, successors and assigns subject to the terms of this Declaration.

B. Each of the owners of the Townhomes sharing a party wall may use said party wall in any manner which shall not materially interfere with the use and enjoyment thereof by the other.

C. Any and all costs and expenses necessary for the maintenance of and preservation of the party wall to keep it in good condition and repair shall be borne equally between the Townhome owners who share said party wall; provided, however, that if at any time, the Townhome on one side of the party wall has been removed, the owner of the Townhome that shared said wall that remains shall bear the sole cost of so maintaining

and preserving the party wall after the owner of the Townhome that was removed has performed the necessary construction to allow said remaining wall to be a proper exterior wall in accordance with the requirements of the City of Chicago then in affect.

D. Declarant hereby sets forth that if it shall hereafter become necessary or desirable to repair or replace the whole or any portion of a party wall, the expenses of such repairing or rebuilding shall be shared equally by the Townhome owners who share said party wall, and whenever the party wall, or such portion thereof shall be rebuilt, it shall be erected in the same location and on the same line, and be of the same size, and the same or similar material, and of like quality with the present party wall, except where said party wall shall no longer be a shared party wall, but becomes an exterior wall, then in that case, the material and quality shall be similar to the material and design of the other exterior walls on the Townhomes.

Notwithstanding anything herein contained to the contrary, it is further agreed that in the event of damage or destruction of a party wall from any cause, other than the negligence of either of the Townhome owners sharing said party wall other than on account of fire or other casualty to one of the Townhomes sharing said party wall either of the parties sharing said party wall shall have the right to repair or rebuild the party wall and (i) the expense thereof shall be apportioned as hereinabove provided, and (ii) each Townhome owner shall have the full use of the party wall so repaired or rebuilt. If damage to or destruction of the party wall shall have been caused by loss by fire or other casualty to the property of, or by the negligence of one party sharing said party wall such party shall bear the entire cost of repair or rebuilding. If either party sharing said party wall shall neglect or refuse to pay his share as aforesaid, the other party may have the party wall repaired or rebuilt and, in addition to any other remedy available to him by law, shall be entitled to have a mechanic's lien on the premises of the party so failing to pay in the amount of such defaulting party's share of the repair or rebuilding costs. Any repairing or rebuilding done hereunder shall be performed timely and in a good and workmanlike manner and to the extent possible, accomplished without interruption to the normal usages of the Townhomes which share said party wall, party floor and/or roof.

E. Each Townhome owner sharing a party wall is licensed by the other Townhome owner who shares said wall, upon reasonable notice and/or proof of need, to enter upon the other parties premises for the limited and express purpose of erecting, repairing or rebuilding of the party wall, party floor and/or roof as herein provided; provided, however, that no such erecting repairing or rebuilding shall impair the then existing structural integrity of the others Townhome.

F. All references to party walls contained herein shall also apply to the gutters, scuppers and downspouts which run along, upon or within said party walls and/or roof, and the portion of this Declaration relating to party walls shall also relate to said gutters, scupper and downspouts as well.

G. In the event the Townhome of one party is no longer connected to the party wall, the other owner, at such time as it removes and disconnects its Townhome from the party wall, shall demolish and remove the party wall at its sole cost and expense, leaving said wall in suitable condition to remain as an exterior wall, and thereafter this party wall agreement shall terminate and neither party shall have any right, duty or obligation hereunder (except to fulfill his obligations hereunder which shall have accrued up to and including the date of such termination).

H. The benefits and burdens of the covenants herein contained shall annex to and be construed as covenants running with the aforesaid parcels or Lots herein described and shall bind the respective parties hereto and their respective heirs, legal representatives, successors and assigns. Nothing herein contained, however, shall be construed to be a conveyance by either party of his respective rights in the fee of the real estate in which the party wall shall stand.

I. To the extent not inconsistent with the provisions of this Article, the general rules of law regarding party walls and liability for property damage due to neglect or willful acts or omissions shall apply thereto.

**4.3** <u>COMMON EXPENSES</u>: The cost of reasonable repair, maintenance and restoration, including, but not limited to, of the driveways, concrete walks, common stairs, landscaping, snow removal, etc. of the lots upon which the Townhome project is constructed, shall be shared equally by the owners of the lots

irrespective of the ownership, subject however, to the right of the owner to call for another owner to pay a greater share under any rule of law regarding any liability for negligence of willful acts or omissions.

**4.4 <u>PUBLIC LIGHTING</u>:** Each townhome unit is provided with exterior lights. In order to provide adequate public lighting, each Owner is hereby obligated to have all of the exterior light located at ground level to stay "ON" from dusk to dawn. Since every Owner has the same responsibility for providing public lighting, no compensation for the cost of electricity will be made by the Association to individual Owners. Each owner shall keep the exterior lights in good repair and replace light bulbs as necessary.

**5.1** <u>**RECONSTRUTION:**</u> In the event that any Townhomes shall be damaged or destroyed by fire, any casualty or any other cause or event whatsoever, the owner thereof shall cause it to be repaired, restored or rebuilt as the case may be, as rapidly as reasonably possible, to the condition as near as possible in which such property was immediately prior to such damage or destruction

**5.2 INSURANCE COVERAGE:** To insure the prompt repair, restoration or rebuilding of any Townhome damaged or destroyed by fire or other casualty, each owner shall maintain in full force from time to time, insurance covering the Townhome owned by him, consisting of, or providing all the protection afforded by, at least, the insurance now generally described as fire, extended coverage, vandalism and malicious mischief, to 100% of the full insurable value thereof, with loss payable on the basis of the cost of replacement without deduction without depreciation.

Coverage shall be obtained for any liability resulting from the use of the common access by a unit owner and/or invitees or guests thereof. The Homeowners Association shall be named as a loss payee under said liability provisions to the extent the Association has maintenance responsibilities thereon.

The unit owner shall provide the Association with a copy of the annual unit policy. An Owners failure to obtain said insurance shall allow the Association to purchase said insurance, if available for the non insured Unit, to cover liability for damage to the other units resulting from or caused by defects in or non repair, negligence or other action or non action by the non covered Unit Owner. The Association shall be deemed in such an event to have an insurable interest in the uninsured Unit and shall have the power and authority to charge the uncovered Unit Owner the cost of said insurance coverage and to place a lien on said Unit for the cost thereof including attorneys fees and court costs resulting from any collection process required to obtain reimbursement.

# ARTICLE VI

# **MISCELLANEOUS AND EXECUTION**

6.1 <u>NON WAIVER OF COVENANTS</u>: No covenant, restriction, condition, obligation or provision contained in this Declaration shall be deemed to have been abrogated or waived by any reason of failure to enforce the same, irrespective of the number of violations of breaches which may occur.

6.2 <u>SUCCESSORS AND ASSIGNS</u>: Each grantee of the Declarant, and each subsequent grantee, by the acceptance of a deed of conveyance, and each purchaser under any contract for such deed of conveyance, accepts said deed or contract subject to all restrictions, conditions, covenants, easements, liens and charges, and the jurisdiction, rights and powers crated or reserved by this Declaration and shall be deemed to have agreed to perform all undertakings and to be bound by all agreements and covenants imposed on him by this Declaration. All rights, benefits, privileges of every character hereby granted, created, reserved and Declared and all impositions and obligations hereby imposed shall be deeded and taken to be covenants running with the land, and shall bind any person having at any time any interest or estate in the property, and shall inure to the benefit of such grantee or purchaser in like manner as though the provisions of this Declaration were recited and stipulated in length in each and every deed of conveyance. All rights granted specifically to Declarant under this Declaration shall be binding upon the successors and assigns of Declarant, provided, however, that the owners shall not be deemed to be the successors and assigns of the Declarant for the purpose of this paragraph.

**6.3 ENFORCEMENT:** Any violation on the part of an owner of any of the restrictions, covenants, terms or conditions of this Declaration to be kept, observed or performed by him and which will or is

likely to result in damages which are irreparable or impossible of ascertainment, then any other owner is hereby granted the right to prevent or remedy any such threatened or actual violation on the part of any owner, or the further continuation of any such violation, as the case may be, by means of injunctive proceedings or other legal remedies. The various rights and remedied hereby granted shall be in addition to all other rights and remedies which may be available. All said rights and remedies may be exercised either concurrently or consecutively or partly concurrently or partly concurrently or partly concurrently.

**6.4** <u>SURVIVAL</u>: If any term, provision, covenant, easement, agreement or condition in this Declaration shall be held invalid, whether in general or as to any particular situation or circumstance, the remainder of this Declaration and the applicability to any other situation or circumstances, as the case may be, shall not be invalidated or terminated thereby, but shall remain in full force and effect to all intents and purposes as though such invalid term, provision, covenant, easement, agreement or condition had never been.

If any of the covenants or rights created by this Declaration would otherwise violate (a) the rule against perpetuities or some analogous statutory provision, or (b) any other statutory or common law rules imposing time limits, then such provision shall continue only until twenty-one (21) years after the death of the survivor of the now living lawful descendants of the incumbent President of the United States of America.

**6.5** <u>**GENDER OF TERMS; NUMBERS:**</u> As used in this Declaration, the masculine shall mean the feminine or neuter and singular mean plural where the context requires to preserve the making of the appropriate provision.

**6.6** <u>SUPERIORITY</u>: Anything herein to the contrary notwithstanding, nothing contained herein shall be construed to supersede any ordinance of the Village of Oak Park, Illinois, affecting the property or any portion thereof.

6.7 <u>NO PERSONAL LIABILITY OF DECLARANT</u>: This Declaration is executed by Declarant only in its corporate capacity.

**6.8 LAWS OF ILLINOIS:** This Agreement shall be construed in conformity with the law of the State of Illinois and in accordance with the usage in said State of Illinois regarding party walls.

**6.9 MODIFICATIONS:** This Agreement contains all the terms, conditions and covenants relating to the Townhomes described herein and no modifications, waivers, variations, or releases of the duties and obligations under this Agreement shall be binding unless made in writing and signed by the Townhome owners affected herein. In the event any modifications of this Agreement is desired as it relates to exterior modifications to any of the Townhomes as set forth in Article 3.1 hereof, then, in that event, the affected Townhome owners shall be construed as all of the Townhome owners.

**6.10 NOTICE:** Any notice required or desired to be given under the provisions of this Declaration to any owner shall be deemed to have been properly delivered when the deposited in the U.S. Mail, postage prepaid, directed to the last known person who appears as an owner or other person, at the last known address for each such person which is publicly listed if other than address of the Townhome.

#### ARTICLE VII

#### **RIGHTS RESERVED TO DEVELOPER**

7.1 **DEVELOPER'S PROMOTIONAL RIGHTS:** The right is reserved to the Developer to place and maintain on any area of the Parcel or Development Site, with the exception of a Townhome Lot which has been sold and conveyed or sold on Contract, or sold pursuant to an installment Contract or Articles of Agreement for Deed, to an Owner, all model Dwelling Units, construction trailers, sales offices, fencing, flag poles, advertising signs, banners and lighting in connection therewith and other promotional facilities at such locations and in such forms as shall be determined by Developer for construction, sales and leasing purposes. There is also reserved to the Developer, its agents, employees and prospective purchasers and tenants, the right of ingress, egress and transient parking in and through the Parcel and Development Site for such sales and leasing purposes. The Developer also reserves the right to maintain on the Parcel and Development Site for such sales and leasing purposes without charge (a) a general office for the purpose of exercising the rights reserved in Paragraph 7.1 and 7.2 hereof, (b) a general construction office for Developer's contractors and subcontractors and appropriate parking facilities for the employees of Developer's agents and contractors. Developer's aforesaid reserved rights shall continue for so long as Developer is engaged in the construction, sale or leasing of Dwelling Units on any portion of the Development Site.

7.2 **DEVELOPER'S EASEMENTS:** The Declarant reserves unto itself, the Developer, a nonexclusive easement to, through, over, under and across the Development Site and all portions thereof for the purpose of implementing the overall development of the Development Site, including, without limitation, the planning, construction, marketing, leasing, management and maintenance of improvements in any portion of the Development Site. Such easement shall continue for a period of ten (10) years from the date of this Declaration unless Developer, by written notice to the Association, elects to terminate such rights prior to such date. All rights and easements in favor of the Owner created by this Declaration shall be subject and subordinate to the afore described development rights and easements of Developer, whether or not inconvenience to any Owner shall result therefrom. The rights and easements reserved pursuant to this Section 7.2 and Section 7.3 shall inure to the benefit of the Developer, the Declarant, their respective successors and assigns, including any successor to or assignee of the Developer's rights under this Declaration.

# 7.3 RIGHTS OF DEVELOPER TO MAKE DEDICATIONS, TO GRANT ACESS AND

**UTILITY EASEMENTS END TO EXPAND THE DEVELOPMENT SITE:** As used in this Paragraph 7.3, the term "utilities" means all public and private utility conduits, wires, ducts, pipes, cables and other lines, and all associated equipment, which serve the Development Site, including, without limitation, those for the transmission and/or distribution of water, electricity gas, telephone, sewage, drainage and television and other electronic signals. Said term also includes all standpipes, hydrants, pumps, equipment vaults and other structures and facilities for the provisions of fire protection services.

Declarant and Developer hereby reserve the following rights and easements:

A. To dedicate streets and street lights, walks, malls, parkways, parkland, drives, open space and water rights to any governmental authority and to make such other dedications as may be required to implement the ordinances of any governmental authority from time to time applicable to the Parcel or Development Site and to the public improvements thereon and to install, provide and service all utilities on and to provide vehicular and pedestrian access to the Development Site.

## ARTICLE VIII

#### ASSOCIATION

**8.1** The Developer after execution and recordation hereof, or the Purchasers upon the sale of all Dwelling Parcels, may cause a non-profit corporation to be incorporated under the laws of the State of Illinois or a non-profit unincorporated association to be formed, to be called the "BONNIE BRAE TOWNHOMES HOME OWNERS ASSOCIATION", or a name similar thereto to represent this "Common Interest Community", and upon the formation of such non-profit corporation or association (hereinafter sometimes referred to as the "Association") every owner of a Dwelling Parcel or beneficiary under a title-holding land trust, shall become a member therein. Each such owner, including the beneficiary of any such title-holding land trust, shall be entitled to one vote per unit

based on that unit's percentage interest in the square footage of the project on each matter submitted to a vote of the members for each Dwelling Parcels owned by him or it, except that where title or beneficial interest to a Dwelling Parcel is in more than one person, such co-owners acting jointly shall be entitled to but one vote.

**8.2** The direction of the Associations hall be vested in a Board of Directors (hereinafter sometimes referred to as the "Board of Directors") consisting of three (3) members, each of whom shall be an owner, to be elected by majority vote of the owners, with cumulative voting permitted. The Board of Directors, upon majority vote, may elect such officers from among the owners as they shall deem necessary and appropriate for the conduct of the affairs of the Association.

**8.3** At the direction of the majority of the Board of Directors, all Dwelling Parcels may be subject to an assessment to be reasonably and fairly determined by the Board of Directors to cover such items, including, but not limited to, maintenance of roof, driveways, concrete walks, common stairs, balconies, landscaping and snow removal. The aforesaid charges or assessments shall be paid by the respective owners when billed by the Board of Directors and if an owner is in default in making any such payment for ten (10) days, the Association or any owner may bring proceedings at law or in equity against such owner to collect same by suit, there shall be added to the amount due the costs of such suit together with interest and reasonable attorneys' fees, to be fixed by Court Order. All remedies provided in the Forcible Entry and Detainer Act of the State of Illinois are incorporated herein by reference for the collection of assessments herein.

# ARTICLE IX

# **GENERAL**

**9.1 <u>AMENDMENTS BY DECLARANT</u>:** Prior to the sale of the fifth (19<sup>th</sup>) Townhome Unit, the Declarant or its successors and assigns shall have the right to change or modify this Declaration; and provided that except as may be provided in this Declaration, such amendment shall be executed only to (i) comply with the requirements of the Federal Home Loan Mortgage Corporation, the Veterans Administration, the Federal National Mortgage Association, the Federal Housing Authority or any similar entity, (ii) comply with any statutes, laws or ordinances, or (iii) correct clerical or typographical errors. In furtherance of the foregoing, a power coupled with an interest is hereby reserved and granted to the Declarant to make any change or modification as authorized hereunder on behalf of each Owner as attorney-in-fact for such Owner. Each Deed, Mortgage, Trust Deed, or other evidence of obligation affecting a Townhome Lot and the acceptance thereof shall be deemed to be a grant and acknowledgment of and a covenant and reservation of the power of the Declarant as aforesaid. Such amendment shall become effective upon recording in the office of the Recorder of Deeds for Cook County, Illinois.</u>

# 9.2 <u>AMENDMENT BY THE OWNERS</u>:

A. The provisions of this Declaration may be amended by an instrument executed and acknowledged by and approved by the Owners of not less than ten (10) of the Townhome Lots which are subject to the provisions of this Declaration, and shall contain an Affidavit signed by all Owners approving the Amendment, certifying that a copy of the amendment has been mailed by certified mail to all mortgagees having bona fide liens of record against any Townhome Lots, no less than five (5) days prior to the date of such Affidavit. No amendment affecting the right of the Holder of any first mortgage or trust deed on a Townhome Lot shall be made without the consent of such mortgagee or holder. No amendment shall be effective unless recorded in the office of the Recorder of Deeds of Cook County, Illinois.

B. Those provisions of this Declaration relating to the rights, privileges or obligations of the Declarant or the Developer may only be amended upon the prior written consent of the Declarant or Developer. This Declaration may be amended by Declarant in any manner prior to the conveyance of any Townhome Lot to any other Owner.

**9.3** <u>SEVERABILITY</u>: Invalidation of all or any portion of any of the covenants, restrictions, easements, conditions, reservations, liens and charges imposed by this Declaration, by legislation, judgment or court order shall in no way affect any other provisions of this Declaration, all of which shall remain in full force and effect.

**9.4 ENFORCEMENT:** Enforcement by any Owner of the covenants and restrictions contained in this Declaration shall be had by any proceeding at law or in equity against any person or persons violating or attempting to violate any such covenant or restriction, either to restrain violation or to recover damages, and against the land to enforce any lien created by these covenants; and failure by any Owner to enforce any covenant or restrictions shall in no event be deemed a waiver of the right to do so thereafter.

**9.5 NOTICES:** Any notice required to be sent to any Owner under the provisions of this Declaration shall be deemed to have been properly sent when mailed, postage prepaid, to the last known address of such Owner as it appears on the records of Cook County Recorders of Deeds at the time of such mailing.

9.6 <u>TITLE HOLDING LAND TRUST</u>: In the event Title to any Townhome Lot is conveyed to a Title Holding Trust, under the terms of which all power of management, operation and control of such Townhome Lot remain vested in the trust beneficiary or beneficiaries, then the beneficiaries thereunder from time to time shall be responsible for payment of all obligations, liens or indebtedness and for the performance of all agreements, covenants and undertakings chargeable or created under this Declaration against such Townhome Lot. No claim shall be made against any such title holding trustee personally for payment of any lien or obligations hereunder created and the trustee shall not be obligated to sequester funds or trust property to apply in whole or in part against such lien or obligation. The amount of such lien or obligations shall continue to be a charge or lien upon such Townhome Lot and the beneficiaries of such trust notwithstanding any transfers of the beneficial interest of any such trust or any transfers of title to such Townhome Lot.

9.7 **DURATION:** The covenants, restrictions, conditions, reservations, liens and charges imposed or established by or created under this Declaration shall run with and bind the land for a period of forty (40) years from the date of recording of this Declaration and may be enforced by any owner through any proceeding in law or in equity. Failure by any Owner to so enforce shall in no event be deemed a waiver of the right to do so thereafter. After the expiration said forty (40) years period, all of such covenants, restrictions, conditions, reservations, liens and charges shall continue to run with and bind the land for successive periods of ten (10) years each unless revoked, changed or amended in whole or in part, by an instrument in writing which is executed by the Owners of not less than two-thirds of the Townhome Lots and recorded in the office of the Recorder of Deeds for Cook County, Illinois.

**9.8** <u>CAPTIONS</u>: The Article and Paragraph headings are intended for convenience only and shall not be construed with any substantive effect in this Declaration.

THIS DECLARATION is executed by the undersigned as a corporate entity.

THIS DECLARATION, is executed by the undersigned Manager, not personally, but as Manager as aforesaid; and it is expressly understood and agreed by the parties hereto, anything to the contrary notwithstanding, that each and all of the covenants, undertakings and agreements herein made are made and intended, not as personal covenants, undertakings and agreements of the Manager named and referred to in said Declaration for the purpose of binding it personally, but this instrument is executed and delivered by <u>Bonnie Brae Construction, LLC, a limited liability company</u>.

**IN WITNESS WHEREOF**, the Bonnie Brae Construction, LLC hereto has caused these presents to be signed the day and year first above written.

By:

As Manager of Bonnie Brae Construction, LLC

# STATE OF ILLINOIS ) COUNTY OF COOK ) ss:

I,\_\_\_\_\_\_, a Notary Public, in and for and residing in said Count and State, **DO HEREBY CERTIFY THAT**\_\_\_\_\_\_, Manager of Bonnie Brae Construction, LLC who is personally known to me to be the same person whose name is subscribed to the foregoing instrument as such Manager, respectively, appeared before me this day in person and acknowledged that he signed and delivered said instrument as his own free and voluntary act and as the free and voluntary act of said Limited Liability Company, as Manager as aforesaid for the uses and purposes therein set forth; and the said Manager then and there acknowledged that said Manager's own free and voluntary act and as the free and voluntary act of said Limited Liability Company for said uses and purposes therein set forth.

GIVEN under my hand and notarial seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_

Notary Public

# EXHIBIT "A" BONNIE BRAE TOWNHOMES HOMEOWNERS ASSOCIATION 1101-1111 Bonnie Brae Place, River Forest, Illinois 60305 THE SURVEY ATTACHED HERETO AND INCORPORATED HEREIN

Tab 7

# TENTATIVE DEVELOPMENT SCHEDULE

### PROPOSED DEVELOPMENT SCHEDULE

	Estimated Start	Estimated End
Permit Acquisition	April, 2020	June, 2020
Site demolition	July 2020	July 2020
Site work and Utilities	August 2020	August 2020
Foundations	September 2020	October 2020
Framing/Masonry	November 2020	February 2021
Mechanicals	December 2020	May 2021
Interior Construction	May 2021	August 2021
Exterior Construction	October 2020	November 2021
Project Close Out		January 2022

Tab 8

STATEMENT OF RESPONSIBILITY

### STATEMENT OF RESPONSIBILITY

The undersigned Officer of the Applicant hereby acknowledges his responsibility to record a certified copy of the Ordinance granting the Planned Development permit with the Cook County Recorder of Deeds office and provide evidence of said recording to the Village of River Forest within thirty (30) days of the passage of the Ordinance.

12-02-2019

Art Gurevich

Date

Tab 9

TRAFFIC STUDY

### **Traffic Impact Study**



#### CONSULTING ENGINEERS

625 Forest Edge Drive, Vernon Hills, IL 60061 Tel 847.478.9700 • Fax 847.478.9701

www.gha-engineers.com

To:Art Gurevich<br/>Bonnie Brae Construction, LLCFrom:Bill Grieve, P.E., PTOE<br/>Senior Transportation EngineerAntonio Maravillas, E.I.T.<br/>Transportation Engineer

Date: December 17, 2019

Subject: Proposed Residential Development 1110 Bonnie Brae – River Forest, Illinois

### Part I. Project Context and Summary Statement

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Traffic Impact Study (TIS) for the above captioned project. As proposed, 19 townhomes would be constructed on the northeast corner of the Bonnie Brae intersection with Thomas Street in River Forest, Illinois.

The following summarizes our TIS findings and provides various recommendations for your consideration. *Exhibits* and *Appendices* referenced are centrally located at the end of this document. Briefly summarizing, we believe that the development traffic can be accommodated on the adjacent streets. Reasons include:

- The site is served well by all modes of transportation, including major streets and CTA/Pace bus routes which provide easy accessibility to the CTA Green Line and the Metra Union Pacific West Line.
- Per US Census data, the townhomes will generate a significant portion of non-auto trips, about 30%. This trip discount was not taken to help ensure that the maximum site traffic impacts were tested.
- Development traffic will have a very limited impact on current operations along Bonnie Brae and Thomas Street.
- > The parking supply of 38 indoor spaces meets the Village code requirement of 2.0 spaces per dwelling.

### Part II. Background Information

### Site Location Map, Existing Traffic Operations, and Roadway Inventory

*Exhibit 1* provides a site location map, *Exhibit 2* illustrates the existing traffic operations, and *Appendix A* provides a photo inventory of the site vicinity. Pertinent comments regarding land-uses in the site vicinity and transportation components, both vehicular and non-auto mobility include:

### Area Land Uses

- Concordia University Chicago is located across from the site along Bonnie Brae.
- The eastern side of Bonnie Brae consists of single-family residential housing north and south of the site.
- A condominium is adjacent to the site along Harlem Avenue.
- A synagogue is located diagonally from the site along Thomas Street and Harlem Avenue.
- A large community park is located at the north end of Bonnie Brae, along Division Street.

### Roadway Inventory

Bonnie Brae

- Bonnie Brae is a north-south roadway and is under the jurisdiction of the Village of River Forest.
- Bonnie Brae is classified as a "Local Road" on the Illinois Department of Transportation (IDOT) functional classification map.
- Bonnie Brae provides an urban cross-section with one travel lane in each direction.
- 2-hour parking is allowed on the western side of the street while parking is prohibited on the eastern side of the street in the site vicinity.
- Bonnie Brae is stop controlled at its intersections with Division Street and Augusta Street.

### Thomas Street

- Thomas Street is an east-west roadway that is also under local jurisdiction.
- Thomas Street operates as one-way (eastbound) between Bonnie Brae and Harlem Avenue. It provides an urban cross section with one travel lane and parking allowed only on the north side of the street.
- Thomas Street is stop controlled at its intersection with Harlem Avenue. East of Harlem Avenue, Thomas Street operates as two-way (one travel lane in each direction).

### Division Street

- Division Street is an east-west route that is also under local jurisdiction.
- Division Street is classified as a "Major Collector" on the IDOT functional classification map with a posted school zone speed limit of 20-mph near Bonnie Brae.
- Division Street provides an urban cross section with one travel lane in each direction and parking lanes on both sides of the street.
- At its intersection with Bonnie Brae, a separate left-turn lane is provided on the westbound approach.

### Augusta Street

- Augusta Street is an east-west route that is also under local jurisdiction.
- Augusta Street is classified as a "Local Road" on the IDOT functional classification map, with a posted speed limit of 25-mph.
- Augusta Street provides an urban cross section with one travel lane in each direction.

### Harlem Avenue (IL Route 43)

- Harlem Avenue is a north-south roadway that is under the jurisdiction of IDOT.
- Harlem Avenue is classified as an "Other Principal Arterial" on the IDOT functional classification map and is designated as a Strategic Regional Arterial (SRA) route.
- Harlem Avenue provides an urban cross-section with two-travel lanes in each direction and a posted speed limit of 30-mph.
- Parking is prohibited on both sides of Harlem Avenue within the site area.

### **Pedestrian Mobility**

- Pace operates bus route 307 (Harlem) and 318 (West North Avenue) along Harlem Avenue with stops at the northwest and southeast corners of the intersection with Division Street, and at the northwest and northeast corners of the intersection with Augusta Street. The Chicago Transit Authority (CTA) also operates bus route 90 (Harlem) with stops at the same locations.
- CTA bus route 90 also provides stops along Harlem Avenue at the northwest and southeast corners of the intersection with Thomas Street.
- Pedestrian crosswalks are striped on each approach of the Bonnie Brae and Division Street intersection. Pedestrian signage is also provided on the eastbound approach.
- Pedestrian crosswalks are also striped on the westbound approach of the Thomas Street intersection with Bonnie Brae, and on both approaches of the intersection with Harlem Avenue.
- For the intersection of Augusta Street and Bonnie Brae, crosswalks are striped on the northbound, southbound, and eastbound approaches with pedestrian signage provided on the eastbound approach.
- Sidewalks are provided on both sides of the street for all roadways in the site vicinity.
- The CTA Green Line runs parallel to Division Street about 1 mile south of the site. The closest station (Harlem/Lake) is located at Harlem Avenue.
- The Metra Union Pacific West Line runs alongside the CTA Green Line in the area, with the closest station near the Harlem/Lake CTA station, about 1 mile south of the site.

### Existing Traffic

GHA conducted weekday morning (7 AM – 9 AM) and evening (3 PM – 7 PM) peak period traffic and pedestrian counts on Tuesday, November 19, 2019 at the Bonnie Brae intersections with Division Street, Thomas Street, and Augusta Street, as well as at the Public Alley intersections with Bonnie Brae and Thomas Street.

No unusual activity (e.g. road construction, severe weather, or extensive emergency vehicle activity) occurred during the counts that would have impacted the traffic volumes or travel patterns. *Exhibit 3* illustrates the existing Weekday Morning and Evening Peak Hour traffic and pedestrian volumes which occurred from 7:30-8:30 AM and 3:00-4:00 PM along Bonnie Brae, and the Annual Average Daily Traffic (AADT) volumes obtained from the IDOT Website <u>gettingaroundillinois.com</u>. The traffic count summary sheets are provided in *Appendix B*.

### **Crash Analysis**

Observing the most recent available crash history can determine if any roadway improvements are needed to improve safety along the surrounding roadways. Crash data from 2014-2018 was obtained from the IDOT Bureau of Data Collection for Bonnie Brae within the site vicinity. *Appendix C* summarizes the 5-year (2014-2018) crash history along Bonnie Brae at its intersections with Division Street, Thomas Street, and Augusta Street.

As can be seen, 10 crashes occurred at the Division Street intersection, 12 crashes occurred at the Augusta Street intersection, and 3 crashes occurred at the Thomas Street intersection during the 5-year study period. The only observed trend was at the Augusta Street intersection, where 9 of the 12 crashes were angle or turning collisions. No notable crashes occurred elsewhere on Bonnie Brae or Thomas Street.

### Part III. Project Traffic Characteristics

### Site Plan

Per the site plan prepared by JCSA Ltd. dated October 24, 2019, (see *Exhibit 4*), 4 multi-unit buildings with a combined total of 19 units will be constructed at the northeast corner of the Bonnie Brae and Thomas Street intersection. Access for 13 of the units will be provided via a private driveway on Thomas Street, while access for the other 6 units will be provided on the public alley.

### Traffic Generations and Trip Distribution

*Exhibit 5 – Part A* summarizes the weekday morning and evening peak hour and daily auto trip generations for the townhomes that were based on rate information published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual –* 10th Edition (see *Appendix D*).

<u>Discussion Point.</u> The trip generations do not reflect the various non-auto travel mode alternatives. US Census data for River Forest indicates that about 30% of trips are non-auto oriented. Thus, the volumes shown on **Exhibit 5 – Part A** are probably overestimated.

*Exhibit 5 – Part B* lists the anticipated trip distribution and reflects the anticipated travel patterns. As previously noted, Thomas Street operates as one-way (eastbound) between Bonnie Brae and Harlem Avenue.

### Part IV – Traffic and Parking Evaluation

### **Traffic Assignments**

IDOT and other agencies generally require that the existing volumes be increased to reflect other growth in the area for a "Buildout + 5 year" analysis. Assuming a buildout year of 2021, the analysis would be for the Year 2026. The Chicago Metropolitan Agency for Planning (CMAP) was contacted and provided Year 2050 traffic projections (see *Appendix E*). As can be seen, Division Street is projected to experience very minimal growth. A 4% increase was applied to Division Street. Because Bonnie Brae is a relatively short local roadway, compared with Division Street which is classified as a "Major Collector", no growth was applied along Bonnie Brae.

Site traffic was assigned to the adjacent streets based on the project characteristics (see *Exhibit 5*) and is illustrated in *Exhibit 6*. Site traffic and the existing volumes (see *Exhibit 3*) adjusted for growth were added to produce the Year 2026 total traffic assignment, which is illustrated in *Exhibit 7*.

<u>Discussion Point.</u> No site traffic was assigned to the new private drive on Thomas Street. This helps to ensure that the maximum site traffic volumes were tested at the alley intersection with Thomas Street.

### Intersection Capacity and Queue Analyses

Capacity analyses are a standard measurement in the transportation industry that identifies how an intersection operates. *Exhibit 8 – Part A* lists the analysis parameters, as published in the Transportation Research Board's (TRB) Highway Capacity Manual – 6<sup>th</sup> Edition, 2016 (HCM). They are measured in terms of level of service (LOS).

LOS A is the best rating, with LOS F being the worst. LOS C is considered appropriate for "design" purposes and LOS D is usually considered as providing the lower threshold of "acceptable" operations. LOS E and F are usually considered unacceptable.

**Exhibit 8 - Part B** summarizes the intersection capacity and queue analysis results. The capacity analysis summary printouts are provided in **Appendix F**. As can be seen from **Exhibit 8**, site traffic will have a minimal impact on operations at all intersections tested, with all results at or better than the "acceptable" LOS D or better.

### Traffic Impact Discussion

Townhome traffic will represent the following volumes traveling through the Bonnie Brae intersection with Division Street:

- During the weekday morning peak hour (see *Exhibit 3*), there are currently about 959 vehicles or about 16 vehicles per minute. The townhomes would add only 2 trips or about 1 trip every 30 minutes.
- During the weekday evening peak hour, there are currently about 827 vehicles or about 14 vehicles per minute. The apartments would add only 4 trips or about 1 trip every 15 minutes.

<u>Key Finding.</u> Based on the above, it can be concluded that no street or intersection improvements would be necessary to specifically accommodate site traffic. Thus, our recommendations focus on the on-site planning elements (e.g. access operations and parking) and on enhancing pedestrian mobility.

### **On-Site Planning Elements**

#### Site Access

- One drive will be provided to access 13 of the 19 total units. The other 6 units will be accessible off the public alley.
- The site civil engineer should run AutoTurn for vehicle maneuvers into and out of the townhome driveways and the alley.
- 'No Right Turn' signage should be posted at Thomas Street for the private driveway.
- Prior to the recent resurfacing of Bonnie Brae, a crosswalk had been striped on the southbound approach of the intersection with Thomas Street. Given that the proposed development should generate a significant portion of non-auto trips, a crosswalk should be restriped on the southbound approach of the intersection.

### Parking

- It is our understanding that Village Code requires 2.0 parking spaces per unit for a total of 38 spaces. Per the site plan, each unit will have a private garage with enough space for 2 vehicles. In total, there will be 38 private parking spaces. Thus, the parking supply is adequate.
- 4 additional off-street parking spaces are available in addition to the on-street parking along Thomas Street and Bonnie Brae. The parking supply should be more than adequate for the proposed development.

### Part V. Technical Addendum

The following *Exhibits* and *Appendices* were previously referenced. They provide technical support for our observations, findings, and recommendations discussed in the text.

### <u>Exhibits</u>

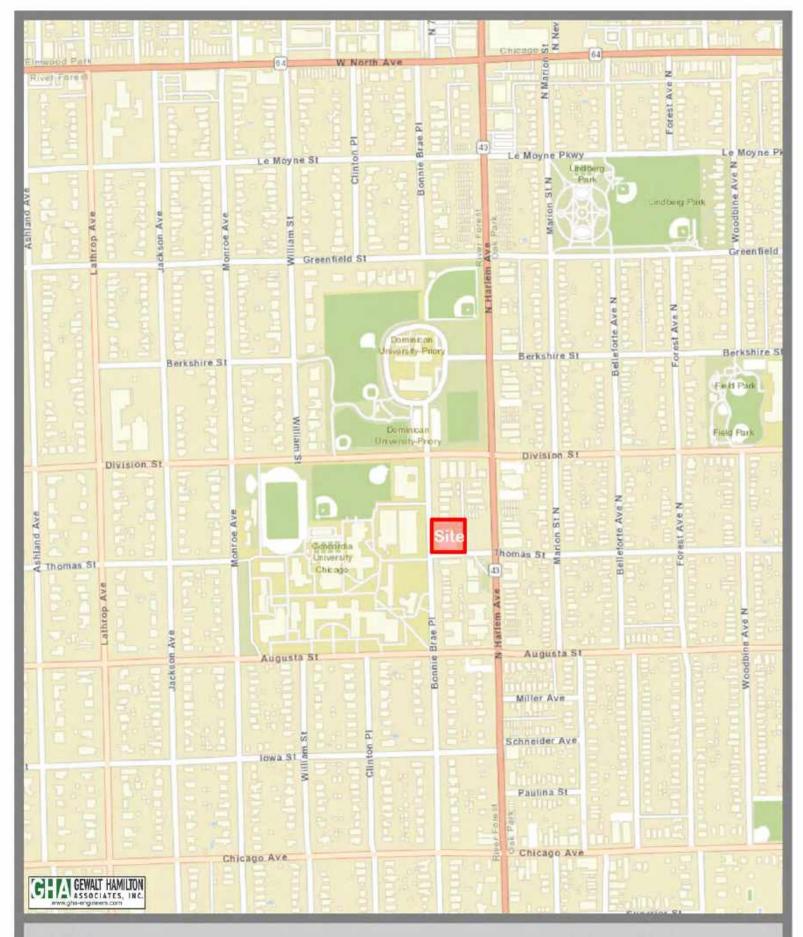
- 1., Site Location Map
- 2., Existing Traffic Operations
- 3., Existing Traffic and Pedestrians
- 4., Site Plan
- 5., Project Traffic Characteristics
- 6., Site Traffic
- 7., Total Traffic Year 2026
- 8., Intersection Capacity Analyses

### Appendices

- A., Photo Inventory
- B., Traffic Count Summary Sheets
- C., Crash Summary
- D., ITE Trip Generation Excerpts
- E., CMAP Correspondence
- F., Capacity Analysis Worksheets

# **EXHIBITS**



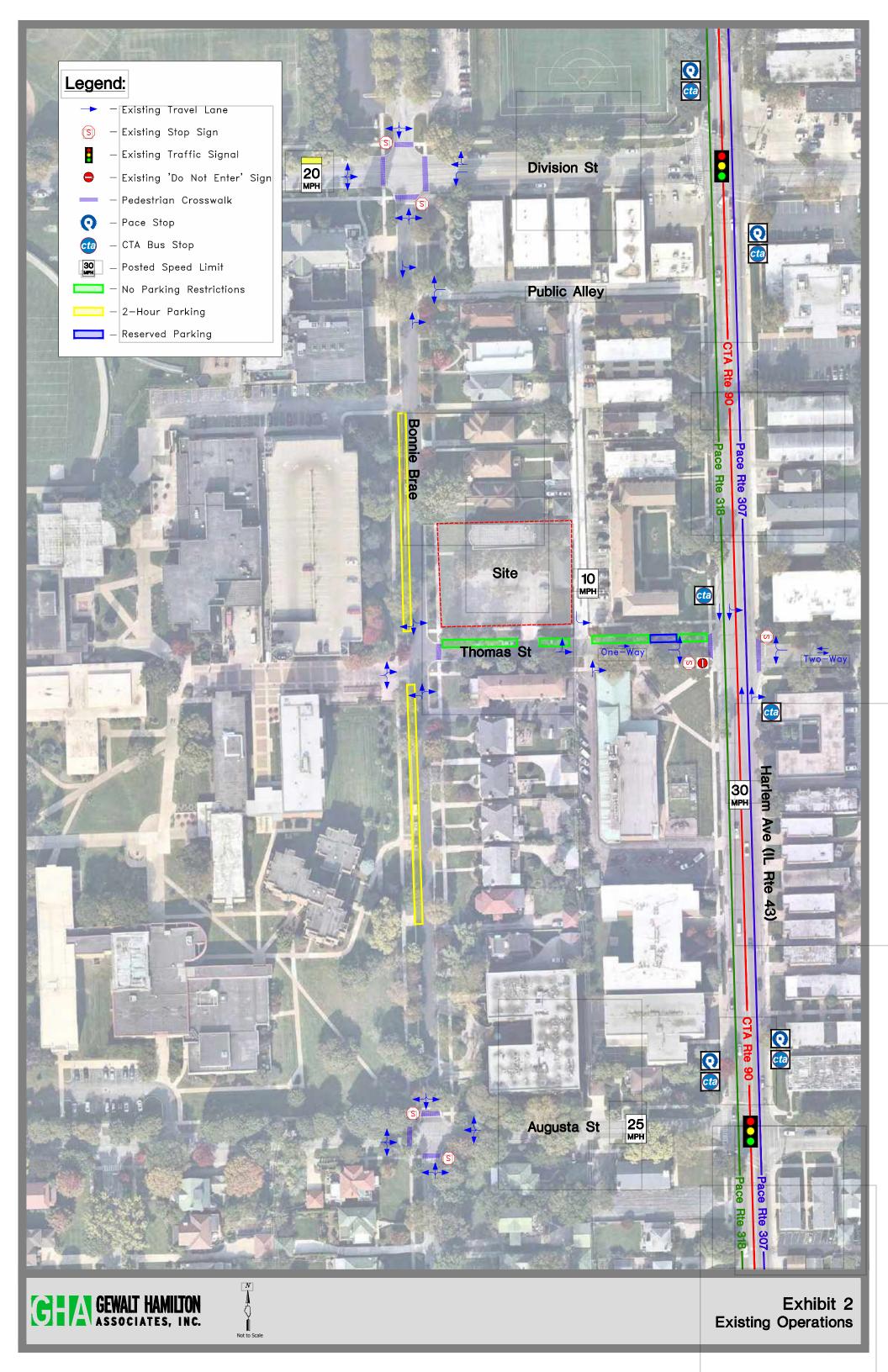


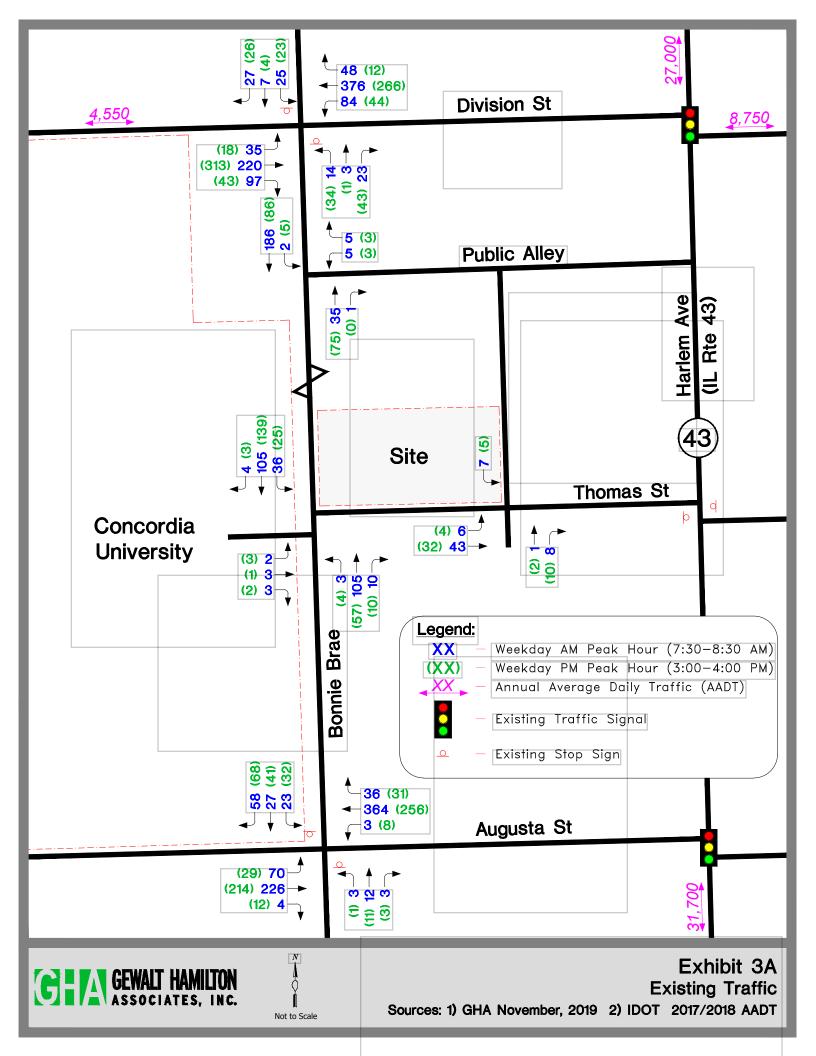
# 1 inch = 875 Feet

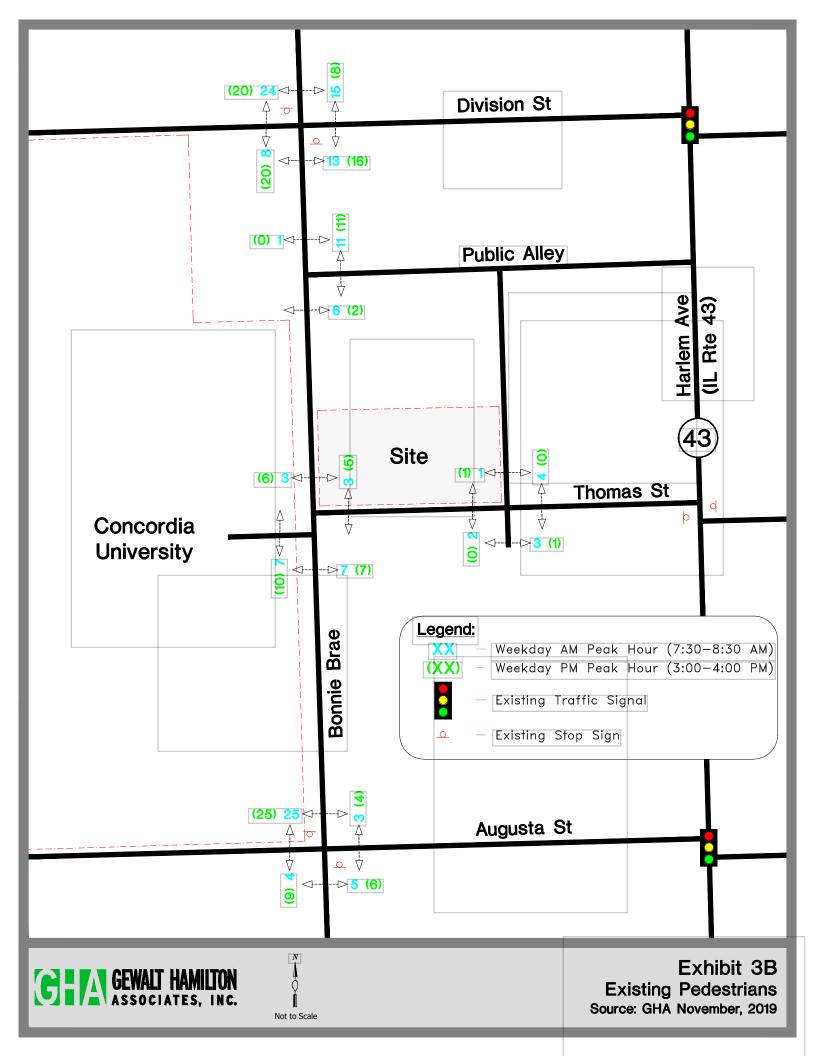
# Exhibit 1 - Location Map

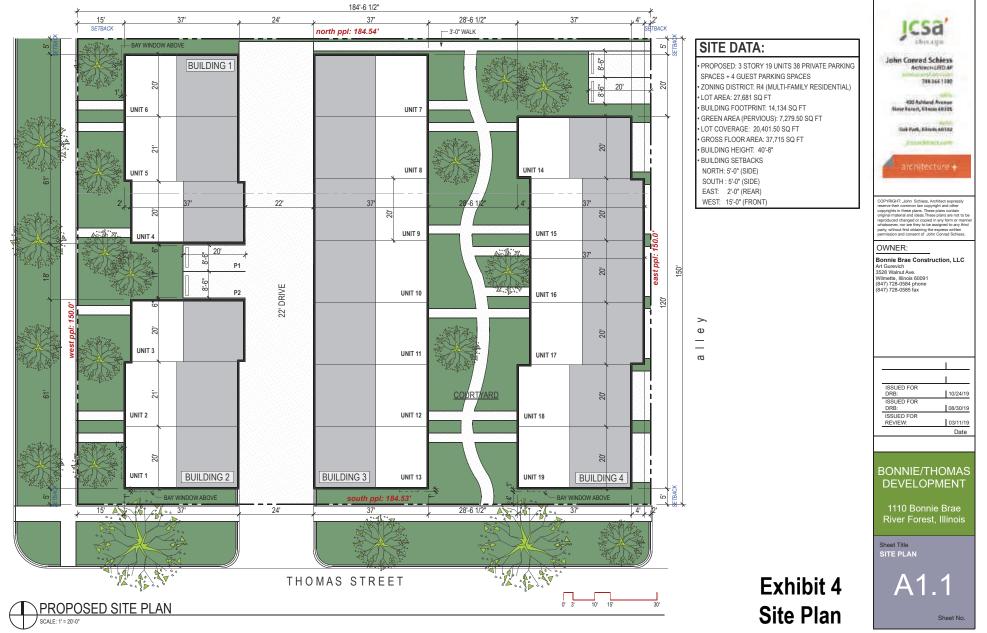
Proposed Residential Development 1110 Bonnie Brae, River Forest, IL

Map Center: 87.80773°W 41.9006°N









### Exhibit 5 Project Traffic Characteristics

Proposed Residential Development - River Forest, Illinois

### Part A. Traffic Generation Calculations

				V	Veekday I	Peak Ho	urs		
		ITE	Morr	ning Peak	Hour	Even	ing Peak	Hour	Daily
Land Use	Size	Code	In	Out	Sum	In	Out	Sum	Sum
Multifamily Housing (Low-Rise)	19 Dwelling Units	#220	2	8	10	8	5	13	104
Multi-N	Modal Reduction @	30% =	1	6	7	6	4	10	73
	Discussion: T	he discou	int for n	on-auto t	rips was	<u>not</u> take	n,		

to help ensure that the maximum site traffic imapcts are tested.

Notes:

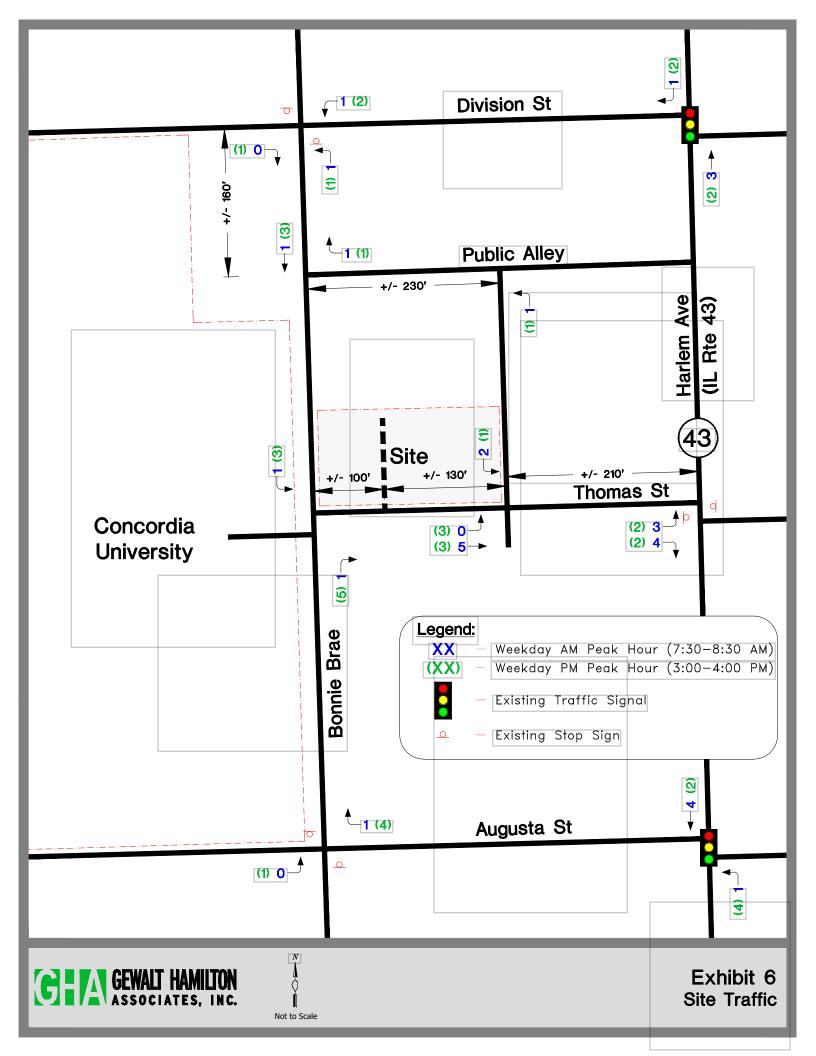
1) Source: Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition).

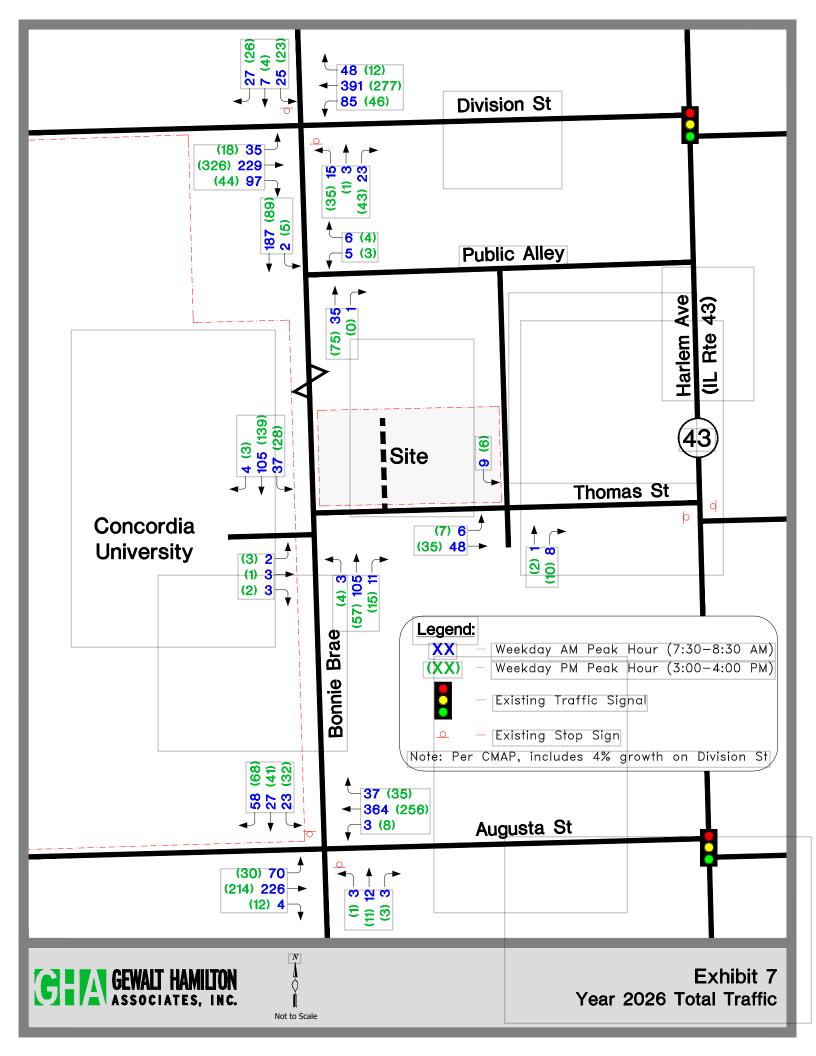
2) Per 2017 US Census for River Forest, about 30% of residents take public transportation, bike, or walk.

### Part B. Trip Distribution

Percent Use	Percent Use
To Site	From Site
15%	15%
30%	-negligible
10%	<5%
45%	-negligible
<5%	<5%
-negligible	-negligible
-not allowed	85%
	To Site           15%           30%           10%           45%           <5%







### Exhibit 8 Intersection Capacity and Queue Analyses

Proposed Residential Development - River Forest, Illinois

#### Part A. Parameters - Type of Traffic Control (Source: Highway Capacity Manual 6th Edition)

#### I. Traffic Signals

	-		-	-
LOS	<u>Delay (sec / veh)</u>	Description	LOS	<u>Delay (sec / veh)</u>
Α	<10	All signal phases clear waiting vehicles without delay	Α	< 10
В	>10 and < 20	Minimal delay experienced on select signal phases	В	>10 and < 15
С	>20 and < 35	Some delay experienced on several phases; often used as design criteria	С	>15 and < 25
D	>35 and < 55	Usually considered as the acceptable delay standard	D	>25 and < 35
Е	>55 and < 80	Very long delays experienced during the peak hours	E	>35 and < 50
F	>80	Unacceptable delays experienced throughout the peak hours	F	>50

### Part B Results

Part B. Results					LOS	S Per N	loven	nent E	Ву Арр	roach	1			Intersectio	on /
	Roadway Conditions		>	> = Sha	red Lan	е	- = Non	Critica	l or not a	Allowed	Mover	nent		Approac	h
	ricultury contailonio	E	astbou	nd	V	Vestbou	nd	N	orthbou	nd	S	outhbou	ind	Delay	
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	(sec / veh)	LOS
1. Bonnie Brae at Division St	TWSC - NB/SB Stops	E	Eastbou	nd	v	Vestbou	nd	N	orthbou	nd	S	outhbou	ind		
A. Weekday Morning Peak Hour														SB Approach	Delay
Existing Traffic (See Exhibit 3)	Current     95th Queue Length (ft)	>	<b>A</b> 3	< -	<b>A</b> 8	<b>A</b> 0	< -	> -	С 13	< -	>	<b>D</b> 28	< -	25.3 -	D
2026 Total Traffic (See Exhibit 7)	Current     95th Queue Length (ft)	>	<b>A</b> 3	< -	<b>A</b> 8	<b>A</b> 0	< -	>	С 15	< -	>	<b>D</b> 28	< -	26.5 -	D -
B. Weekday Evening Peak Hour														NB Approach	Delay
Existing Traffic (See Exhibit 3)	Current     95th Queue Length (ft)	>	<b>A</b> 0	< -	А 3	<b>A</b> 0	< -	>	С 20	< -	>	С 13	<	16.9 -	С -
2026 Total Traffic (See Exhibit 7)	• Current • 95th Queue Length (ft)	>	<b>A</b> 0	< -	<b>A</b> 0	<b>A</b> 0	< -	> -	С 23	< -	>	<b>C</b> 15	< -	17.6 -	с -
2. Bonnie Brae at Thomas St	TWSC - EB Stop	E	astbou	nd	v	Vestbou	nd	N	orthbou	nd	S	outhbou	ind	EB Approach	Delay
A. Weekday Morning Peak Hour															
Existing Traffic (See Exhibit 3)	Current     95th Queue Length (ft)	>	<b>B</b> 3	< -	-	1	1	> -	<b>A</b> 0	< -	>	<b>A</b> 3	< -	12.1 -	В -
2026 Total Traffic (See Exhibit 7)	Current     95th Queue Length (ft)	>	<b>B</b> 3	< -	-	-	1	>	<b>A</b> 0	<	>	<b>A</b> 3	< -	12.1	B -
B. Weekday Evening Peak Hour															
Existing Traffic (See Exhibit 3)	Current     95th Queue Length (ft)	>	<b>B</b> 0	< -	-	:	:	>	<b>A</b> 0	< -	>	<b>A</b> 3	< -	11.6 -	B -
2026 Total Traffic (See Exhibit 7)	Current     95th Queue Length (ft)	>	<b>B</b> 0	> -	-	-	•	> -	<b>A</b> 0	< -	>	<b>A</b> 3	< -	11.7 -	В -



II. Stop Sign

art B. Results							Noven							Intersectio	
	<b>Roadway Conditions</b>				red Lan			1		Allowed				Approac	h
			astbou			/estbou			orthbou			outhbou		Delay	
2 Dennis Date of Assessed Cf	TWSC - NB/SB Stops	LT	TH		LT	TH	RT	LT	TH	RT	LT	TH	RT	(sec / veh) SB Approach	LO
3. Bonnie Brae at Augusta St	TWOC - ND/OD Stops	Ea	astbou	nd	v	/estbou	nd	N	orthbou	nd	S	outhbou	nd	эв Арргоасн	Delay
A. Weekday Morning Peak Hour												-			
Existing Traffic (See Exhibit 3)	• Current • 95th Queue Length (ft)	> -	<b>A</b> 5	< -	> -	<b>A</b> 0	< -	> -	С 5	< -	> -	С 33	< -	18.7 -	C -
2026 Total Traffic (See Exhibit 7)	Current     95th Queue Length (ft)	>	<b>A</b> 5	< -	>	<b>A</b> 0	< -	>	С 5	<	>	С 33	<	18.7	C
B. Weekday Evening Peak Hour	<b>0</b> ( <i>i</i> )														
Existing Traffic (See Exhibit 3)	Current     95th Queue Length (ft)	>	<b>A</b> 3	<	>	<b>A</b> 0	<	>	<b>B</b> 3	<	>	С 38	<	17.1	C
2026 Total Traffic (See Exhibit 7)	• Current	>	A	>	>	A	<	>	в	<	>	C	<	17.2	c
	• 95th Queue Length (ft)	-	3	-	-	0	-	-	3	-	-	38	-	-	-
4. Bonnie Brae at Public Alley	TWSC - WB Stop	E	astbou	nd	v	/estbou	nd	N	orthbou	nd	S	outhbou	nd	WB Approach	Dela
A. Weekday Morning Peak Hour															
Existing Traffic (See Exhibit 3)	Current				Α		<		Α	<	>	Α		9.8	4
	95th Queue Length (ft)				3		-		0	-	-	0		-	-
2026 Total Traffic (See Exhibit 7)	Current				Α		<		Α	<	>	Α		9.7	4
	95th Queue Length (ft)				3		-		0	-	-	0		-	-
B. Weekday Evening Peak Hour															
Existing Traffic (See Exhibit 3)	Current				Α		<		Α	<	>	Α		9.3	4
	95th Queue Length (ft)				0		-		0	-	-	0		-	-
2026 Total Traffic (See Exhibit 7)	Current				Α		<		Α	<	>	Α		9.2	A
	95th Queue Length (ft)				0		-		0	-	-	0		-	-
5. Thomas St at Public Alley	TWSC - NB/SB Stops	E	astbou	nd	v	/estbou	nd	N	orthbou	nd	S	outhbou	nd	SB Approach	Dela
A. Weekday Morning Peak Hour															
Existing Traffic (See Exhibit 3)	Current	>	Α	<	-	-	-	-	Α	<	>	Α	-	9.3	A
	95th Queue Length (ft)	-	0	-	-	-	-	-	0	-	-	0	-	-	-
2026 Total Traffic (See Exhibit 7)	Current	>	Α	<	÷.,	1		-	Α	<	>	Α		9.4	A
	95th Queue Length (ft)	-	0	-	-	-	-	-	0	-	-	3	-	-	-
B. Weekday Evening Peak Hour															
Existing Traffic (See Exhibit 3)	Current	>	Α	<	1	1	1	÷.,	Α	<	>	Α		9.1	A
	95th Queue Length (ft)	-	0	-	-	-	-	-	0	-	-	0	-	-	-
2026 Total Traffic (See Exhibit 7)	Current	>	<b>A</b>	>		1	1	-	<b>A</b> 0	<	>	<b>A</b>	-	9.2	A
	<ul> <li>95th Queue Length (ft)</li> </ul>	-	0	-	-	-	-	-	U	-	-	0	-	-	-



# APPENDIX A Photo Inventory





Northbound Bonnie Brae (Thomas St intersection)



Eastbound Thomas St (from Bonnie Brae)





Southbound Bonnie Brae (Thomas St intersection)



Westbound Thomas St (Bonnie Brae intersection)

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Northbound Bonnie Brae (Division St intersection)



Eastbound Division St (Bonnie Brae intersection)





Southbound Bonnie Brae (Division St intersection)



Westbound Division St (Bonnie Brae intersection)

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Southbound Bonnie Brae (Public Alley access)



Eastbound Thomas St (Public Alley access)





Eastbound Public Alley (from Bonnie Brae)



Northbound Public Alley (from Thomas St)

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Northbound Bonnie Brae (Augusta St intersection)



Eastbound Augusta St (Bonnie Brae intersection)





Southbound Bonnie Brae (Augusta St intersection)



Westbound Augusta St (Bonnie Brae intersection)

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Northbound Harlem Ave (Thomas St intersection)



Eastbound Thomas St (Harlem Ave intersection)





Southbound Harlem Ave (Thomas St intersection)



Westbound Thomas St (from Harlem Ave)

> Appendix A Photo Inventory Page 5 | 5

# **APPENDIX B** Traffic Count Summary Sheets



Count Name: Bonnie Brae at Division Street Site Code: Start Date: 11/19/2019 Page No: 1

#### Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

### **Turning Movement Data**

				ie Brae nbound						rision tbound						e Brae bound						ision bound			
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	2	0	4	0	0	6	1	45	2	0	0	48	3	0	2	0	0	5	5	46	3	0	0	54	113
7:15 AM	2	0	2	0	1	4	5	76	6	0	0	87	2	2	2	0	3	6	6	57	5	0	0	68	165
7:30 AM	2	1	6	0	4	9	6	81	15	0	3	102	6	1	1	0	7	8	15	58	5	0	3	78	197
7:45 AM	8	1	6	0	7	15	8	93	31	0	2	132	7	1	3	0	3	11	32	46	10	0	1	88	246
Hourly Total	14	2	18	0	12	34	20	295	54	0	5	369	18	4	8	0	13	30	58	207	23	0	4	288	721
8:00 AM	8	3	7	0	10	18	15	106	32	0	5	153	5	0	6	0	2	11	36	46	9	0	1	91	273
8:15 AM	7	2	8	0	3	17	19	96	6	0	5	121	5	1	4	0	1	10	14	70	11	0	3	95	243
8:30 AM	5	1	5	0	4	11	13	75	9	0	0	97	4	1	1	0	1	6	12	47	4	0	0	63	177
8:45 AM	8	1	5	0	3	14	16	56	8	0	2	80	3	0	4	0	0	7	11	30	12	0	3	53	154
Hourly Total	28	7	25	0	20	60	63	333	55	0	12	451	17	2	15	0	4	34	73	193	36	0	7	302	847
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	4	0	6	0	5	10	4	53	17	0	7	74	10	0	6	0	6	16	12	63	4	0	18	79	179
3:15 PM	6	1	3	0	3	10	2	72	11	0	1	85	8	1	6	0	4	15	6	89	5	0	0	100	210
3:30 PM	3	0	5	0	2	8	2	74	9	0	0	85	9	0	11	0	4	20	11	80	3	0	1	94	207
3:45 PM	10	3	12	0	10	25	4	67	7	0	0	78	16	0	11	0	2	27	14	81	6	0	1	101	231
Hourly Total	23	4	26	0	20	53	12	266	44	0	8	322	43	1	34	0	16	78	43	313	18	0	20	374	827
4:00 PM	9	1	8	0	1	18	6	75	6	. 1	3	88	9	0	5	0	5	14	7	85	8	0	1	100	220
4:15 PM	5	0	3	0	2	8	6	79	9	0	5	94	8	1	8	0	3	17	14	94	6	0	3	114	233
4:30 PM	3	1	7	0	1	11	3	86	1	0	1	90	7	1	11	0	1	19	7	83	1	0	1	91	211
4:45 PM	2	1	5	0	1	8	4	73	14	0	0	91	7	0	3	0	1	10	14	123	4	0	2	141	250
Hourly Total	19	3	23	0	5	45	19	313	30	1	9	363	31	2	27	0	10	60	42	385	19	0	7	446	914
5:00 PM	4	2	2	0	4	8	5	69	2	1	4	77	8	1	5	0	2	14	9	103	8	0	4	120	219
5:15 PM	7	2	8	0	1	17	6	80	7	0	1	93	7	2	4	0	0	13	7	92	3	0	1	102	225
5:30 PM	7	3	7	0	4	17	9	85	8	0	2	102	9	1	10	0	4	20	11	95	3	0	2	109	248
5:45 PM	21	0	9	0	1	30	3	89	13	0	0	105	2	1	7	0	2	10	8	90	2	0	3	100	245
Hourly Total	39	7	26	0	10	72	23	323	30	1	7	377	26	5	26	0	8	57	35	380	16	0	10	431	937
6:00 PM	3	1	3	0	1	7	0	63	8	0	0	71	12	0	6	0	0	18	10	72	1	0	1	83	179
6:15 PM	1	0	0	0	2	1	0	54	5	0	2	59	6	1	8	0	0	15	8	85	0	0	1	93	168
6:30 PM	1	0	1	0	1	2	1	49	5	1	3	56	3	1	1	0	0	5	5	84	0	0	0	89	152
6:45 PM	0	0	2	0	0	2	2	58	6	0	1	66	6	0	1	0	2	7	8	67	1	0	1	76	151
Hourly Total	5	1	6	0	4	12	3	224	24	1	6	252	27	2	16	0	2	45	31	308	2	0	3	341	650
Grand Total	128	24	124	0	71	276	140	1754	237	3	47	2134	162	16	126	0	53	304	282	1786	114	0	51	2182	4896
Approach %	46.4	8.7	44.9	0.0	-	-	6.6	82.2	11.1	0.1	-	-	53.3	5.3	41.4	0.0	-	-	12.9	81.9	5.2	0.0	-	-	-
Total %	2.6	0.5	2.5	0.0	-	5.6	2.9	35.8	4.8	0.1	-	43.6	3.3	0.3	2.6	0.0	-	6.2	5.8	36.5	2.3	0.0	-	44.6	-
Lights	120	24	120	0	-	264	139	1732	236	3	-	2110	158	13	123	0	-	294	279	1773	104	0	-	2156	4824
% Lights	93.8	100.0	96.8	-	-	95.7	99.3	98.7	99.6	100.0	-	98.9	97.5	81.3	97.6	-	-	96.7	98.9	99.3	91.2	-	-	98.8	98.5
Mediums	8	0	4	0	-	12	1	21	1	0	-	23	3	3	3	0	-	9	3	13	10	0	-	26	70
% Mediums	6.3	0.0	3.2	-	-	4.3	0.7	1.2	0.4	0.0	-	1.1	1.9	18.8	2.4		-	3.0	1.1	0.7	8.8	-	-	1.2	1.4

		-					· · · · · ·												I						
Articulated Trucks	0	0	0	0	-	0	0	1	0	0	-	1	1	0	0	0	-	1	0	0	0	0	-	0	2
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.1	0.0	0.0	-	0.0	0.6	0.0	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	1.4	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	2.0	-	-
Pedestrians	-	-	-	-	70	-	-	-	-	-	47	-	-	-	-	-	53	-	-	-	-	-	50	-	-
% Pedestrians	-	-	-	-	98.6	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	98.0	-	-

Count Name: Bonnie Brae at Division Street Site Code: Start Date: 11/19/2019 Page No: 4

Division

Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

# Turning Movement Peak Hour Data (7:30 AM) Bonnie Brae Division Bonnie Brae Southbound Westbound Northbound

			South	nbound					West	bound					North	bound					East	bound			
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	2	1	6	0	4	9	6	81	15	0	3	102	6	. 1	. 1	0	7	8	15	58	5	0	3	78	197
7:45 AM	8	1	6	0	7	15	8	93	31	0	2	132	7	1	3	0	3	11	32	46	10	0	1	88	246
8:00 AM	8	3	7	0	10	18	15	106	32	0	5	153	5	0	6	0	2	11	36	46	9	0	1	91	273
8:15 AM	7	2	8	0	3	17	19	96	6	0	5	121	5	1	4	0	1	10	14	70	11	0	3	95	243
Total	25	7	27	0	24	59	48	376	84	0	15	508	23	3	14	0	13	40	97	220	35	0	8	352	959
Approach %	42.4	11.9	45.8	0.0	-	-	9.4	74.0	16.5	0.0	-	-	57.5	7.5	35.0	0.0	-	-	27.6	62.5	9.9	0.0	-	-	-
Total %	2.6	0.7	2.8	0.0	-	6.2	5.0	39.2	8.8	0.0	-	53.0	2.4	0.3	1.5	0.0	-	4.2	10.1	22.9	3.6	0.0	-	36.7	-
PHF	0.781	0.583	0.844	0.000	-	0.819	0.632	0.887	0.656	0.000	-	0.830	0.821	0.750	0.583	0.000	-	0.909	0.674	0.786	0.795	0.000	-	0.926	0.878
Lights	22	7	27	0	-	56	47	371	84	0	-	502	22	3	14	0	-	39	97	217	33	0	-	347	944
% Lights	88.0	100.0	100.0	-	-	94.9	97.9	98.7	100.0	-	-	98.8	95.7	100.0	100.0	-	-	97.5	100.0	98.6	94.3	-	-	98.6	98.4
Mediums	3	0	0	0	-	3	1	5	0	0	-	6	0	0	0	0	-	0	0	3	2	0	-	5	14
% Mediums	12.0	0.0	0.0	-	-	5.1	2.1	1.3	0.0	-	-	1.2	0.0	0.0	0.0	-	-	0.0	0.0	1.4	5.7	-	-	1.4	1.5
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	1
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	4.3	0.0	0.0	-	-	2.5	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	12.5	-	-
Pedestrians	-	-	-	-	24	-	-	-	-	-	15	-	-	-	-	-	13	-	-	-	-	-	7	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	87.5	-	-

Count Name: Bonnie Brae at Division Street Site Code: Start Date: 11/19/2019 Page No: 6

Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

### Turning Movement Peak Hour Data (4:45 PM)

								Tun	mig n	loven	ICHT I	Car	liour	Data	(+.+0	1 1017									
			Bonn	ie Brae					Div	ision					Bonni	e Brae					Div	ision			
			South	nbound					West	bound					North	bound					East	bound			
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:45 PM	2	1	5	0	1	8	4	73	14	0	0	91	7	0	3	0	1	10	14	123	4	0	2	141	250
5:00 PM	4	2	2	0	4	8	5	69	2	1	4	77	8	1	5	0	2	14	9	103	8	0	4	120	219
5:15 PM	7	2	8	0	1	17	6	80	7	0	1	93	7	2	4	0	0	13	7	92	3	0	1	102	225
5:30 PM	7	3	7	0	4	17	9	85	8	0	2	102	9	1	10	0	4	20	11	95	3	0	2	109	248
Total	20	8	22	0	10	50	24	307	31	1	7	363	31	4	22	0	7	57	41	413	18	0	9	472	942
Approach %	40.0	16.0	44.0	0.0	-	-	6.6	84.6	8.5	0.3	-	-	54.4	7.0	38.6	0.0	-	-	8.7	87.5	3.8	0.0	-	-	-
Total %	2.1	0.8	2.3	0.0	-	5.3	2.5	32.6	3.3	0.1	-	38.5	3.3	0.4	2.3	0.0	-	6.1	4.4	43.8	1.9	0.0	-	50.1	-
PHF	0.714	0.667	0.688	0.000	-	0.735	0.667	0.903	0.554	0.250	-	0.890	0.861	0.500	0.550	0.000	-	0.713	0.732	0.839	0.563	0.000	-	0.837	0.942
Lights	18	8	22	0	-	48	24	302	31	1	-	358	31	3	22	0	-	56	41	413	16	0	-	470	932
% Lights	90.0	100.0	100.0	-	-	96.0	100.0	98.4	100.0	100.0	-	98.6	100.0	75.0	100.0	-	-	98.2	100.0	100.0	88.9	-	-	99.6	98.9
Mediums	2	0	0	0	-	2	0	4	0	0	-	4	0	1	0	0	-	1	0	0	2	0	-	2	9
% Mediums	10.0	0.0	0.0	-	-	4.0	0.0	1.3	0.0	0.0	-	1.1	0.0	25.0	0.0	-	-	1.8	0.0	0.0	11.1	-	-	0.4	1.0
Articulated Trucks	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.3	0.0	0.0	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	10	-	-	-	-	-	7	-	-	-	-	-	7	-	-	-	-	-	9	-	-
% Pedestrians	-	-	-	-	100.0	-	-	_		_	100.0			_	_		100.0			_	_		100.0	_	

Count Name: Bonnie Brae at Thomas Street Site Code: Start Date: 11/19/2019 Page No: 1

#### Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

### Turning Movement Data

	1						1			Turr	ning iv	lover	nent L	Jata											1
			Bonn	e Brae					The	omas					Bonni	ie Brae					Eastboun	d Approach			
			South	bound					Wes	tbound					North	bound					East	bound			
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	7	3	0	0	10	0	0	0	0	2	0	1	8	1	0	0	10	0	0	0	0	1	0	20
7:15 AM	1	4	1	0	2	6	0	0	0	0	2	0	3	11	2	0	1	16	1	2	0	0	2	3	25
7:30 AM	0	13	4	0	1	17	0	0	0	0	0	0	6	15	0	0	1	21	0	1	1	0	3	2	40
7:45 AM	2	24	8	0	1	34	0	0	0	0	0	0	1	37	0	0	5	38	1	0	0	0	1	1	73
Hourly Total	3	48	16	0	4	67	0	0	0	0	4	0	11	71	3	0	7	85	2	3	1	0	7	6	158
8:00 AM	2	48	18	0	0	68	0	0	0	0	3	0	3	34	1	0	1	38	1	0	0	0	1	1	107
8:15 AM	0	17	6	0	1	23	0	0	0	0	0	0	0	17	2	0	0	19	1	2	1	0	2	4	46
8:30 AM	1	8	2	0	2	11	0	0	0	0	0	0	2	22	1	0	0	25	0	0	0	0	3	0	36
8:45 AM	0	8	4	0	3	12	0	0	0	0	0	0	2	21	3	0	0	26	3	0	0	0	3	3	41
Hourly Total	3	81	30	0	6	114	0	0	0	0	3	0	7	94	7	0	1	108	5	2	1	0	9	8	230
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	2	57	8	1	2	68	0	0	0	0	3	0	2	12	0	0	4	14	0	0	1	0	2	1	83
3:15 PM	0	18	5	1	1	24	0	0	0	0	0	0	1	10	1	1	0	13	1	1	0	0	2	2	39
3:30 PM	1	23	8	0	3	32	0	0	0	0	2	0	4	12	3	2	3	21	1	0	0	0	4	1	54
3:45 PM	0	30	4	0	0	34	0	0	0	0	0	0	3	17	0	0	0	20	0	0	2	0	2	2	56
Hourly Total	3	128	25	2	6	158	0	0	0	0	5	0	10	51	4	3	7	68	2	1	3	0	10	6	232
4:00 PM	1	20	6	1	0	28	0	0	0	0	1	0	4	12	1	0	1	17	2	0	0	0	0	2	47
4:15 PM	2	19	7	0	1	28	0	0	0	0	0	0	5	15	1	1	0	22	0	0	1	0	0	1	51
4:30 PM	0	18	3	0	3	21	0	0	0	0	0	0	1	13	3	0	5	17	3	0	1	0	0	4	42
4:45 PM	1	39	3	0	0	43	0	0	0	0	0	0	2	11	3	0	0	16	3	0	1	0	4	4	63
Hourly Total	4	96	19	1	4	120	0	0	0	0	1	0	12	51	8	1	6	72	8	0	3	0	4	11	203
5:00 PM	1	19	11	0	0	31	0	0	0	0	0	0	2	9	0	0	0	11	2	0	0	0	0	2	44
5:15 PM	1	16	3	0	0	20	0	0	0	0	0	0	2	10	3	0	0	15	1	1	3	0	0	5	40
5:30 PM	2	20	6	0	0	28	0	0	0	0	3	0	4	15	2	1	2	22	3	0	0	0	0	3	53
5:45 PM	2	23	5	0	3	30	0	0	0	0	0	0	3	8	2	0	3	13	2	0	0	0	3	2	45
Hourly Total	6	78	25	0	3	109	0	0	0	0	3	0	11	42	7	1	5	61	8	1	3	0	3	12	182
6:00 PM	1	25	7	0	1	33	0	0	0	0	0	0	2	10	1	1	0	14	3	0	0	0	2	3	50
6:15 PM	1	9	3	0	0	13	0	0	0	0	1	0	1	11	3	1	0	16	3	0	0	0	1	3	32
6:30 PM	1	11	2	0	1	14	0	0	0	0	0	0	2	14	4	0	1	20	3	2	0	0	1	5	39
6:45 PM	1	9	2	0	1	12	0	0	0	0	0	0	1	13	0	1	0	15	1	0	1	0	2	2	29
Hourly Total	4	54	14	0	3	72	0	0	0	0	1	0	6	48	8	3	1	65	10	2	1	0	6	13	150
Grand Total	23	485	129	3	26	640	0	0	0	0	17	0	57	357	37	8	27	459	35	9	12	0	39	56	1155
Approach %	3.6	75.8	20.2	0.5	-	-	0.0	0.0	0.0	0.0	-	-	12.4	77.8	8.1	1.7	-	-	62.5	16.1	21.4	0.0	-	-	-
Total %	2.0	42.0	11.2	0.3	-	55.4	0.0	0.0	0.0	0.0	-	0.0	4.9	30.9	3.2	0.7	-	39.7	3.0	0.8	1.0	0.0	-	4.8	-
Lights	20	484	129	3	-	636	0	0	0	0	-	0	57	348	36	8	-	449	34	7	10	0	-	51	1136
% Lights	87.0	99.8	100.0	100.0	-	99.4	-	-	-	-	-	-	100.0	97.5	97.3	100.0	-	97.8	97.1	77.8	83.3	-	-	91.1	98.4
Mediums	3	1	0	0	-	4	0	0	0	0	-	0	0	9	1	0	-	10	1	2	1	0	-	4	18
% Mediums	13.0	0.2	0.0	0.0	-	0.6	-	-	-	-	-	-	0.0	2.5	2.7	0.0	-	2.2	2.9	22.2	8.3	-	-	7.1	1.6

		-											1		-				1						
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	1
% Articulated Trucks	0.0	0.0	0.0	0.0	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	8.3	-	-	1.8	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	26	-	-	-	-	-	17	-	-	-	-	-	27	-	-	-	-	-	39	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Count Name: Bonnie Brae at Thomas Street Site Code: Start Date: 11/19/2019 Page No: 4

### Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

								run	iii iy i	NOVEN	lient r	ean	noui	Dala	(7.30	AIVI)			-									
	Bonnie Brae							Thomas							Bonnie Brae							Eastbound Approach						
	Southbound						Westbound						Northbound							Eastbound								
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total			
7:30 AM	0	13	4	0	1	17	0	0	0	0	0	0	6	15	0	0	1	21	0	1	1	0	3	2	40			
7:45 AM	2	24	8	0	1	34	0	0	0	0	0	0	1	37	0	0	5	38	1	0	0	0	1	1	73			
8:00 AM	2	48	18	0	0	68	0	0	0	0	3	0	3	34	1	0	1	38	1	0	0	0	1	1	107			
8:15 AM	0	17	6	0	. 1	23	0	0	0	0	0	0	0	17	2	0	0	19	1	2	1	0	2	4	46			
Total	4	102	36	0	3	142	0	0	0	0	3	0	10	103	3	0	7	116	3	3	2	0	7	8	266			
Approach %	2.8	71.8	25.4	0.0	-	-	0.0	0.0	0.0	0.0	-	-	8.6	88.8	2.6	0.0	-	-	37.5	37.5	25.0	0.0	-	-	-			
Total %	1.5	38.3	13.5	0.0	-	53.4	0.0	0.0	0.0	0.0	-	0.0	3.8	38.7	1.1	0.0	-	43.6	1.1	1.1	0.8	0.0	-	3.0	-			
PHF	0.500	0.531	0.500	0.000	-	0.522	0.000	0.000	0.000	0.000	-	0.000	0.417	0.696	0.375	0.000	-	0.763	0.750	0.375	0.500	0.000	-	0.500	0.621			
Lights	4	102	36	0	-	142	0	0	0	0	-	0	10	103	3	0	-	116	3	2	1	0	-	6	264			
% Lights	100.0	100.0	100.0	-	-	100.0	-	-	-	-	-	-	100.0	100.0	100.0	-	-	100.0	100.0	66.7	50.0	-	-	75.0	99.2			
Mediums	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1			
% Mediums	0.0	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	33.3	0.0	-	-	12.5	0.4			
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	1			
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	50.0	-	-	12.5	0.4			
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-			
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-			
Pedestrians	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	7	-	-	-	-	-	7	-	-			
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-			

#### Turning Movement Peak Hour Data (7:30 AM)

Count Name: Bonnie Brae at Thomas Street Site Code: Start Date: 11/19/2019 Page No: 6

### Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

								run	iii iy ii	NOVEN		Car	illui	Dala	(3.00	F IVI)									
	Bonnie Brae						Thomas								Bonni	ie Brae	Eastbound Approach								
			South	hbound			Westbound								bound	Eastbound									
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
3:00 PM	2	57	8	1	2	68	0	0	0	0	3	0	2	12	0	0	4	14	0	0	1	0	2	1	83
3:15 PM	0	18	5	1	1	24	0	0	0	0	0	0	1	10	1	1	0	13	1	1	0	0	2	2	39
3:30 PM	1	23	8	0	3	32	0	0	0	0	2	0	4	12	3	2	3	21	1	0	0	0	4	1	54
3:45 PM	0	30	4	0	0	34	0	0	0	0	0	0	3	17	0	0	0	20	0	0	2	0	2	2	56
Total	3	128	25	2	6	158	0	0	0	0	5	0	10	51	4	3	7	68	2	1	3	0	10	6	232
Approach %	1.9	81.0	15.8	1.3	-	-	0.0	0.0	0.0	0.0	-	-	14.7	75.0	5.9	4.4	-	-	33.3	16.7	50.0	0.0	-	-	-
Total %	1.3	55.2	10.8	0.9	-	68.1	0.0	0.0	0.0	0.0	-	0.0	4.3	22.0	1.7	1.3	-	29.3	0.9	0.4	1.3	0.0	-	2.6	-
PHF	0.375	0.561	0.781	0.500	-	0.581	0.000	0.000	0.000	0.000	-	0.000	0.625	0.750	0.333	0.375	-	0.810	0.500	0.250	0.375	0.000	-	0.750	0.699
Lights	2	128	25	2	-	157	0	0	0	0	-	0	10	49	4	3	-	66	2	1	2	0	-	5	228
% Lights	66.7	100.0	100.0	100.0	-	99.4	-	-	-	-	-	-	100.0	96.1	100.0	100.0	-	97.1	100.0	100.0	66.7	-	-	83.3	98.3
Mediums	1	0	0	0	-	1	0	0	0	0	-	0	0	2	0	0	-	2	0	0	1	0	-	1	4
% Mediums	33.3	0.0	0.0	0.0	-	0.6	-	-	-	-	-	-	0.0	3.9	0.0	0.0	-	2.9	0.0	0.0	33.3	-	-	16.7	1.7
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	0.0	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	6	-	-	-	-	-	5	-	-	-	-	-	7	-	-	-	-	-	10	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

#### Turning Movement Peak Hour Data (3.00 PM)

Count Name: Bonnie Brae at Augusta Street Site Code: Start Date: 11/19/2019 Page No: 1

#### Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

# **Turning Movement Data**

							1				ing i	lover	nent L	Jala											I.
				ie Brae nbound						gusta bound						ie Brae ibound			-			gusta tbound			
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	4	1	1	0	0	6	5	56	0	0	2	61	1	3	0	0	1	4	0	46	4	0	1	50	121
7:15 AM	3	2	1	0	3	6	9	68	1	0	2	78	2	1	0	0	0	3	4	49	5	0	1	58	145
7:30 AM	5	5	4	0	1	14	4	95	2	0	2	101	2	4	0	0	3	6	0	78	14	0	0	92	213
7:45 AM	13	3	9	0	9	25	13	94	1	0	1	108	0	1	1	0	1	2	1	59	23	0	2	83	218
Hourly Total	25	11	15	0	13	51	31	313	4	0	7	348	5	9	1	0	5	15	5	232	46	0	4	283	697
8:00 AM	27	14	8	0	5	49	13	93	0	0	0	106	1	4	1	0	1	6	3	35	22	0	1	60	221
8:15 AM	13	5	2	0	10	20	6	82	0	0	0	88	0	3	1	0	0	4	0	54	11	0	1	65	177
8:30 AM	5	1	0	0	3	6	7	64	0	0	1	71	0	10	0	0	1	10	0	36	7	0	2	43	130
8:45 AM	5	3	2	0	3	10	13	57	1	0	0	71	0	3	1	0	1	4	1	31	10	0	2	42	127
Hourly Total	50	23	12	0	21	85	39	296	1	0	1	336	1	20	3	0	3	24	4	156	50	0	6	210	655
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	28	17	13	0	3	58	9	53	0	0	1	62	1	1	0	0	0	2	2	51	3	0	3	56	178
3:15 PM	10	10	4	0	6	24	3	71	2	0	0	76	0	4	1	0	. 1	5	2	50	7	0	2	59	164
3:30 PM	18	7	2	0	10	27	11	59	5	0	1	75	1	5	0	0	1	6	5	50	10	0	4	65	173
3:45 PM	12	7	13	0	6	32	8	73	1	0	2	82	1	1	0	0	4	2	3	63	9	0	0	75	191
Hourly Total	68	41	32	0	25	141	31	256	8	0	4	295	3	11	1	0	6	15	12	214	29	0	9	255	706
4:00 PM	16	5	2	0	30	23	9	56	6	0	25	71	1	4	0	0	26	5	2	59	6	0	29	67	166
4:15 PM	9	8	3	0	4	20	8	76	2	0	0	86	2	5	0	0	1	7	2	46	10	0	2	58	171
4:30 PM	14	6	2	0	7	22	1	70	1	0	6	72	0	4	1	0	3	5	3	70	11	0	1	84	183
4:45 PM	21	16	3	0	5	40	9	78	1	0	1	88	3	3	0	0	0	6	2	71	7	0	0	80	214
Hourly Total	60	35	10	0	46	105	27	280	10	0	32	317	6	16	1	0	30	23	9	246	34	0	32	289	734
5:00 PM	14	8	2	0	0	24	1	89	3	0	0	93	2	3	2	0	0	7	0	62	8	0	1	70	194
5:15 PM	7	4	6	0	0	17	3	55	1	0	1	59	1	7	0	0	0	8	0	62	7	0	0	69	153
5:30 PM	14	9	3	0	3	26	8	79	0	0	1	87	0	2	2	0	1	4	2	67	13	0	2	82	199
5:45 PM	15	8	4	0	8	27	6	58	0	0	2	64	0	2	1	0	0	3	2	67	6	0	3	75	169
Hourly Total	50	29	15	0	11	94	18	281	4	0	4	303	3	14	5	0	. 1	22	4	258	34	0	6	296	715
6:00 PM	12	7	7	0	2	26	4	47	0	0	0	51	0	3	0	0	0	3	0	67	6	0	1	73	153
6:15 PM	6	6	3	0	1	15	9	53	3	0	0	65	3	4	0	0	0	7	1	50	6	0	1	57	144
6:30 PM	5	4	6	0	1	15	7	41	1	0	1	49	0	4	0	0	0	4	1	37	10	0	3	48	116
6:45 PM	6	2	4	0	0	12	5	42	0	0	0	47	0	6	0	0	0	6	1	46	3	0	3	50	115
Hourly Total	29	19	20	0	4	68	25	183	4	0	1	212	3	17	0	0	0	20	3	200	25	0	8	228	528
Grand Total	282	158	104	0	120	544	171	1609	31	0	49	1811	21	87	11	0	45	119	37	1306	218	0	65	1561	4035
Approach %	51.8	29.0	19.1	0.0	-	-	9.4	88.8	1.7	0.0	-	-	17.6	73.1	9.2	0.0	-	-	2.4	83.7	14.0	0.0	-	-	-
Total %	7.0	3.9	2.6	0.0	-	13.5	4.2	39.9	0.8	0.0	-	44.9	0.5	2.2	0.3	0.0	-	2.9	0.9	32.4	5.4	0.0	-	38.7	-
Lights	280	158	104	0	-	542	167	1589	31	0	-	1787	21	81	11	0	-	113	37	1296	218	0	-	1551	3993
% Lights	99.3	100.0	100.0	-	-	99.6	97.7	98.8	100.0	-	-	98.7	100.0	93.1	100.0	-	-	95.0	100.0	99.2	100.0	-	-	99.4	99.0
Mediums	2	0	0	0	-	2	3	19	0	0	-	22	0	6	0	0	-	6	0	10	0	0	-	10	40
% Mediums	0.7	0.0	0.0	-	-	0.4	1.8	1.2	0.0	-	-	1.2	0.0	6.9	0.0	-	-	5.0	0.0	0.8	0.0	-	-	0.6	1.0
// 1000101110		0.0	0.0			<b>V.</b> <del>T</del>	1 1.0	1.4	0.0			1.4	0.0	0.0	0.0			0.0	1 0.0	0.0	0.0			0.0	

Autional at a di Turra las	0			0		0	4		0	0			0			0		0				0	-	0	0
Articulated Trucks	0	0	0	0	-	0	1	1	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	2
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.6	0.1	0.0	-	-	0.1	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	2.5	-	-	-	-	-	4.1	-	-	-	-	-	2.2	-	-	-	-	-	1.5	-	-
Pedestrians	-	-	-	-	117	-	-	-	-	-	47	-	-	-	-	-	44	-	-	-	-	-	64	-	-
% Pedestrians	-	-	-	-	97.5	-	-	-	-	-	95.9	-	-	-	-	-	97.8	-	-	-	-	-	98.5	-	-

Count Name: Bonnie Brae at Augusta Street Site Code: Start Date: 11/19/2019 Page No: 4

Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

# Turning Movement Peak Hour Data (7:30 AM)

								Tun	ing iv	loven	ICIIL I	Ear	lioui	Dala	(7.50										
			Bonn	ie Brae					Aug	justa					Bonni	ie Brae					Aug	usta			
			South	nbound					West	bound					North	bound					East	ound			
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	5	5	4	0	1	14	4	95	2	0	2	101	2	4	0	0	3	6	0	78	14	0	0	92	213
7:45 AM	13	3	9	0	9	25	13	94	1	0	1	108	0	1	1	0	1	2	1	59	23	0	2	83	218
8:00 AM	27	14	8	0	5	49	13	93	0	0	0	106	1	4	1	0	1	6	3	35	22	0	1	60	221
8:15 AM	13	5	2	0	10	20	6	82	0	0	0	88	0	3	1	0	0	4	0	54	11	0	1	65	177
Total	58	27	23	0	25	108	36	364	3	0	3	403	3	12	3	0	5	18	4	226	70	0	4	300	829
Approach %	53.7	25.0	21.3	0.0	-	-	8.9	90.3	0.7	0.0	-	-	16.7	66.7	16.7	0.0	-	-	1.3	75.3	23.3	0.0	-	-	-
Total %	7.0	3.3	2.8	0.0	-	13.0	4.3	43.9	0.4	0.0	-	48.6	0.4	1.4	0.4	0.0	-	2.2	0.5	27.3	8.4	0.0	-	36.2	-
PHF	0.537	0.482	0.639	0.000	-	0.551	0.692	0.958	0.375	0.000	-	0.933	0.375	0.750	0.750	0.000	-	0.750	0.333	0.724	0.761	0.000	-	0.815	0.938
Lights	58	27	23	0	-	108	36	360	3	0	-	399	3	12	3	0	-	18	4	224	70	0	-	298	823
% Lights	100.0	100.0	100.0	-	-	100.0	100.0	98.9	100.0	-	-	99.0	100.0	100.0	100.0	-	-	100.0	100.0	99.1	100.0	-	-	99.3	99.3
Mediums	0	0	0	0	_	0	0	4	0	0	_	4	0	0	0	0	_	0	0	2	0	0	_	2	6
% Mediums	0.0	0.0	0.0		-	0.0	0.0	1.1	0.0	-	-	1.0	0.0	0.0	0.0	-	-	0.0	0.0	0.9	0.0	-	-	0.7	0.7
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	4.0	-	-	-	-	-	33.3	-	-	-	-	-	20.0	-	-	-	-	-	25.0	-	-
Pedestrians	-	-	-	-	24	-	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	3	-	-
% Pedestrians	-			-	96.0			_			66.7						80.0						75.0	-	-

Count Name: Bonnie Brae at Augusta Street Site Code: Start Date: 11/19/2019 Page No: 6

Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

# Turning Movement Peak Hour Data (4:15 PM)

								Turr	iing i	loven	епс	ear		Dala	(4.15	ΓΙνι)									1
			Bonn	ie Brae					Aug	gusta					Bonni	ie Brae					Aug	usta			
			South	nbound					West	bound					North	bound					Easth	bound			
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:15 PM	9	8	3	0	4	20	8	76	2	0	0	86	2	5	0	0	1	7	2	46	10	0	2	58	171
4:30 PM	14	6	2	0	7	22	1	70	1	0	6	72	0	4	1	0	3	5	3	70	11	0	1	84	183
4:45 PM	21	16	3	0	5	40	9	78	1	0	1	88	3	3	0	0	0	6	2	71	7	0	0	80	214
5:00 PM	14	8	2	0	0	24	1	89	3	0	0	93	2	3	2	0	0	7	0	62	8	0	1	70	194
Total	58	38	10	0	16	106	19	313	7	0	7	339	7	15	3	0	4	25	7	249	36	0	4	292	762
Approach %	54.7	35.8	9.4	0.0	-	-	5.6	92.3	2.1	0.0	-	-	28.0	60.0	12.0	0.0	-	-	2.4	85.3	12.3	0.0	-	-	-
Total %	7.6	5.0	1.3	0.0	-	13.9	2.5	41.1	0.9	0.0	-	44.5	0.9	2.0	0.4	0.0	-	3.3	0.9	32.7	4.7	0.0	-	38.3	-
PHF	0.690	0.594	0.833	0.000	-	0.663	0.528	0.879	0.583	0.000	-	0.911	0.583	0.750	0.375	0.000	-	0.893	0.583	0.877	0.818	0.000	-	0.869	0.890
Lights	58	38	10	0	-	106	19	311	7	0	-	337	7	14	3	0	-	24	7	249	36	0	-	292	759
% Lights	100.0	100.0	100.0	-	-	100.0	100.0	99.4	100.0	-	-	99.4	100.0	93.3	100.0	-	-	96.0	100.0	100.0	100.0	-	-	100.0	99.6
Mediums	0	0	0	0	-	0	0	2	0	0	-	2	0	1	0	0	-	1	0	0	0	0	-	0	3
% Mediums	0.0	0.0	0.0	-	-	0.0	0.0	0.6	0.0	-	-	0.6	0.0	6.7	0.0	-	-	4.0	0.0	0.0	0.0	-	-	0.0	0.4
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	16	-	-	-	-	-	7	-	-	-	-	-	4	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Count Name: Bonnie Brae at Alley Site Code: Start Date: 11/19/2019 Page No: 1

#### Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

### Turning Movement Data

Image: series and the serie		1					Turi	ing wo		Juid		1					I.
Shar TurnePinuUnitUnitUnitPinuUnitPinuUnitPinuUnitPinuUnitPinu <td></td> <td></td> <td></td> <td>Bonnie Brae</td> <td></td> <td></td> <td></td> <td></td> <td>Alley</td> <td></td> <td></td> <td></td> <td></td> <td>Bonnie Brae</td> <td></td> <td></td> <td></td>				Bonnie Brae					Alley					Bonnie Brae			
Thru         Left         U-tur         Pets         App. Tole         Regit         Total         Total         Init Total           7:0 AM         11         0         0         11         0 <t< th=""><th>Otact Times</th><th></th><th></th><th>Southbound</th><th></th><th></th><th></th><th></th><th>Westbound</th><th></th><th></th><th></th><th></th><th>Northbound</th><th></th><th></th><th></th></t<>	Otact Times			Southbound					Westbound					Northbound			
7:15 AM       11       0       0       0       0       0       0       0       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0       0       5       0<	Start Time	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
7.30 MM       92       0       0       3       0       0       8       0       8       0       8       0         Hourly Tola       107       0       1       0       68       4       4       0       4       0       7       0       0       7       0       0       7       0       0       7       0       0       7       0       0       7       0       0       7       0       0       7       0       0       7       0       0       7       0       0       7       0       0       7       0       0       7       0       0       1       0       0       2       0       0       1       0       0       1       0       0       0       1       0       0       0       1       0       0       1       0       0       1       0       0       1       0       0       1       1       0       0       1       1       0       0       1       1       0       1       1       0       1       1       0       1       1       1       1       1       1       1       1 <td>7:00 AM</td> <td>7</td> <td>0</td> <td>0</td> <td>0</td> <td>7</td> <td>2</td> <td>2</td> <td>0</td> <td>0</td> <td>4</td> <td>0</td> <td>3</td> <td>0</td> <td>4</td> <td>3</td> <td>14</td>	7:00 AM	7	0	0	0	7	2	2	0	0	4	0	3	0	4	3	14
7.45 AM         67         0         1         0         90         7         90         7         90           Houthy Toll         107         0         1         0         90         2         2         0         2         4         1         9         0         5         10         800           8 60 AM         22         1         0         1         23         1         1         0         6         2         0         8         0         1         83           8 80 AM         22         0         0         0         22         2         1         0         1         6         0         7         2         33           84 AM         20         0         0         20         0         1         1         0         2         1         1         6         0         7         2         2         2           84 AM         20         0         0         1         1         0         4         2         0         1         1         0         1         1         0         1         1         0         1         1         1         0	7:15 AM	11	0	0	0	11	0	0	0	0	0	0	5	0	0	5	16
Houry Total         107         0         1         0         108         4         4         0         4         8         0         23         0         4         29         199           800 MI         22         1         0         76         2         0         2         4         1         0 </td <td>7:30 AM</td> <td>32</td> <td>0</td> <td>0</td> <td>0</td> <td>32</td> <td>0</td> <td>0</td> <td>0</td> <td>3</td> <td>0</td> <td>0</td> <td>8</td> <td>0</td> <td>0</td> <td>8</td> <td>40</td>	7:30 AM	32	0	0	0	32	0	0	0	3	0	0	8	0	0	8	40
800 AM       75       1       0       76       2       2       0       2       4       1       9       0       5       101       901         815 AM       22       0       0       1       22       1       0       5       2       0       8       30         830 AM       22       0       0       0       22       2       1       0       1       3       0       5       0       1       5       30         845 AM       20       0       0       20       0       1       0       2       1       1       6       0       0       7       28       30         Houry Total       139       2       0       1       1       0       1       1       0       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1 <td>7:45 AM</td> <td>57</td> <td>0</td> <td>1</td> <td>0</td> <td>58</td> <td>2</td> <td>2</td> <td>0</td> <td>1</td> <td>4</td> <td>0</td> <td>7</td> <td>0</td> <td>0</td> <td>7</td> <td>69</td>	7:45 AM	57	0	1	0	58	2	2	0	1	4	0	7	0	0	7	69
8:15 AM       22       1       0       1       1       0       5       2       0       8       0       1       8.3       33         8:30 AM       20       0       0       22       2       2       1       0       1       3       0       5       0       1       55       0       1       1       6       0       7       30       11         Hourly Total       139       2       0       1       141       5       5       0       10       12       28       0       7       30       11         300 PM       34       1       0       0       35       1       1       0       4       2       0       13       0       1       13       0       1       13       0       1       13       0       1       10 <td>Hourly Total</td> <td>107</td> <td>0</td> <td>1</td> <td>0</td> <td>108</td> <td>4</td> <td>4</td> <td>0</td> <td>4</td> <td>8</td> <td>0</td> <td>23</td> <td>0</td> <td>4</td> <td>23</td> <td>139</td>	Hourly Total	107	0	1	0	108	4	4	0	4	8	0	23	0	4	23	139
8:30 AM       22       0       0       22       1       0       1       3       0       5       0       1       5       90         8:45 AM       20       0       0       0       0       0       0       1       0       2       1       1       6       0       0       7       30       181         Methy Total       139       2       0       1       141       5       5       0       10       10       2       28       0       7       30       181         Methy Total       34       1       0       0       15       1       0       1       0       1       10       2       0       13       0       1       3       5       0       1       3       3       3       1       1       0       1       1       0       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       0       1       1       0       1       0       0       1       1       0       1       0       1       1	8:00 AM	75	1	0	0	76	2	2	0	2	4	1	9	0	5	10	90
B45 AM       20       0       1       1       1       6       0       7       28         Houty Total       139       2       0       1       141       5       0       10       10       2       28       0       7       30       181         "'' BREAK"''       -	8:15 AM	22	1	0	1	23	1	1	0	5	2	0	8	0	1	8	33
Houry Total         139         2         0         1         141         5         5         0         10         10         2         28         0         7         30         181           "* RRAK ***         - <t< td=""><td>8:30 AM</td><td>22</td><td>0</td><td>0</td><td>0</td><td>22</td><td>2</td><td>1</td><td>0</td><td>1</td><td>3</td><td>0</td><td>5</td><td>0</td><td>1</td><td>5</td><td>30</td></t<>	8:30 AM	22	0	0	0	22	2	1	0	1	3	0	5	0	1	5	30
····································	8:45 AM	20	0	0	0	20	0	1	0	2	1	1	6	0	0	7	28
300 PM       34       1       0       35       1       1       0       4       2       0       13       0       1       13       50         33 15 PM       16       1       0       0       17       0       1       0       2       1       0       16       0       34       34         33 30 PM       18       1       0       0       12       0       0       5       2       0       17       38         345 PM       18       2       2       0       22       0       1       0       125       0       1       25       0       1       25       48         Houty Total       86       5       2       0       23       3       12       0       2       11       10       2       14       0       1       16       44         410 PM       7       1       0       0       25       2       1       0       1       2       1       0       1       16       44         430 PM       7       1       0       0       35       4       0       3       9       6       54 <td>Hourly Total</td> <td>139</td> <td>2</td> <td>0</td> <td>1</td> <td>141</td> <td>5</td> <td>5</td> <td>0</td> <td>10</td> <td>10</td> <td>2</td> <td>28</td> <td>0</td> <td>7</td> <td>30</td> <td>181</td>	Hourly Total	139	2	0	1	141	5	5	0	10	10	2	28	0	7	30	181
3:15 PM       16       1       0       1       0       2       1       0       16       0       16       34         3:30 PM       18       1       0       0       19       2       0       0       5       2       0       17       0       0       17       38         3:30 PM       18       2       2       0       10       0       11       0       25       0       1       25       48         Hourly Total       86       5       2       0       93       3       0       11       6       0       71       0       2       71       170         400 PM       14       0       1       0       15       1       2       0       2       14       0       1       16       44         4:30 PM       7       1       0       0       8       1       0       0       1       0       19       0       1       19       2       1       0       0       14       1       10       1       2       1       10       1       12       1       10       1       2       2       1	*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
330 PM       18       1       0       19       2       0       5       2       0       17       0       0       17       38         3.45 PM       18       2       2       0       22       0       1       0       0       17       0       0       17       0       0       17       0       0       17       0       0       17       0       0       17       0       0       17       0       0       17       0       0       17       0       0       17       0       0       17       0       0       17       0       0       17       1       0       1       17       1       0       1       17       0       1       0       1       0       1       0       1       0       1       17       0       0       2       16       0       1       0       1       10       1       10       1       10       11       10       11       10       11       10       11       10       11       10       11       10       11       10       11       11       10       11       10       11	3:00 PM	34	1	0	0	35	1	1	0	4	2	0	13	0	1	13	50
345 PM         18         2         2         0         1         0         1         0         25         0         1         26         48           Houry Total         86         5         2         0         93         3         3         0         11         6         0         71         0         2         71         170           400 PM         14         0         1         0         12         0         2         3         3         12         0         2         71         0         2         71         10           4:0 PM         7         1         0         0         25         2         1         0         0         3         1         0         1         0         1         10         1         10         2         1         9         0         1         10         28           4:45 PM         29         1         0         0         3         2         0         3         9         6         5         4         0         3         9         6         5         4         0         3         9         3         5         0	3:15 PM	16	1	0	0	17	0	1	0	2	1	0	16	0	0	16	34
Houry Total         86         5         2         0         93         3         3         0         11         6         0         71         0         2         71         170           400 PM         14         0         1         0         15         1         2         0         2         3         3         12         0         2         16         33           4:16 PM         25         0         0         0         2         1         0         0         3         2         14         0         1         16         44           430 PM         7         1         0         0         3         1         0         1         0         19         0         1         10         28           445 PM         29         1         0         0         3         2         0         1         2         1         1         10         1         40         14         2         32         3         9         6         54         0         14         2         32         33         1         10         12         32         32         33         33         3	3:30 PM	18	1	0	0	19	2	0	0	5	2	0	17	0	0	17	38
4:00 PM       14       0       15       1       2       0       2       3       3       12       0       2       15       33         4:15 PM       25       0       0       0       25       2       1       0       0       3       2       14       0       1       16       44         4:30 PM       7       1       0       0       8       1       0       0       3       2       14       0       1       16       44         4:45 PM       29       1       0       0       3       9       6       54       0       5       60       14/t       1       0       12       1       9       0       1       10       42         Houry Total       75       2       1       0       75       3       2       0       0       5       1       11       0       0       12       32         5 i5 PM       11       0       0       11       0       1       1       2       0       8       0       0       2       44         5 i30 PM       18       3       0       0       1 <td>3:45 PM</td> <td>18</td> <td>2</td> <td>2</td> <td>0</td> <td>22</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>25</td> <td>0</td> <td>1</td> <td>25</td> <td>48</td>	3:45 PM	18	2	2	0	22	0	1	0	0	1	0	25	0	1	25	48
4:15 PM       25       0       0       25       2       1       0       3       2       14       0       1       16       44         4:30 PM       7       1       0       0       8       1       0       0       1       0       19       0       1       19       28         4:45 PM       29       1       0       0       30       1       1       0       1       20       1       9       0       1       10       42         Houry Total       75       2       1       0       78       5       4       0       3       9       6       54       0       1       10       42         Houry Total       14       1       0       0       11       0       1       0       1       1       11       0       1       14       26       3       2       0       1       1       1       1       1       1       1       26       1       1       1       1       1       1       26       1       1       26       1       1       1       1       1       26       1       1       26 </td <td>Hourly Total</td> <td>86</td> <td>5</td> <td>2</td> <td>0</td> <td>93</td> <td>3</td> <td>3</td> <td>0</td> <td>11</td> <td>6</td> <td>0</td> <td>71</td> <td>0</td> <td>2</td> <td>71</td> <td>170</td>	Hourly Total	86	5	2	0	93	3	3	0	11	6	0	71	0	2	71	170
4:30 PM       7       1       0       8       1       0       0       1       0       19       0       1       19       28         4:45 PM       29       1       0       30       1       1       0       1       20       1       9       0       1       100       42         Hourly Total       75       2       1       0       78       5       4       0       3       9       6       54       0       5       600       11       100       12       32         5:00 PM       14       1       0       0       11       0       0       11       0       1       0       1       1       0       1       14       26         5:30 PM       18       3       0       0       21       0       1       0       1       1       13       0       1       14       26         5:30 PM       18       3       0       0       21       0       1       1       1       14       26       1         6:00 PM       18       1       1       0       1       0       3       9       3	4:00 PM	14	0	1	0	15	1	2	0	2	3	3	12	0	2	15	33
4:45 PM       29       1       0       0       1       2       1       9       0       1       10       42         Hourly Total       75       2       1       0       78       5       4       0       3       9       6       54       0       5       60       147         5:00 PM       14       1       0       0       15       3       2       0       0       5       1       11       0       0       12       32         5:15 PM       11       0       0       11       0       0       1       1       1       1       1       1       2       44         5:30 PM       18       3       0       0       1       0       1       1       1       1       1       42         5:45 PM       19       0       0       19       2       0       1       2       0       8       0       0       8       29         Hourly Total       62       4       0       0       1       1       0       13       1       0       1       1       1       1       1       1       1	4:15 PM	25	0	0	0	25	2	1	0	0	3	2	14	0	1	16	44
Hourly Total         75         2         1         0         78         5         4         0         3         9         6         54         0         5         60         147           5:00 PM         14         1         0         0         15         3         2         0         0         5         1         11         0         0         12         32           5:15 PM         11         0         0         0         11         0         1         0         1         1         13         0         1         14         26           5:30 PM         18         3         0         0         21         0         1         0         2         1         1         21         0         0         22         44           5:45 PM         19         0         0         66         5         4         0         3         9         3         53         0         1         56         131           6:00 PM         18         1         1         0         20         4         0         0         1         1         1         14         28         6:30 PM	4:30 PM	7	1	0	0	8	1	0	0	0	1	0	19	0	1	19	28
5:00 PM         14         1         0         0         15         3         2         0         0         5         1         11         0         0         12         32           5:15 PM         11         0         0         11         0         1         0         1         1         13         0         1         14         26           5:30 PM         18         3         0         0         21         0         1         0         2         1         1         13         0         1         14         26           5:30 PM         18         3         0         0         21         0         1         0         2         1         1         21         0         0         22         44           5:45 PM         19         0         0         19         2         0         3         9         3         53         0         1         53         131           6:0 PM         18         1         1         0         20         4         0         0         1         1         0         131         1         14         28         131         <	4:45 PM	29	1	0	0	30	1	1	0	1	2	1	9	0	1	10	42
5:15 PM       11       0       0       1       0       1       1       13       0       1       14       26         5:30 PM       18       3       0       0       21       0       1       0       2       1       1       21       0       0       22       44         5:30 PM       19       0       0       19       0       0       19       2       0       1       2       0       8       0       0       22       44         5:30 PM       19       0       0       19       2       0       1       2       0       8       0       0       22       44         5:30 PM       62       4       0       3       9       3       53       0       1       56       131         6:00 PM       18       1       1       0       20       4       0       0       4       0       14       15       39         6:15 PM       12       1       0       1       0       0       1       1       0       14       26         6:30 PM       10       1       0       0	Hourly Total	75	2	1	0	78	5	4	0	3	9	6	54	0	5	60	147
5:30 PM       18       3       0       0       21       0       1       0       2       1       1       21       0       0       22       44         5:45 PM       19       0       0       19       2       0       0       1       2       0       8       0       0       8       29         Hourly Total       62       4       0       66       5       4       0       3       9       3       53       0       1       56       131         6:00 PM       18       1       1       0       20       4       0       0       4       0       14       1       0       15       39         6:15 PM       12       1       0       1       1       0       0       1       1       0       15       39         6:15 PM       12       1       0       1       1       0       0       1       1       0       1       1       28         6:30 PM       10       3       0       1       0       0       0       0       0       0       0       1       1       0       7	5:00 PM	14	1	0	0	15	3	2	0	0	5	1	11	0	0	12	32
5:45 PM1900019200120800829Hourly Total62400665403935301561316:00 PM1811020400040141015396:15 PM1210113100111013114286:30 PM1010011000000660066176:45 PM1030013010110700721Hourly Total5061157510260402142105Grand Total519195254327210334811269220282873Approach %95.63.50.956.343.80.03.995.40.7Total %59.52.20.6-62.23.12.40.0-5.51.330.80.2-32.3-	5:15 PM	11	0	0	0	11	0	1	0	0	1	1	13	0	1	14	26
Hourly Total62400665403935301561316:00 PM1811020400040141015396:15 PM1210113100110131114286:30 PM10100110000006006176:45 PM1030013010110700721Hourly Total5061157510260402142105Grand Total519195254327210334811269220282873Approach %95.63.50.956.343.80.03.995.40.7Total %59.52.20.6-62.23.12.40.0-5.51.330.80.2-32.3-	5:30 PM	18	3	0	0	21	0	1	0	2	1	1	21	0	0	22	44
6:0 PM         18         1         1         0         20         4         0         0         4         0         14         1         0         15         39           6:15 PM         12         1         0         1         13         1         0         0         1         1         0         13         1         1         14         28           6:30 PM         10         1         0         0         1         0         0         0         0         6         0         0         6         14         1         14         28           6:30 PM         10         1         0         0         1         0         0         0         0         0         0         0         0         0         0         0         1         1         1         14         28           6:45 PM         10         3         0         1         0         1         1         0         7         0         0         7         21           Hourly Total         50         6         1         1         57         5         1         0         28         0.7         -<	5:45 PM	19	0	0	0	19	2	0	0	1	2	0	8	0	0	8	29
6:15 PM       12       1       0       1       13       1       0       0       1       1       0       13       1       1       14       28         6:30 PM       10       1       0       0       1       0       0       0       0       0       0       6       0       0       6       17         6:30 PM       10       3       0       0       1       0       0       0       0       0       6       0       0       6       17         6:45 PM       10       3       0       0       1       0       1       0       7       0       0       7       21         Hourly Total       50       6       1       1       57       5       1       0       2       6       0       40       2       1       42       105         Grand Total       519       19       5       2       543       27       21       0       33       48       11       269       2       20       282       873         Approach %       95.6       3.5       0.9       -       -       56.3       43.8 <t< td=""><td>Hourly Total</td><td>62</td><td>4</td><td>0</td><td>0</td><td>66</td><td>5</td><td>4</td><td>0</td><td>3</td><td>9</td><td>3</td><td>53</td><td>0</td><td>1</td><td>56</td><td>131</td></t<>	Hourly Total	62	4	0	0	66	5	4	0	3	9	3	53	0	1	56	131
6:30 PM       10       1       0       0       0       0       0       0       6       0       0       6       17         6:45 PM       10       3       0       0       13       0       1       0       1       0       7       0       0       7       21         Hourly Total       50       6       1       1       57       5       1       0       2       6       0       40       2       1       42       105         Grand Total       519       19       5       2       543       27       21       0       33       48       11       269       2       20       282       873         Approach %       95.6       3.5       0.9       -       56.3       43.8       0.0       -       -       3.9       95.4       0.7       -	6:00 PM	18	1	1	0	20	4	0	0	0	4	0	14	1	0	15	39
6:45 PM       10       3       0       0       13       0       1       0       1       0       7       0       0       7       21         Hourly Total       50       6       1       1       57       5       1       0       2       66       0       40       2       1       42       105         Grand Total       519       19       5       2       543       27       21       0       33       48       11       269       2       20       282       873         Approach %       95.6       3.5       0.9       -       56.3       43.8       0.0       -       -       3.9       95.4       0.7       - </td <td>6:15 PM</td> <td>12</td> <td>1</td> <td>0</td> <td>1</td> <td>13</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>13</td> <td>1</td> <td>1</td> <td>14</td> <td>28</td>	6:15 PM	12	1	0	1	13	1	0	0	1	1	0	13	1	1	14	28
Hourly Total         50         6         1         1         57         5         1         0         2         6         0         40         2         1         42         105           Grand Total         519         19         5         2         543         27         21         0         33         48         11         269         2         20         282         873           Approach %         95.6         3.5         0.9         -         56.3         43.8         0.0         -         -         3.9         95.4         0.7         -	6:30 PM	10	1	0	0	11	0	0	0	0	0	0	6	0	0	6	17
Grand Total         519         19         5         2         543         27         21         0         33         48         11         269         2         20         282         873           Approach %         95.6         3.5         0.9         -         56.3         43.8         0.0         -         -         3.9         95.4         0.7         -	6:45 PM	10	3	0	0	13	0	1	0	1	1	0	7	0	0	7	21
Approach %         95.6         3.5         0.9         -         56.3         43.8         0.0         -         -         3.9         95.4         0.7         -         -         -         -           Total %         59.5         2.2         0.6         -         62.2         3.1         2.4         0.0         -         5.5         1.3         30.8         0.2         -         32.3         -	Hourly Total	50	6	1	1	57	5	1	0	2	6	0	40	2	1	42	105
Total %         59.5         2.2         0.6         -         62.2         3.1         2.4         0.0         -         5.5         1.3         30.8         0.2         -         32.3         -	Grand Total	519	19	5	2	543	27	21	0	33	48	11	269	2	20	282	873
	Approach %	95.6	3.5	0.9	-	-	56.3	43.8	0.0	-	-	3.9	95.4	0.7	-	-	-
Linble 515 10 5 5 530 27 21 0 5 48 11 259 2 271 959	Total %	59.5	2.2	0.6	-	62.2	3.1	2.4	0.0	-	5.5	1.3	30.8	0.2	-	32.3	-
Ligno 010 10 0 - 000 21 21 0 - 40 11 200 2 - 21 000	Lights	515	19	5	-	539	27	21	0	-	48	11	258	2	-	271	858
% Lights 99.2 100.0 100.0 - 99.3 100.0 100.0 - 100.0 - 100.0 100.0 95.9 100.0 - 96.1 98.3	% Lights	99.2	100.0	100.0	-	99.3	100.0	100.0	-	-	100.0	100.0	95.9	100.0	-	96.1	98.3
Mediums         4         0         -         4         0         0         -         0         0         10         0         -         10         14	Mediums	4	0	0	-	4	0	0	0	-	0	0	10	0	-	10	14
% Mediums         0.8         0.0         0.0         -         0.0         0.0         -         0.0         0.0         3.7         0.0         -         3.5         1.6	% Mediums	0.8	0.0	0.0	-	0.7	0.0	0.0	-	-	0.0	0.0	3.7	0.0	-	3.5	1.6
Articulated Trucks         0         0         0         -         0         0         0         -         1         1	Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1

% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0	0.4	0.0	-	0.4	0.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	2	-	-	-	-	33	-	-	-	-	20	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Count Name: Bonnie Brae at Alley Site Code: Start Date: 11/19/2019 Page No: 4

# Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

## Turning Movement Peak Hour Data (7:30 AM)

1										•••						1
			Bonnie Brae					Alley					Bonnie Brae			
0. IT			Southbound					Westbound					Northbound			
Start Time	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
7:30 AM	32	0	0	0	32	0	0	0	3	0	0	8	0	0	8	40
7:45 AM	57	0	1	0	58	2	2	0	1	4	0	7	0	0	7	69
8:00 AM	75	1	0	0	76	2	2	0	2	4	1	9	0	5	10	90
8:15 AM	22	1	0	1	23	1	1	0	5	2	0	8	0	1	8	33
Total	186	2	1	1	189	5	5	0	11	10	1	32	0	6	33	232
Approach %	98.4	1.1	0.5	-	-	50.0	50.0	0.0	-	-	3.0	97.0	0.0	-	-	-
Total %	80.2	0.9	0.4	-	81.5	2.2	2.2	0.0	-	4.3	0.4	13.8	0.0	-	14.2	-
PHF	0.620	0.500	0.250	-	0.622	0.625	0.625	0.000	-	0.625	0.250	0.889	0.000	-	0.825	0.644
Lights	186	2	1	-	189	5	5	0	-	10	1	31	0	-	32	231
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	-	-	100.0	100.0	96.9	-	-	97.0	99.6
Mediums	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Mediums	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0	3.1	-	-	3.0	0.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	1	-	-	-	-	11	-	-	-	-	6	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Count Name: Bonnie Brae at Alley Site Code: Start Date: 11/19/2019 Page No: 6

# Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

## Turning Movement Peak Hour Data (3:00 PM)

			Bonnie Brae					Alley	<b>V</b> -	,			Bonnie Brae			
			Southbound					Westbound					Northbound			
Start Time	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
3:00 PM	34	1	0	0	35	1	1	0	4	2	0	13	0	1	13	50
3:15 PM	16	1	0	0	17	0	1	0	2	1	0	16	0	0	16	34
3:30 PM	18	1	0	0	19	2	0	0	5	2	0	17	0	0	17	38
3:45 PM	18	2	2	0	22	0	1	0	0	1	0	25	0	1	25	48
Total	86	5	2	0	93	3	3	0	11	6	0	71	0	2	71	170
Approach %	92.5	5.4	2.2	-	-	50.0	50.0	0.0	-	-	0.0	100.0	0.0	-	-	-
Total %	50.6	2.9	1.2	-	54.7	1.8	1.8	0.0	-	3.5	0.0	41.8	0.0	-	41.8	-
PHF	0.632	0.625	0.250	-	0.664	0.375	0.750	0.000	-	0.750	0.000	0.710	0.000	-	0.710	0.850
Lights	85	5	2	-	92	3	3	0	-	6	0	68	0	-	68	166
% Lights	98.8	100.0	100.0	-	98.9	100.0	100.0	-	-	100.0	-	95.8	-	-	95.8	97.6
Mediums	1	0	0	-	1	0	0	0	-	0	0	3	0	-	3	4
% Mediums	1.2	0.0	0.0	-	1.1	0.0	0.0	-	-	0.0	-	4.2	-	-	4.2	2.4
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	11	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Count Name: Thomas Street at Alley Site Code: Start Date: 11/19/2019 Page No: 1

#### Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

# **Turning Movement Data**

			A	ley					The	omas			nent L	Jala	A	lley					The	omas			
			South	bound					West	bound					North	nbound					East	bound			
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	0	4	4
7:15 AM	0	0	4	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	9
7:30 AM	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	9	2	0	2	11	12
7:45 AM	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	0	1	1	0	9	0	0	0	9	12
Hourly Total	0	0	7	0	2	7	0	0	0	0	1	0	1	0	0	0	3	1	0	27	2	0	2	29	37
8:00 AM	0	0	2	0	0	2	0	0	0	0	2	0	3	1	0	0	0	4	0	19	3	0	0	22	28
8:15 AM	0	0	2	0	0	2	0	0	0	0	2	0	4	0	0	0	0	4	0	8	1	0	0	9	15
8:30 AM	0	0	1	0	0	1	0	0	0	0	0	0	7	1	0	0	0	8	0	5	0	0	0	5	14
8:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	8	0	0	0	0	8	0	6	0	0	0	6	14
Hourly Total	0	0	5	0	2	5	0	0	0	0	4	0	22	2	0	0	0	24	0	38	4	0	0	42	71
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	0	2	0	1	2	0	0	0	0	0	0	2	0	0	0	1	2	0	11	0	0	0	11	15
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	6	1	0	0	7	8
3:30 PM	0	0	2	0	0	2	0	0	0	0	0	0	5	2	0	0	0	7	0	10	1	0	0	11	20
3:45 PM	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	0	2	0	7	2	0	0	9	12
Hourly Total	0	0	5	0	1	5	0	0	0	0	0	0	10	2	0	0	1	12	0	34	4	0	0	38	55
4:00 PM	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	7	3	0	0	10	10
4:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	3	1	0	0	0	4	0	11	2	0	0	13	18
4:30 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	5	0	0	0	5	6
4:45 PM	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	0	0	4	0	5	0	0	0	5	11
Hourly Total	0	0	4	0	2	4	0	0	0	0	1	0	7	1	0	0	2	8	0	28	5	0	0	33	45
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	10	2	0	0	12	13
5:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	0	2	0	4	2	0	0	6	9
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2	0	0	10	10
5:45 PM	0	0	1	0	3	1	0	0	0	0	0	0	4	1	0	0	1	5	0	8	0	0	0	8	14
Hourly Total	0	0	2	0	3	2	0	0	0	0	0	0	6	2	0	0	1	8	0	30	6	0	0	36	46
6:00 PM	0	0	1	0	2	1	0	0	0	0	0	0	1	1	0	0	0	2	0	8	2	0	0	10	13
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	4
6:30 PM	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	5	2	0	0	7	8
6:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	1	0	0	3	3
Hourly Total	0	0	2	0	4	2	0	0	0	0	0	0	1	1	0	0	2	2	0	19	5	0	0	24	28
Grand Total	0	0	25	0	14	25	0	0	0	0	6	0	47	8	0	0	9	55	0	176	26	0	2	202	282
Approach %	0.0	0.0	100.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	85.5	14.5	0.0	0.0	-	-	0.0	87.1	12.9	0.0	-	-	-
Total %	0.0	0.0	8.9	0.0	-	8.9	0.0	0.0	0.0	0.0	-	0.0	16.7	2.8	0.0	0.0	-	19.5	0.0	62.4	9.2	0.0	-	71.6	-
Lights	0	0	25	0	-	25	0	0	0	0	-	0	47	8	0	0	-	55	0	174	26	0	-	200	280
% Lights	-	-	100.0	-	-	100.0	-	-	-	-	-	-	100.0	100.0	-	-	-	100.0	-	98.9	100.0	-	-	99.0	99.3
Mediums	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	2	0	0	-	2	2
% Mediums	-	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	1.1	0.0	-	-	1.0	0.7

Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	14	-	-	-	-	-	6	-	-	-	-	-	9	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Count Name: Thomas Street at Alley Site Code: Start Date: 11/19/2019 Page No: 4

# Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

# Turning Movement Peak Hour Data (8:00 AM)

								run	in ig it	loven	ICHT I	Car	lioui	Dala	(0.00										
			A	lley					Tho	omas					A	ley					Tho	mas			
			South	nbound					West	bound					North	bound					East	oound			
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
8:00 AM	0	0	2	0	0	2	0	0	0	0	2	0	3	1	0	0	0	4	0	19	3	0	0	22	28
8:15 AM	0	0	2	0	0	2	0	0	0	0	2	0	4	0	0	0	0	4	0	8	1	0	0	9	15
8:30 AM	0	0	1	0	0	1	0	0	0	0	0	0	7	1	0	0	0	8	0	5	0	0	0	5	14
8:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	8	0	0	0	0	8	0	6	0	0	0	6	14
Total	0	0	5	0	2	5	0	0	0	0	4	0	22	2	0	0	0	24	0	38	4	0	0	42	71
Approach %	0.0	0.0	100.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	91.7	8.3	0.0	0.0	-	-	0.0	90.5	9.5	0.0	-	-	-
Total %	0.0	0.0	7.0	0.0	-	7.0	0.0	0.0	0.0	0.0	-	0.0	31.0	2.8	0.0	0.0	-	33.8	0.0	53.5	5.6	0.0	-	59.2	-
PHF	0.000	0.000	0.625	0.000	-	0.625	0.000	0.000	0.000	0.000	-	0.000	0.688	0.500	0.000	0.000	-	0.750	0.000	0.500	0.333	0.000	-	0.477	0.634
Lights	0	0	5	0	-	5	0	0	0	0	-	0	22	2	0	0	-	24	0	38	4	0	-	42	71
% Lights	-	-	100.0	-	-	100.0	-	-	-	-	-	-	100.0	100.0	-	-	-	100.0	-	100.0	100.0	-	-	100.0	100.0
Mediums	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Mediums	-	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-		-	-	100.0	-	-	-	-	-	100.0	-	-		-	-		-		-	-	-	-	-	-

Count Name: Thomas Street at Alley Site Code: Start Date: 11/19/2019 Page No: 6

#### Vernon Hills, Illinois, United States 60061 (847) 478-9700 poster@gha-engineers.com

# Turning Movement Peak Hour Data (3:30 PM)

				lley nbound						omas tbound						lley Ibound						mas oound			
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
3:30 PM	0	0	2	0	0	2	0	0	0	0	0	0	5	2	0	0	0	7	0	10	1	0	0	11	20
3:45 PM	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	0	2	0	7	2	0	0	9	12
4:00 PM	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	7	3	0	0	10	10
4:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	3	1	0	0	0	4	0	11	2	0	0	13	18
Total	0	0	4	0	2	4	0	0	0	0	1	0	10	3	0	0	1	13	0	35	8	0	0	43	60
Approach %	0.0	0.0	100.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	76.9	23.1	0.0	0.0	-	-	0.0	81.4	18.6	0.0	-	-	-
Total %	0.0	0.0	6.7	0.0	-	6.7	0.0	0.0	0.0	0.0	-	0.0	16.7	5.0	0.0	0.0	-	21.7	0.0	58.3	13.3	0.0	-	71.7	-
PHF	0.000	0.000	0.500	0.000	-	0.500	0.000	0.000	0.000	0.000	-	0.000	0.500	0.375	0.000	0.000	-	0.464	0.000	0.795	0.667	0.000	-	0.827	0.750
Lights	0	0	4	0	-	4	0	0	0	0	-	0	10	3	0	0	-	13	0	35	8	0	-	43	60
% Lights	-	-	100.0	-	-	100.0	-	-	-	-	-	-	100.0	100.0	-	-	-	100.0	-	100.0	100.0	-	-	100.0	100.0
Mediums	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Mediums	-	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

# APPENDIX C Crash Summary



### Appendix C Crash Data Summary Bonnie Brae at Division St, River Forest, IL

	2	014	2	2015	20	016	2	017	2	018
Turne of Oreach	No.	%	No.	%	No.	%	No.	%	No.	%
Type of Crash					1					
Angle	-	-	-	-	-	-	-	-	1	50%
Turning	1	50%	1	50%	-	-	-	-	-	-
Rear End	-	-	-	-	-	-	-	-	1	50%
Fixed Object	-	-	-	-	-	-	1	25%	-	-
Parked Motor Vehicle	1	50%	1	50%	-	-	2	50%	-	-
Pedalcyclist	-	-	-	-	-	-	1	25%	-	-
Pavement Conditions										
Snowy or Icy Conditions	-	-	-	-	-	-	-	-	1	50%
Wet Conditions	-	-	-	-	-	-	2	50%	-	-
Dry Conditions	2	100%	2	100%	-	-	2	50%	1	50%
Light Conditions										
Dawn or Dusk Conditions	-	-	-	-	_	-	-	-	-	-
Night Conditions	-	-	-	-	-	-	2	50%	-	-
Day Conditions	2	100%	2	100%	-	-	2	50%	2	100%
Crash Severity					-		-			
Fatal	-	-	-	-	-	-	-	-	-	-
Injury										
-A (Incapacitating) -B (Non-incapacitating -C (Reported/Not evident)		- -	- 1 -	- 50% -		- -	- 1 -	- 25% -	- - 1	- 50%
Property Damage Only	2	100%	1	50%	-	-	3	75%	1	50%
					1		1			
Total Crashes		2		2		0		4		2

	2014	-2018
	No.	%
5-Year Crash Summary		
Total Crashes		10
Type of Crash		
-Angle	1	10%
-Turning	2	20%
-Rear End	1	10%
-Fixed Object	1	10%
-Parked Motor Vehicle	4	40%
-Pedalcyclist	1	10%
Pavement Condition		
-Dry	7	70%
-Wet/Snow/Ice	3	30%
Light Condition		
-Daylight	8	80%
-Dark	2	20%
Crash Severity		
-Fatal	0	0%
-Injury	3	30%
-PDO	7	70%



### Appendix C Crash Data Summary Bonnie Brae at Thomas St, River Forest, IL

	2	014	2	015	20	16	2	017	20	)18
Turne of Orner	No.	%	No.	%	No.	%	No.	%	No.	%
Type of Crash					1					
Turning	-	-	-	-	-	-	2	100%	-	-
Parked Motor Vehicle	1	100%	-	-	-	-	-	-	-	-
Pavement Conditions										
Snowy or Icy Conditions	-	-	-	-	-	-	-	-	-	-
Wet Conditions	-	-	-	-	-	-	-	-	-	-
Dry Conditions	1	100%	-	-	-	-	2	100%	-	-
Light Conditions										
Dawn or Dusk Conditions	-	-	-	-	-	-	-	-	-	-
Night Conditions	1	100%	-	-	-	-	-	-	-	-
Day Conditions	-	-	-	-	-	-	2	100%	-	-
Crash Severity										
Fatal	-	-	-	-	-	-	-	-	-	-
Injury										
-A (Incapacitating)	-	-	-	-	-	-	-	-	-	-
-B (Non-incapacitating	-	-	-	-	-	-	-	-	-	-
-C (Reported/Not evident)	-	-	-	-	-	-	-	-	-	-
Property Damage Only	1	100%	-	-	-	-	2	100%	-	-
Total Crashes		1		0		0		2		0

	2014	4-2018
	No.	%
5-Year Crash Summary		
Total Crashes		3
Type of Crash		
-Turning	2	67%
-Parked Motor Vehicle	1	33%
Pavement Condition		
-Dry	3	100%
-Wet/Snow/Ice	0	0%
Light Condition		
-Daylight	2	67%
-Dark	1	33%
Crash Severity		
-Fatal	0	0%
-Injury	0	0%
-PDO	3	100%



### Appendix C Crash Data Summary Bonnie Brae at Augusta St, River Forest, IL

	2	014	2	2015	2	016	20	017	2	018
	No.	%	No.	%	No.	%	No.	%	No.	%
Type of Crash										
Angle	-	-	2	100%	2	-	1	50%	2	67%
Turning	-	-	-	-	1	-	1	50%	-	-
Rear End	1	100%	-	-	-	-	-	-	-	-
Sideswipe Same Direction	-	-	-	-	-	-	-	-	1	33%
Parked Motor Vehicle	-	-	-	-	1	-	-	-	-	-
Pavement Conditions										
Snowy or Icy Conditions	1	100%	1	50%	-	-	-	-	-	-
Wet Conditions	-	-	-	-	1	25%	1	50%	-	-
Dry Conditions	-	-	1	50%	3	75%	1	50%	3	100%
Light Conditions										
Dawn or Dusk Conditions	-	-	-	-	-	-	-	-	-	-
Night Conditions	-	-	1	50%	1	25%	1	50%	-	-
Day Conditions	1	100%	1	50%	3	75%	1	50%	3	100%
Crash Severity										
Fatal	-	-	-	-	-	-	-	-	-	-
Injury										
-A (Incapacitating) -B (Non-incapacitating -C (Reported/Not evident)	- - 1	- - 100%		- - -		- - -	- - 1	- 50%		- - -
Property Damage Only	-	-	2	100%	4	100%	1	50%	3	100%
Total Crashes		1		2		4		2		3

	2014	-2018
	No.	%
5-Year Crash Summary		
Total Crashes	· ·	12
Type of Crash		
-Angle	7	59%
-Turning	2	17%
-Rear End	1	8%
-Sideswipe Same Direction	1	8%
-Parked Motor Vehicle	1	8%
Pavement Condition		
-Dry	8	67%
-Wet/Snow/Ice	4	33%
Light Condition		
-Daylight	9	75%
-Dark	3	25%
Crash Severity		
-Fatal	0	0%
-Injury	2	17%
-PDO	10	83%



# **APPENDIX D** ITE Trip Generation Excerpts



# Land Use: 220 Multifamily Housing (Low-Rise)

### Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels (floors). Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), and off-campus student apartment (Land Use 225) are related land uses.

### **Additional Data**

In prior editions of *Trip Generation Manual*, the low-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

This land use included data from a wide variety of units with different sizes, price ranges, locations, and ages. Consequently, there was a wide variation in trips generated within this category. Other factors, such as geographic location and type of adjacent and nearby development, may also have had an effect on the site trip generation.

Time-of-day distribution data for this land use are presented in Appendix A. For the 10 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:45 and 5:45 p.m., respectively. For the one site with Saturday data, the overall highest vehicle volume was counted between 9:45 and 10:45 a.m. For the one site with Sunday data, the overall highest vehicle volume was counted between 9:45 and 10:45 a.m. and 12:45 p.m.

For the one dense multi-use urban site with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 6:15 and 7:15 p.m., respectively.

For the three sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.72 residents per occupied dwelling unit.

The average numbers of person trips per vehicle trip at the five general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.13 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.21 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.



The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, District of Columbia, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Minnesota, New Jersey, New York, Ontario, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, and Washington.

It is expected that the number of bedrooms and number of residents are likely correlated to the number of trips generated by a residential site. Many of the studies included in this land use did not indicate the total number of bedrooms. To assist in the future analysis of this land use, it is important that this information be collected and included in trip generation data submissions.

### **Source Numbers**

168, 187, 188, 204, 211, 300, 305, 306, 319, 320, 321, 357, 390, 412, 418, 525, 530, 571, 579, 583, 864, 868, 869, 870, 896, 903, 918, 946, 947, 948, 951



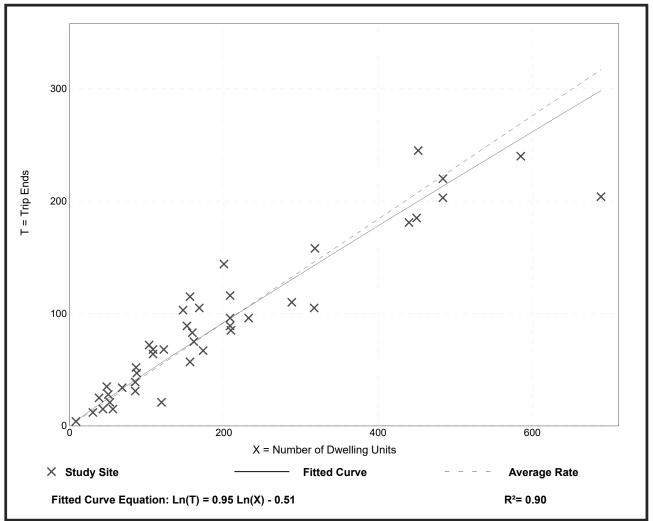
# Multifamily Housing (Low-Rise) (220)

Vehicle Trip Ends vs: On a:	Dwelling Units Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.
Setting/Location:	General Urban/Suburban
Number of Studies:	42
Avg. Num. of Dwelling Units:	199
Directional Distribution:	23% entering, 77% exiting

# Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.18 - 0.74	0.12

# **Data Plot and Equation**



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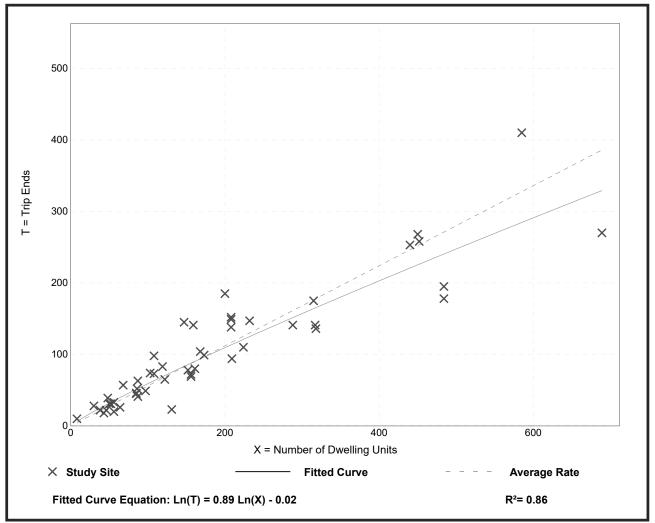
# Multifamily Housing (Low-Rise) (220)

Sotting/Logotion	Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.
Setting/Location:	General Urban/Suburban
Number of Studies:	50
Avg. Num. of Dwelling Units:	187
Directional Distribution:	63% entering, 37% exiting

# Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.56	0.18 - 1.25	0.16

# **Data Plot and Equation**



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# Multifamily Housing (Low-Rise) (220)

# Vehicle Trip Ends vs: Dwelling Units On a: Weekday

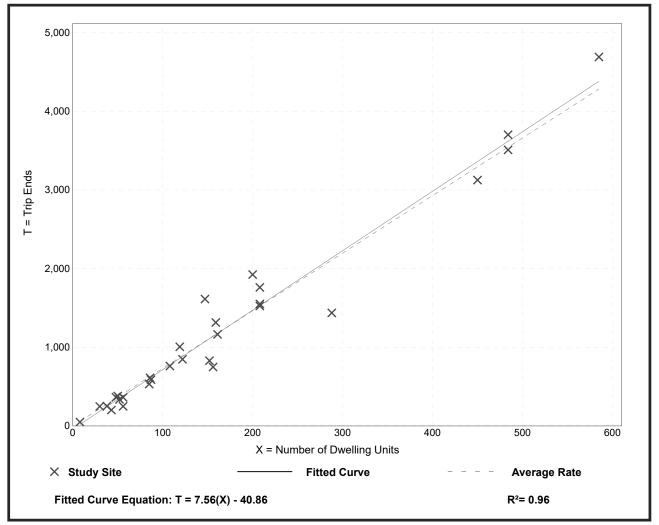
Setting/Location:	General Urban/Suburban
-------------------	------------------------

Number of Studies:	29
Avg. Num. of Dwelling Units:	168
Directional Distribution:	50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.32	4.45 - 10.97	1.31

# **Data Plot and Equation**



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# **APPENDIX E** *CMAP Correspondence*





233 South Wacker Drive Suite 800 Chicago, Illinois 60606

312 454 0400 www.cmap.illinois.gov November 27, 2019

Antonio Maravillas Transportation Engineer Gewalt Hamilton Associates, Inc. 625 Forest Edge Drive Vernon Hills, IL 60061

# Subject: IL 43 @ Division Street IDOT

Dear Mr. Maravillas:

In response to a request made on your behalf and dated November 26, 2019, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	<b>Current Volumes</b>	Year 2050 ADT
IL 43 N of Division St	27,000	31,400
IL 43 S of Division St	31,700	36,600
Division St E of IL 43	8,750	10,100
Division St W of IL 43	4,550	5,400

Traffic projections are developed using existing ADT data provided in the request letter and the results from the October 2019 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806.

Sincerely,

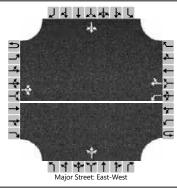
Jose Rodriguez, PTP, AICP Senior Planner, Research & Analysis

cc: Quigley (IDOT) \\cmap.local\shared\AdminGroups\ResearchAnalysis\2019\_ForecastsTraffic\RiverForest\ck-152-19\ck-152-19.docx

# **APPENDIX F** Capacity Analysis Worksheets



HCS7 Two-Way Stop-Control Report									
General Information		Site Information							
Analyst	AM	Intersection	Bonnie Brae at Division						
Agency/Co.	GHA	Jurisdiction	Local						
Date Performed	11/26/2019	East/West Street	Division Street						
Analysis Year	2019	North/South Street	Bonnie Brae						
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.88						
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25						
Project Description	Existing AM								
Lanes									



### Vehicle Volumes and Adjustments

Approach		Eastb	ound			West	bound		Northbound				Southbound			
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	1	0
Configuration			LTR			L		TR			LTR				LTR	
Volume (veh/h)		35	220	97		84	376	48		14	3	23		25	7	27
Percent Heavy Vehicles (%)		0				0				0	0	5		0	0	0
Proportion Time Blocked																
Percent Grade (%)										(	)				0	
Right Turn Channelized																
Median Type   Storage		Undivided														
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.25		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.35		3.50	4.00	3.30
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		40				95					45				67	
Capacity, c (veh/h)		1045				1182					293				244	
v/c Ratio		0.04				0.08					0.16				0.27	
95% Queue Length, Q <sub>95</sub> (veh)		0.1				0.3					0.5				1.1	
Control Delay (s/veh)		8.6				8.3					19.5				25.3	
Level of Service (LOS)		А				А					С				D	
Approach Delay (s/veh)		1	.2		1.4			19.5				25.3				
Approach LOS										(	2			[	)	

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HCS TM TWSC Version 7.8.5 Existing AM Bonnie Brae at Division St.xtw 

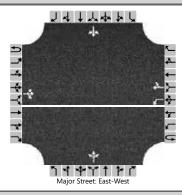
Pedestrian Level of Service									
Flow (ped/hr)	8	15	13	24					
Two-Stage Crossing	No	No	No	No					
Pedestrian Platooning	No	No	No	No					
Conflicting Vehicular Flow (veh/h)	827	827							
Average Delay (s)	5.0	5.0	0.2	0.3					
Level of Service (LOS)	В	В	А	A					

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HCS TW TWSC Version 7.8.5 Existing AM Bonnie Brae at Division St.xtw

Generated: 11/26/2019 6:13:11 PM

HCS7 Two-Way Stop-Control Report									
General Information		Site Information							
Analyst	AM	Intersection	Bonnie Brae at Division						
Agency/Co.	GHA	Jurisdiction	Local						
Date Performed	12/9/2019	East/West Street	Division Street						
Analysis Year	2026	North/South Street	Bonnie Brae						
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.88						
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25						
Project Description	Total AM								
Lanes									



### Vehicle Volumes and Adjustments

Approach		Eastb	ound			West	ound			North	bound		Southbound			
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	1	0
Configuration			LTR			L		TR			LTR				LTR	
Volume (veh/h)		35	229	97		85	391	48		15	3	23		25	7	27
Percent Heavy Vehicles (%)		0				0				0	0	5		0	0	0
Proportion Time Blocked																
Percent Grade (%)										(	C				0	
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.25		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.35		3.50	4.00	3.30
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		40				97					47				67	
Capacity, c (veh/h)		1030				1171					276				234	
v/c Ratio		0.04				0.08					0.17				0.29	
95% Queue Length, Q <sub>95</sub> (veh)		0.1				0.3					0.6				1.1	
Control Delay (s/veh)		8.6				8.3					20.7				26.5	
Level of Service (LOS)		А				А					С				D	
Approach Delay (s/veh)		1	.2		1.4			20.7				26.5				
Approach LOS								С				D				

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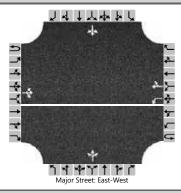
HCS TM TWSC Version 7.8.5 Total AM Bonnie Brae at Division St.xtw

Pedestrian Level of Service									
Flow (ped/hr)	8	15	13	24					
Two-Stage Crossing	No	No	No	No					
Pedestrian Platooning	No	No	No	No					
Conflicting Vehicular Flow (veh/h)	855	856							
Average Delay (s)	5.3	5.3	0.2	0.3					
Level of Service (LOS)	В	В	A	А					

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HCS TMI TWSC Version 7.8.5 Total AM Bonnie Brae at Division St.xtw Generated: 12/9/2019 11:40:20 AM

HCS7 Two-Way Stop-Control Report									
General Information		Site Information							
Analyst	AM	Intersection	Bonnie Brae at Division						
Agency/Co.	GHA	Jurisdiction	Local						
Date Performed	11/26/2019	East/West Street	Division Street						
Analysis Year	2019	North/South Street	Bonnie Brae						
Time Analyzed	3:00-4:00 PM	Peak Hour Factor	0.94						
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25						
Project Description	Existing PM								
Lanes									



### Vehicle Volumes and Adjustments

Approach		Eastb	ound			West	ound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	1	0
Configuration			LTR			L		TR			LTR				LTR	
Volume (veh/h)		18	313	43		44	266	12		34	1	43		23	4	26
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										(	0				0	
Right Turn Channelized																
Median Type   Storage		Undivided														
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		19				47					83				56	
Capacity, c (veh/h)		1232				1157					386				370	
v/c Ratio		0.02				0.04					0.22				0.15	
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.1					0.8				0.5	
Control Delay (s/veh)		8.0				8.2					16.9				16.5	
Level of Service (LOS)		Α				Α					С				С	
Approach Delay (s/veh)		0	.5		1.1			16.9				16.5				
Approach LOS										(	2			(	C	

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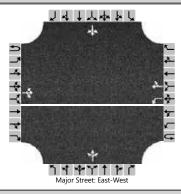
HCS TM TWSC Version 7.8.5 Existing PM Bonnie Brae at Division St.xtw

Pedestrian Level of Service									
Flow (ped/hr)	20	8	16	20					
Two-Stage Crossing	No	No	No	No					
Pedestrian Platooning	No	No	No	No					
Conflicting Vehicular Flow (veh/h)	681	676							
Average Delay (s)	3.8	3.8	0.4	0.2					
Level of Service (LOS)	A	А	А	A					

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HCS TM TWSC Version 7.8.5 Existing PM Bonnie Brae at Division St.xtw Generated: 11/26/2019 6:12:43 PM

HCS7 Two-Way Stop-Control Report									
General Information		Site Information							
Analyst	AM	Intersection	Bonnie Brae at Division						
Agency/Co.	GHA	Jurisdiction	Local						
Date Performed	12/9/2019	East/West Street	Division Street						
Analysis Year	2026	North/South Street	Bonnie Brae						
Time Analyzed	3:00-4:00 PM	Peak Hour Factor	0.94						
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25						
Project Description	Total PM								
Lanes									



### Vehicle Volumes and Adjustments

Approach		Eastbound Westbound				Northbound				Southbound						
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	1	0
Configuration			LTR			L		TR			LTR				LTR	
Volume (veh/h)		18	326	44		46	277	12		35	1	43		23	4	26
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										(	0				0	
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		19				49					84				56	
Capacity, c (veh/h)		1220				1142					368				355	
v/c Ratio		0.02				0.04					0.23				0.16	
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.1					0.9				0.6	
Control Delay (s/veh)		8.0				8.3					17.6				17.1	
Level of Service (LOS)		Α				A					С				С	
Approach Delay (s/veh)		0	.5			1	.1		17.6				17.1			
Approach LOS									С				С			

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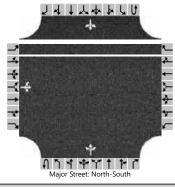
HCS TM TWSC Version 7.8.5 Total PM Bonnie Brae at Division St.xtw Generated: 12/9/2019 11:41:50 AM

Pedestrian Level of Service										
Flow (ped/hr)	20	8	16	20						
Two-Stage Crossing	No	No	No	No						
Pedestrian Platooning	No	No	No	No						
Conflicting Vehicular Flow (veh/h)	707	703								
Average Delay (s)	4.0	4.0	0.4	0.2						
Level of Service (LOS)	А	A	A	А						

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HCS TM TWSC Version 7.8.5 Total PM Bonnie Brae at Division St.xtw Generated: 12/9/2019 11:41:50 AM

HCS7 Two-Way Stop-Control Report									
General Information		Site Information							
Analyst	АМ	Intersection	Bonnie Brae at Thomas						
Agency/Co.	GHA	Jurisdiction	Local						
Date Performed	11/26/2019	East/West Street	Thomas Street						
Analysis Year	2019	North/South Street	Bonnie Brae						
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.62						
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25						
Project Description	Existing AM								
Lanes									



### Vehicle Volumes and Adjustments

Approach		Eastb	ound			West	ound			North	bound		Southbound			
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LTR								LTR				LTR	
Volume (veh/h)		2	3	3						3	105	10		36	105	4
Percent Heavy Vehicles (%)		50	0	0						0				0		
Proportion Time Blocked																
Percent Grade (%)			0													
Right Turn Channelized																
Median Type   Storage	Undi				vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2						4.1				4.1		
Critical Headway (sec)		7.60	6.50	6.20						4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3						2.2				2.2		
Follow-Up Headway (sec)		3.95	4.00	3.30						2.20				2.20		
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)			13							5				58		
Capacity, c (veh/h)			521							1395				1364		
v/c Ratio			0.02							0.00				0.04		
95% Queue Length, Q <sub>95</sub> (veh)			0.1							0.0				0.1		
Control Delay (s/veh)			12.1							7.6				7.8		
Level of Service (LOS)			В							A				A		
Approach Delay (s/veh)		12	2.1						0.2				2.2			
Approach LOS	1		В													

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HCS TM TWSC Version 7.8.5 Existing AM Bonnie Brae at Thomas St.xtw

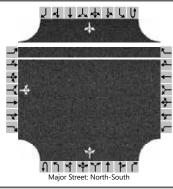
Pedestrian Level of Service										
Flow (ped/hr)	7		7	3						
Two-Stage Crossing	No		No	No						
Pedestrian Platooning	No		No	No						
Conflicting Vehicular Flow (veh/h)			360	403						
Average Delay (s)	0.1	0.0	1.7	1.9						
Level of Service (LOS)	A	А	A	A						

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HCS TW TWSC Version 7.8.5 Existing AM Bonnie Brae at Thomas St.xtw

Generated: 11/26/2019 6:20:00 PM

HCS7 Two-Way Stop-Control Report										
General Information		Site Information								
Analyst	АМ	Intersection	Bonnie Brae at Thomas							
Agency/Co.	GHA	Jurisdiction	Local							
Date Performed	12/9/2019	East/West Street	Thomas Street							
Analysis Year	2026	North/South Street	Bonnie Brae							
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.62							
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25							
Project Description	Total AM									
Lanes										



# Vehicle Volumes and Adjustments

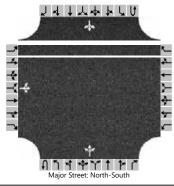
venicie volumes and Auj																	
Approach		Eastb	ound			West	oound		Northbound				Southbound				
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R	
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0	
Configuration			LTR								LTR				LTR		
Volume (veh/h)		2	3	3						3	105	11		37	105	4	
Percent Heavy Vehicles (%)		50	0	0						0				0			
Proportion Time Blocked																	
Percent Grade (%)			0														
Right Turn Channelized																	
Median Type   Storage	Undi				vided												
Critical and Follow-up Ho	eadwa	ys															
Base Critical Headway (sec)		7.1	6.5	6.2						4.1				4.1			
Critical Headway (sec)		7.60	6.50	6.20						4.10				4.10			
Base Follow-Up Headway (sec)		3.5	4.0	3.3						2.2				2.2			
Follow-Up Headway (sec)		3.95	4.00	3.30						2.20				2.20			
Delay, Queue Length, and	d Leve	l of Se	ervice						<u> </u>					<u> </u>			
Flow Rate, v (veh/h)			13							5				60			
Capacity, c (veh/h)			518							1395				1362			
v/c Ratio			0.02							0.00				0.04			
95% Queue Length, Q <sub>95</sub> (veh)			0.1							0.0				0.1			
Control Delay (s/veh)			12.1							7.6				7.8			
Level of Service (LOS)			В							А				A			
Approach Delay (s/veh)		12	2.1						0.2				2.2				
Approach LOS			В														

Pedestrian Level of Servic	e			
Flow (ped/hr)	7		7	3
Two-Stage Crossing	No		No	No
Pedestrian Platooning	No		No	No
Conflicting Vehicular Flow (veh/h)			361	405
Average Delay (s)	0.1	0.0	1.7	1.9
Level of Service (LOS)	А	А	A	A

HCS TMI TWSC Version 7.8.5 Total AM Bonnie Brae at Thomas St.xtw

Generated: 12/9/2019 11:47:04 AM

	HCS7 Two-V	Vay Stop-Control Report	
General Information		Site Information	
Analyst	AM	Intersection	Bonnie Brae at Thomas
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	11/26/2019	East/West Street	Thomas Street
Analysis Year	2019	North/South Street	Bonnie Brae
Time Analyzed	3:00-4:00 PM	Peak Hour Factor	0.70
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Existing PM		
Lanes			



Approach		Eastb	ound			West	ound			North	bound			South	bound			
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R		
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6		
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0		
Configuration			LTR								LTR				LTR			
Volume (veh/h)		3	1	2						4	57	10		25	139	3		
Percent Heavy Vehicles (%)		50	0	0						0				0				
Proportion Time Blocked																		
Percent Grade (%)			0															
Right Turn Channelized																		
Median Type   Storage				Undi	vided													
Critical and Follow-up H	eadwa	ys																
Base Critical Headway (sec)		7.1	6.5	6.2						4.1				4.1				
Critical Headway (sec)		7.60	6.50	6.20						4.10				4.10				
Base Follow-Up Headway (sec)		3.5	4.0	3.3						2.2				2.2				
Follow-Up Headway (sec)		3.95	4.00	3.30						2.20				2.20				
Delay, Queue Length, an	d Leve	l of Se	ervice															
Flow Rate, v (veh/h)			9							6				36				
Capacity, c (veh/h)			558							1356				1471				
v/c Ratio			0.02							0.00				0.02				
95% Queue Length, Q <sub>95</sub> (veh)			0.0							0.0				0.1				
Control Delay (s/veh)			11.6							7.7				7.5				
Level of Service (LOS)			В							А				Α				
Approach Delay (s/veh)		1.	1.6								0.5				1.3			
Approach LOS			В															

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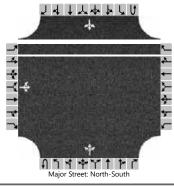
HCS TM TWSC Version 7.8.5 Existing PM Bonnie Brae at Thomas St.xtw

Pedestrian Level of Servic	e			
Flow (ped/hr)	10		7	6
Two-Stage Crossing	No		No	No
Pedestrian Platooning	No		No	No
Conflicting Vehicular Flow (veh/h)			300	320
Average Delay (s)	0.0	0.0	1.4	1.5
Level of Service (LOS)	А	А	A	A

HCS TW TWSC Version 7.8.5 Existing PM Bonnie Brae at Thomas St.xtw

Generated: 11/26/2019 6:19:31 PM

	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	AM	Intersection	Bonnie Brae at Thomas
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	12/9/2019	East/West Street	Thomas Street
Analysis Year	2026	North/South Street	Bonnie Brae
Time Analyzed	3:00-4:00 PM	Peak Hour Factor	0.70
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Total PM		
Lanes			



Approach		Eastb	ound			West	oound			North	bound			South	bound			
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R		
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6		
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0		
Configuration			LTR								LTR				LTR			
Volume (veh/h)		3	1	2						4	57	15		28	139	3		
Percent Heavy Vehicles (%)		50	0	0						0				0				
Proportion Time Blocked																		
Percent Grade (%)			0															
Right Turn Channelized																		
Median Type   Storage				Undi	vided													
Critical and Follow-up H	eadwa	ys																
Base Critical Headway (sec)		7.1	6.5	6.2						4.1				4.1				
Critical Headway (sec)		7.60	6.50	6.20						4.10				4.10				
Base Follow-Up Headway (sec)		3.5	4.0	3.3						2.2				2.2				
Follow-Up Headway (sec)		3.95	4.00	3.30						2.20				2.20				
Delay, Queue Length, an	d Leve	l of Se	ervice															
Flow Rate, v (veh/h)			9							6				40				
Capacity, c (veh/h)			548							1356				1462				
v/c Ratio			0.02							0.00				0.03				
95% Queue Length, Q <sub>95</sub> (veh)			0.0							0.0				0.1				
Control Delay (s/veh)			11.7							7.7				7.5				
Level of Service (LOS)			В							А				A				
Approach Delay (s/veh)		1'	1.7								0.4				1.4			
Approach LOS			В															

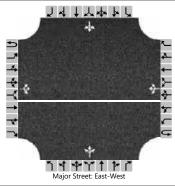
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Pedestrian Level of Servic	e			
Flow (ped/hr)	10		7	6
Two-Stage Crossing	No		No	No
Pedestrian Platooning	No		No	No
Conflicting Vehicular Flow (veh/h)			307	324
Average Delay (s)	0.0	0.0	1.4	1.5
Level of Service (LOS)	A	А	A	A

HCS TM TWSC Version 7.8.5 Total PM Bonnie Brae at Thomas St.xtw

Generated: 12/9/2019 11:48:07 AM

	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	AM	Intersection	Bonnie Brae at Augusta
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	11/26/2019	East/West Street	Augusta Street
Analysis Year	2019	North/South Street	Bonnie Brae
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.94
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Existing AM		
Lanes			



Vehicle Volumes and Adj	ustine												1			
Approach		Eastb	ound			West	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		70	226	4		3	364	36		3	12	3		23	27	58
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										(	C				0	
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		74				3					19				115	
Capacity, c (veh/h)		1094				1321					286				378	
v/c Ratio		0.07				0.00					0.07				0.30	
95% Queue Length, Q <sub>95</sub> (veh)		0.2				0.0					0.2				1.3	
Control Delay (s/veh)		8.5				7.7					18.5				18.7	
Level of Service (LOS)		A				A					С				С	
Approach Delay (s/veh)	2.5		0.1				0.1		18.5				18.7			
Approach LOS									С				С			

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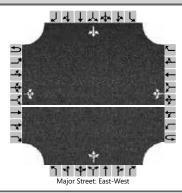
HCS T TWSC Version 7.8.5 Existing AM Bonnie Brae at Augusta St.xtw

Generated: 11/26/2019 6:23:28 PM

Pedestrian Level of Servic	e			
Flow (ped/hr)	4	3	5	25
Two-Stage Crossing	No	No	No	No
Pedestrian Platooning	No	No	No	No
Conflicting Vehicular Flow (veh/h)	706	669		
Average Delay (s)	4.0	3.7	0.2	0.5
Level of Service (LOS)	А	А	А	A

HCS TM TWSC Version 7.8.5 Existing AM Bonnie Brae at Augusta St.xtw Generated: 11/26/2019 6:23:28 PM

	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	AM	Intersection	Bonnie Brae at Augusta
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	12/9/2019	East/West Street	Augusta Street
Analysis Year	2026	North/South Street	Bonnie Brae
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.94
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Total AM		
Lanes			



Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		70	226	4		3	364	37		3	12	3		23	27	58
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										(	D				0	
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		74				3					19				115	
Capacity, c (veh/h)		1093				1321					286				377	
v/c Ratio		0.07				0.00					0.07				0.30	
95% Queue Length, Q <sub>95</sub> (veh)	Ì	0.2				0.0					0.2				1.3	
Control Delay (s/veh)		8.5				7.7					18.5				18.7	
Level of Service (LOS)		A				A					С				С	
Approach Delay (s/veh)		2.5		0.1				18.5				18.7				
Approach LOS								С				С				

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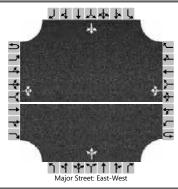
HCS T TWSC Version 7.8.5 Total AM Bonnie Brae at Augusta St.xtw

Generated: 12/9/2019 11:37:34 AM

Pedestrian Level of Servic	e			
Flow (ped/hr)	4	3	5	25
Two-Stage Crossing	No	No	No	No
Pedestrian Platooning	No	No	No	No
Conflicting Vehicular Flow (veh/h)	706	670		
Average Delay (s)	4.0	3.7	0.2	0.5
Level of Service (LOS)	А	А	А	A

HCS TW TWSC Version 7.8.5 Total AM Bonnie Brae at Augusta St.xtw Generated: 12/9/2019 11:37:34 AM

	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	AM	Intersection	Bonnie Brae at Augusta
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	11/26/2019	East/West Street	Augusta Street
Analysis Year	2019	North/South Street	Bonnie Brae
Time Analyzed	3:00-4:00 PM	Peak Hour Factor	0.89
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Existing PM		
Lanes			



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound		Westbound					North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		29	214	12		8	256	31		1	11	3		32	41	68
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										(	C				0	
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		33				9					17				158	
Capacity, c (veh/h)		1194				1309					383				456	
v/c Ratio		0.03				0.01					0.04				0.35	
95% Queue Length, Q <sub>95</sub> (veh)		0.1				0.0					0.1				1.5	
Control Delay (s/veh)		8.1				7.8					14.8				17.1	
Level of Service (LOS)	Ì	A				A					В				С	
Approach Delay (s/veh)		1	.1		0.3					14	1.8			17	7.1	
Approach LOS										I	В			(	C	

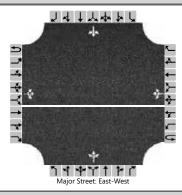
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HCS T TWSC Version 7.8.5 Existing PM Bonnie Brae at Augusta St.xtw

Pedestrian Level of Servic	e			
Flow (ped/hr)	9	4	6	25
Two-Stage Crossing	No	No	No	No
Pedestrian Platooning	No	No	No	No
Conflicting Vehicular Flow (veh/h)	574	572		
Average Delay (s)	3.0	3.0	0.3	0.7
Level of Service (LOS)	А	A	A	А

HCS T TWSC Version 7.8.5 Existing PM Bonnie Brae at Augusta St.xtw Generated: 11/26/2019 6:26:32 PM

	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	AM	Intersection	Bonnie Brae at Augusta
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	12/9/2019	East/West Street	Augusta Street
Analysis Year	2026	North/South Street	Bonnie Brae
Time Analyzed	3:00-4:00 PM	Peak Hour Factor	0.89
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Total PM		
Lanes			



Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		30	214	12		8	256	35		1	11	3		32	41	68
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										(	D				0	
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		34				9					17				158	
Capacity, c (veh/h)		1189				1309					380				453	
v/c Ratio		0.03				0.01					0.04				0.35	
95% Queue Length, Q <sub>95</sub> (veh)		0.1				0.0					0.1				1.5	
Control Delay (s/veh)		8.1				7.8					14.9				17.2	
Level of Service (LOS)		A				A					В				С	
Approach Delay (s/veh)		1	.2		0.3					14	1.9		17.2			
Approach LOS										I	В			(	С	

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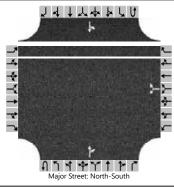
HCS TM TWSC Version 7.8.5 Total PM Bonnie Brae at Augusta St.xtw

Generated: 12/9/2019 11:39:02 AM

Pedestrian Level of Servic	e			
Flow (ped/hr)	9	4	6	25
Two-Stage Crossing	No	No	No	No
Pedestrian Platooning	No	No	No	No
Conflicting Vehicular Flow (veh/h)	575	576		
Average Delay (s)	3.0	3.0	0.3	0.7
Level of Service (LOS)	А	A	A	A

HCS TW TWSC Version 7.8.5 Total PM Bonnie Brae at Augusta St.xtw Generated: 12/9/2019 11:39:02 AM

	HCS7 Two-Way Sto	n-Control Report							
General Information		Site Information							
Analyst	AM	Intersection	Bonnie Brae at Alley						
Agency/Co.	GHA	Jurisdiction	Local						
Date Performed	11/26/2019	East/West Street	Public Alley						
Analysis Year	2019	North/South Street	Bonnie Brae						
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.64						
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25						
Project Description	Existing AM								
Lanes									



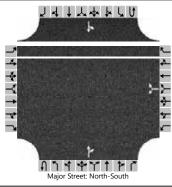
Approach		Eastb	ound			West	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						5		5			35	1		2	186	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)						(	0									
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)							16							3		
Capacity, c (veh/h)							765							1531		
v/c Ratio							0.02							0.00		
95% Queue Length, Q <sub>95</sub> (veh)							0.1							0.0		
Control Delay (s/veh)							9.8							7.4		
Level of Service (LOS)							А							А		
Approach Delay (s/veh)					9.8									0	.1	
Approach LOS							Ą									

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Pedestrian Level of Service			
Flow (ped/hr)	11	6	1
Two-Stage Crossing	No	No	No
Pedestrian Platooning	No	No	No
Conflicting Vehicular Flow (veh/h)		347	348
Average Delay (s)	0.1	1.6	1.6
Level of Service (LOS)	A	A	A

HCS TW TWSC Version 7.8.5 Existing AM Bonnie Brae at Public Alley.xtw Generated: 11/26/2019 6:29:29 PM

	HCS7 Two-Way Stop	p-Control Report							
General Information		Site Information							
Analyst	AM	Intersection	Bonnie Brae at Alley						
Agency/Co.	GHA	Jurisdiction	Local						
Date Performed	12/9/2019	East/West Street	Public Alley						
Analysis Year	2026	North/South Street	Bonnie Brae						
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.64						
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25						
Project Description	Total AM								
Lanes									



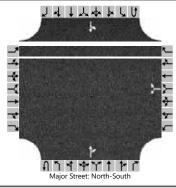
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						5		6			35	1		2	187	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)						(	0									
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)							17							3		
Capacity, c (veh/h)							780							1531		
v/c Ratio							0.02							0.00		
95% Queue Length, Q <sub>95</sub> (veh)							0.1							0.0		
Control Delay (s/veh)							9.7							7.4		
Level of Service (LOS)							A							А		
Approach Delay (s/veh)					9.7									0	.1	
Approach LOS							A									

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Pedestrian Level of Service			
Flow (ped/hr)	11	6	1
Two-Stage Crossing	No	No	No
Pedestrian Platooning	No	No	No
Conflicting Vehicular Flow (veh/h)		348	350
Average Delay (s)	0.1	1.6	1.6
Level of Service (LOS)	A	A	A

HCS TWI TWSC Version 7.8.5 Total AM Bonnie Brae at Public Alley.xtw Generated: 12/9/2019 11:43:59 AM

	HCS7 Two-	Way Stop-Control Report	
General Information		Site Information	
Analyst	АМ	Intersection	Bonnie Brae at Alley
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	11/26/2019	East/West Street	Public Alley
Analysis Year	2019	North/South Street	Bonnie Brae
Time Analyzed	3:00-4:00 PM	Peak Hour Factor	0.85
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Existing PM		
Lanes			



Approach		Eastb	ound			West	oound			North	bound			South	bound		
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration							LR					TR		LT			
Volume (veh/h)						3		3			75	0		5	86		
Percent Heavy Vehicles (%)						0		0						0			
Proportion Time Blocked																	
Percent Grade (%)						(	0										
Right Turn Channelized																	
Median Type   Storage				Undi	vided												
Critical and Follow-up H	eadwa	ys															
Base Critical Headway (sec)						7.1		6.2						4.1			
Critical Headway (sec)						6.40		6.20						4.10			
Base Follow-Up Headway (sec)						3.5		3.3						2.2			
Follow-Up Headway (sec)						3.50		3.30						2.20			
Delay, Queue Length, an	d Leve	l of Se	ervice														
Flow Rate, v (veh/h)							7							6			
Capacity, c (veh/h)							849							1490			
v/c Ratio							0.01							0.00			
95% Queue Length, Q <sub>95</sub> (veh)							0.0							0.0			
Control Delay (s/veh)							9.3							7.4			
Level of Service (LOS)							A							A			
Approach Delay (s/veh)		-			9.3								0.4				
Approach LOS							Ą										

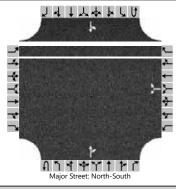
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Pedestrian Level of Service			
Flow (ped/hr)	11	2	0
Two-Stage Crossing	No	No	
Pedestrian Platooning	No	No	
Conflicting Vehicular Flow (veh/h)		189	
Average Delay (s)	0.0	0.8	
Level of Service (LOS)	A	А	

HCSTM TWSC Version 7.8.5 Existing PM Bonnie Brae at Public Alley.xtw

Generated: 11/26/2019 6:31:52 PM

	HCS7 Two-Way Sto	op-Control Report	
General Information		Site Information	
Analyst	AM	Intersection	Bonnie Brae at Alley
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	12/9/2019	East/West Street	Public Alley
Analysis Year	2026	North/South Street	Bonnie Brae
Time Analyzed	3:00-4:00 PM	Peak Hour Factor	0.85
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Total PM		
Lanes			



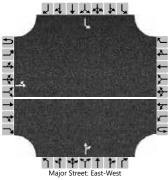
Approach		Eastb	ound		Westbound					North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						3		4			75	0		5	89	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)						(	)									
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)							8							6		
Capacity, c (veh/h)							860							1490		
v/c Ratio							0.01							0.00		
95% Queue Length, Q <sub>95</sub> (veh)							0.0							0.0		
Control Delay (s/veh)							9.2							7.4		
Level of Service (LOS)							А							Α		
Approach Delay (s/veh)					9.2								0.4			
Approach LOS							4									

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Pedestrian Level of Service			
Flow (ped/hr)	11	2	0
Two-Stage Crossing	No	No	
Pedestrian Platooning	No	No	
Conflicting Vehicular Flow (veh/h)		193	
Average Delay (s)	0.0	0.8	
Level of Service (LOS)	A	A	

HCS T TWSC Version 7.8.5 Total PM Bonnie Brae at Public Alley.xtw Generated: 12/9/2019 11:44:59 AM

	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	AM	Intersection	Thomas at Alley
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	11/26/2019	East/West Street	Thomas Street
Analysis Year	2019	North/South Street	Public Alley
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.63
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Existing AM		
Lanes			



Vehicle Volumes and Adj									1				1				
Approach	<u> </u>	Eastb			Westbound					North	bound			Southbound			
Movement	U	L	Т	R	U	L	T	R	U	L	T	R	U	L	Т	R	
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	0	1	0	0	0	0	0		0	1	0		1	0	0	
Configuration		LT										TR		L			
Volume (veh/h)		6	43								1	8		7			
Percent Heavy Vehicles (%)		0									0	0		0			
Proportion Time Blocked																	
Percent Grade (%)											0				0		
Right Turn Channelized																	
Median Type   Storage				Undi	vided												
Critical and Follow-up H	eadwa	ys															
Base Critical Headway (sec)		5.3									6.5	6.2		7.1			
Critical Headway (sec)		5.30									6.50	6.20		7.10			
Base Follow-Up Headway (sec)		3.1									4.0	3.3		3.5			
Follow-Up Headway (sec)		3.10									4.00	3.30		3.50			
Delay, Queue Length, an	d Leve	l of Se	ervice					<u>.</u>	<u>.</u>		<u>.</u>			-	-		
Flow Rate, v (veh/h)	Τ	10										14		11			
Capacity, c (veh/h)		1159										961		842			
v/c Ratio		0.01										0.01		0.01			
95% Queue Length, Q <sub>95</sub> (veh)		0.0										0.0		0.0			
Control Delay (s/veh)		8.1										8.8		9.3			
Level of Service (LOS)		Α										A		Α			
Approach Delay (s/veh)		1	.1							8	.8		9.3				
Approach LOS											Ą		A				

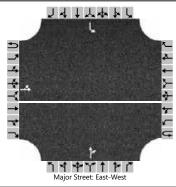
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HCS TM TWSC Version 7.8.5 Existing AM Thomas St at Public Alley.xtw

Pedestrian Level of Servic	e			
Flow (ped/hr)	2		3	1
Two-Stage Crossing	No		No	No
Pedestrian Platooning	No		No	No
Conflicting Vehicular Flow (veh/h)	78			
Average Delay (s)	0.3	0.3	0.1	0.0
Level of Service (LOS)	A	A	A	A

HCS TW TWSC Version 7.8.5 Existing AM Thomas St at Public Alley.xtw Generated: 12/9/2019 12:43:04 PM

	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	AM	Intersection	Thomas at Alley
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	12/9/2019	East/West Street	Thomas Street
Analysis Year	2026	North/South Street	Public Alley
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.63
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Total AM		
Lanes			



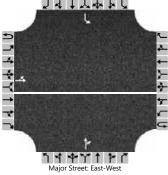
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	T	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	0	0		0	1	0		1	0	0
Configuration		LT										TR		L		
Volume (veh/h)		6	48								1	8		9		
Percent Heavy Vehicles (%)		0									0	0		0		
Proportion Time Blocked																
Percent Grade (%)											D				0	
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		5.3									6.5	6.2		7.1		
Critical Headway (sec)		5.30									6.50	6.20		7.10		
Base Follow-Up Headway (sec)		3.1									4.0	3.3		3.5		
Follow-Up Headway (sec)		3.10									4.00	3.30		3.50		
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		10										14		14		
Capacity, c (veh/h)		1159										952		832		
v/c Ratio		0.01										0.02		0.02		
95% Queue Length, Q <sub>95</sub> (veh)		0.0										0.0		0.1		
Control Delay (s/veh)		8.1										8.8		9.4		
Level of Service (LOS)		А										A		A		
Approach Delay (s/veh)		1.	.0							8	.8		9.4			
Approach LOS											4	A				

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Pedestrian Level of Service									
Flow (ped/hr)	2		3	1					
Two-Stage Crossing	No		No	No					
Pedestrian Platooning	No		No	No					
Conflicting Vehicular Flow (veh/h)	86								
Average Delay (s)	0.3	0.3	0.1	0.1					
Level of Service (LOS)	A	A	A	A					

HCS TM TWSC Version 7.8.5 Total AM Thomas St at Public Alley.xtw Generated: 12/9/2019 12:44:11 PM

HCS7 Two-Way Stop-Control Report									
General Information		Site Information							
Analyst	AM	Intersection	Thomas at Alley						
Agency/Co.	GHA	Jurisdiction	Local						
Date Performed	11/27/2019	East/West Street	Thomas Street						
Analysis Year	2019	North/South Street	Public Alley						
Time Analyzed	3:00-4:00	Peak Hour Factor	0.75						
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25						
Project Description	Existing PM								
Lanes									
	14 J J 4 J J 4 J J 4 J J 4 J J 4 J 4 J 4								



Vehicle Volumes and Adj	1								1				1	<b>6</b>		
Approach		Eastb					oound		Northbound				Southbound			
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	0	0		0	1	0		1	0	0
Configuration		LT										TR		L		
Volume (veh/h)		4	32								2	10		5		
Percent Heavy Vehicles (%)		0									0	0		0		
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		5.3									6.5	6.2		7.1		
Critical Headway (sec)		5.30									6.50	6.20		7.10		
Base Follow-Up Headway (sec)		3.1									4.0	3.3		3.5		
Follow-Up Headway (sec)		3.10									4.00	3.30		3.50		
Delay, Queue Length, an	d Leve	l of Se	ervice								<u>.</u>			<u> </u>	-	
Flow Rate, v (veh/h)		5										16		7		
Capacity, c (veh/h)		1159										997		887		
v/c Ratio		0.00										0.02		0.01		
95% Queue Length, Q <sub>95</sub> (veh)		0.0										0.0		0.0		
Control Delay (s/veh)		8.1										8.7		9.1		
Level of Service (LOS)		А										Α		A		
Approach Delay (s/veh)	0.9						8.7				9.1					
Approach LOS							A						A			

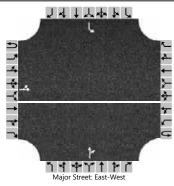
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HCS TW TWSC Version 7.8.5 Existing PM Thomas St at Public Alley.xtw

Pedestrian Level of Service										
Flow (ped/hr)	0		1	1						
Two-Stage Crossing			No	No						
Pedestrian Platooning			No	No						
Conflicting Vehicular Flow (veh/h)										
Average Delay (s)		0.2	0.1	0.0						
Level of Service (LOS)		А	A	A						

HCS TW TWSC Version 7.8.5 Existing PM Thomas St at Public Alley.xtw Generated: 12/9/2019 12:43:39 PM

HCS7 Two-Way Stop-Control Report									
General Information		Site Information							
Analyst	AM	Intersection	Thomas at Alley						
Agency/Co.	GHA	Jurisdiction	Local						
Date Performed	12/9/2019	East/West Street	Thomas Street						
Analysis Year	2026	North/South Street	Public Alley						
Time Analyzed	3:00-4:00	Peak Hour Factor	0.75						
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25						
Project Description	Total PM								
Lanes									



Approach		Eastb	ound			West	bound		Northbound					South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	0	0		0	1	0		1	0	0
Configuration		LT										TR		L		
Volume (veh/h)		7	35								2	10		6		
Percent Heavy Vehicles (%)		0									0	0		0		
Proportion Time Blocked																
Percent Grade (%)										(	D		0			
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		5.3									6.5	6.2		7.1		
Critical Headway (sec)		5.30									6.50	6.20		7.10		
Base Follow-Up Headway (sec)		3.1									4.0	3.3		3.5		
Follow-Up Headway (sec)		3.10									4.00	3.30		3.50		
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		9										16		8		
Capacity, c (veh/h)		1159										992		868		
v/c Ratio		0.01										0.02		0.01		
95% Queue Length, Q <sub>95</sub> (veh)		0.0										0.0		0.0		
Control Delay (s/veh)		8.1										8.7		9.2		
Level of Service (LOS)		Α										A		Α		
Approach Delay (s/veh)	1.4						8.7				9.2					
Approach LOS								A				Α				

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Pedestrian Level of Service										
Flow (ped/hr)	0		1	1						
Two-Stage Crossing			No	No						
Pedestrian Platooning			No	No						
Conflicting Vehicular Flow (veh/h)										
Average Delay (s)		0.2	0.1	0.0						
Level of Service (LOS)		А	A	A						

HCS T TWSC Version 7.8.5 Total PM Thomas St at Public Alley.xtw Generated: 12/9/2019 12:44:42 PM