

CHARTER TOWNSHIP OF MERIDIAN  
PLANNING COMMISSION  
AGENDA

REGULAR MEETING  
and  
WORK SESSION MEETING

March 9, 2015

Town Hall Room, Meridian Municipal Building  
5151 Marsh Road, Okemos, MI 48864

**Regular Meeting**

1. Call meeting to order at approximately 7:00 p.m.
2. Approval of agenda
3. Approval of minutes
  - A. February 23, 2015 Regular Meeting
  - B. February 23, 2015 Work Session Meeting
4. Public remarks
5. Communications
  - A. Eckhart Dersch RE: Meridian Mall Proposed Development
  - B. Michael Corr RE: REZ #15010 (Forsberg Family, LLC)
  - C. Ken and Brenda Miller RE: REZ #15010 (Forsberg Family, LLC)
  - D. Michael Corr RE: REZ #15010 (Forsberg Family, LLC)
  - E. Teresa Parsons RE: REZ #15010 (Forsberg Family, LLC)
6. Public Hearings
  - A. Rezoning #15010 (Forsberg Family, LLC), request to rezone approximately 39.46 acres from I (Industrial), PO (Professional and Office), RR (Rural Residential), and C-2 (Commercial) to C-2 (Commercial) with an offer of conditions to develop as a mixed use planned unit development and restrict density to no more than 18 dwelling units per acre. The site has frontage on Kansas Street and Jolly Oak Road
  - B. Rezoning #15020 (George F. Eyde Family, LLC) request to rezone approximately 8.7 acres from PO (Professional Office) and RA (Single Family, Medium Density) to C-2 (Commercial) at 1614 and 1622 Grand River Avenue and an undeveloped parcel on Central Park Drive
7. Unfinished Business

## Planning Commission Agenda

March 9, 2015

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8. Other Business
  - A. 2015 Planning Commission Meeting Schedule amendment
9. Township Board, Planning Commission officer, committee chair, and staff comment or reports
10. New Applications
11. Site Plans received
12. Site Plans approved
  - A. Site Plan Review #15-01-30 (Michigan State University Federal Credit Union), request to amend an approved site plan to add four parking spaces at 1775 Central Park Drive
  - B. Site Plan Review #15-14-04 (Wolverine Building Group), request to amend an approved site plan to add 2,080 square feet to the Whole Food's building under construction at 2750 Grand River
13. Public Remarks
14. Adjournment

**Post Script:** None

The Planning Commission's Bylaws state agenda items shall not be introduced for discussion or public hearing that is opened after 10:00 p.m. The chair may approve exceptions when this rule would cause substantial backlog in Commission business (Rule 5.14 Limit on Introduction of Agenda Items).

Persons wishing to appeal a decision of the Planning Commission to the Township Board in the granting of a Special Use Permit must do so within ten (10) days of the decision of the Planning Commission (Sub-section 86-189 of the Zoning Ordinance)

### Work Session Meeting

1. Call meeting to order
2. Approval of agenda
3. Discussion
  - A. 2005 Master Plan Update
5. Public remarks
6. Adjournment

**TENTATIVE  
PLANNING COMMISSION AGENDA**

**Work Session Meeting  
March 16, 2015**

**Meridian Area Resource Center (MARC)  
4675 Okemos Rd. Okemos, MI.**

1. Call meeting to order at approximately 6:00 p.m.
2. Approval of agenda
3. Discussion
  - A. 2005 Master Plan Update
5. Public remarks
6. Adjournment

**TENTATIVE  
PLANNING COMMISSION AGENDA**

**Regular Meeting  
March 23, 2015**

**Town Hall Room, Meridian Municipal Building  
5151 Marsh Road, Okemos, MI 48864**

**Regular Meeting**

1. Public Hearings
  
2. Unfinished Business
  - B. Rezoning #15010 (Forsberg Family, LLC), request to rezone approximately 39.46 acres from I (Industrial), PO (Professional and Office), RR (Rural Residential), and C-2 (Commercial) to C-2 (Commercial) with an offer of conditions to develop as a mixed use planned unit development and restrict density to no more than 18 dwelling units per acre. The site has frontage on Kansas Street and Jolly Oak Road
  
  - C. Rezoning #15020 (George F. Eyde Family, LLC) request to rezone approximately 8.7 acres from PO (Professional Office) and RA (Single Family, Medium Density) to C-2 (Commercial) at 1614 and 1622 Grand River Avenue and an undeveloped parcel on Central Park Drive
  
3. Other Business

**Work Session Meeting**

- A. 2005 Master Plan Update

CHARTER TOWNSHIP OF MERIDIAN  
PLANNING COMMISSION  
REGULAR MEETING MINUTES  
February 23, 2015

**DRAFT**

5151 Marsh Road, Okemos, MI 48864-1198  
853-4000, Town Hall Room, 7:00 P.M.

PRESENT: Commissioners Cordill, DeGross, Deits, Ianni, Jackson, Scott-Craig, Tenaglia, Van  
Coevering  
ABSENT: Commissioner Honicky  
STAFF: Director of Community Planning and Development Mark Kieselbach, Principal Planner  
Oranchak

**1. Call meeting to order**

Chair Scott-Craig called the regular meeting to order at 7:02 P.M.

**2. Approval of agenda**

**Commissioner DeGross moved to approve the agenda. Seconded by Commissioner Cordill.**

VOICE VOTE: Motion carried 8-0.

**3. Approval of Minutes**

**Commissioner Ianni moved to approve the Regular Meeting Minutes of January 26, 2015 and the Work Session Meeting Minutes of January 26, 2015 and February 9, 2015. Seconded by Commissioner Tenaglia.**

VOICE VOTE: Motion carried 8-0.

**4. Public Remarks**

Chair Scott-Craig opened the floor for public remarks.

Chris Buck, 2642 Loon Lane, Okemos, spoke in support of the Okemos Pointe Mixed Use Planned Unit Development (MUPUD) Concept Plan.

Chair Scott-Craig closed public remarks.

**5. Communications (None)**

**6. Public hearings (None)**

**7. Unfinished Business (None)**

**8. Other Business**

A. Mixed Use Planned Unit Development Concept Plan - Okemos Town Center (Kansas Street and Jolly Oak Road)

Director Kieselbach offered a brief synopsis of the MUPUD concept plan.

Brent Forsberg, 2422 Jolly Road, Okemos, offered updates as a result of visits to the site by Planning Commissioners and Township Board members. He reported there will be an open forum meeting tomorrow night for the neighbors on Kansas Street followed by a meeting at 2398 Jolly Road on March 5<sup>th</sup> at 6:00 P.M. for a broader spectrum of nearby residents and businesses. Mr. Forsberg indicated he has entered into discussions with the Greater Lansing Housing Coalition relative to affordable housing, scheduled a meeting with Michigan Energy Options to

use best practices in the project and scheduled a meeting with the Okemos School District concerning the project's impact on the school system. He noted talks with the neighbors have shown an interest in adding a small grocer component in existing vacant space.

Planning Commission and applicant discussion:

- Appreciation for affordable housing within the project
- Affordable housing and energy options are two elements which make this project "special"
- Developer is a sponsor of ICE which is a five-year affordable housing plan being developed by the Greater Lansing Housing Coalition and Mid-Michigan Program for Greater Sustainability for the Tri-County area
- Meeting scheduled with the Greater Lansing Housing Coalition to fill out the 40-page application
- Appreciation for the property owner's proactive approach to this plan
- Affordable housing would be interspersed throughout the housing component
- Potential grocer would be part of the property on which the project is located
- Potential grocer would be another use in an existing building on the property
- Rezoning application has capped the density at 18 dwelling units per acre
- Product mix is projected to be near 14 dwelling units per acre
- Planning Commission will have the rezoning request come before it in the near future, with the request conditioned upon a MUPUD
- Applicant could have brought this project before the Planning Commission prior to building the hotel which would have included more commercial and more closely resembled true mixed use development
- Planning Commission needs to have a more global picture relative to processes for development
- List of amenities within the MUPUD is not meant to be exhaustive (e.g., affordable housing)

- B. Commercial Planned Unit Development (CPUD) Concept Plan – Meridian Mall (new building)  
 Director Kieselbach summarized the concept plan for the proposed CPUD as outlined in staff memorandum dated February 20, 2015.

Jeff Kyes, KEBS, Inc. 2116 Haslett Road, Okemos and representative for CBL Properties, stated it is the applicant's intent to retain both the current pervious/impervious calculation and the parking ratio from the original CPUD. He indicated he has applied for a permit to work in the floodplain from the Michigan Department of Environmental Quality (MDEQ) through the joint permit application process, but has not yet applied for the special use permit (SUP) for a drive-through window. Mr. Kyes noted the goal is to redevelop the area which previously housed a bank, but some trees are proposed to be cut to provide a view of the commercial site from both Marsh Road and from Grand River Avenue, adding the parcel is "very limited" due to the gas main PIPELINE running through the site accompanied by a large easement. He stated a board certified master arborist has been retained to provide a report on the condition of the property's cottonwood, ash and pine trees. Mr. Kyes indicated the proposed project would fill 54 cubic yards of floodplain with a commensurate amount of compensating cut.

Planning Commission and applicant's representative discussion:

- Cottonwoods are "dirty" trees
- Planning Commissioner belief the applicant is approaching this project "all wrong"
- Concern with parking close to Grand River Avenue
- Site line is for visibility of the driveway
- Commissioner suggestion for the applicant to clear the trees and then plant trees which can be seen through to provide a "park-like" environment

- Planning Commissioner preference to handle visibility of the site through signage v. clear cut of trees
- Planning Commissioner preference for the applicant to garner the services of a landscape architect
- Possible achievability of a site line by cutting down diseased and damaged trees
- Applicant does not currently have a tenant for the property as they are first seeking approval
- Gas pipeline easement and floodplain prevent placing the building closer to Grand River Avenue
- Township preference to have the greenspace on the eastern side of the main mall entrance on Grand River remain as is
- Capital Area Transportation Authority's (CATA's) bus rapid transit (BRT) proposal does not work for the mall's property owner (CBL) as it adversely affects one of Meridian Mall's largest anchor stores
- Vision for non-motorized transportation from Grand River Avenue into the applicant's property
- Easement is written in such a way that it allows for parking on the easement, but not a building
- Concept plan is the maximum which would be requested on the site
- Synopsis of the history on the eastern greenspace section
- Building on the eastern greenspace area would allow for less tree removal
- Movement of the building closer to the drive may provide better sight lines
- Curb cut entrance to this site off Grand River Avenue creates traffic issues
- Drive through window creates significant demands on the property
- Planning Commissioner belief the argument by the applicant for the need of sight lines to the building is not valid because of ready availability of global positioning systems (GPS)
- Internal roads are technically off-street parking approved by the Township at the time of construction
- Connection to Grand River Avenue would be under the jurisdiction of the Michigan Department of Transportation (MDOT)
- Concern with maneuverability of traffic into the subject property traveling westbound on Grand River
- Concern with alignment of the curb cut on the dog leg off Grand River Avenue
- Single internal curb cut into the property off the northern internal road frees up frontage and the building can be moved closer to Grand River Avenue

C. Mixed Use Planned Unit Development Concept Plan – The Avenue on Grand River (Meridian Pointe – 2655 Grand River Avenue)

Director Kieselbach summarized the concept plan as outlined in staff memorandum dated February 19, 2015.

John Gaber, Williams, Williams, Rattner & Plunkett, 380 North Old Woodward, Suite 300, Birmingham, offered an overview of the surrounding uses on both sides of Grand River Avenue. He displayed the multi-family residential component of the MUPUD at a density of up to 18 dwelling units per acre (accompanied by corresponding permissible amenities), with the commercial component already home to Foods for Living, State of Fitness and a Salvation Army store. Mr. Gaber addressed the “synergy” created among the residential and retail components. He noted the average of 1.9 beds per unit focuses on grad students and graduates interested in starting their own businesses as tenants, with an entrepreneurial hub which contains conference rooms, meeting rooms, offices, group work spaces, etc.

Ray Behling, Director of Design and Construction, Campus Village Communities, 919 West University Drive, Suite 700, Rochester, offered an extensive overview of the layout of the proposed housing development and surrounding amenities.

Planning Commission and developer discussion:

- Pervious/impervious ratio
- Concern there is not enough pervious surface
- Some of the area shaded in gray on the plan (e.g., fire pits) may consist of a pervious paver material
- Frequency of train traffic
- Setback requirement from industrial to multi-family residential
- Proposed project does not have a commercial component to it
- Inquiry if the Township's ordinance allows for a MUPUD with no commercial development
- Variances and setbacks needed if the project was developed as a multi-family housing project
- Project has "community" built into it on Grand River, which provides density on a major corridor
- Appreciation for the applicant's consideration of walkability and bus stop location
- Concern with compromises Planning Commissioners will need to make (e.g. setbacks from the railroad, ordinance requirements) in order for this project to happen
- MUPUD ordinances are typically adopted by communities to allow for flexibility
- Project adds commercial space for tenant use and office space for tenant's entrepreneurial pursuits within the clubhouse
- Proposed area will allow for possible redevelopment of some of the commercial space in the future
- Review of the ordinance needed to determine if existing commercial development on the land can be counted towards the MUPUD requirements
- One parking space allotted for each bed within the entire development
- Developer's belief the existing retail parking space is "over parked"
- Shared parking calculation is normal for mixed use development as not everyone is using every space at the same time all the time
- Proposed parking configuration would require some residents to park in an assigned spot on the other side of Foods for Living with a small reduction in rent
- Entrepreneurial center can be reserved by residents only
- Existing commercial and proposed development will be under the same ownership
- 12.65 acres is three separate tax parcels all under common ownership
- Developer intends to purchase the entire 12.65 acres
- Meridian's PUD ordinance allows for ownership to be split in a variety of ways
- Planning Commissioner suggestion to open up entrepreneurial space to the "arts"
- Number of gallons in flammable fuel transported by railroad has increased 40 fold over the last several years
- In 2014, there were 121 reported railroad accidents
- Concern with placing housing close to the railroad tracks
- Difficulty in moving away from the required setback from the railroad tracks
- MUPUD ordinance states that residents shall be as far as possible from railroad tracks
- There is a maximum impervious surface of 70% in the underlining C-2 zoning
- One amenity would be more pervious surface
- Developer anticipates a mixture of tenants
- Suggestion to run a shuttle bus to the university as an amenity
- Necessity for screening from the adjacent industrial area on Dawn Avenue
- Current easement into Dawn Avenue from the subject property

- Subject property could connect to the Pathway Master Plan

**9. Township Board, Planning Commission officer, committee chair, and staff comment or reports**  
Commissioner Jackson stated the number of trains which run through Meridian Township is cited in the Infrastructure Chapter of the Master Plan.

Chair Scott-Craig reported receipt of copies of the Economic Development Corporation (EDC) report on its meeting with developers and suggested the document be a Planning Commission topic of discussion in the near future. He reminded fellow Commissioners of the Site Plan Review Training on March 5, 2015 from 5:00 PM until 9:00 PM at the Hampton Inn.

**10. New applications**

- A. Rezoning #15010 (Forsberg Family, LLC), request to rezone approximately 39.46 acres from I (Industrial), PO (Professional and Office) and C-2 (Commercial) to C-2 (Commercial) with an offer of conditions to develop as a mixed use planned unit development and restrict density to no more than 18 dwelling units per acre. The site has frontage on Kansas Street and Jolly Oak Road.
- B. Rezoning #15020 (George F. Eyde Family, LLC) request to rezone approximately 8.7 acres from PO (Professional Office) and RA (Single Family, Medium Density) to C-2 (Commercial) at 1614 and 1622 Grand River Avenue and an undeveloped parcel on Central Park Drive

**11. Site plans received**

- A. Site Plan Review #15-01-30 (Michigan State University Federal Credit Union), request to amend an approved site plan to add four parking spaces at 1775 Central Park Drive
- B. Site Plan Review #15-01 (Fedewa), request to develop a 5-unit townhouse project to be located at 2043 Hamilton Road
- C. Site Plan Review #15-14-14 (Boomer Group), request to amend an approved site plan for an all-suites hotel by increasing the building size from 57,000 to 62,684 square feet and increasing the number of rooms from 107 to 111, to be located at the northeast corner of Jolly Oak Road and Water Lily Way (2350 Jolly Oak Road)
- D. Site Plan Review #15-14-04-2 (Wolverine Building Group), request to amend an approved site plan to add 2,080 square feet to the Whole Food's building under construction at 2750 Grand River
- E. Site Plan Review #15-14-04-2 (Wolverine Building Group), request to amend an approved site plan to add a 3,275 square foot mezzanine to the Whole Food's building under construction at 2750 Grand River

**12. Site plans approved**

- A. Site Plan Review #15-04-2 (Wolverine Building Group), request to amend an approved site plan to add 3,600 square feet to the Whole Food's building under construction at 2750 Grand River Avenue
- B. Site Plan Review #15-15 (Dawn Avenue Associates), request for a roof addition, redesign of the parking lot and stormwater management plan at 4884 Dawn Avenue
- C. Site Plan Review #15-88-13-2 (St. Martha Church), request to amend an approved site plan to reduce the building addition size at 1100 Grand River Avenue

**13. Public remarks**

Chair Scott-Craig opened and closed public remarks.

**14. Adjournment**

Chair Scott-Craig adjourned the regular meeting at 9:04 P.M.

Respectfully Submitted,

Sandra K. Otto  
Recording Secretary

**CHARTER TOWNSHIP OF MERIDIAN  
PLANNING COMMISSION  
WORK SESSION MINUTES**

**DRAFT**

**February 23, 2015**

**5151 Marsh Road, Okemos, MI 48864-1198  
Town Hall Rom, 517-853-4560**

PRESENT: Chair Scott-Craig, Vice-Chair Jackson, Commissioners Deits, Ianni, Cordill, Tenaglia and De Groff  
ABSENT: Commissioners Honicky and Van Coevering  
STAFF: Principal Planner Gail Oranchak

**1. Call meeting to order**

Chair Scott-Craig called the work session meeting to order at approximately 9:15 P.M.

**2. Approval of agenda**

Unanimous consent to proceed with the agenda as written.

**3. Discussion**

**A. Master Plan Update – Plan Structure**

- Difficulty making the transition to a goals oriented structure
- 2005 Master Plan structure not working
- Hands-on working session to accomplish initial work
- Work session meeting on March 16 possibly at the MARC
- Identify gaps in the old plan to include in the new one
- Physically break up the 2005 plan into sections for the work session
- Each goal to be supported by information
- Structure of short narratives with large appendices where data will be stored
- Narratives will include where are we now, data supporting changes needed to achieve where we want to go, with objectives and strategies to identify how we will get there
- Structure and author(s) undecided
- Commissioner Deits will prepare an example of a chapter template for Goal #1 before the March 16 work session

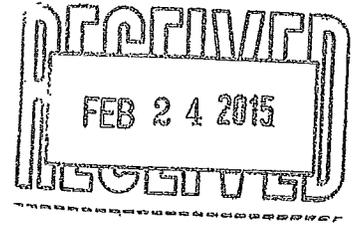
**4. Adjournment**

Chair Scott-Craig adjourned the meeting at approximately 10:15 p.m.

Respectfully Submitted,

Gail Oranchak, AICP  
Principal Planner

2203 Butternut Drive  
Okemos, MI 48866  
February 23, 2015



Meridian Township Planning Commission  
5151 Marsh Road  
Okemos, MI 48864

RE: PROPOSED COMMERCIAL PLANNED UNIT DEVELOPMENT AT MERIDIAN MALL

Dear Commissioners: Scott-Craig, Chair  
Herring Jackson, Vice Chair  
Van Coevering  
DeGroff  
Deits  
Ianni  
Tenaglia,

A sudden high fever prevented me from attending your meeting this evening. However, I believe that it is important for me to bring to your attention several red-flags associated with the Commercial Planned Unit Development proposed for the southwest corner of the Mall property. They are:

1. The official Soil Survey of Ingham County maps the entire C-PUD site as Hn (Houghton Muck). The report further emphasizes that Hn is characterized by severe limitations for all of the following:
  - a. Shallow excavations
  - b. Dwellings with or without basements
  - c. Small commercial buildings
  - d. Local roads and streets

The primary reasons given for these limitations are: excess humus, subsidence, low bearing strength, and ponding. In addition, the Soil Survey warns that: "Building site development and sanitary facilities are not practical on this (Hn) soil. The limitations caused by the high water table, flooding, and the instability of the soil are difficult to overcome.

2. Several years ago the Mall Corporation successfully argued that this area was unbuildable, and was consequently granted a waiver of property tax on this same land. (I do not know if this continues to be the case).
3. Despite warnings by LINC, a bank building was approved for construction on this same site several years ago. A short time after completion, a massive structural failure occurred due to very unstable soil conditions, and the nearly new bank building had to be torn down and removed.
4. More recently, yet another commercial structure was proposed for this same site, but the developer wisely withdrew the proposal upon learning of the severe problems associated with this site.

5. This site, AS IT IS, is already an extremely valuable natural island providing many important environmental benefits to the community. Among these are:
- a. The wooded wetland and its surrounding wet areas serve as a natural sump for runoff from all surrounding land and parking lots (to the west).
  - b. It helps filter and clean surface runoff from surrounding areas.
  - c. It serves as a much needed green island which breaks-up the monotony of wall-to-wall commercial development along Grand River Avenue. (It also will greatly enhance the Grand River Corridor concept currently being developed).

IN CONCLUSION, let us learn from the history of this site and not make the same mistakes again. It will be to everyone's advantage (developer, Township planners and officials, and residents of the broader community) to keep and even enhance this site as an attractive green island within the commercial district of our community.

Sincerely,  
(Sent via email attachment)

Eckhart Dersch

Cc: Gail Oranchak  
Meridian Township Board of Trustees

February 24, 2015

Charter Township of Meridian  
Martha Wyatt  
Associate Planner  
5151 Marsh Road  
Okemos, MI. 48864

**RE: Rezoning #15010 (Forsberg Family, LLC)**

Dear Martha:

I recently received correspondence notifying me, as an adjacent property owner, of the proposed rezoning of 39.46 acres owned by Forsberg Family, LLC (#15010).

As you know, as a commercial developer, I am always a strong proponent of development and growth. In principle, I am in favor of growth in the Jolly-Okemos interchange, but am admittedly apprehensive when it may come at the cost of one of the very few well wooded sanctuaries this area has left.

My property backs right up to the existing wooded area/wetland (facing South) and am fortunate to have the occasional visit from many deer, wild turkey and other wildlife and do not wish to have that diminished as it brings much intrinsic value to living there.

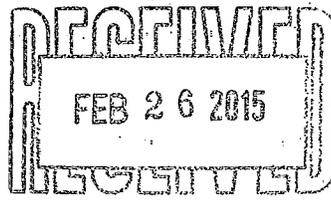
I do not intend for my comments to convey an opinion of disapproval for the proposed rezoning and eventual development. So long, however, as the existing natural habitat and woodlands are protected and preserved as much as possible and that the MDEQ wetlands and associated boundaries are observed as law dictates.

Please contact me if you have any questions or wish to discuss this further. Thank you very much for your time and consideration.

Regards,

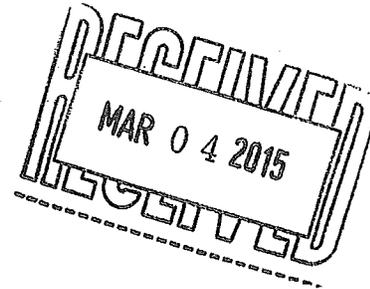


Michael Corr  
2355 Coyote Creek Drive  
Okemos, MI. 48864  
(517) 333-5300  
michaelcorr@corrcommercial.com



March 9, 2015

Ken & Brenda Miller  
3681 Kansas Rd.  
Okemos, MI. 48864



To: Meridian Township Planning Commission

RE: Oppose - Rezoning #15010 (T.A. Forsberg, Inc.)

Due to unfortunate circumstances the Miller's will not be able to attend the March 9<sup>th</sup> public hearing regarding a rezoning request. Let's get to the point; we **STRONGLY "OPPOSE"** the rezoning request on Kansas Rd. The Forsberg camp has already come before the board in the past with this same request, at that time they were given the boards blessing to build three houses on the Rural Residential properties on Kansas Rd.

We feel what Forsberg is proposing will have an adverse effect on every family who lives on Kansas Rd. We all chose this older neighborhood because of its rustic Rural Residential appeal. This neighborhood has what is left in Meridian Township as a good wholesome country feel, we are a **NEIGHBORHOOD**, and we want it to stay this way.

Rezoning this parcel definitely purposes many concerns, the biggest, our **Property Values Decreasing**, noise and light pollution, invasion of privacy, excessive infrastructure that we would all have to endure due to the apartment building bordering Kansas, not to mention the buffer that Forsberg has proposed would take years to mature. It would be difficult to put in enough dense vegetation for screening purposes surrounding the edges that border Kansas Rd.

The impact issues on Kansas Rd. that we find very misleading is the fire access path which opens up a whole new concern for the residents on this road. Before you know it you have people thinking this is the perfect short cut, the next thing is that it becomes a paved road connecting to Kansas Rd. We have seen similar type of proposals in the past right here in Meridian Twp. over the past couple decades.

We the Kansas Road neighborhood, encourage the Township Planning Commission NOT to grant this rezoning request. Our family, like 99% of all the families on Kansas Road **OPPOSE** this endeavor.

Thank you for your time,  
Sincerely,

Mr. & Mrs. Kenneth A. Miller

## Gail Oranchak

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**From:** Martha Wyatt  
**Sent:** Friday, March 06, 2015 10:18 AM  
**To:** Gail Oranchak  
**Subject:** FW: Rezoning #15010 (Forsberg Family, LLC)

Martha Wyatt  
Associate Planner/Landscape Architect  
Phone: 517.853.4580  
Fax: 517.853.4095  
wyatt@meridian.mi.us  
www.meridian.mi.us

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**From:** Michael Corr [mailto:michaelcorr@corrcommercial.com]  
**Sent:** Thursday, March 05, 2015 2:03 PM  
**To:** Martha Wyatt  
**Cc:** jen.gamm@gmail.com  
**Subject:** Rezoning #15010 (Forsberg Family, LLC)

Hi Martha:

You're most likely aware that I mailed you a letter last week, in reference to the rezoning of a 39.46 acre of land, #15101 (Forsberg Family, LLC).

After learning more and having more details of the project become known to me, I wish to amend my letter from a somewhat conditional approval of the rezoning/development to an outright and vehement disapproval.

In addition to the concerns I raised in my letter, I also have sincere concerns over the impact that a development of this size will have on the current infrastructure of the immediate area. That area is already overly impacted by heavy traffic flow and noise and I cannot fathom to imagine what an additional 1,000+ cars per day will do to further strain the infrastructure, living conditions and environment.

There exists a parking lot that connects the newly constructed Michigan Dental Association building with Jolly Oak Road. The residents will naturally utilize that as a "cut through" to Coyote Creek Drive to access Okemos Rd., which will be a direct negative impact on my neighborhood. Coyote Creek Condos is a very quiet and somewhat hidden community, which is why many of the residents live there. This large development will have direct and adverse effects to the quality of living there and will surely affect property values and taxable values.

I also very much question the need for such a sizable influx of multi-family units in Meridian Township.

I know you are someone who very much values the opinions of Meridian Township's residents. And has always strived to create and uphold a community that is aesthetically attractive, functions efficiently and has the best interests of Meridian's residents at heart. The rezoning and future proposed development of 500 multi-family units is certainly not in the best interest of the current residents that it will impact and it is certainly not in the best interest of Meridian Township. I humbly ask that The Meridian Township Planning Commission deny the proposed rezoning request.

Thank you, Martha and please do not hesitate to contact me.

Regards,  
**CORR COMMERCIAL REAL ESTATE, INC.**

**Michael J. Corr**  
Vice President | Associate Broker  
Ph: (517) 333.5300 | [michaelcorr@corrcommercial.com](mailto:michaelcorr@corrcommercial.com)  
300 Frandor Avenue | 2<sup>nd</sup> Floor | Lansing, MI. 48912

## Gail Oranchak

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**From:** Martha Wyatt  
**Sent:** Friday, March 06, 2015 2:32 PM  
**To:** Gail Oranchak  
**Subject:** FW: An official communication regarding Rezoning #15010 (Forsberg Family, LLC)

Martha Wyatt  
Associate Planner/Landscape Architect  
Phone: 517.853.4580  
Fax: 517.853.4095  
wyatt@meridian.mi.us  
www.meridian.mi.us

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**From:** Teresa Parsons [mailto:teresaparsons12@yahoo.com]  
**Sent:** Friday, March 06, 2015 2:14 PM  
**To:** oranchak@meridian.mi.usor; Martha Wyatt  
**Subject:** An official communication regarding Rezoning #15010 (Forsberg Family, LLC)

My name is Teresa Parsons who is a resident in Coyote Creek Condos, 2346 Taos Trail, Okemos, MI. I strongly oppose Rezoning #15010 (Forsberg Family, LLC) but cannot attend the township meeting. I would like my opposition to be an official communication regarding Rezoning #15010 (Forsberg Family, LLC).

I have many concerns over the impact that a development of this size will have on the current infrastructure of the immediate area. The area is already overly impacted by heavy traffic flow and noise and I cannot begin to imagine what an additional 1,000+ cars per day will do to further strain the infrastructure, living conditions and environment.

There exists a parking lot that connects the newly constructed Michigan Dental Association building with Jolly Oak Road. The residents will naturally utilize that as a "cut through" to Coyote Creek Drive to access Okemos Rd., which will be a direct negative impact on my neighborhood. Coyote Creek Condos is a very quiet and somewhat hidden community, which is why I chose to purchase a home in Coyote Creek. This large development will have direct and adverse effects to the quality of living there and will surely affect property values and taxable values.

I also very much question the need for such a sizable influx of multi-family units in Meridian Township and my fear is my property value be reduced significantly.

Thank you for your help regarding the matter.

**Rezoning #15010  
(Forsberg Family LLC)  
March 5, 2015**

**APPLICANT:** Forsberg Family, LLC  
2422 Jolly Road  
Okemos, MI 48864

**STATUS OF APPLICANT:** Owner

**REQUEST:** Rezone to C-2\* (Commercial)

**CURRENT ZONING:** PO (Professional and Office), I (Industrial), RR (Rural Residential) and C-2 (Commercial)

**LOCATION:** North of Jolly Road, west of Jolly Oak Road and Water Lily Way, and easts of Kansas Street

**AREA OF SUBJECT SITE:** 39.46 acres

**EXISTING LAND USE:** Industrial/Office/Warehouse buildings and Undeveloped

**EXISTING LAND USES IN AREA:**  
North: Coyote Creek Condominiums and Consumer's Power Right-of-Way  
South: Commercial and Farrins Parkway  
East: Office building and hotel  
West: Single-family residential and Kansas Street

**CURRENT ZONING IN AREA:**  
North: RD (Multiple Family, 8 units per acre)  
South: C-2 (Commercial)  
East: PO (Professional and Office)  
West: RR (Rural Residential) and RA (Single Family, Medium Density) residential

**FUTURE LAND USE DESIGNATION:** Office

**FUTURE LAND USE MAP:**  
North: Office  
South: Commercial  
East: Office  
West: Office

CHARTER TOWNSHIP OF MERIDIAN

MEMORANDUM

TO: Planning Commission

FROM

*Gail Oranchak*

Gail Oranchak, AICP  
Principal Planner

DATE: March 5, 2015

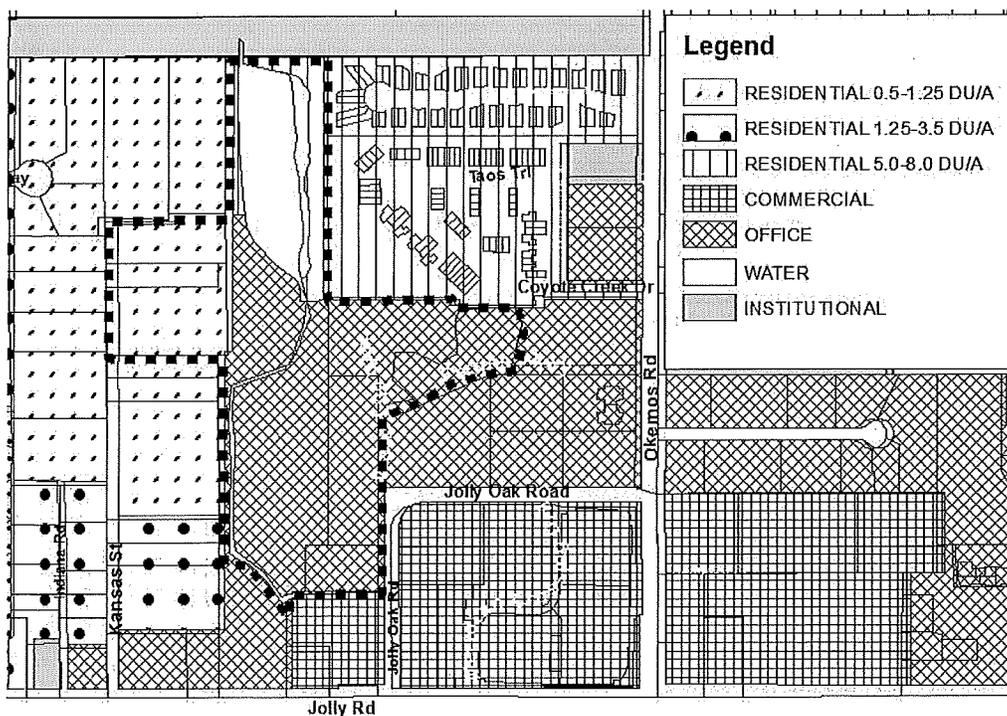
RE: Rezoning #15010 (Forsberg Family, LLC), request to conditionally rezone approximately 39.46 acres from I (Industrial), PO (Professional and Office), RR (Rural Residential) and C-2 (Commercial) to C-2\* (Commercial)

Forsberg Family, LLC has requested the rezoning of approximately 39.46 acres located north of Jolly Road, west of Jolly Oak Road and east of Kansas Street from I (Industrial), PO (Professional and Office), RR (Rural Residential) and C-2 (Commercial) to C-2 (Commercial) with the voluntary offer of two conditions: to develop the site as a mixed use planned unit development and to limit density to no more than 18 dwelling units per acre. The site has frontage on two public streets, Jolly Oak Road and Kansas Street.

**Master Plan**

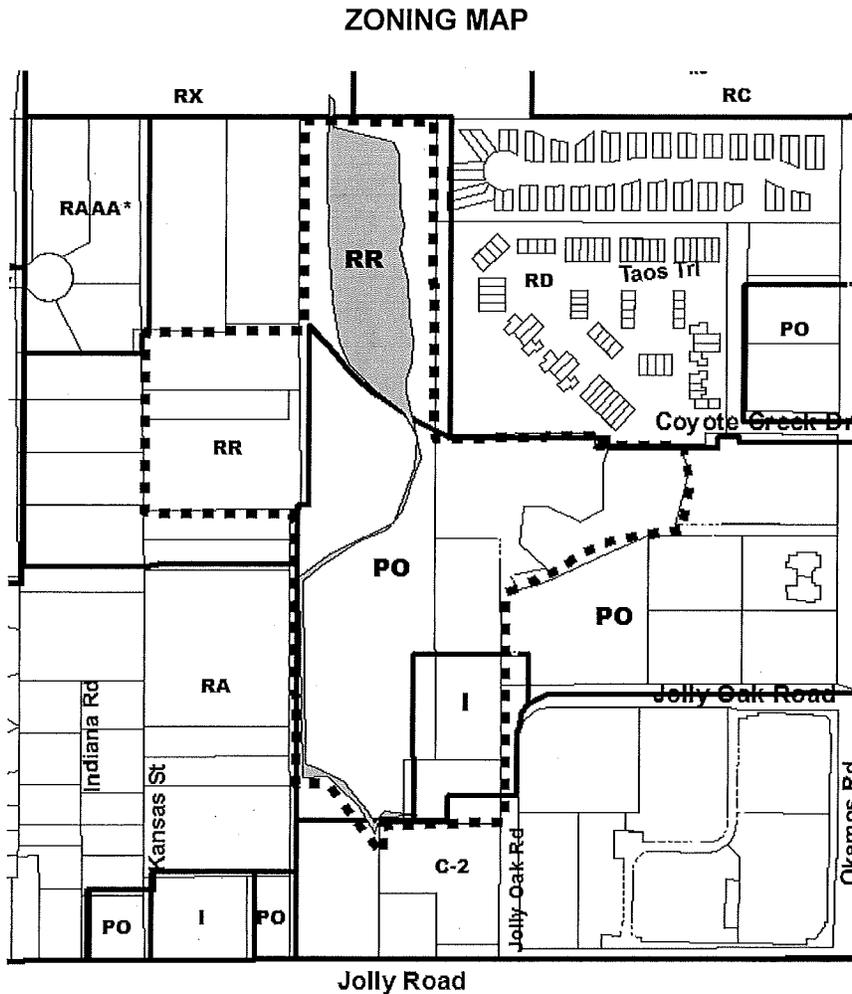
The 2005 Master Plan designates the subject site in the Office, Residential 0.5 – 1.25 dwelling units per acre, and Residential 5.0 – 8.0 dwelling units per acre categories.

**FUTURE LAND USE MAP**



**Zoning**

The subject site is zoned PO (Professional and Office), I (Industrial), RR (Rural Residential, and C-2 (Commercial). Lot area is approximately 39.46 acres (1,718,877.6 square feet). Lot width measures approximately 425 feet along Jolly Oak Road and 564 feet along Kansas Street. The site's lot width and lot area exceed the C-2 district minimum requirements of 100 feet of lot width and 4,000 square feet of lot area.



**Physical Features**

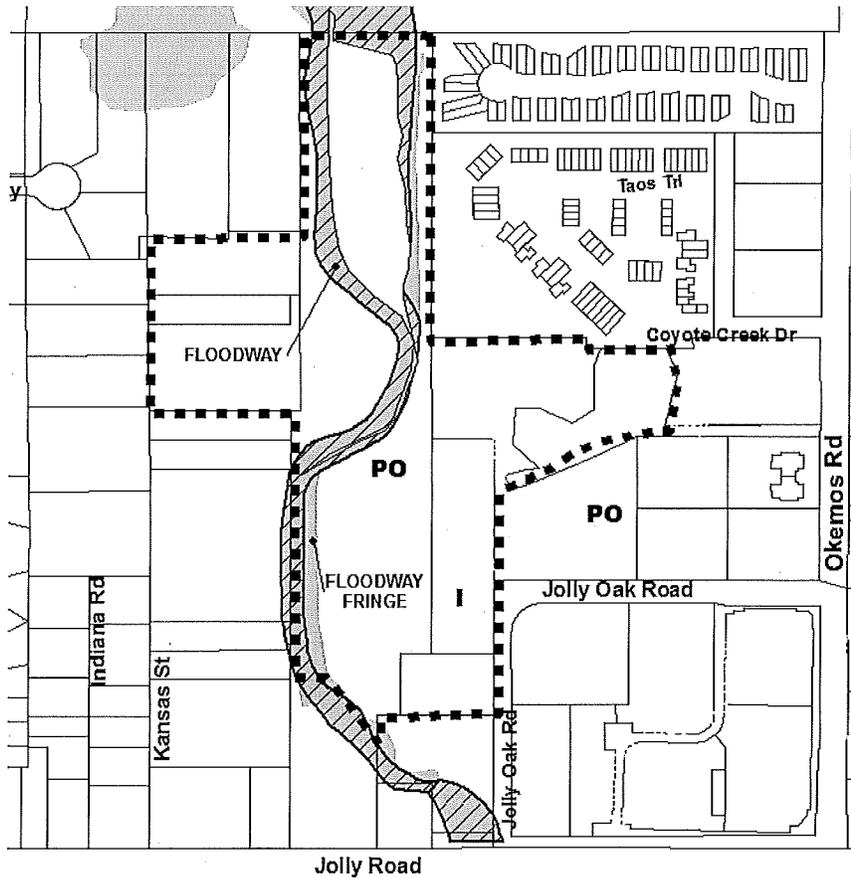
The majority of the site is undeveloped. Three structures, a 19,500 square foot industrial/light manufacturing building, a 9,040 square foot office/warehouse/storage building and a 2,400 square foot storage/warehouse building occupy the approximate three acre Industrial zoned area located on Jolly Oak Road. The area behind the three buildings has been used to park and store construction equipment and semi-trailers associated with industrial uses. Wooded areas occur to the west along Kansas Street and to the east north of Farrins Parkway. The Smith Drain pond is located on land furthest to the north.

Topographically, the site is gently sloping east of the Smith drain with elevations ranging from 866.4 feet above mean sea level to approximately 875 feet above mean sea level. South of the Smith Drain pond and west of the drain, elevations rise to a high of 888 feet above mean sea level and then decline to approximately 880 feet along Kansas Street.

Floodplain

Flood Insurance Rate Maps (FIRM) for Meridian Township show floodway and floodway fringe areas associated with the Smith Drain are present on the site.

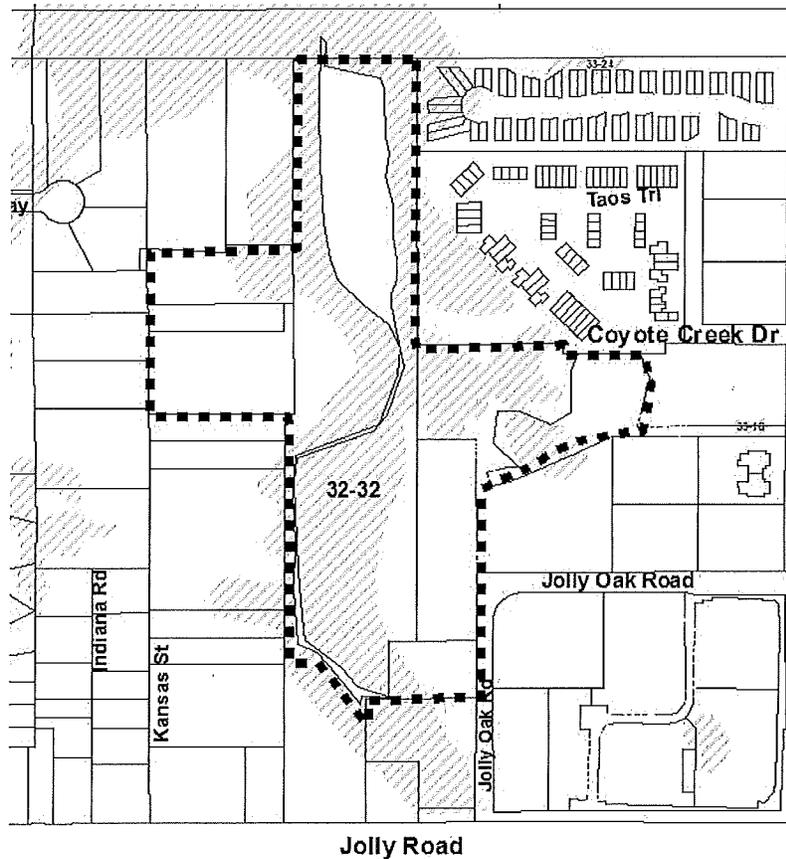
**FLOODPLAIN MAP**



Wetlands

The Township Wetland Map shows Wetland #33-32, associated with the Smith Drain traverses the site from south to north.

**WETLAND MAP**



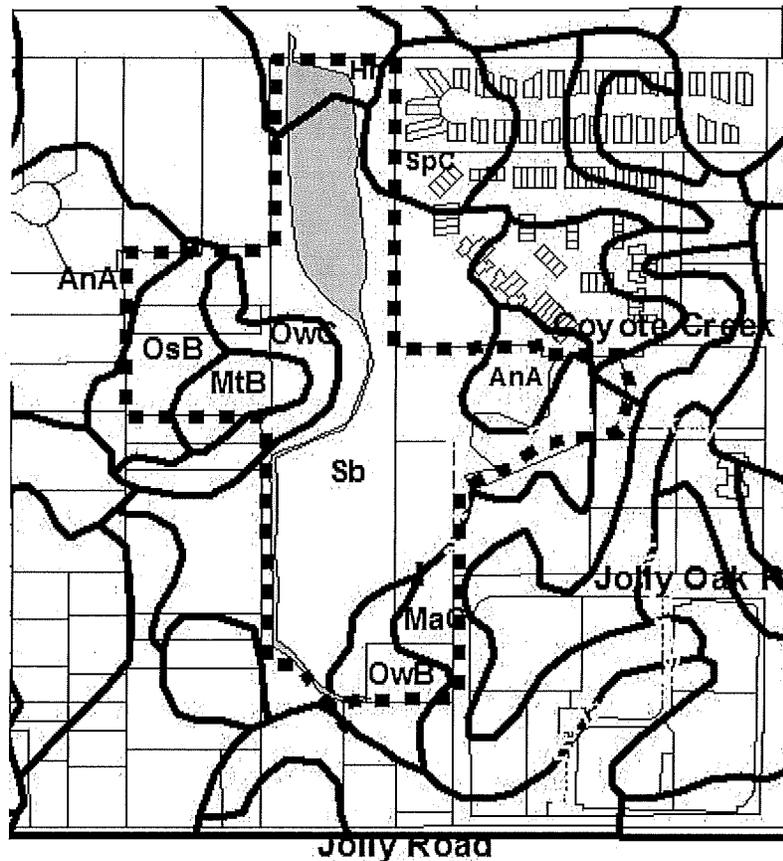
*Soils*

The following predominant soil types are found at the subject site:

SOIL ASSOCIATION	SEVERE LIMITATIONS
AnA (Aubbeenaubbee)	Wetness
Hn (Houghton)	Subsides, Ponding, Low Strength
MaC (Marlette)	Slope
MtB (Metea)	None
OsB (Oshtemo)	None
OwB (Owosso)	None
Sb (Sebewa)	Ponding
SpC (Spinks)	Slope

Source: Soil Survey of Ingham County, Michigan. 1992.

### SOILS MAP



### Streets and Traffic

The site has frontage on Jolly Oak Road and Kansas Street, both public streets. The partially constructed Water Lily Way extending north from Jolly Oak Road and Farrins Parkway, a private road, also provide access to the site.

The two-lane Jolly Oak Road is designated as a local street on the Street Setbacks and Service Drives Map, Section 86-365 of the zoning ordinance. It connects with both Okemos Road to the east of the site and Jolly Road south of the site. An Ingham County Road Department traffic count from 2008 showed average weekday vehicle trips for both directions totaled 3,187 with the a.m. peak hour between 11:00 a.m. and 12 noon and the p.m. peak hour between 1:00 p.m. and 2:00 p.m.

Kansas Street is a two-lane unpaved local road. It extends approximately 2,000 feet north of Jolly Road and then curves to the east for approximately 250 feet where it terminates in a dead end. At least one property has access to Kansas Street via an easement over the subject site. Traffic counts are not available for Kansas Street.

The Planning Commission authorized the extension of Jolly Oak Road northward as a public street named Water Lily Way in 1999. In recent years, curb and gutter have been installed but

the road has not been paved. The Ingham County Road Department will not accept the road as public until it is completed to its standards and inspected.

Farrins Parkway is a private road serving sites in the Okemos Pointe Office Park condominium. Design of the road received site plan review (SPR #08-08) approval in 2008. A wetland use permit was required to fill a portion of Meridian Township Wetland #33-2 to construct the road as designed. The road has received a base course of asphalt but the final course has not been installed.

The applicant's traffic consultant prepared a traffic study for a 500 unit multiple family apartment complex to be built in two phases (2016 and 2018) of 250 units each while the site plan, which has not been included as one of the conditions for rezoning, shows 466 units. Trips associated with the Michigan State Federal Credit Union under construction at this time have been factored into the report. The analysis shows each 250-unit phase will generate 126 total trips during the AM peak hour and 155 trips during the PM peak hour.

Both the Township traffic consultant and Ingham County Road Department staff reviewed the applicant's traffic study. Most concerning for both is the operation of the Okemos Road/Jolly Road intersection. Comments included:

- Traffic studies associated with the Jackson National Life expansion, scheduled for completion in August 2015 and fully populated in two years, show the potential for intersection operations to affect I-96 operations.
- Update turning counts for the Okemos Road and Jolly Road intersection. The most recent counts were taken in June, 2013 and are dated.
- Since the intersection already functions poorly, Jackson National Life traffic data and data from other committed projects (all-suites hotel) should be incorporated into traffic studies if they have impacts on the same adjacent roadway network to provide a more thorough evaluation.
- Provide a table listing the total quantity of trips generated by the proposed development and the quantity of trips approaching each of the four intersection approaches during the AM and PM peak hours.
- Consider reducing lane width to construct right turn lanes.
- Request for a discussion on how the addition of a southbound right turn lane would mitigate the lowering of the intersection level of service (LOS) from LOS E to LOS F when Phase 2 of the project comes online in 2018.

The Township's traffic consultant also commented on the lack of information for pedestrian and bicycle movements. Road diets on several streets may provide the solution for non-motorized facilities.

#### **Utilities**

Public sanitary sewer and water lines in the vicinity of the site are available for connection.

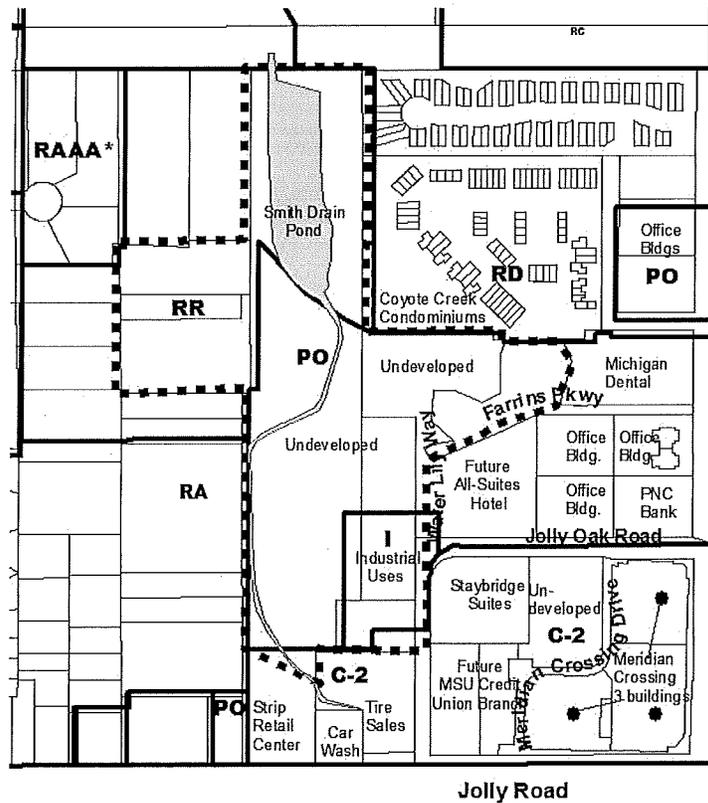
**Staff Analysis**

The applicant requested rezoning an approximately 39.46 acre site located north of Jolly Road, west of Jolly Oak road and Water Lily Way, and east of Kansas Street from PO (Professional Office), I (Industrial), RR (Rural Residential) and C-2 (Commercial) to \*C-2 (Commercial) with the offer of two conditions to develop the site as a mixed use planned unit development and cap residential density at 18 dwelling units per acre. The Township zoning ordinance acknowledges the Michigan Zoning Enabling Act's authorization of voluntary conditional rezonings in Section 86-96(3) which states, in part, "the Township may establish a time period during which the condition applies to the land." The Township may approve the conditional rezoning as proposed or deny it but may not require the applicant to revise the conditions.

Although it is typical to consider all uses permitted by right and by special use permit in both the existing and proposed zoning districts, in this case the applicant has requested conditional rezoning for a mixed use planned unit development with the housing component at not more than 18 dwelling units per acre. Besides potential uses, in making its decision the Planning Commission should consider topics listed on the rezoning application such as changing conditions in the vicinity of the site; consistency with the Master Plan; furtherance of health, safety and welfare; compatibility with surrounding uses; potential adverse impacts to the environment; identified community need; logical and orderly development pattern; and/or better and more efficient use of land.

According to Township records, the PO (Professional and Office) zoned area of the site was rezoned at the property owner's request from I (Industrial) and RR (Rural Residential) between 1997 and 2000. The zoning is consistent with the properties' Office designation on the Future Land Use Map of the 2005 Master Plan. Land currently zoned I (Industrial) is also designated for Office use on the 2005 Master Plan Future Land Use Map while the RR (Rural Residential) zoned land is designated Residential 0.5-1.25 dwelling units per acre.

Recent projects in the vicinity include the Staybridge Suites Hotel (2006) on Jolly Oak Road, Michigan Dental Association building (2009) constructed on Okemos Road north of Farrins Parkway, approval of a future Michigan State University Federal Credit Union branch (2014) on the northeast corner of Jolly Road and Jolly Oak Road, and approval an all-suites hotel on the northeast corner of Jolly Oak Road and Water Lily Way (2014) The following map shows existing and proposed uses in the vicinity of the rezoning.

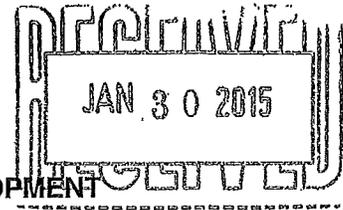


**Planning Commission Options**

The Planning Commission may recommend approval or denial of the applicant’s conditional rezoning request or it may recommend a different zoning designation to the Township Board. A resolution will be provided for a future meeting.

**Attachments**

1. Application and supporting materials
2. Township traffic consultant’s report dated February 12, 2015



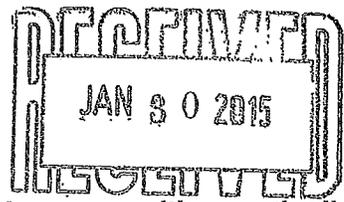
CHARTER TOWNSHIP OF MERIDIAN  
DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT  
5151 MARSH ROAD, OKEMOS, MI 48864  
PHONE: (517) 853-4560, FAX: (517) 853-4095

REZONING APPLICATION

Part I, II and III of this application must be completed. Failure to complete any portion of this form may result in the denial of your request.

Part I

- A. Owner/Applicant Forsberg Family L.L.C./WestPac Michigan, L.L.C.  
Address of applicant 2422 Jolly Road, Okemos 48864  
Telephone: Work 517-349-9330 Home 517-202-7572  
Fax 517-349-7131 Email brent@taforsberg.com If  
there are multiple owners, list names and addresses of each and indicate ownership interest. Attach additional sheets if necessary. If the applicant is not the current owner of the subject property, the applicant must provide a copy of a purchase agreement or instrument indicating the owner is aware of and in agreement with the requested action.
- B. Applicant's Representative, Architect, Engineer or Planner responsible for request:  
Name / Contact Person Brent Forsberg  
Address 2422 Jolly Road, Okemos 48864  
Telephone: Work 517-349-9330 Home 517-202-7572  
Fax 517-349-7131 Email brent@taforsberg.com
- C. Site address/location 2360/2362 Jolly Oak Road and adjacent Vacant parcels  
Legal description (Attach additional sheets if necessary) See Attached  
Parcel number See Attached Site acreage +/- 38.22
- D. Current zoning PO, I, RR, C2 Requested zoning C2 See Attached
- E. The following support materials must be submitted with the application:
1. Nonrefundable fee.
  2. Evidence of fee or other ownership of the subject property.
  3. A rezoning traffic study prepared by a qualified traffic engineer based on the most current edition of the handbook entitled *Evaluating Traffic Impact Studies: A Recommended Practice for Michigan Communities*, published by the State Department of Transportation, is required for the following requests:
    - a. Rezoning when the proposed district would permit uses that could generate more than 100 additional directional trips during the peak hour than the principal uses permitted under the current zoning.
    - b. Rezoning having direct access to a principal or minor arterial street, unless the uses in the proposed zoning district would generate fewer peak hour trips than uses in the existing zoning district.  
(Information pertaining to the contents of the rezoning traffic study will be available in the Department of Community Planning and Development.)
  4. Other information deemed necessary to evaluate the application as specified by the Director of Community Planning and Development.



**Part II**

**REASONS FOR REZONING REQUEST**

**Respond only to the items which you intend to support with proof. Explain your position on the lines below, and attach supporting information to this form.**

**A. Reasons why the present zoning is unreasonable:**

- 1) There is an error in the boundaries of the Zoning Map, specifically: \_\_\_\_\_  
\_\_\_\_\_
- 2) The conditions of the surrounding area have changed in the following respects: \_\_\_\_\_  
See Attached
- 3) The current zoning is inconsistent with the Township's Master Plan, explain: \_\_\_\_\_  
\_\_\_\_\_
- 4) The Township did not follow the procedures that are required by Michigan laws, when adopting the Zoning Ordinance, specifically: \_\_\_\_\_  
\_\_\_\_\_
- 5) The Township did not have a reasonable basis to support the current zoning classification at the time it was adopted; and the zoning has exempted the following legitimate uses from the area: \_\_\_\_\_  
\_\_\_\_\_
- 6) The current zoning restrictions on the use of the property do not further the health safety or general welfare of the public, explain: \_\_\_\_\_  
\_\_\_\_\_

**B. Reasons why the requested zoning is appropriate:**

- 1) Requested rezoning is consistent with the Township's Master Plan, explain: \_\_\_\_\_  
See Attached
- 2) Requested rezoning is compatible with other existing and proposed uses surrounding the site, specifically: \_\_\_\_\_  
See Attached
- 3) Requested rezoning would not result in significant adverse impacts on the natural environment, explain: \_\_\_\_\_  
See Attached
- 4) Requested rezoning would not result in significant adverse impacts on traffic circulation, water and sewer systems, education, recreation or other public services, explain: \_\_\_\_\_  
See Attached
- 5) Requested rezoning addresses a proven community need, specifically: \_\_\_\_\_  
See Attached
- 6) Requested rezoning results in logical and orderly development in the Township, explain: \_\_\_\_\_  
See Attached
- 7) Requested rezoning will result in better use of Township land, resources and properties and therefore more efficient expenditure of Township funds for public improvements and services, explain: \_\_\_\_\_  
See Attached

**Part III**

I (we) hereby grant permission for members of the Charter Township of Meridian's Boards and/or Commissions, Township staff member(s) and the Township's representatives or experts the right to enter onto the above described property (or as described in the attached information) in my (our) absence for the purpose of gathering information including but not limited to the taking and the use of photographs.

Yes  No (Please check one)

By the signature(s) attached hereto, I (we) certify that the information provided within this application and accompanying documentation is, to the best of my (our) knowledge, true and accurate

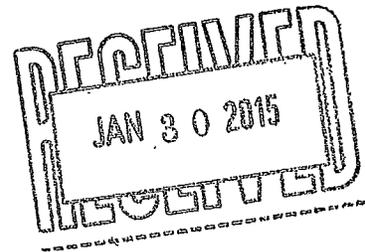
*Brent Forsberg*  
Signature of Applicant

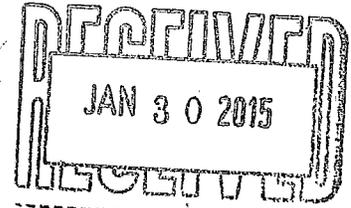
1-30-15  
Date

Brent Forsberg  
Type/Print Name

Fee: \$2,220

Received by/Date: Peter Menser 1-30-15





**Part I**

D. Requested zoning: C-2 Limited to development of Mixed Use Planned Unit Development with a restriction of no more than 18 units per acre as allowed under the density bonus provisions in the ordinance. Commercial use will provide services for new potential residents and existing residents in the corridor.

**Part II**

**REASONS FOR REZONING REQUEST**

**A)**

**2. The conditions of the surrounding area have changed in the following respects:** This site was rezoned in the early 2000's from Industrial to Professional Office (by the developer) with plans to build a 13 building office park. Due to local and regional economic factors those plans never materialized and the site has remained an industrial use. In a memorandum dated July 10, 2014 regarding the rezoning of the adjacent parcel for the Hilton Home 2 hotel reason #6: "While the future land use map shows office use of this parcel, the excess of comparable office space in the Township, as documented in the current master plan, renders it appropriate to designate an alternative compatible use." On page 9 of the July 15, 2014 Township board meeting minutes, it is noted [in reference to rezoning #14060 (Boomer Group)]: "need for the board to remember reason #6 [of aforementioned memorandum] when other rezoning issues are considered along Okemos Road."

**B)**

**1. Requested zoning is consistent with the townships master plan, explain:** Several of the townships strategies to complete the goals set forth in the master plan update can be implemented while reviewing this rezoning case. The attached sections highlight where the township and developer can work together to achieve these goals for the community. (See: Attached 2005 Master Plan amendment dated 8/15/14 and Township Board 2015 Goals and Objectives)

**2. Requested rezoning is compatible with other existing and proposed uses surrounding the site, specifically:** The completion of this project will situate nearly 500 new units (approx 700 residents) within walking distance of one of the Township's premier commercial centers. While these businesses typically rely on vehicular traffic and customers who work near the area, this development would enhance the economic value of those businesses by locating several hundred new residents within a five minute walk of their services. In addition to the new residential units, the project provides connectivity to neighborhoods to the West and North (Hulett Road neighborhoods and The Preserves) without the needs to access main arterial roads. The corner has potential to become a true mixed use area of the township, where residents can live, work, shop and play without dependence on a vehicle.

**3. Requested Zoning would not result in any significant adverse impacts on the natural environment, explain:** In the Early 1990's Forsberg Family upgraded the storm drainage system by building the detention pond and rerouting the Smith Drain in consultation with the Ingham County Drain Commission. This was done to make it possible for the redevelopment of the old construction yard and

to mitigate any environmental impact that would come from the anticipated future use of these parcels. In 2007 wetland delineations were conducted to determine the location of the natural water features and extent of possible redevelopment. The applicant has taken all of the environmental information into account in the design of the proposed site plan.

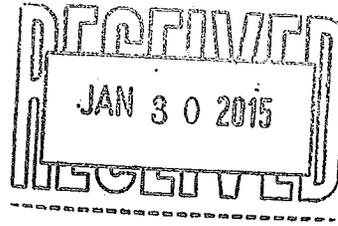
**4. Requested rezoning would not result in significant adverse impacts on traffic circulation, water and sewer systems, education recreation or other public services, explain:** Based on the traffic study completed by Bergman Associates, dated January 30, 2015, "the level of service results comparing each of the phase 1 and 2 build scenarios with their respective year no-build scenarios suggest that the proposed development is not expected to create significant operational impacts to the surrounding roadway network." While minor increases in specific movement delays at this intersection result from the proposed development, these delay increases are exaggerated by the current capacity constraints at this intersection and should not significantly impact the current operations at this intersection.

**5. Requested zoning addresses a proven community need, specifically:** This rezoning (and subsequent project) would make the Okemos and Jolly corner Meridian Township's connectivity destination to work and live, rather than just a vehicle dependent work destination. With neighboring communities and their large employers rapidly adding jobs and expanding (Jackson National, Delta Dental, MSU and DART), the professionals who have adopted a *renter by choice* mentality will be looking for high end living and lifestyle components. Since East Lansing have a high percentage of student renters, along with the inflated rent prices that accompany student housing, the choices for a renter looking for high end living and amenities are limited. This project is an opportunity to become a sought after destination, with desirable proximity to large employers, an ever expanding park and trail system and a strong school system in place. This development has potential to attract young residents looking to build their careers and families in this area.

**6. Requested zoning will result in logical and orderly development in the Township:** The surrounding areas are commercial to the South and East, Industrial and Low density residential to the West, and high density residential to the north. Rezoning to allow a mixed use of commercial and multi-family residential would transition and link to existing residential uses currently adjoining the proposed redevelopment site.

**7. Requested rezoning will result in better use of Township land, resources and properties and therefore more efficient expenditure of Township funds for public improvements and services, explain:** Developing this parcel provides a link for Meridian townships trail system to the proposed trailhead at Jolly Road. This is the last connecting piece of the proposed trail missing in this area. The connection will allow the existing Meridian Township cross country pathway to service a large commercial center of the township.





**MEMORANDUM**

**TO:** Township Board

**FROM:** Mark Kieselbach  
Mark Kieselbach  
Director of Community Planning and Development

Gail Oranchak  
Gail Oranchak, AICP  
Principal Planner

**DATE:** July 10, 2014

**RE:** Rezoning #14060 (Boomer Group, LLC), request to rezone approximately 3.55 acres from PO (Professional and Office) to C-2 (Commercial)

The applicant, Boomer Group, LLC, represented by William Brehm, has requested the rezoning of approximately 3.55 acres located on the northeast corner of Jolly Oak Road and Water Lily Way from PO (Professional and Office) to C-2 (Commercial) with the voluntary offer of a condition limiting development on the site to an all-suites hotel with no more than 135 rooms subject to the standards applying to hotels in the C-2 district and all requirements of Chapter 86 of the Code of Ordinances for special use permit, site plan review, or variance, if any.

The Planning Commission held the public hearing on the rezoning request at its June 9, 2014 regular meeting and at its June 23, 2014 meeting voted 8-0 to recommend approval subject to a time limit of three years for groundbreaking to begin after final approval. The Planning Commission cited the following reasons for its decision.

1. The use complements and provides a customer base for surrounding commercial service uses.
2. The Township's traffic consultant reviewed the applicant's Traffic Assessment commenting, the proposed hotel use will generate far fewer vehicle trips than a more intense commercial use such as a supermarket.
3. Comparing trip generation data found in the applicant's Traffic Assessment for a general office building permitted in the PO (Professional and Office) district and an all-suites hotel use permitted in the C-2 (Commercial) district shows both uses generate fewer weekday and peak hour vehicle trips.
4. Public utilities and services are in place to serve the site.
5. The rezoning will result in a logical and orderly development pattern for the site and surrounding area into the future.
6. While the Future Land Use Map shows office use of this parcel, the excess of comparable office space in the Township, as documented in the current Township Master Plan, renders it appropriate to designate an alternative compatible use.

CHARTER TOWNSHIP OF MERIDIAN, JULY 15, 2014 REGULAR MEETING \*APPROVED\*

- Benefit is greatly reduced for the homeowner at 6437 Lake Drive (Mr. Wessels) as there is no access to Lake Drive
- Reminder that the Lake Lansing Advisory Committee passed a motion to contribute \$2,500 towards the paving assessment
- The Township will adjust the estimated assessments prior to bringing Resolution No. 3 to the Board
- Petition would still be valid if the homeowner at 6437 withdraws his signature from the petition
- Board member request for information regarding trees and potential impact of the paving on those trees
- Township has 66 feet of right-of-way and there is sufficient room
- One area at the north end is crowded as the property owner pushed his rock landscaping 12-15 feet into the right-of-way
- Board member request to obtain the speed limit on Perry Road
- Board member desire for a four (4) foot paved shoulder, but three (3) foot is what is achievable
- Board member preference for two (2) ten (10) foot lanes with a four (4) foot area for pedestrians on the west side of the road
- Request for staff to explore all options with the county as there is 24 feet to work with
- Board desire to have substantial significant area for pedestrian or non-motorized movement
- Preference for ten (10) foot lanes with striping to slow traffic and wide paved shoulders
- Preference for assessments to be kept at a reasonable level for the residents
- County restripes every two years and Township staff will include the striping for next year

It was the consensus of the Board to place this item on for action at a future meeting.

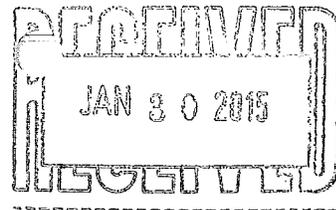
- B. Rezoning #14060 (Boomer Group, LLC), Request to Rezone Approximately 3.55 Acres on the NE Corner of Jolly Oak Road and Water Lily Way from PO (Professional and Office) to C-2 (Commercial)

Director Kieselbach summarized the rezoning request as outlined in staff memorandum dated July 10, 2014.

Board discussion:

- ICRD requirement that Water Lily Way be paved prior to acceptance as a public road
- Project will provide additional patrons for stores and restaurants in the Jolly/Okemos Road area
- Peak traffic will be less for the hotel v. office
- Possible hotel amenity for a one-third mile pathway north from Water Lily Way which would link to the Township pathway from Okemos Road to Hulett Road
- Farrins Parkway was designed as a private road and maintenance would be the responsibility of the property owner
- Agreement for shared users of Farrins Parkway
- Pathway map shows development of a seven (7) foot pathway on the east side of Water Lily Way
- MSU Federal Credit Union will be required to install the pathway to Jolly Road during construction
- Traffic in the area will increase due to receipt of federal grant money to upgrade the Jolly/Okemos Road intersection
- Numbers used for the traffic study is information supplied by the ICRD
- Sometimes traffic consultants will visit the area and perform their own traffic counts
- Reason #6 supplied by the Planning Commission highlights as part of the rationale for its decision there is an excess of comparable office space in the Township
- Need for the Board to remember Reason #6 when other rezoning issues are considered along Okemos Road

see next page



## GOALS, OBJECTIVES AND STRATEGIES

The fundamental statement of community values, the personal values, the values relating to government and the vision for the year 2020 provide the foundation upon which subsequent policy decisions in this Plan rests. To guide the formulation of specific policy decisions, the Planning Commission established a more detailed set of goals and objectives, and strategies for pursuing them.

The Planning Commission presents the following set of specific goals, which are derived from the statements of community values (no priority is implied):

- *Goal 1:* Preserve and strengthen residential neighborhoods.
- *Goal 2:* Preserve open space and natural areas.
- *Goal 3:* Enhance the viability of Township businesses.
- *Goal 4:* Maintain and expand a diverse park system.
- *Goal 5:* Maintain essential public services.
- *Goal 6:* Provide and Support an Efficient, Safe, and Environmentally Sensitive Multi-modal Transportation Network.
- *Goal 7:* Promote efficient and sustainable growth principles.

For each of these goals, a series of objectives is stated, and for most of the objectives, one or more strategies for achieving this objective are specified.

### **GOAL 1: PRESERVE AND STRENGTHEN RESIDENTIAL NEIGHBORHOODS**

#### **Objective A: Maintain a community of desirable, attractive residential neighborhoods.**

##### **Strategies:**

1. Prevent inconsistent uses from encroaching into residential areas.
2. Continue to support the designation and preservation of historic neighborhoods and residences.
3. Designate appropriate neighborhoods as special land use areas and adopt zoning specific to their needs.
4. Encourage cluster developments, mixed use and other compact residential choices closer to shopping, public transit and other services.
5. Ensure that the Future Land Use Map has a range of residential densities which will result in a diversity of housing that meets the needs of various income levels and household types.

**Objective B: Ensure new residential developments meet high standards of visual attractiveness, health and safety, and environmental sensitivity.**

**Strategies:**

1. Minimize erosion and the intrusion of roads, pathways, houses, and driveways into wetlands and floodplains in residential developments.
2. Continue to require the planting of trees along rights-of-way, and the replacement of trees when they are damaged, destroyed, or diseased.
3. Encourage residential design that enhances use of outdoor areas for recreation, community walkability and integration with public transit.
4. Lay out new residential developments to accommodate public transit, for example, by providing pedestrian connections to bus stops and by designing for curb side bus stops near entrances.
5. In all subdivisions and residential developments, encourage layouts which maintain maximum green space and/or common open space.

**GOAL 2: PRESERVE OPEN SPACE AND NATURAL AREAS**

**Objective A: Adopt policies and programs that maximize the preservation of open spaces, natural areas, other undeveloped areas and agricultural land uses in the Township.**

**Strategies:**

1. Continue to develop and implement Township policies regarding the protection of open space land and natural areas via zoning, the public purchase of land, conservation easements, and development rights, and other appropriate techniques.
2. Encourage landowners to donate natural areas or open spaces to the Township, and to place their properties under the protection of the Farmland and Open Space Preservation (Part 361) or the Conservation and Historic Preservation Easement (Part 21) of PA 451 of 1994 Natural Resources and Environmental Protection Act, where appropriate.
3. Encourage landowners to donate land or development rights to non-profit land trusts.
4. Continue to coordinate efforts with the Park Commission to support and promote the preservation of open space and environmentally sensitive lands in the Meridian recreation areas through donations of land with natural, open space and ecological and/or historical significance.
5. Preserve the ecological integrity of the Red Cedar River through zoning, voluntary agreements with landowners, donation of land to the Township, or the purchase of land, scenic easements, and development rights, where appropriate.
6. Develop a tree preservation ordinance to protect significant mature trees.

**Objective B: Conserve wetlands, floodplains, and other water retention areas.**

**Strategies:**

1. Identify all wetlands, floodplains, and other water retention areas.
2. Continue to communicate and coordinate with the Michigan Department of Environmental Quality on activities affecting lakes, streams, and wetlands.
3. Discourage development within wetlands, floodplains, floodplain fringe areas, and water retention areas.
4. Support the Environmental Commission's educational efforts to minimize infiltration of salt, fertilizer, herbicide, and pesticide.

**Objective C: Link open spaces and natural areas into a network of continuous greenways throughout the Township.**

**Strategies:**

1. Continue to use the Greenspace Plan as a guide for determining how natural areas can be linked into continuous greenways throughout the Township.
2. Work with the Land Preservation Board and Park Commission to continue the establishment of a continuous greenway along the Red Cedar River through the identification of additional parcels of land which are important to the ecological and visual integrity of the Red Cedar River.
3. Utilize land planning methods, purchases of land and development rights, and plat, site plan, and other review processes to create and maintain continuous greenways.
4. Encourage the Environmental Commission to develop educational programs about the importance of protecting endangered animals and plants, ecosystems and other unique or sensitive natural features.

**Objective D: Protect groundwater recharge areas in the Township.**

**Strategies:**

1. Support regional efforts to protect groundwater recharge areas.
2. Continue to educate citizens about the importance of protecting groundwater recharge areas.
3. Use zoning and other appropriate land management techniques to protect important groundwater recharge areas.

**Objective E: Preserve greenbelts, open spaced and natural areas and create pathways by encouraging the use of planned unit development or other suitable zoning strategies for new residential developments.**

**Objective F. Work with the Park Commission, Department of Public Works and Engineering and the school districts, where appropriate, to maximize the amount of land left in a natural state as common open space to encourage developers and builders.**

### **GOAL 3: ENHANCE THE VIABILITY OF TOWNSHIP BUSINESSES**

#### **Objective A: Upgrade commercial areas.**

##### **Strategies:**

1. Participate in regional efforts to redevelop the Grand River corridor.
2. Identify strategies to maintain the Haslett Road commercial area's traditional character.
3. Encourage redevelopment of the downtown Okemos area using the Downtown Development Authority (DDA) Integrated Plan as a guide.
4. Evaluate opportunities for walkable urban design.
5. Cooperate with regional partners and other entities to participate in studies.
6. Encourage attractive architecture which harmonizes with the environment through innovative design and landscaping.
7. Identify specific areas where the form-based code technique may be appropriately applied and make recommendations based on the results of the study.

#### **Objective B: Develop the Township's commercial core into a viable and vibrant district.**

##### **Strategies:**

1. Conduct and/or participate in studies where appropriate.
2. Explore the viability of upper floor residences in the commercial core.
3. Continue to engage the public in deciding the direction for development in the commercial core.
4. Explore options for public-private partnerships to revitalize the Township's commercial core.
5. Develop the Township's center into a vibrant mixed use district, through the addition of planned or committed office and residential land uses in and adjacent to the core area.

#### **Objective C: Improve the attractiveness of the Township's entrances and transportation corridors.**

##### **Strategies:**

1. Investigate grant-based funding opportunities to improve landscaping along major thoroughfares.
2. Create a series of well-designed and attractively landscaped entrances along the main roads entering into the community.

## **GOAL 4: MAINTAIN AND EXPAND A DIVERSE PARK SYSTEM**

**Objective A: Continue to expand the Meridian Township park and recreational system to meet the recreational needs of residents into the future.**

**Strategies:**

1. Pursue acquisitions that target current and future demands of residents.
2. Employ acquisition strategies that leverage available dollars to secure maximum property for the value.
3. Support Pedestrian/Bicycle Pathway linkages to parks and recreation facilities.
4. Provide accessible facilities and leisure opportunities for persons of all physical abilities and socio-economic characteristics.

**Objective B: Develop and support Meridian Township park development and recreation programming that is diverse, widely distributed, fiscally responsible, and represents community needs.**

**Strategies:**

1. Support the Park Commission's continuing efforts to pursue public input in determining park and recreation development needs.
2. Utilize cooperative methods of providing recreation facilities by working with local recreation associations, schools, businesses, neighborhood groups and associations to provide diverse recreation programs.
3. Increase coordination between the Township Board, Park Commission and Land Preservation Advisory Board to maximize the potential benefits and enhance stewardship of open space, natural areas and park lands.
4. Encourage developers to incorporate parks and recreation amenities in new developments to complement the efforts of the Park Commission.
5. Continue to promote fiscal responsibility through partnerships and collaborative opportunities, grant support, sponsorships and donations, and encouraging volunteerism.
6. To provide resources necessary to maintain and develop a diverse parks and recreation system that:
  - a. Provide a high quality of life for our community residents.
  - b. Provides necessary support for maintenance and operation of these amenities.

## **GOAL 5: MAINTAIN ESSENTIAL PUBLIC SERVICES**

**Objective A: Ensure that any future growth is consistent with the Township's present or planned capacity for sewage treatment, public water, and other utility systems.**

**Strategies:**

1. Focus growth into an urban services district to ensure efficient and fiscally responsible use of public services.
2. Routinely assess the demands on the utility systems from developments to determine available capacity for future development based on demographics.
3. Routinely inventory water, sewer and other utility systems capacity.
4. Maintain and upgrade the infrastructure (water, sewers, roads, community facilities) of the Township through the Capital Improvements Program's systematic scheduling of infrastructure construction, maintenance, and renovation.
5. Continue to use Special Assessment Districts to finance infrastructure projects.
6. Incorporate appropriate recommendations from Tri-County Regional Planning Commission's Wellhead Protection Audit for regional best practices to protect the public water supply.

**Objective B: Maintain police, fire, and ambulance service to all areas of the community.**

**Objective C: Maintain quality library service for the community.**

**Objective D: Use land use policies to assist the public school districts which are a valued community asset that makes Meridian Township a unique and desirable place to live.**

**Strategies:**

1. Continue and/or initiate land use policies that attract families with students.
2. Support the Park Commission's agreement with the School Districts to coordinate park facilities and programs.
3. Support street and pathway improvements that provide safe access routes for school children.

**Objective E: Promote cooperation between adjoining communities, school districts, and appropriate agencies.**

**GOAL 6: PROVIDE AND SUPPORT AN EFFICIENT, SAFE, AND ENVIRONMENTALLY SENSITIVE MULTI-MODAL TRANSPORTATION NETWORK**

**Objective A: Evaluate the existing transportation network and identify problems, including traffic congestion, safety, environment, and aesthetics, which can be solved at acceptable cost.**

**Strategies:**

1. Cooperate with county, regional and state entities to develop strategies to improve traffic flow.
2. Consider zoning and other design strategies such as Complete Streets as effective means of ensuring safe and efficient travel for all modes of transportation.

**Objective B: Maintain local roads.**

**Strategies:**

1. Support improvements to local streets when a special assessment district request has been received from local residents.
2. Review reconstruction and expansion of local non-subdivision streets through the Capital Improvements Program process when 50 percent of the improvement's funding will be paid for by the Township or its residents through special assessment districts.

**Objective C: Develop a Complete Streets policy for all users of Township roads.**

**Strategies:**

1. Define a vision for a Complete Streets program.
2. Review current policies to identify inconsistencies and impediments to implementing a complete streets policy.
3. Conduct planning, regulatory and physical audits of current street designs as needed and financially feasible.
4. Coordinate the Pedestrian-Bicycle Pathway Plan with Safe Routes to School policies and other Township plans.
5. Share the Township's vision and work with transportation and road authorities.

**Objective D: Expand and improve the Pedestrian/Bicycle Pathway Plan.**

**Strategies:**

1. Continue to implement the requirement for sidewalks as determined necessary.
2. Continue to implement the pedestrian/bicycle pathway system through site plan review.
3. Continue to support the pedestrian/bicycle pathway millage for construction and maintenance of the Township's pedestrian/bicycle pathway system.
4. Investigate alternative surfacing materials to reduce the amount of impervious surface materials used in the construction of the pedestrian/bicycle system.
5. Continue to investigate strategies for safe and efficient travel for bicyclists and pedestrians.
6. Coordinate the Pedestrian/Bicycle Pathway Plan with parks, schools, preserves, Greenspace Plan, neighborhoods, and other destinations.

**Objective E: Encourage the use of public transportation.**

**Strategies:**

1. Encourage and promote public transportation service to any new developments and in conjunction with redevelopment via site plan review.
2. Institute design standards for site plan review to ensure public transportation access to all segments of the population but particularly those with physical disabilities.

**Objective F: Coordinate Meridian Township's transportation planning with regional planning efforts administered by the Tri-County Regional Planning Commission and recorded in the 2035 Regional Transportation Plan.**

**Strategies:**

1. Coordinate transportation planning and road improvements for all non-local streets with the region's long range plan.
2. Advocate and promote the Township's needs and interests in transportation improvements with transportation and road authorities.

**GOAL 7: PROMOTE EFFICIENT AND SUSTAINABLE GROWTH PRACTICES**

**Objective A:** Implement sustainable energy and environmental practices throughout the Township utilizing the most current best practices

**Strategies:**

1. Budget funds to have Township buildings assessed for energy efficiency a minimum of once every five years.
2. For Meridian Township procurement purposes, when equivalent products or services are available, preference should be given to the more sustainable services or products.
3. Encourage electric car charging stations.
4. Establish a minimum level of LEED certification or the equivalent for all projects undertaken by the Township.
5. Establish ordinances providing incentives for redevelopment that emphasizes infill development, building reuse and/or deconstruction.
7. Increase the use of alternative transportation modes for commuting and recreation by encouraging the use of mixed use planned unit developments and implementing the Greenway Plan.
8. Explore methods through ordinances or by providing incentives for existing businesses to upgrade their parking lots and landscaping to increase tree cover and shade to be energy efficient and environmentally friendly.
9. Explore incentives for new or redeveloped projects to be LEED certified or equivalent.

**Objective B: Develop Township policies to balance and manage growth.**

**Objective C: Maintain open spaces and natural features in suburban and rural areas of the Township.**

**Strategies:**

1. Continue to develop zoning standards and Township policies.
2. Continue to encourage and support voluntary citizen land conservancy efforts which maintain the Township's open spaces, natural features, and rural areas.

**Objective D: Define an urban services district to promote walkable community development and dynamic community improvement through redevelopment.**

**Strategies:**

1. Promote land use policies that emphasize compact infill development.
2. Investigate opportunities to maximize the use of existing infrastructure through development and redevelopment within the urban services district.
3. Investigate additional strategies to provide incentives for development and redevelopment within the urban services district.

**Objective E: Encourage development in Meridian Township that leads to sustainable land use.**

**Strategies:**

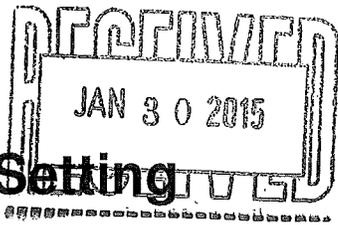
1. Engage all stakeholders to study new techniques for the control and management of development.
2. Review the legality and suitability of these techniques for Meridian Township.

**Objective F: Prepare and implement a redevelopment strategy**

**Strategies:**

1. Eliminate inflexible or obsolete zoning regulations.
2. Identify priority redevelopment sites.
3. Expand public participation.
4. Prepare annual reports to the Township Board reporting progress towards the stated benchmarks and recommending any needed changes.

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# Meridian Township 2015 Goal Setting

## 2015 Goals and Objectives

*Meridian Township exists to create a sustainable community through the most effective use of available resources that achieve the highest quality of life.*

### Goal #1

#### **Meridian Township shall sustain and enhance the environment**

- a. Update the street tree ordinance and adopt a tree protection ordinance
- b. Prepare, update, and enforce ordinances that protect natural features such as woodlands, wetlands, and floodplain areas
- c. Utilize the Township's Greenspace Plan as part of the review for land development projects
- d. Apply the best planning practices to encourage the preservation of green and open spaces
- e. Build a new *green* Central Fire Station
- f. Continue the Deer Management Program to reduce the deer population in our community
- g. Manage invasive species in the parks and land preserves (removing garlic mustard, buckthorn, autumn olive, Japanese knotweed, Japanese hedge parsley, and phragmites)
- h. Administer and enforce the Soil Erosion Sedimentation Control Program
- i. Maintain the sewer system to minimize sewage backups
- j. Develop an Urban Management Service area
- k. Maintain robust recycling initiatives including the Meridian Recycling Center, community events, and educational programs, and work to enhance recycling opportunities in apartment complexes
- l. Continue energy, water, and waste reduction efforts in Township buildings and other facilities
- m. Adopt an ordinance prohibiting or regulating, as the law allows, fracking within the Township
- n. Review and update open space requirements
- o. Mitigate climate change - including investigating becoming a solar ready community

### Goal #2

#### **Meridian Township shall sustain and enhance public safety**

- a. Increase information shared with the public through social media regarding public safety tips, PSAs (Public Service Announcements), emergency communications, and police and fire services
- b. Provide Beyond the Badge police and fire programs and stories
- c. Strengthen communication and educate developers/builders, business owners, and neighborhood associations regarding the planning process in an effort to minimize violations and negative impacts
- d. Continue implementation of the Grand River Corridor Access Management Ordinance
- e. Provide police coverage for Williamstown Township
- f. Implement the Office of Highway Safety Planning (OHSP) Traffic Grant
- g. Purchase new mobile phone forensics software

- h. Upgrade the booking area camera
- i. Evaluate conversion to the State Records Management System (RMS) in the Police Department, and implement if determined to be feasible
- j. Update in-car mobile software to communicate with new Computer Aided Dispatch (CAD) software
- k. Construct the new Fire Station at Okemos Road and Central Park Drive
- l. Purchase 1 replacement ambulance for the Fire Department
- m. Purchase 3 replacement patrol vehicles for the Police Department
- n. Complete the Okemos Road Pathway Bridge crossing the Red Cedar River
- o. Continue fire service to Alaiedon Township
- p. Continue the yearly Police Citizens' and Youth Academies
- q. Participate in the Lansing Regional Shared Fire Services
- r. Process monthly police and fire citizen surveys
- s. Monitor legislative actions relative to medical marihuana and prepare to act accordingly with local ordinances
- t. Explore revision and/or modification of Township ordinances for the purpose of reducing penalties for possession or use of small amounts of marihuana

**Goal #3**  
**Meridian Township shall provide an**  
**unparalleled parks system**

- a. Develop Phase I of Towner Road Park
- b. Complete Legg Park projects - parking area, dog park, and stewardship
- c. Construct roof structures over the dugouts at Hartrick Park
- d. Install new siding on the pavilion at Nancy Moore Park
- e. Install new safety fencing around the ball diamonds at Nancy Moore Park
- f. Rebuild the drainage system for the Harris Nature Center parking island
- g. Improve parking lot surfaces at Harris Nature Center, Ferguson Park, and Wonch Park
- h. Construct the Wonch Park Pavilion with grant support
- i. Install new play equipment at Orlando Park and Hillbrook Park
- j. Develop a new Master Plan for Central Park
- k. Replace the footbridge at Legg Park
- l. Provide support for Eagle Scout Projects
- m. Build an 18 hole disc golf course
- n. Improve directional signage on trails
- o. Construct a youth environmental exploration area at Harris Nature Center
- p. Establish a plan for development of a smart-phone application (App) that provides Township Parks and Trails information
- q. Develop the Water Trail Access Program
- r. Investigate purchasing the five (5) acres to the east of Wardcliff School, which borders Park Lake Road, for recreational uses

**Goal #4**  
**Meridian Township shall provide exemplary**  
**public services and facilities**

- a. Conduct an annual assessment/reinspection program of taxable properties within Meridian Township
- b. Finalize the Comcast franchise agreement to include high definition (HD) PEG (Public, Education & Government) channels, VOD (Video on Demand), and PEG on the program guide system
- c. Develop a 5-year equipment purchase plan to be adopted by the Cable Communications Commission (CCC) that includes HD studio cameras and playback
- d. Improve communication and educate the public on the Rental Housing Program and continue to improve the process for rental housing inspections
- e. Revise the sign and parking regulations
- f. Continue support of and membership in regional organizations (i.e. Tri-County Regional Planning Commission)
- g. Strengthen cooperative planning efforts with the Ingham County Road Department, Ingham County Drain Commission, Tri-County Regional Planning Commission, and surrounding jurisdictions
- h. Promote good design standards through the site plan review process
- i. Utilize a health impact assessment guide, created in conjunction with the Ingham County Health Department and Tri-County Regional Planning, in the review of development projects
- j. Streamline field survey procedures so that information will flow directly into the Geographic Information System
- k. Participate with Tri-County regional partners to contract for flight services to provide orthographic photography for the entire Township and surrounding areas
- l. Bring the Township's payroll back in-house and incorporate the human resources module software
- m. Update the patrol car graphic design
- n. Evaluate options for upgrades to in-building camera systems within the Public Safety Building and potential expansion to include other facilities
- o. Upgrade or replace lift station SCADA (Supervisory Control And Data Acquisition) system communications and software
- p. Complete the first year of 3-year SAW (Stormwater, Asset Management and Wastewater) Grant project to develop sanitary sewer system asset management plan
- q. Replace the Towar Lift Station
- r. Replace the control panel at Woodhill lift station
- s. Replace pumps at Shoals lift station and Sundance lift station
- t. Complete Pathway Bridge on Okemos Road crossing Red Cedar River
- u. Construct a new pathway on the south side of Haslett Road (east of Okemos Road to west of Bayonne)
- v. Replace the retaining wall on Mt. Hope Road at Glendale Cemetery
- w. Replace the pathway retaining wall at 2322 Mt. Hope Road
- x. Construct a pathway on the south side of Mt. Hope Road (Okemos Road to Maumee)
- y. Reroof the Service Center
- z. Pursue Ingham County Trail Millage funding to implement the Lake Lansing to River Trail connector pathway
- aa. Investigate options for establishing Meridian Township as a smart community and explore viable plans for expanding municipal fiber, broadband, and public Wi-Fi in Meridian Township

- bb. Investigate providing a leaf pickup program in Meridian Township
- cc. Fill in pathway gaps

### **Goal #5**

#### **Meridian Township shall sustain and enhance our economic prosperity for all residents**

- a. Defend assessment appeals made to the Michigan Tax Tribunal
- b. Develop a branding campaign and marketing strategy and propose a 2016 budget to the Township Board to include branding campaign, imaging, print, design, and marketing
- c. Enhance and encourage the retention of existing businesses and establishment of new businesses
- d. Promote Township resources to prospective businesses and industries
- e. Formulate and adopt an Economic Development Plan
- f. Encourage infill and/or redevelopment of existing commercial sites
- g. Promote mixed-use development in commercial areas
- h. Facilitate the objectives of the Downtown Development Authority by eliminating the causes of property value deterioration and promoting economic growth
- i. Continue streetscape improvements to define downtown areas and promote a sense of place
- j. Assist with the redevelopment of the former Central Fire Station/MARC property
- k. Continue economic focus on Haslett, Carriage Hills, Grand River, and Okemos
- l. Continue focus on the Douglas J project
- m. Continue to conduct monthly business visits with a focus on customer service
- n. Complete the 2005 Master Plan update
- o. Sustain and enhance our positive working relationship with Michigan State University
- p. Complete the Consolidated Annual Financial Report (CAFR) receiving an unmodified audit opinion and the Certificate of Achievement for Excellence in Financial Reporting
- q. Complete the annual budget process focusing on how the budget mirrors our annual goal setting process
- r. Maintain, per the Board's direction, a minimum fund balance in the General Fund of \$5,250,000
- s. Increase enrollment of online bill pay and explore options for new platforms to accept these payments (including BS&A's AccessMyGov-Internet Services)
- t. Support all types of transportation modes in the Township including the Bus Rapid Transit (BRT)
- u. Encourage the use of complete streets practices as a routine part of operations
- v. Investigate the pension liability funding plan
- w. Investigate reaching out and expanding the Celebrate Downtown Okemos event to include other areas of the Township, including Haslett and East Lansing

### **Goal #6**

#### **Meridian Township shall promote and enhance diversity across the Township**

- a. Promote cultural diversity with our community programs and celebrations
- b. Explore closed captioning costs for HOM-TV programs
- c. Investigate and possibly launch a Chinese version of HOM-TV news programs

- d. Continue to encourage the use of the Mixed Use Planned Unit Development and Commercial Planned Unit Development Ordinances
- e. Encourage developers to provide affordable housing
- f. Encourage a wide range of housing types
- g. Strengthen community pride through such activities as downtown events and expanded outdoor sculpture displays
- h. Seek diversity in hiring and promoting
- i. Update the Personnel Policy Manual, along with having the Human Relations Ordinance statement prominently displayed in the introduction, and continuous outreach to special agencies and networks for recruitment of new hires, volunteers, interns, etc.
- j. Host Chinese New Year and Heritage Festival events
- k. Promote Nokomis Learning Center activities
- l. Consider implementing the Language First Program (in an effort to aid our Township staff with communicating with visitors from all over the world)
- m. Utilize additional recruiting outlets and resources such as on-line job boards, advertisements, and professional organizations to attract qualified minorities to apply for job openings
- n. Provide professional training and development to staff

### **Goal #7**

#### **Meridian Township shall provide outstanding recreational and cultural programs**

- a. Provide sports and fitness programs for youths and adults
- b. Administer environmental programs and events for all ages at Harris Nature Center
- c. Offer educational, fitness, and social opportunities for senior citizens at the Meridian Senior Center and Meridian Mall
- d. Coordinate the Farmers' Market outdoors (May-October) and indoors (December-April)
- e. Develop a Farmers' Market Relocation Plan (location, size, and funding)
- f. Support activities of the Friends of Historic Meridian
- g. Support activities of the Meridian Garden Club
- h. Conduct special events: Chinese New Year, Celebrate Downtown Okemos, July 4th Fireworks Celebration, Meridian Heritage Festival, Halloween Adventures, Drive-thru Santa, Christmas in the Village, Free Family Winter Sports Weekends, Polar Bear 5K Race, Music in the Park Program
- i. Continue the Arts and Crafts Marketplace each month during the summer
- j. Continue Recreation Services Agreement with the City of Williamston

### **Goal #8**

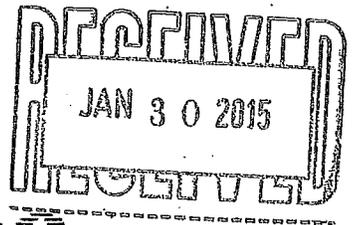
#### **Meridian Township shall sustain and enhance constituent communications**

- a. Continue to respond to all citizen inquiries in a timely, professional, and efficient manner
- b. Provide assessment information to property owners and their representatives (e.g., real estate agents, title company employees, private real estate appraisers, etc.)
- c. Replace the Town Hall microphones and bases
- d. Investigate replacement of Township hall video imager
- e. Increase encouragement of public engagement and participation through multimedia and other ways to connect

- f. Create a monthly Township Manager blog and increase its outreach
- g. Conduct a communications needs assessment
- h. Investigate costs of new Township website
- i. Audit social media outlets and develop a social media strategy campaign
- j. Upload packet information on the Township website that is in a searchable format for ease of use by the public
- k. Publish the Meridian Monitor twice-yearly to all residents
- l. Reach out to residential and business groups regarding potential development impacts
- m. Increase staff engagement and participation with neighborhood groups using social media, fire safety programs, HOM-TV interviews, and Beyond the Badge
- n. Add a new disk appliance to the network to increase storage space and reliability
- o. Update in-car mobile software to communicate with new Computer Aided Dispatch (CAD) software
- p. Print and distribute one issue of the Meridian Township Parks and Recreation Family Fun Guide (distribution in January)
- q. Increase communication with constituents through email and multi-media sources
- r. Rename select Land Preserves
- s. Conduct the citizen survey through ICMA with the same process or method as was used in 2012
- t. Begin the process of overhauling the Township website and branding up to an amount of \$30,000

**Goal #9**  
**Meridian Township shall sustain and enhance**  
**neighborhoods and eliminate blight**

- a. Create DAS (Distributed Antenna System) ordinance with the Public Works & Engineering and Planning Departments
- b. Promote Neighborhood Watch
- c. Develop a method to increase compliance of communications companies using the rights of way in the Township
- d. Continue to work with homeowners associations to strengthen code enforcement in residential neighborhoods
- e. Promote and encourage the preservation of older neighborhoods
- f. Enforce the Property Maintenance Code
- g. Continue the Code Enforcement Committee with neighborhood associations
- h. Continue pavement preservation program on local roads
- i. Continue sidewalk repair program (order to maintain)
- j. Maintain and improve the water and sewer systems
- k. Hire a part-time code enforcement officer
- l. Support the community gardens in the Township
- m. Inspect Township owned buildings annually to ensure appropriate maintenance



# ***WestPac Campus Communities Housing Development Traffic Study***

***January 30, 2015***



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- Appendix A – Proposed Site Plan**
- Appendix B – Traffic Count Information**
- Appendix C – Level of Service Definitions**
- Appendix D – Synchro Level of Service Intersection Reports**
- Appendix E – Trip Generation Information**
- Appendix F – Right-Turn Lane Warrants**

## I. PURPOSE AND SCOPE

WestPac Campus Communities, LLC is proposing a new apartment complex in Meridian Township, Ingham County, MI. This Traffic Impact Study (TIS) has been prepared to document the existing traffic conditions of the study area and to evaluate the estimated future traffic conditions and impacts as a result of the proposed development. The development assumptions under which this study was conducted was that the proposed development would consist of two phases as follows:

**Table 1: Proposed Construction**

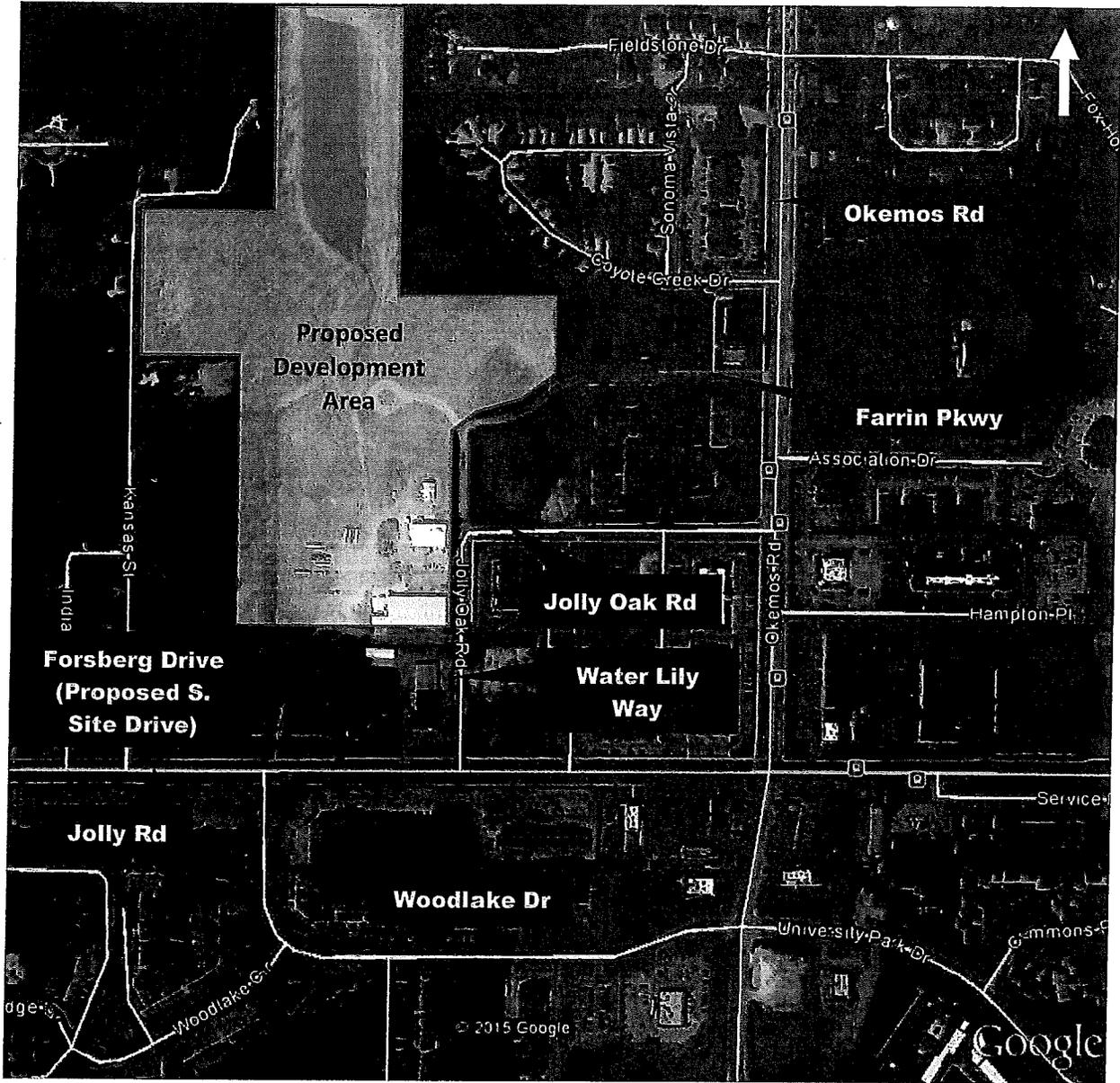
Development Type	Number of Additional Units	Estimated Time of Completion
Phase 1: Apartments	250 Units	2016
Phase 2: Apartments	250 Units	2018

It is important to note that the assumptions listed above are conservative when compared to the proposed site plan (current site plan proposes only 466 total units, while 500 total units are assumed). The project site is located in the northwest quadrant of the Okemos Road and Jolly Road intersection (See Figure 1). Please refer to Appendix A for the proposed site plan for the development. The intent of this traffic impact study is to document the existing traffic conditions and evaluate the potential transportation impacts of the proposed development on the surrounding roadway transportation system, if any.

The following methodology was used to conduct this study:

1. Conduct site visits to obtain roadway geometry and observe traffic operations.
2. Perform manual turning movement counts at study area intersections and summarize the existing weekday morning and evening peak hour traffic volumes.
3. Project the existing traffic volumes to the proposed construction years. Phase 1 is estimated to be completed in 2016 and Phase 2 in 2018. Each phase will consist of the construction of 250 apartment dwelling units.
4. Estimate the number of new trips generated by the proposed development, distribute the trips on the surrounding roadways, and add the projected trips to the background traffic volumes.
5. Evaluate the traffic operations of study area intersections under existing traffic conditions and future traffic conditions, with and without the proposed project for both Phase 1 and Phase 2.
6. Summarize existing and future traffic operational deficiencies, potential impacts of the proposed development on the roadway system and identify mitigation measures for future deficiencies caused by the proposed development, if any.

**Figure 1: Project Area Map**



## **II. EXISTING CONDITIONS**

### **A. Study Area Roadways**

#### **1. Okemos Road**

Okemos Road is classified as a north-south minor arterial within the study area however, it functions as a major arterial. From its intersection with Jolly Road north thru the study area, Okemos Road consists of two (2) 12-foot wide concrete travel lanes in each direction with a 12-foot, two-way center left-turn lane.

The pavement along Okemos Road in the study area is in good condition. The posted speed limit is 45 mph within the study limits. Land use along Okemos Road in the study area is primarily commercial.

#### **2. Jolly Road**

Jolly Road is an east-west minor arterial that consists of two (2) 12-ft wide HMA travel lanes in each direction with a 12-ft two-way center left turn lane within the study area. The travel lanes are bounded by curb and gutter and enclosed drainage. The existing pavement is in good condition.

A speed limit of 45 mph is posted on Jolly Road within the study area. Land use along Jolly Road is primarily commercial thru the study area.

#### **3. Jolly Oak Road**

Jolly Oak Road is a collector roadway that provides access to commercial properties in the NW quadrant of the Okemos Road & Jolly Road intersection. This roadway connects to Okemos Road and consists of two (2) 16-ft wide HMA travel lanes with curb and gutter and enclosed drainage. The pavement was noted as being in good condition during field review. The speed limit was not posted along this roadway however was assumed to be 25 mph for the purposes of this study.

#### **4. Water Lily Way**

Water Lily Way is a collector roadway that also provides access to commercial properties in the NW quadrant of the Okemos Road & Jolly Road intersection. This roadway connects to both Jolly Road and Jolly Oak Road and consists of two (2) 16-ft wide HMA travel lanes with curb and gutter and enclosed drainage. The pavement was noted as being in good condition during field review. The speed limit was not posted along this roadway however was assumed to be 25 mph for the purposes of this study.

#### **5. Woodlake Drive**

Woodlake Drive is a collector roadway that provides access to commercial properties and businesses in the SW quadrant of the Okemos Road & Jolly Road intersection. This roadway connects to both Jolly Road and Okemos Road and consists of two (2) 16-ft wide HMA travel lanes with curb and gutter and enclosed drainage. The pavement was

noted as being in good condition during field review. The speed limit was not posted along this roadway however was assumed to be 25 mph for the purposes of this study.

#### **6. Forsberg Commercial Access Drive**

The Forsberg Commercial Access Driveway currently provides access to a small strip mall on Jolly Road. Per the site plan for the apartment complex, this driveway is proposed to be extended to provide access to the proposed development from Jolly Road. Currently, this driveway consists of two lanes with widths that vary from 12-ft to 16-ft. Limited parking exists along the driveway. The pavement was noted as being in good condition during field review. No speed limit is posted on this driveway.

#### **7. Farrin Pkwy**

Farrin Pkwy is a collector roadway that provides access to commercial properties north of Jolly Oak Road. The roadway currently connects to Okemos Road, Jolly Oak Road, and Water Lily Way and consists of two (2) lanes with widths that vary from 10-ft to 12-ft. No speed limit was posted on this roadway however was assumed to be 25 mph for the purposes of this study.

### **B. Study Area Intersections (Listed east to west, south to north)**

#### **1. Jolly Road & Woodlake Drive / Forsberg Driveway**

Woodlake Drive and the commercial Forsberg Driveway connect to Jolly Road via an unsignalized intersection. The eastbound and westbound Jolly Road approaches are free flow and consist of one exclusive thru lane, one shared right-turn/thru lane and a shared two-way left-turn lane. On the west approach, the two-way left-turn lane ends approximately 250 ft west of the intersection. On the east approach, the two-way left-turn lane continues east beyond the intersection. All lane widths are 12-ft wide.

The stop controlled southbound approach (Forsberg Driveway) does not have pavement markings denoting lane assignments however, based upon field review, it was determined that the approach consisted of a shared right-turn/thru lane and an exclusive left-turn lane. Lane widths on this approach are approximately 11-ft wide to accommodate the lane usage.

The stop controlled northbound approach (Woodlake Drive) consists of a marked exclusive left-turn lane and a shared right-turn/thru lane with 12-ft wide lanes. Approximately 95 ft of vehicle storage is provided by the existing left-turn lane.

#### **2. Jolly Road & Water Lily Way**

Jolly Road meets Water Lily Way at an unsignalized intersection. Both the eastbound and westbound Jolly Road approaches are free flow and consist of one exclusive thru lane, one shared right-turn/thru lane and a shared two-way left-turn lane. All lane widths are 12-ft wide.

The stop controlled southbound Water Lily Way approach consists of one exclusive right-turn lane and one exclusive left-turn lane. Approximately 100 ft of vehicle storage is provided for the existing left-turn lane. All lane widths are 12-ft wide.

### **3. Okemos Road & Jolly Road**

Okemos Road intersects Jolly Road at a signalized intersection. The existing traffic signal is owned and operated by the Ingham County Road Department. All intersection approaches consist of one shared right-turn/thru lane, one exclusive thru lane and one exclusive left-turn lane. All lane widths are 12-feet. All of the existing exclusive left-turn lanes extend beyond the intersection as continuous two-way left-turn lanes.

### **4. Okemos Road & Jolly Oak Road**

Jolly Oak Road meets Okemos Road at an unsignalized intersection. The northbound Okemos Road approach consists of two exclusive thru lanes and a shared two-way left-turn lane that extends beyond the intersection. The southbound approach consists of an exclusive right-turn lane, two exclusive thru lanes, and a shared two-way left-turn lane that extends beyond the intersection. Approximately 90 ft of vehicle storage is provided for the existing right-turn lane. The northbound and southbound (Okemos Road) approaches are free flow. All lane widths are 12-ft wide.

The stop controlled eastbound Jolly Oak Road approach does not have pavement markings denoting lane assignments however, based upon field review, it was determined that the approach consisted of a shared right-turn/thru lane and an exclusive left-turn lane. Lane widths on this approach are approximately 12-ft wide to accommodate the noted lane usage.

### **5. Okemos Road & Farrin Pkwy**

Farrin Pkwy meets Okemos Road at an unsignalized intersection. The northbound Okemos Road approach consists of two exclusive thru lanes and a shared two-way left-turn lane that extends beyond the intersection. The southbound approach consists of a shared right-turn/thru lane, an exclusive thru lane and a shared two-way left-turn lane that extends beyond the intersection. The northbound and southbound (Okemos Road) approaches are free flow. All lane widths are 12-ft wide.

The stop controlled eastbound Farrin Pkwy approach does not have pavement markings denoting lane assignments however, based upon field review, it was determined that the approach consisted of a shared right-turn/thru lane and an exclusive left-turn lane. Lane widths on this approach are approximately 10-ft wide to accommodate the noted lane usage.

### **6. Jolly Oak Road, Water Lily Way & Farrin Pkwy**

Farrin Pkwy meets Jolly Oak Road and Water Lily Way at an uncontrolled intersection. The northbound Water Lily Way approach consists of a shared right-turn/thru lane, the southbound Farrin Pkwy approach consists of a shared left-turn/thru lane and the

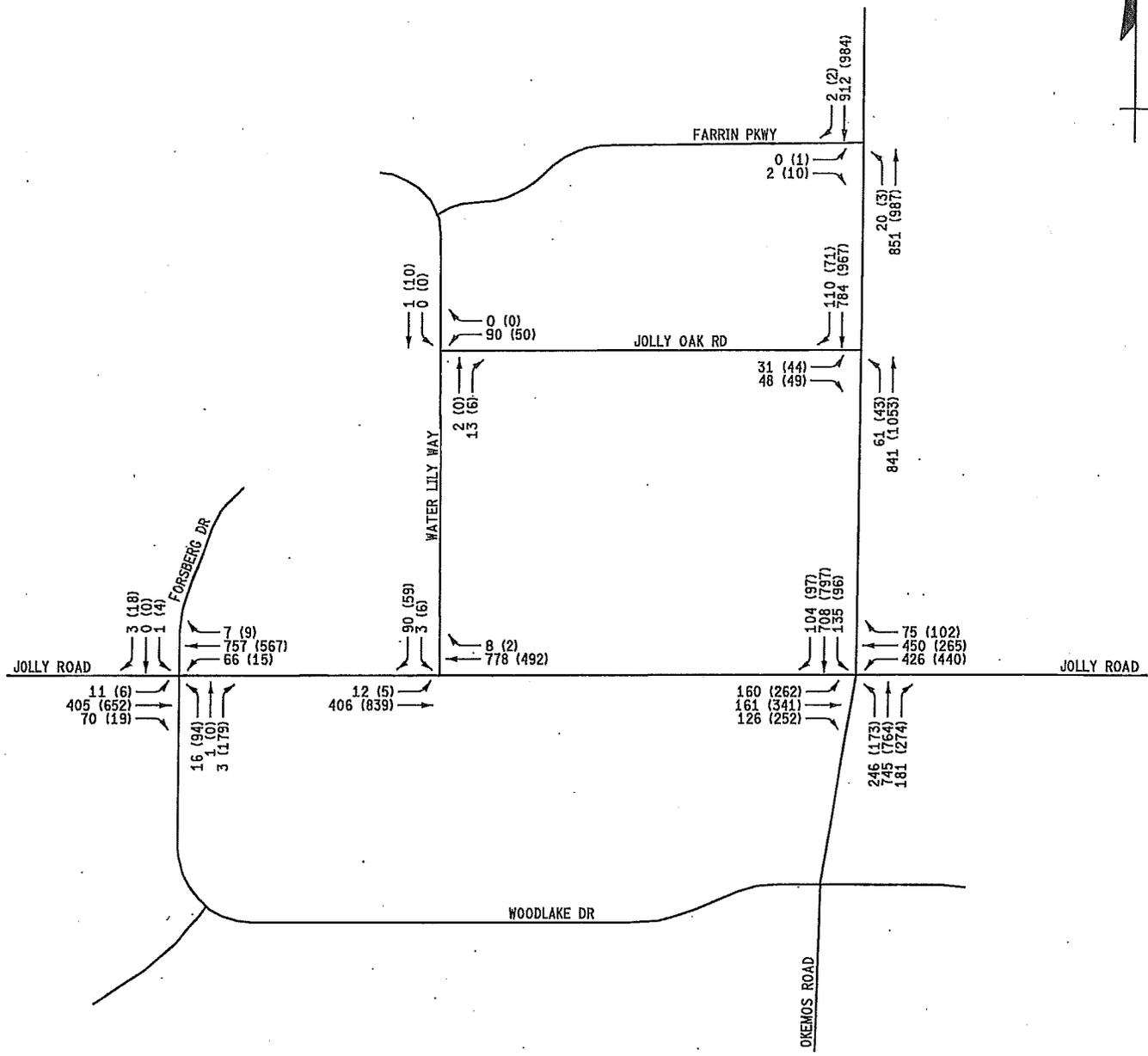
westbound Jolly Oak Road approach consists of a shared right-turn/left-turn lane. Lane widths vary from approximately 12-ft to 16-ft.

### **III. TRAFFIC VOLUMES**

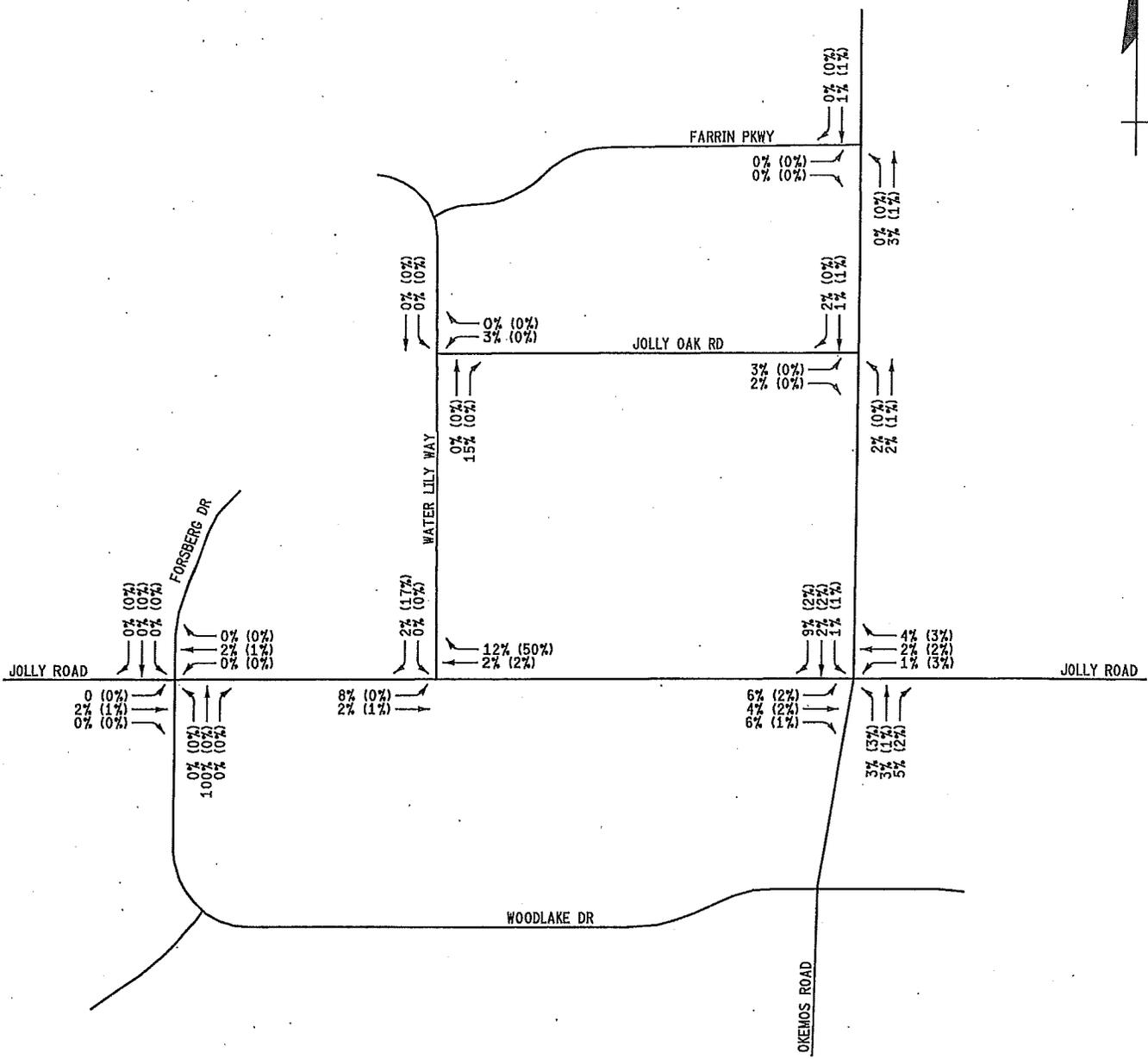
#### **A. Existing Traffic Volumes**

Manual turning movement counts were performed by Bergmann Associates at five of the six study area intersections on Wednesday, January 6, 2015 and Thursday, January 7, 2015. The counts for the Okemos Road and Jolly Road intersection were collected by Bergmann Associates on Tuesday, June 4, 2013 and Wednesday, June 5, 2013. The counts were recorded in 15-minute intervals to enable the identification of the peak hour and traffic peaking characteristics and heavy vehicle activity within that hour. Morning and evening count hours lasted from 7:00 to 9:00 AM and from 4:00 to 6:00 PM, respectively each count day. Counts conducted during the mid-week represent the most typical patterns of average commuter traffic.

The weekday morning peak hour generally occurred from 7:15 to 8:15 AM. The evening peak generally occurred between 4:30 and 5:30 PM. Turning movement volumes for each of the study area intersections were reasonably balanced where appropriate. The existing weekday morning and evening peak hour traffic volumes are shown in Figure 2. The percent commercial traffic for each individual movement is shown in Figure 3.



FILE:	NO SCALE	DESIGN UNIT:	TSC:	DATE: 01/30/15
		CS:	FIGURE 2	DRAWING SHEET
		JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	
			2015 EXISTING TRAFFIC VOLUMES	7



LEGEND  
 XXX = AM PEAK VOLUME  
 (XXX) = PM PEAK VOLUME

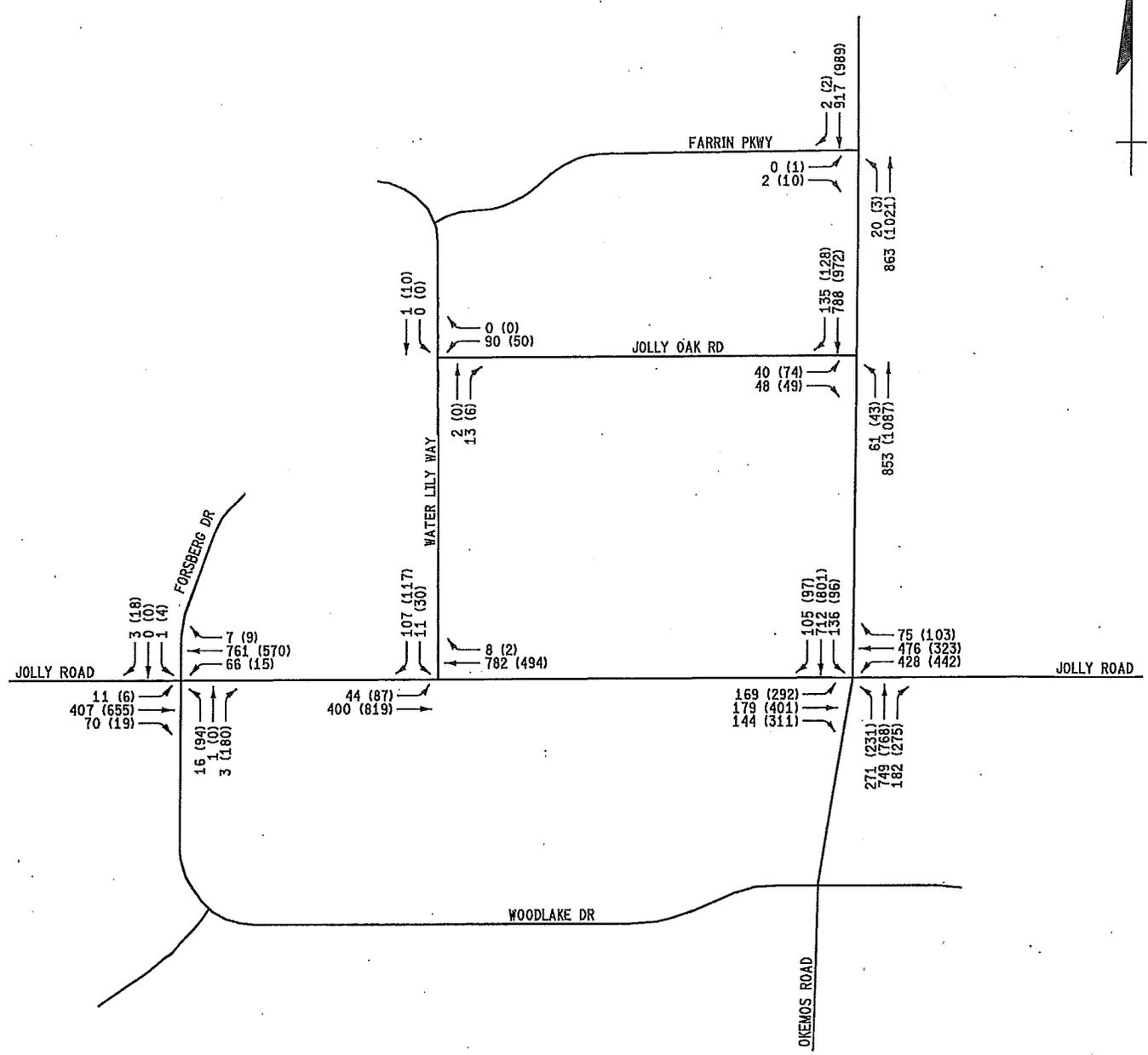
FILE:	NO SCALE	DESIGN UNIT:	TSC:	DATE: 01/30/15
		CS:	FIGURE 3	
		JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	
			2015 PERCENT TRUCKS BY MOVEMENT	
				8

## B. Background Traffic Volumes

The estimated time of completion (ETC) for this project is 2018 with the total project to be constructed in two phases. The first phase is estimated to be completed in 2016 and the second phase in 2018. Based upon the proposed completion dates, a background growth rate of 0.50% per year (compounded annually) was utilized to develop background traffic volumes. This growth rate is based upon historic traffic volumes and studies in the immediate vicinity of the project area.

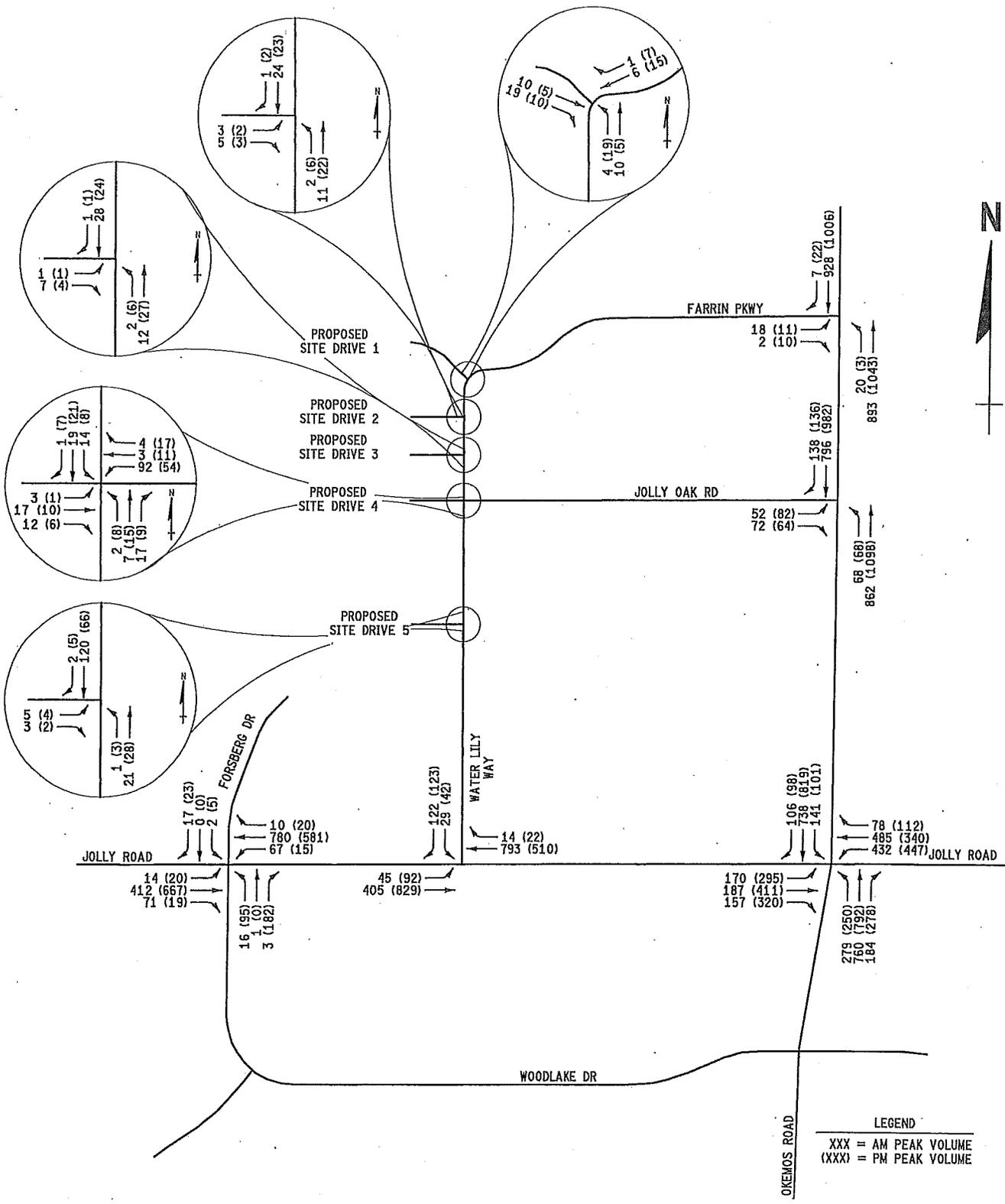
It was noted during field review that an MSU Federal Credit Union (MSU FCU) is currently being constructed within the project area and is anticipated to be completed by 2016. Based upon the traffic study developed for the credit union, the generated trips at the study area intersections have been added into the No-Build traffic volumes for Phases 1 and 2.

It is important to note that the anticipated traffic volumes generated by the proposed development for Phase 1 (2016) were also added to the Phase 2 (2018) No-Build traffic volumes to reflect the actual traffic volumes with the Phase 1 construction complete but, prior to the completion of the Phase 2 construction. The resulting No-Build traffic volumes for Phase 1 (2016) and Phase 2 (2018) are shown in Figure 4 and 5.



**LEGEND**  
 XXX = AM PEAK VOLUME  
 (XXX) = PM PEAK VOLUME

FILE:	<b>NO SCALE</b>	DESIGN UNIT:	TSC:	DATE: 01/30/15
		CS:	FIGURE 4	DRAWING SHEET
		JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	
			2016 NO BUILD TRAFFIC VOLUMES	10



FILE:	NO SCALE	DESIGN UNIT:	TSC:	DATE: 01/30/15
		CS:	FIGURE 5	DRAWING SHEET
		JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	
			2018 NO-BUILD TRAFFIC VOLUMES	11

**C. Trip Generation**

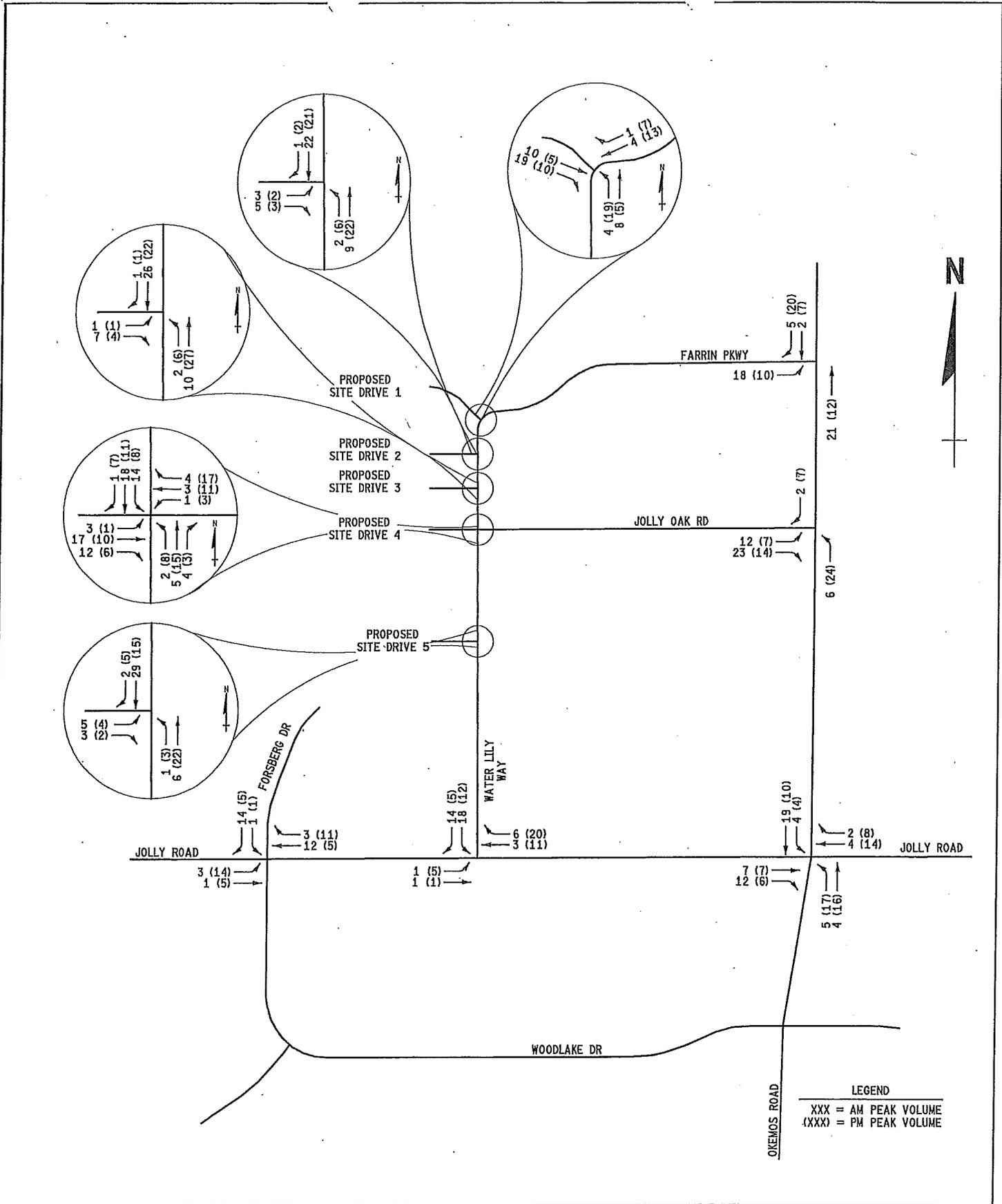
The Institute of Transportation Engineers (ITE) Report, Trip Generation, 9<sup>th</sup> Edition, was utilized for the trip generation analysis of the proposed development. This report is a compilation of trip data for various land uses as collected by the transportation professionals throughout the United States in order to establish the average number of trips generated by those land uses. It is the intent of this project to construct the total development in two phases. Each phase is proposed to consist of the construction of 250 dwelling units. In order to estimate the maximum amount of generated traffic, it was assumed that each dwelling unit within the development is occupied. In addition, as noted earlier, this analysis assumes 500 total units while the proposed site plan shows only 466 units resulting in a conservative analysis. The overall trip generation results are summarized in the following table:

**Table 2: Generated Trips for Subject Site**

Development Information			Generated Trips					
Land Use	ITE Code	Size	AM Peak Hour			PM Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
<b>Phase 1</b>								
Apartment	220	250 Units	26	100	126	101	54	155
<b>Phase 2</b>								
Apartment	220	250 Units	26	100	126	101	54	155

**D. Trip Distribution and Assignment**

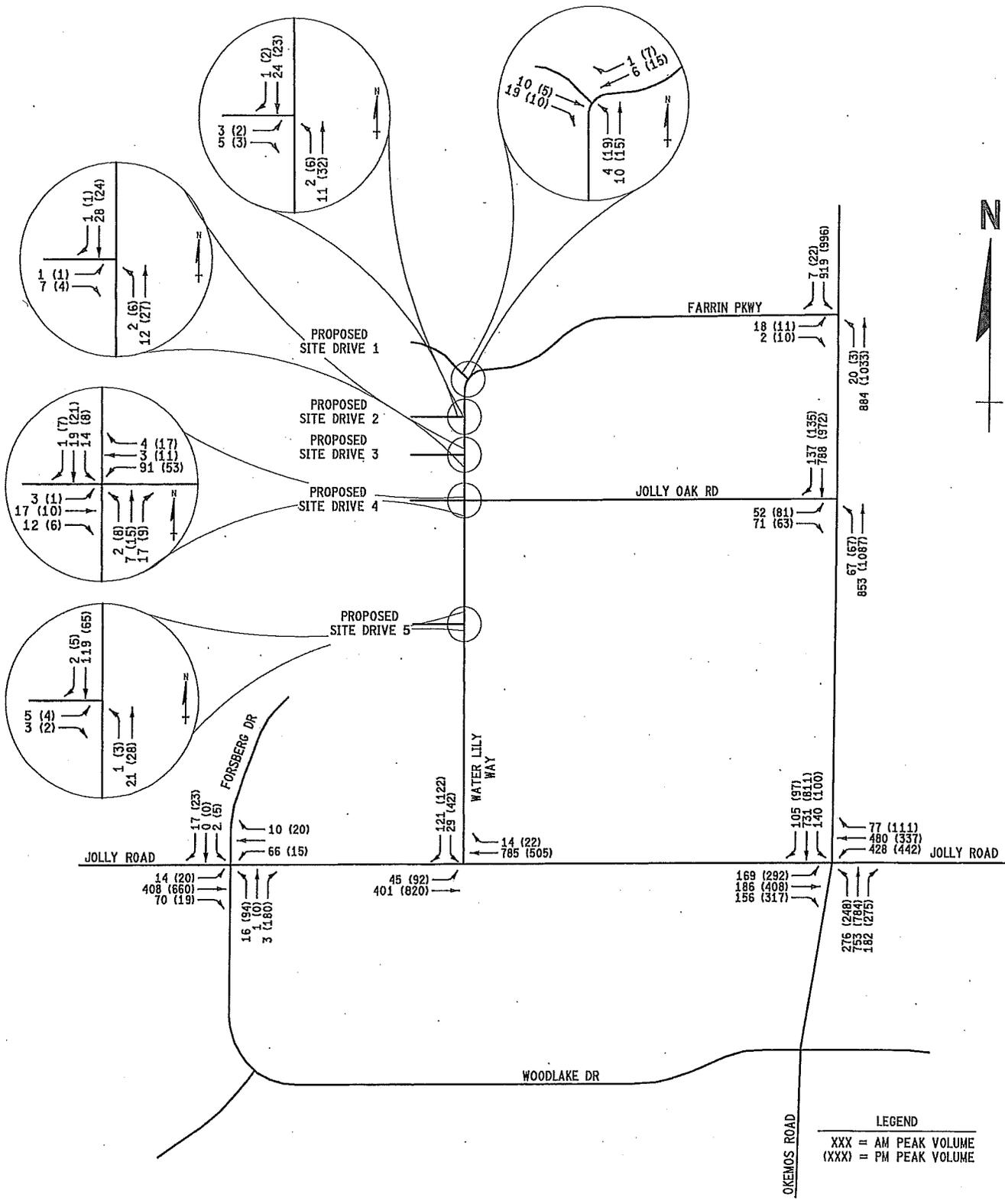
The generated trips, as shown in the table above, were distributed to the surrounding project area intersections based upon the existing traffic movements into and out of the project area. There are six driveways providing inbound and outbound access to the proposed development as shown in Appendix A. Trips were distributed to these driveways based on the intended direction of the vehicles and proximity of the driveways to the population centers of the proposed development. The trip distributions of site generated traffic volumes for the AM and PM peak hours are shown in Figure 6. The volumes in the figure detail the generated trips for a single phase (250 units) of construction. Because both proposed construction phases consist of the same number of apartment dwelling units, the distribution of generated trips in Figure 6 reflect trips generated during both Phase 1 and Phase 2.



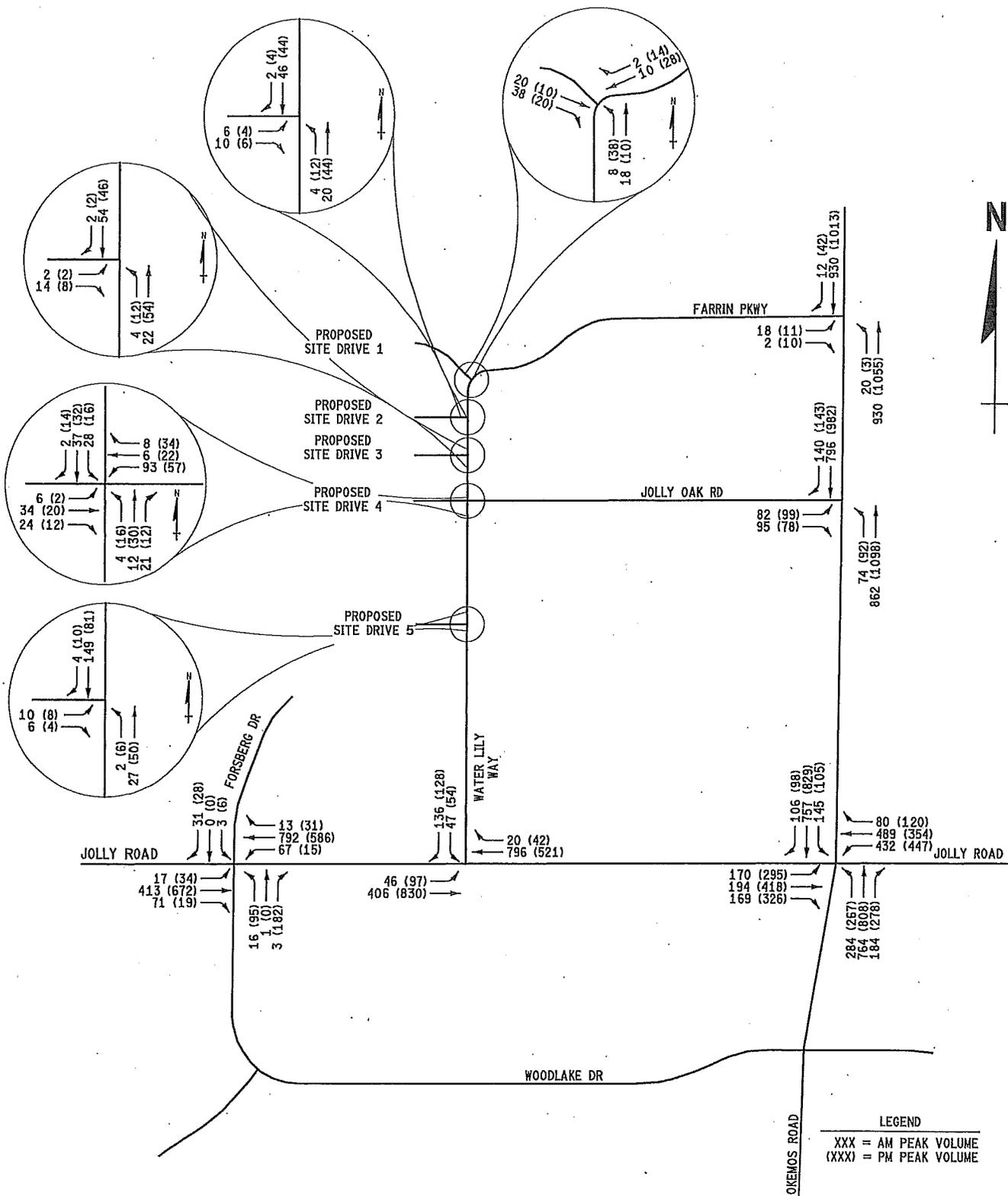
FILE:	NO SCALE	DESIGN UNIT:	TSC:	DATE: 01/30/15
		CS:	FIGURE 6	DRAWING SHEET
		JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	
			PROPOSED DEVELOPMENT TRIP DISTRIBUTION	13

### **E. Projected Traffic Volumes with Development**

The total projected Build traffic volumes for each phase were determined by adding the No-Build traffic volumes (existing & background growth) to the projected development traffic. The projected volumes for the weekday morning and evening peak hours after construction of Phase 1 (2016) and Phase 2 (2018) of the proposed development are provided in Figures 7 and 8.



FILE:	NO SCALE	DESIGN UNIT:	TSC:	DATE: 01/30/15
		CS:	FIGURE 7	DRAWING SHEET
		JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	
			2016 BUILD TRAFFIC VOLUMES	15



NO SCALE	DESIGN UNIT:	TSC:	DATE: 01/30/15
	CS:	FIGURE 8	
FILE:	JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	DRAWING SHEET
		2018 BUILD TRAFFIC VOLUMES	16

#### **IV. TRAFFIC OPERATIONS ANALYSIS**

Based on the traffic counts, traffic volume projections, traffic peaking characteristics, and intersection geometry, a level of service analysis was conducted for the following traffic conditions:

- Existing (2015)
- Future No-Build Phase 1 (2016)
- Future Build Phase 1 (2016)
- Future No-Build Phase 2 (2018)
- Future Build Phase 2 (2018)

This analysis is necessary to determine the ability of an intersection or roadway to accommodate traffic. Level of service (LOS) is a qualitative measure that describes motorist satisfaction with various factors influencing the degree of traffic congestion. These factors include travel time, speed, maneuverability, and delay.

The level of service analysis methodology for analyzing signalized and unsignalized intersections is documented in the Highway Capacity Manual (HCM) (Transportation Research Board, Washington D.C., 2010). Levels of service range from A to F. LOS A describes operations with little or no delay while LOS F describes highly congested conditions with substantial delays. LOS D or better is generally considered acceptable for peak hours of traffic under urban peak hour conditions similar to the study area intersections.

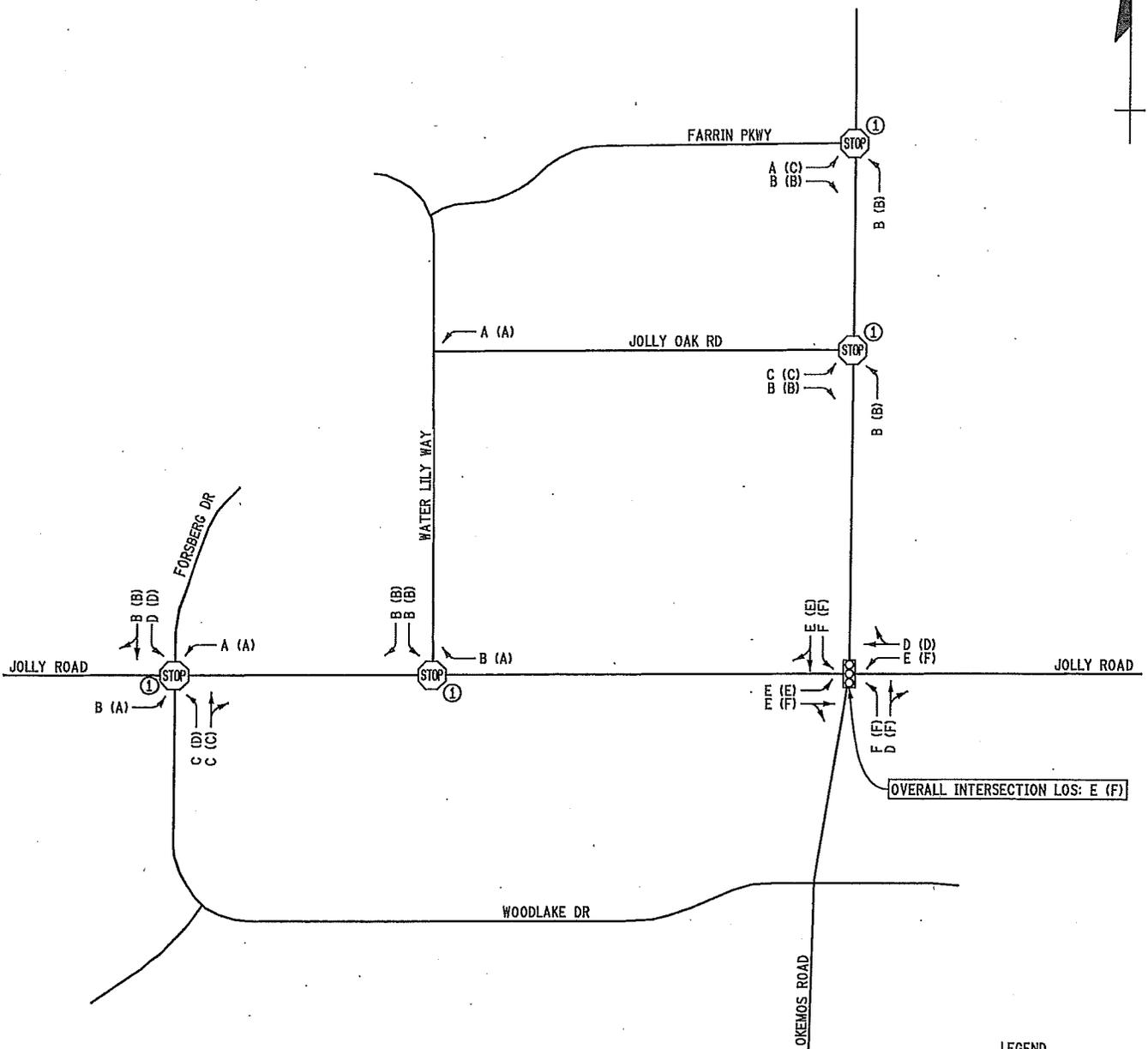
Synchro software was used to analyze the traffic operations at both the signalized and unsignalized intersections. Synchro allows for the analysis and optimization of isolated signals and coordinated traffic signal systems. The Synchro model accounts for the affects upstream intersection operations have on individual intersections when developing Levels of Service. A base model of the traffic operations network was developed for the study area which included signal timing data provided by the MDOT and Ingham County Road Department (ICRD) and existing roadway characteristics.

##### **A. Existing (2015) Conditions**

The level of service results for existing AM and PM peak hours are shown in Figure 9. Results are shown for the overall intersection and each lane group at signalized locations. Levels of service for the critical movements are shown at each unsignalized location. Corresponding values of control delay in seconds per vehicle (s/veh) are summarized in tables included in Appendix D. As shown, all of the intersection approaches within the study area are currently operating at acceptable levels of service (LOS D or better) during both the morning and evening peak hours with the exception of the Okemos/Jolly Road intersection.

Analysis of the Okemos/Jolly Road intersection shows significant capacity constraints within the intersection. In general, the left-turn movements throughout the intersection account for the majority of the intersection delays, however, the shared through/right-turn movements on each bound also experience significant delays with only the northbound and westbound shared through/right-turn movements currently calculated to operate at acceptable levels of

service (LOS D) during the morning peak and only the westbound shared through/right-turn movement calculated to operate at an acceptable LOS during the evening peak. As shown in the following figure, the overall intersection is calculated to operate at LOS E under the morning peak hour and LOS F under evening peak hour conditions. Please refer to *Section V. Okemos Road/Jolly Road intersection Operations* for further information regarding the operations at this intersection.



**LEGEND**  
 XXX = AM PEAK LOS  
 (XXX) = PM PEAK LOS  
 ① MINOR ROADWAY STOP CONTROL

FILE:	<b>NO SCALE</b>	DESIGN UNIT:	TSC:	DATE: 01/30/15
		CS:	FIGURE 9	DRAWING SHEET
		JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	
			EXISTING LEVEL OF SERVICE	19

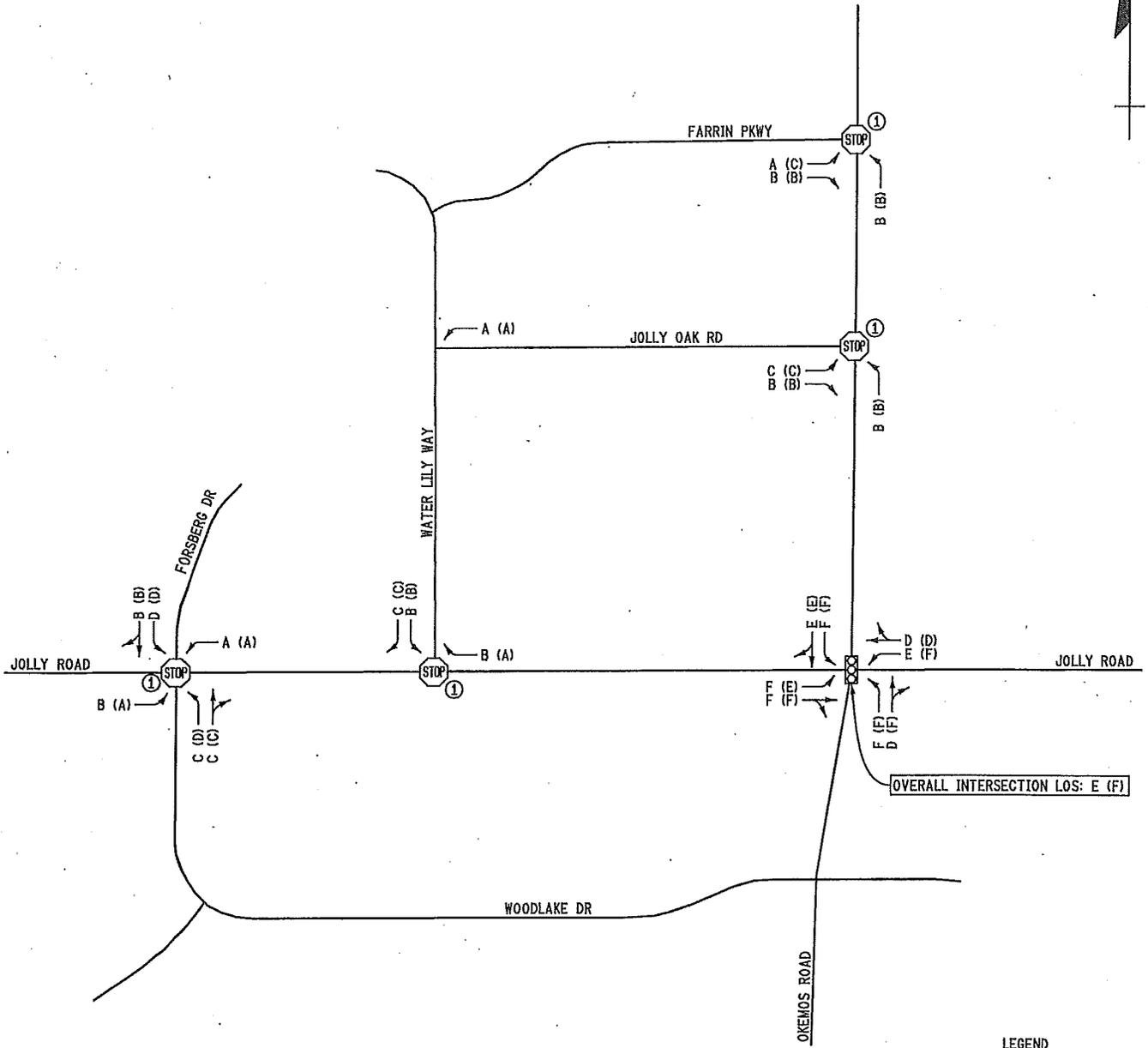
## B. Future No-Build (2016) Conditions

The level of service results for future No-Build (2016) conditions are shown in Figure 10. Results are shown for the overall intersection and each lane group at signalized locations. Levels of service for the critical movements are shown at each unsignalized location. Corresponding values of control delay in seconds per vehicle (s/veh) are summarized in tables included in Appendix D.

As shown, all of the intersection approaches within the study area are projected to continue to operate at the same LOS as existing conditions with the exception of the following movements:

- Water Lily Way/Jolly Road intersection
  - Southbound right-turn movement (AM and PM peak)
- Okemos/Jolly Road intersection
  - Eastbound left-turn (AM Peak)
  - Eastbound shared through/right-turn (AM Peak)

The southbound right-turn movement at the Water Lily Way/Jolly Road intersection is projected to continue to operate at an acceptable LOS however, operations are projected to degrade from a LOS B to a LOS C during both the morning and evening peak hours. The eastbound approach (left-turn and shared through/right-turn lanes) to the Okemos/Jolly Road intersection is projected to degrade during the morning peak hour only from LOS E to LOS F under No-Build (2016) conditions. As shown, the overall intersection LOS for the morning and evening peak hours are E and F, respectively. Please refer to *V. Okemos Road/Jolly Road intersection Operations* for further information regarding the operations at this intersection.



**LEGEND**  
 XXX = AM PEAK LOS  
 (XXX) = PM PEAK LOS  
 ① MINOR ROADWAY STOP CONTROL

FILE:	<b>NO SCALE</b>	DESIGN UNIT:	TSC:	DATE: 01/30/15
		CS:	FIGURE 10	DRAWING SHEET
		JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	
			2016 NO-BUILD LEVEL OF SERVICE	21

## Gail Oranchak

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**From:** Martha Wyatt  
**Sent:** Tuesday, March 03, 2015 8:14 AM  
**To:** Gail Oranchak  
**Subject:** FW: Traffic study for new development

Hi Gail-

I had sent the Forsberg traffic study to the ICRD to look at and here are their comments.

Martha Wyatt  
Associate Planner/Landscape Architect  
Phone: 517.853.4580  
Fax: 517.853.4095  
wyatt@meridian.mi.us  
www.meridian.mi.us

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**From:** Peterson, Robert [mailto:rpeterson@ingham.org]  
**Sent:** Monday, March 02, 2015 8:57 AM  
**To:** Martha Wyatt  
**Cc:** Mark Kieselbach; Hartman, James; Conklin, William  
**Subject:** FW: Traffic study for new development

Martha:

We have reviewed the 01-30-15 WestPac Campus Communities Housing Development Traffic Study you sent us on 02-13-15 and have the following comments.

1. Jolly Oak Road has been signed 35 MPH, pursuant to a recent Traffic Control Order issued by the Michigan State Police.
2. Turning counts at 5 of the 6 study area intersections were performed in early January 2015. The turning counts for Jolly Road at Okemos Road were collected 18 months earlier (early June 2013) – as part of the JNL traffic study. June volumes are pretty dated especially with the sensitivity of the intersection's operational issues.
3. Existing traffic data with growth applied plus "committed projects" traffic data, like the JNL project, should be incorporated into traffic studies if they have impacts on the same adjacent roadway network. It really does matter in this case as the Jolly and Okemos Road intersection is already functioning poorly during peak traffic. In two years when both JNL and WestPac projects are in place, there is no doubt that there will be a perceptible increase in traffic with longer queues, delays, and lengthening of peak traffic periods. JNL's office expansion is slated for completion in August 2015. They intend to populate the new building over a two year period once completed. At the very least, the 2018 build-out scenario should reflect the proposed JNL traffic.
4. Mr. Forsberg visited the ICRD and indicated that their focus group for marketing the apartments will be JNL and Delta Dental employees. Based on the trip generation model, distribution, and assignment please provide a table listing the total quantity of trips generated by the WestPac development and what quantity of those trips will approach each of the 4 approaches to the Jolly Road and Okemos Road intersection during the AM and PM peak.
5. The future Build (2018) Condition – Phase 2 paints a pretty bleak picture for the Jolly and Okemos intersection. Indicating that the addition of 10 trips during the design hour lowers the SB thru/right from LOS E to LOS F. Please provide a discussion on how addition of a dedicated SB right turn lane would mitigate the intersection LOS.
6. Generally, the study states that the Jolly and Okemos intersection operates poorly during peak traffic and that the addition of more traffic will cause it to function worse. Does that mean that unacceptable queues develop and delays exceed the accepted values or does it mean more? The question is how close is the intersection

operation to affecting the I-96 operations? The JNL study has already indicated that the intersection has the potential to cause backups on the interstate system, especially during the PM peak. This study suggests that "significant improvements would be required" at the Jolly and Okemos intersection "to improve operations to within acceptable ranges". It also suggests new interchanges as a region wide mitigation for the Jolly and Okemos intersection. Pretty sure those are not a serious mitigation strategy.

Sincerely,  
Robert H. Peterson, P.E.  
Ingham County Road Department  
Director of Engineering  
County Highway Engineer  
(517) 676-9722 ext 2336  
[rpeterson@ingham.org](mailto:rpeterson@ingham.org)

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**From:** Martha Wyatt [<mailto:wyatt@meridian.mi.us>]  
**Sent:** Friday, February 13, 2015 9:09 AM  
**To:** Peterson, Robert; Conklin, William  
**Cc:** Mark Kieselbach  
**Subject:** Traffic study for new development

Hi Bob and Bill-

The Forsberg Family LLC has presented a concept plan to the Township recently for a mixed use planned unit development off of Water Lily Way, Jolly Road, Farrins Parkway, and Kansas. They are proposing 400-500 apartment units and an approximate 20,000 fitness center. The first step is to rezone several parcels within the project area to commercial (C-2). A rezoning application has been submitted which includes a traffic study. The rezoning request is tentatively scheduled for a public hearing on March 9 at the Planning Commission but it's not for sure yet. The concept plan has been presented to the Planning Commission and Township Board once and is coming back to the Board on February 17 and to the Planning Commission on February 23.

We wanted you to be aware of the project and are sending you the traffic study. It does not appear to acknowledge future traffic impacts from the Jackson National expansion project. We would appreciate any comments you may have on the project or the traffic study. Thank you for your consideration of this.

Martha Wyatt  
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Fax: 517.853.4095  
[wyatt@meridian.mi.us](mailto:wyatt@meridian.mi.us)  
[www.meridian.mi.us](http://www.meridian.mi.us)

### C. Future Build (2016) Conditions – Phase 1

The level of service results for future Build (2016) conditions are shown in Figure 11. Results are shown for the overall intersection and each lane group at signalized locations. Levels of service for the critical movements are shown at each unsignalized location. Corresponding values of control delay in seconds per vehicle (s/veh) are summarized in tables included in Appendix D.

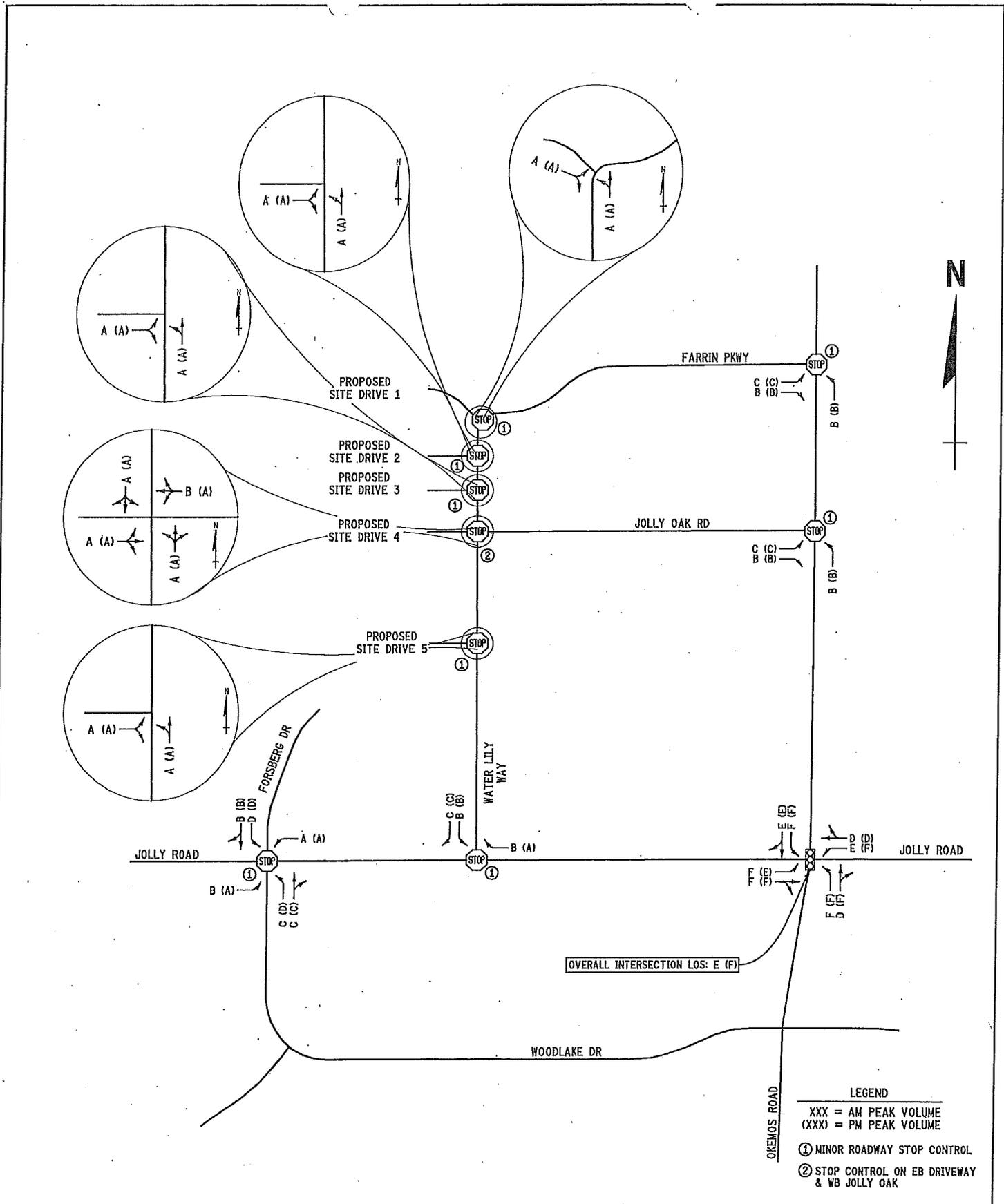
As shown in Figure 11, all of the intersection approaches within the study area are projected to operate at acceptable levels of service (LOS D or better) during the 2016 Build morning and evening peak hours with the exception of the Okemos/Jolly Road intersection. As shown, the Okemos/Jolly Road intersection remains at an overall intersection LOS E for the morning peak and a LOS F for the evening peak, similar to existing conditions. Please refer to *V. Okemos Road/Jolly Road intersection Operations* for further information regarding the operations at this intersection.

As noted in Section II.B of this document, the Jolly Oak/Water Lily Way/Farrin Pkwy intersection is currently uncontrolled. Due to the proximity of the proposed Site Driveway #4, both the proposed Site Driveway #4 and the Jolly Oak Road approach should be stop sign controlled while the northbound and southbound movements would be free flow. Each bound should consist of a single, shared left /thru/right-turn lane.

As shown in Figure 11, all of the intersection approaches within the study area are projected to continue to operate at the same LOS as No-Build (2016) conditions with the exception of the following movement:

- Okemos/Farrin Pkwy
  - Eastbound left-turn (AM peak)

The eastbound left-turn movement at the Okemos/Jolly Oak Road intersection is projected to continue to operate at an acceptable LOS however, operations are projected to degrade from a LOS A to a LOS C during the evening peak hour. No left-turn movements were recorded during the existing conditions, so the LOS decreasing is due to the 18 left-turn movements that were distributed to this intersection. As the level of service remains within acceptable levels, this turning movement is not shown to be significantly impacted by Phase 1 of the development. The levels of service for the remaining study area intersection movements remained the same between the 2016 No-Build and Build conditions.

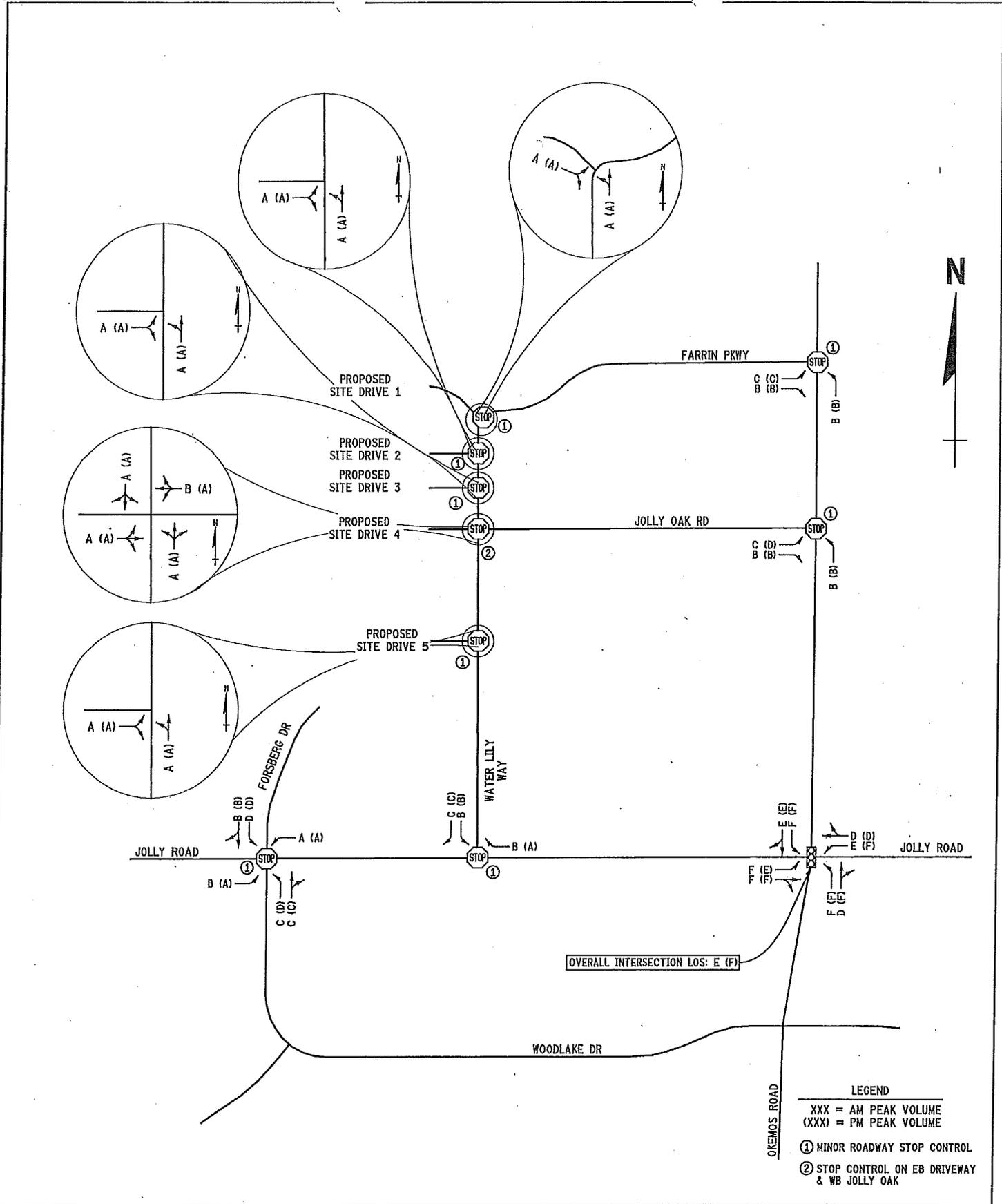


FILE:	<b>NO SCALE</b>	DESIGN UNIT:	TSC:	DATE: 01/30/15
		CS:	FIGURE 11	DRAWING SHEET
		JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	
			2016 BUILD LEVEL OF SERVICE	23

#### **D. Future No-Build (2018) Conditions**

The level of service results for future No-Build (2018) conditions are shown in Figure 12. Results are shown for the overall intersection and each lane group at signalized locations. Levels of service for the critical movements are shown at each unsignalized location. Corresponding values of control delay in seconds per vehicles (s/veh) are summarized in tables included in Appendix D.

Similar to the previous analyses, all of the intersection approaches within the study area are projected to continue to operate at acceptable levels of service (LOS D or better) during the 2018 No-Build morning and evening peak hours with the exception of the Okemos/Jolly Road intersection. As shown, the overall intersection LOS for the morning and evening peak hours are E and F, respectively. Please refer to *V. Okemos Road/Jolly Road Intersection Operations* for further information regarding the operations of this intersection.



FILE:	<b>NO SCALE</b>	DESIGN UNIT:	TSC:	DATE: 01/30/15
		CS:	FIGURE 12	DRAWING SHEET
		JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	
			2018 NO-BUILD LEVEL OF SERVICE	25

## E. Future Build (2018) Conditions – Phase 2

The level of service results for future Build (2018) conditions are shown in Figure 13. Results are shown for the overall intersection and each lane group at signalized locations. Levels of service for the critical movements are shown at each unsignalized location. Corresponding values of control delay in seconds per vehicle (s/veh) are summarized in tables included in Appendix D.

All of the intersection approaches within the study area are projected to continue to operate at acceptable levels of service (LOS D or better) during the 2018 Build morning and evening peak hours with the exception of the Okemos/Jolly Road intersection. As shown, the Okemos/Jolly Road intersection remains at an overall intersection LOS E for the morning peak and a LOS F for the evening peak. Please refer to *V. Okemos Road/Jolly Road intersection Operations* for further information regarding the operations at this intersection.

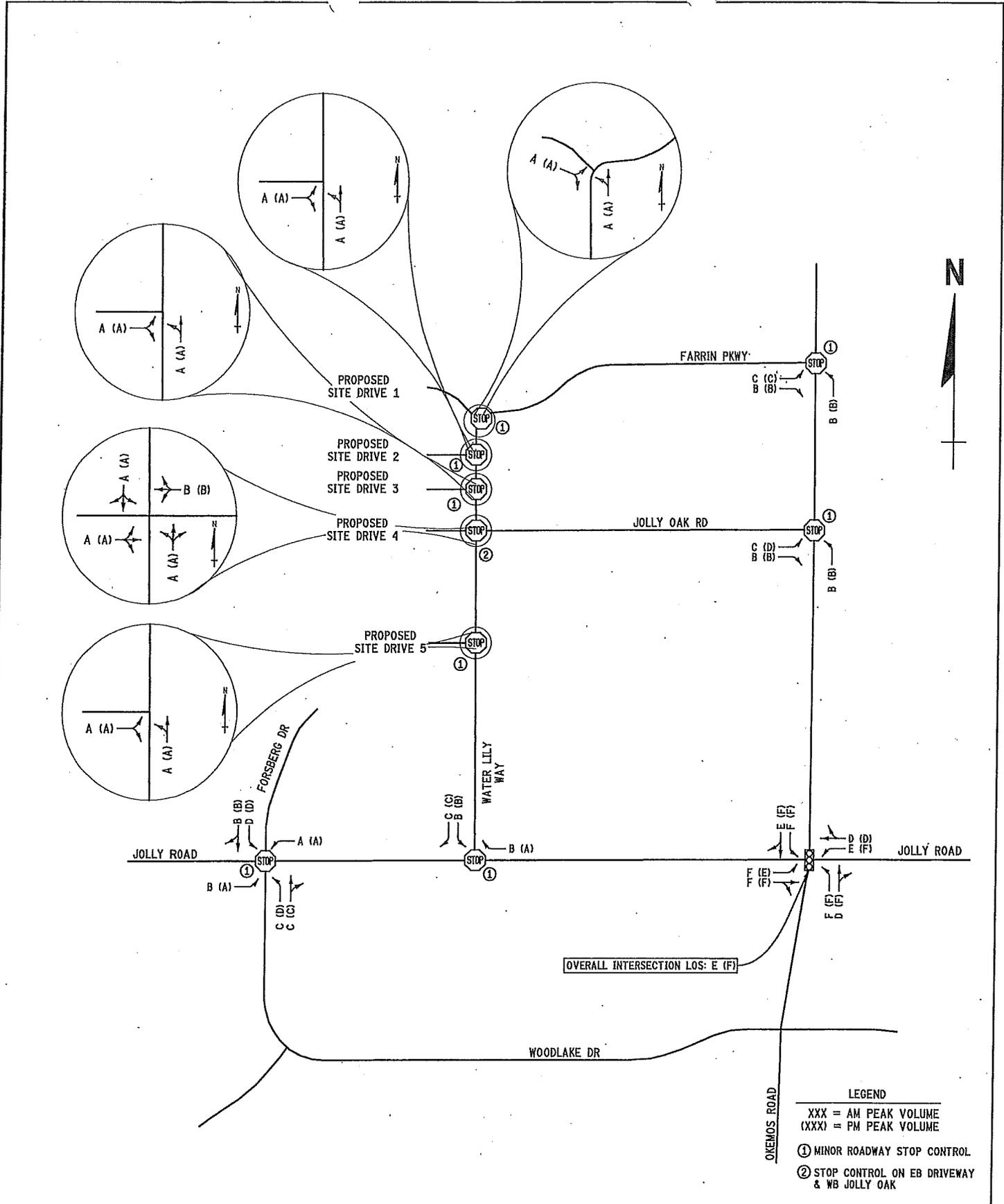
As discussed earlier, both the proposed Site Driveway #4 and the Jolly Oak Road approach to Water Lily Way should be stop sign controlled while the northbound and southbound movements should be free flow with the build conditions due to the proximity of the proposed Site Driveway #4 to the existing Jolly Oak/Water Lily Way/Farrin Pkwy intersection. Each bound was should consist of a single, shared left /thru/right-turn lane.

Review of the LOS diagrams shows that all of the intersection approaches within the study area are projected to continue to operate at the same LOS as No-Build (2018) conditions with the exception of the following:

- Jolly Road/Okemos Road
  - Southbound shared thru/right-turn (PM Peak)
- Jolly Oak/Water Lily Way/Farrin Pkwy
  - Eastbound left /thru/right-turn (PM Peak)

The southbound shared thru/right-turn movement at the Okemos/Jolly Road intersection is projected to degrade from LOS E to LOS F with the addition of the proposed development traffic. However, only 10 additional trips are projected to travel through this intersection during the PM peak and while the level of service is shown to lower to LOS F, the control delay (seconds per vehicle) only increased by 3 seconds. This intersection is currently operating with significant capacity issues. As intersections approach capacity even minor fluctuations in traffic can cause significant variances in delay. However, based upon the minor increase in control delay (only 3 seconds) and the existing poor operations of this intersection, this turning movement is not anticipated to be significantly impacted by Phase 2 of the proposed development.

An additional 48 trips during the PM peak were assigned to the eastbound left/thru/right-turn movement at the Jolly Oak/Water Lily Way/Farrin Pkwy intersection. As shown, this movement is projected to continue to operate at an acceptable LOS however, the level of service is shown to lower from a LOS A to LOS B with only a 1 second increase in control delay. Based upon the minor control delay increase, this movement is not shown to be significantly impacted by Phase 2 of the proposed development.



FILE:	<b>NO SCALE</b>	DESIGN UNIT:	TSC:	DATE: 01/30/15
		CS:	FIGURE 13	
		JN:	WESTPAC CAMPUS COMMUNITIES TRAFFIC STUDY	
			2018 BUILD LEVEL OF SERVICE	
				27

## **F. Proposed Site Driveways Right Turn Lane Warrants**

The need for right-turn lane tapers or deceleration lanes at the proposed site driveways (as detailed in Appendix A) was investigated per the Rules, Standards and Procedures for Driveways, Banners and Parades Upon or Over Ingham County Road Commission Right of Way. Based upon the guidelines set forth in this document, the right-turn movements do not meet the warrants for a right-turn lane deceleration lane or taper. Please refer to Appendix F for the warrants for right-turn deceleration lanes or tapers.

## **V. OKEMOS ROAD/JOLLY ROAD INTERSECTION OPERATIONS**

As shown in this report, the existing Okemos Road/Jolly Road intersection is currently operating at an overall intersection LOS E during the morning peak and LOS F during the evening peak, with the majority of the individual lane groups also operating at LOS F. Existing Okemos Road queues have been observed to extend to adjacent intersections on all approaches due to these poor operations. Based upon analysis at this intersection, many of the movements have volume to capacity (v/c) ratios calculated near or above 1.00. When the v/c ratio for a movement is greater than 1.00, the movement is operating above capacity, meaning that some vehicles may be required to wait multiple signal cycle lengths before clearing the intersection. When an intersection is operating at or above capacity like the Jolly Road/Okemos Road intersection is, minor variations in traffic flows may disrupt traffic operations through the intersection significantly. As these traffic flow variations occur, the traffic operations of the intersection begin to breakdown. Queues may develop during the red phase which are not serviced during the green phase. This creates longer queues for the following signal cycle. As these queues become greater and greater in length, motorists are forced to wait through multiple signal cycles before clearing the intersection.

Significant improvements would be required at this intersection to improve operations to within acceptable ranges and reduce vehicle queuing regardless of the proposed WestPac Housing Development. Regardless of the additional traffic generated by the proposed development, this intersection will continue to operate at unacceptable levels of service unless mitigations are implemented.

Region-wide improvements may be required to mitigate existing operational deficiencies at this intersection which are beyond the scope of this project. Potential improvements include construction of a new I-96 interchange at Meridian Road or Hagadorn Road. Construction of an interchange at Meridian Road could re-distribute traffic from the Okemos Road corridor to the less densely developed corridors of Meridian Road, Jolly Road (east of Okemos Road), and Grand River Avenue (east of Okemos Road). Construction of an interchange at Hagadorn Road could re-distribute Okemos Road corridor traffic to the less densely developed corridors of Hagadorn Road, Jolly Road (west of Okemos Road), Bennett Road (west of Okemos Road), Mt. Hope Road (west of Okemos Road), and Grand River Avenue (west of Okemos Road). Re-distribution of this traffic will likely not only improve operations of the Okemos Road/Jolly Road intersection but, improve operations throughout the Okemos Road and Jolly Road corridors as a whole.

## **VI. SUMMARY AND CONCLUSIONS**

Based on the projected traffic volumes and all analyses detailed in this report, the following conclusions are formulated:

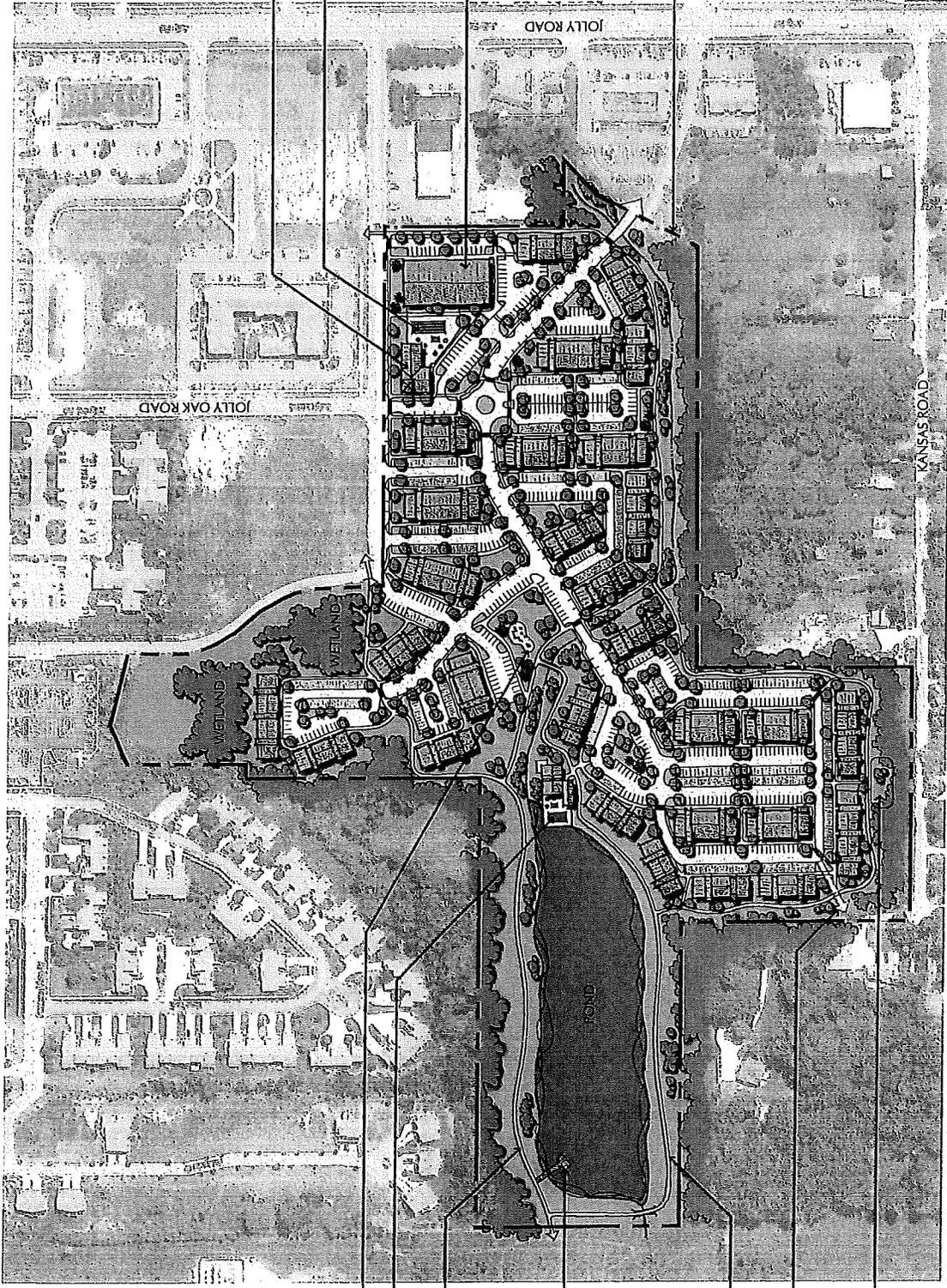
- The level of service results comparing each of the Phase 1 and 2 Build scenarios with their respective year No-Build scenarios suggest that the proposed development is not expected to create significant operational impacts to the surrounding roadway network.
- The Okemos/Jolly Road intersection currently operates at a LOS E & F for the morning and evening peak hours, respectively. Significant improvements which are beyond the scope of this project would be required at this intersection to improve operations to within acceptable ranges prior to construction of the proposed WestPac Housing Development. While minor increases in specific movement delays at this intersection result from the proposed development, these delay increases are exaggerated by the current capacity constraints at this intersection and should not significantly impact the current operations of the intersection.

## **VII. RECOMMENDATIONS**

The following recommendations are suggested as a result of this analysis:

- All of the proposed site driveways should be stop sign controlled. The proposed Site Driveways #1 thru #5 should be constructed with one inbound and at least one outbound lane.
- The proposed southern site driveway (existing Forsberg Driveway) should be stop sign controlled; with the proposed development access drive stopping for Jolly Road traffic. The existing laneage for this driveway with one inbound and two outbound lanes should be retained.
- The existing uncontrolled Jolly Oak/Water Lily Way/Farrin Pkwy intersection should be stop sign controlled; with the westbound Jolly Oak Road traffic stopping for northbound/southbound traffic.

**Appendix A**  
**Proposed Site Plan**



LEASING OFFICE  
& CLUB HOUSE  
POOL DECK

FITNESS  
CENTER

PROJECT  
BOUNDARY

PARK  
PAVILLION &  
POOL DECK  
REGIONAL  
TRAIL SYSTEM

FISHING PIER

LOCAL TRAIL  
SYSTEM  
POTENTIAL  
FIRE ACCESS

DOG PARK

**WestPac**  
COMMUNITIES

Preliminary Master Plan Illustrative

Okemos Pointe



01.14.15

Zehren and Associates, Inc.

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WestPac Campus Communities, LLC  
505 bath street . santa barbara . california 93101 . 805 965 2100

**Appendix B**  
**Traffic Count Information**



Groups Printed- Unshifted - Bank 1

Start Time	WOODLAKE From North						JOLLY From East						WOODLAKE From South						JOLLY From West															
	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total										
	04:00 PM	4	0	0	0	4	124	17	1	12	0	30	4	148	3	0	155	313	2	0	1	0	3	120	17	1	12	0	30	4	148	3	0	155
04:15 PM	2	0	1	0	3	120	12	0	12	0	24	6	141	3	0	150	297	3	0	1	0	4	147	33	0	17	0	50	2	143	0	0	145	346
04:30 PM	3	0	1	0	4	147	33	0	17	0	50	2	143	0	0	145	346	4	0	1	0	5	124	27	0	21	0	48	6	143	4	0	153	330
04:45 PM	4	0	1	0	5	124	27	0	21	0	48	6	143	4	0	153	330	13	0	3	0	16	494	89	1	62	0	152	18	575	10	0	603	1286
Total	13	0	3	0	16	515	89	1	62	0	152	18	575	10	0	603	1286	4	0	1	0	5	154	72	0	36	0	108	4	195	1	0	200	467
05:00 PM	4	0	1	0	5	154	72	0	36	0	108	4	195	1	0	200	467	7	0	1	0	8	166	47	0	20	0	67	7	171	1	0	179	420
05:15 PM	7	0	1	0	8	166	47	0	20	0	67	7	171	1	0	179	420	1	0	2	0	3	111	22	0	17	0	39	3	171	2	0	176	329
05:30 PM	1	0	2	0	3	111	22	0	17	0	39	3	171	2	0	176	329	5	0	2	0	7	101	13	0	11	0	24	3	145	1	0	149	283
05:45 PM	5	0	2	0	7	101	13	0	11	0	24	3	145	1	0	149	283	17	0	6	0	23	534	154	0	84	0	238	17	682	5	0	704	1499
Total	17	0	6	0	23	534	154	0	84	0	238	17	682	5	0	704	1499	30	0	9	0	39	1049	243	1	146	0	390	35	1257	15	0	1307	2785
Grand Total	30	0	9	0	39	1049	243	1	146	0	390	35	1257	15	0	1307	2785	1.1	0	0.3	0	1.4	95.7	62.3	0.3	37.4	0	14	2.7	96.2	1.1	0	1307	2785
Approch %	1.1	0	0.3	0	1.4	95.7	62.3	0.3	37.4	0	14	2.7	96.2	1.1	0	1307	2785	30	0	9	0	39	1030	243	1	146	0	390	35	1249	15	0	1299	2758
Unshifted	30	0	9	0	39	1030	243	1	146	0	390	35	1249	15	0	1299	2758	100	0	100	0	100	98.2	100	100	100	0	100	100	99.4	100	0	99.4	99
% Unshifted	100	0	100	0	100	98.2	100	100	100	0	100	100	99.4	100	0	99.4	99	0	0	0	0	0	19	0	0	0	0	0	0	8	0	0	8	27
Bank 1	0	0	0	0	0	19	0	0	0	0	1.8	0	1.9	0	0	1.8	27	0	0	0	0	0	1.8	0	1.8	0	0	0	0	0.6	0	0	0.6	1
% Bank 1	0	0	0	0	0	1.8	0	0	0	0	1.8	0	1.9	0	0	1.8	27																	

Start Time	WOODLAKE From North						JOLLY From East						WOODLAKE From South						JOLLY From West															
	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total										
	04:30 PM	3	0	1	0	4	147	33	0	17	0	50	2	143	0	0	145	346	4	0	1	0	5	124	27	0	21	0	48	6	143	4	0	153
04:45 PM	4	0	1	0	5	124	27	0	21	0	48	6	143	4	0	153	330	4	0	1	0	5	154	72	0	36	0	108	4	195	1	0	200	467
05:00 PM	4	0	1	0	5	154	72	0	36	0	108	4	195	1	0	200	467	7	0	1	0	8	166	47	0	20	0	67	7	171	1	0	179	420
05:15 PM	7	0	1	0	8	166	47	0	20	0	67	7	171	1	0	179	420	18	0	4	0	22	591	179	0	94	0	273	19	652	6	0	677	1563
Total Volume	18	0	4	0	22	591	179	0	94	0	273	19	652	6	0	677	1563	81.8	0	18.2	0	100	95.9	65.6	0	34.4	0	100	2.8	96.3	0.9	0	100	837
% App. Total	81.8	0	18.2	0	100	95.9	65.6	0	34.4	0	100	2.8	96.3	0.9	0	100	837	.643	.000	1.00	.000	.688	.890	.622	.000	.653	.000	.632	.679	.836	.375	.000	.846	.837
PHF	.643	.000	1.00	.000	.688	.890	.622	.000	.653	.000	.632	.679	.836	.375	.000	.846	.837																	

Groups Printed- Unshifted - Bank 1 - Bank 2

Start Time	JOLLYOAK From North						JOLLY From East						JOLLYOAK From South						JOLLY From West							
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total			
	07:00 AM	9	0	0	0	9		1	61	0	0	0		0	0	0	0	0		0	50	2	0	0		52
07:15 AM	18	0	0	0	18		2	211	0	0	0		0	0	0	0	0		0	60	1	0	0		61	292
07:30 AM	39	1	0	0	40		1	256	0	0	0		0	0	0	0	0		0	130	3	0	0		133	430
07:45 AM	11	0	1	0	12		2	172	0	0	0		0	0	0	0	0		0	110	2	0	0		112	298
Total	77	1	1	0	79		6	700	0	0	0		0	0	0	0	0		0	350	8	0	0		358	1143
08:00 AM	22	0	1	0	23		3	139	0	0	0		0	0	0	0	0		0	106	6	0	0		112	277
08:15 AM	9	0	4	0	13		1	131	0	0	0		0	0	0	0	0		0	78	7	0	0		85	230
08:30 AM	7	0	3	0	10		2	132	0	0	0		0	0	0	0	0		0	113	3	0	0		116	260
08:45 AM	7	0	3	0	10		0	140	0	0	0		0	0	0	0	0		0	83	2	0	0		85	235
Total	45	0	11	0	56		6	542	0	0	0		0	0	0	0	0		0	380	18	0	0		398	1002
Grand Total	122	1	12	0	135		12	1242	0	0	0		0	0	0	0	0		0	730	26	0	0		756	2145
Approach %	90.4	0.7	8.9	0	0		1	99	0	0	0		0	0	0	0	0		0	96.6	3.4	0	0		0	0
Total %	5.7	0	0.6	0	6.3		0.6	57.9	0	0	0		0	0	0	0	0		0	34	1.2	0	0		35.2	0
Unshifted	119	1	10	0	130		10	1218	0	0	0		0	0	0	0	0		0	701	24	0	0		725	2083
% Unshifted	97.5	100	83.3	0	96.3		83.3	98.1	0	0	0		0	0	0	0	0		0	96	92.3	0	0		95.9	97.1
Bank 1	3	0	2	0	5		2	24	0	0	0		0	0	0	0	0		0	29	2	0	0		31	62
Bank 2	2.5	0	16.7	0	3.7		16.7	1.9	0	0	0		0	0	0	0	0		0	4	7.7	0	0		4.1	2.9
% Bank 2	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0		0	0	0

Start Time	JOLLYOAK From North						JOLLY From East						JOLLYOAK From South						JOLLY From West							
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total			
	07:15 AM	18	0	0	0	18		2	211	0	0	0		0	0	0	0	0		0	60	1	0	0		61
07:30 AM	39	1	0	0	40		1	256	0	0	0		0	0	0	0	0		0	130	3	0	0		133	430
07:45 AM	11	0	1	0	12		2	172	0	0	0		0	0	0	0	0		0	110	2	0	0		112	298
08:00 AM	22	0	1	0	23		3	139	0	0	0		0	0	0	0	0		0	106	6	0	0		112	277
Total Volume	90	1	2	0	93		8	778	0	0	0		0	0	0	0	0		0	406	12	0	0		418	1297
% App. Total	96.8	1.1	2.2	0	0		1	99	0	0	0		0	0	0	0	0		0	97.1	2.9	0	0		0	0
PHF	.577	.250	.500	.000	.581		.667	.760	.000	.000	.000		.000	.000	.000	.000	.000		.000	.781	.500	.000	.000		.786	.754

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:15 AM

Groups Printed- Unshifted - Bank 1 - Bank 2

Start Time	JOLLYOAK From North						JOLLY From East						JOLLYOAK From South						JOLLY From West					
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total	
	04:00 PM	11	0	3	0	14	4	112	0	0	0	116	0	0	0	0	0	0	0	150	3	0	0	153
04:15 PM	10	0	4	0	14	2	116	0	0	0	118	0	0	0	0	0	0	0	146	2	0	0	148	280
04:30 PM	13	0	2	0	15	0	117	0	0	0	117	0	0	0	0	0	0	0	172	1	0	0	173	305
04:45 PM	6	0	0	0	6	0	127	0	0	0	127	0	0	0	0	0	0	0	190	4	0	0	194	327
Total	40	0	9	0	49	6	472	0	0	0	478	0	0	0	0	0	0	658	10	0	0	668	1195	
05:00 PM	21	0	1	0	22	0	135	0	0	0	135	0	0	0	0	0	0	0	261	0	0	0	261	418
05:15 PM	19	0	3	0	22	2	113	0	0	0	115	0	0	0	0	0	0	0	216	0	0	0	216	353
05:30 PM	12	0	1	0	13	0	83	0	0	0	83	0	0	0	0	0	0	0	180	0	0	0	180	276
05:45 PM	4	0	3	0	7	0	83	0	0	0	83	0	0	0	0	0	0	0	144	3	0	0	147	237
Total	56	0	8	0	64	2	414	0	0	0	416	0	0	0	0	0	0	801	3	0	0	804	1284	
Grand Total	96	0	17	0	113	8	886	0	0	0	894	0	0	0	0	0	0	1459	13	0	0	1472	2479	
Approch %	85	0	15	0	0	0.9	99.1	0	0	0	0	0	0	0	0	0	0	99.1	0.9	0	0	0	0	0
Total %	3.9	0	0.7	0	4.6	0.3	35.7	0	0	0	36.1	0	0	0	0	0	0	58.9	0.5	0	0	59.4	0	
Unshifted	95	0	16	0	111	7	864	0	0	0	871	0	0	0	0	0	0	1449	13	0	0	1462	2444	
% Unshifted	99	0	94.1	0	98.2	87.5	97.5	0	0	0	97.4	0	0	0	0	0	0	99.3	100	0	0	99.3	98.6	
Bank 1	1	0	1	0	2	1	22	0	0	0	23	0	0	0	0	0	0	10	0	0	0	10	35	
Bank 2	1	0	5.9	0	1.8	12.5	2.5	0	0	0	2.6	0	0	0	0	0	0	0.7	0	0	0	0.7	1.4	
% Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Start Time	JOLLYOAK From North						JOLLY From East						JOLLYOAK From South						JOLLY From West					
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total	
	04:30 PM	13	0	2	0	15	0	117	0	0	0	117	0	0	0	0	0	0	172	1	0	0	173	305
04:45 PM	6	0	0	0	6	0	127	0	0	0	127	0	0	0	0	0	0	190	4	0	0	194	327	
05:00 PM	21	0	1	0	22	2	135	0	0	0	135	0	0	0	0	0	0	261	0	0	0	261	418	
05:15 PM	19	0	3	0	22	2	113	0	0	0	115	0	0	0	0	0	0	216	0	0	0	216	353	
Total Volume	59	0	6	0	65	2	492	0	0	0	494	0	0	0	0	0	0	839	5	0	0	844	1403	
% App. Total	90.8	0	9.2	0	0	0.4	99.6	0	0	0	0	0	0	0	0	0	0	99.4	0.6	0	0	0	0	
PHF	.702	.000	.500	.000	.739	.250	.911	.000	.000	.000	.915	.000	.000	.000	.000	.000	.000	.804	.313	.000	.000	.808	.839	

Groups Printed- Unshifted - Bank 1 - Bank 2

Start Time	OKEMOS RD From North						JOLLY RD From East						OKEMOS RD From South						JOLLY RD From West							
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
	07:00 AM	10	90	10	0	110	8	52	56	0	116	20	82	35	0	137	18	18	10	0	46	409				
07:15 AM	11	138	15	0	165	9	120	82	0	211	30	120	66	0	216	26	35	21	0	82	674					
07:30 AM	34	173	30	0	237	22	150	110	0	282	38	166	67	0	271	34	44	42	0	120	910					
07:45 AM	23	192	35	0	250	23	124	100	0	247	57	223	48	0	328	32	44	53	1	130	955					
Total	78	594	90	0	762	62	446	348	0	856	145	591	216	0	952	110	141	126	1	378	2948					
08:00 AM	27	157	37	0	221	13	101	104	0	218	46	163	60	0	269	36	29	30	0	95	803					
08:15 AM	20	186	33	0	239	17	75	112	1	205	40	193	71	0	304	24	44	35	0	103	851					
08:30 AM	29	153	35	0	217	40	78	82	0	200	50	165	50	0	265	36	51	17	0	104	786					
08:45 AM	20	144	38	0	202	53	106	85	0	244	62	187	59	0	308	26	38	40	0	104	858					
Total	96	640	143	0	879	123	360	383	1	867	198	708	240	0	1146	122	162	122	0	406	3298					
Grand Total	174	1234	233	0	1641	185	806	731	1	1723	343	1299	456	0	2098	232	303	248	1	784	6246					
Approach %	10.6	75.2	14.2	0		10.7	46.8	42.4	0.1		16.3	61.9	21.7	0		29.6	38.6	31.6	0.1							
Total %	2.8	19.8	3.7	0	26.3	3	12.9	11.7	0	27.6	5.5	20.8	7.3	0	33.6	3.7	4.9	4	0	12.6						
Unshifted	160	1211	226	0	1597	177	784	723	1	1685	331	1256	439	0	2026	218	288	236	0	742	6050					
% Bank 1	14	23	7	0	44	8	22	8	0	38	12	43	17	0	72	14	15	12	1	42	196					
Bank 2	8	1.9	3	0	2.7	4.3	2.7	1.1	0	2.2	3.5	3.3	3.7	0	3.4	6	5	4.8	100	5.4	3.1					
% Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					

Start Time	OKEMOS RD From North						JOLLY RD From East						OKEMOS RD From South						JOLLY RD From West							
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
	07:30 AM	34	173	30	0	237	22	150	110	0	282	38	166	67	0	271	34	44	42	0	120	910				
07:45 AM	23	192	35	0	250	23	124	100	0	247	57	223	48	0	328	32	44	53	1	130	955					
08:00 AM	27	157	37	0	221	13	101	104	0	218	46	163	60	0	269	36	29	30	0	95	803					
08:15 AM	20	144	38	0	202	53	106	85	0	244	62	187	59	0	308	26	38	40	0	104	851					
Total	104	708	135	0	947	75	450	426	1	952	181	745	246	0	1172	126	161	160	1	448	3519					
% App. Total	11	74.8	14.3	0		7.9	47.3	44.7	0.1		15.4	63.6	21	0		28.1	35.9	35.7	0.2							
PHF	.765	.922	.912	.000	.947	.815	.750	.951	.250	.844	.794	.835	.866	.000	.893	.875	.915	.755	.250	.862	.921					

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:30 AM

Groups Printed- Unshifted - Bank 1 - Bank 2

Start Time	OKEMOS RD From North						JOLLY RD From East						OKEMOS RD From South						JOLLY RD From West							
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
	04:00 PM	23	188	22	0	233	41	66	99	1	207	66	152	39	0	257	41	67	42	0	150	41	67	42	0	150
04:15 PM	32	171	28	0	231	28	51	78	0	157	54	146	31	0	231	46	52	50	0	148	46	52	50	0	148	767
04:30 PM	20	180	18	1	219	21	57	89	0	167	61	160	40	0	261	51	83	52	0	186	51	83	52	0	186	833
04:45 PM	23	139	24	0	186	19	60	94	0	173	69	174	49	0	292	55	69	64	0	188	55	69	64	0	188	839
Total	98	678	92	1	869	109	234	360	1	704	250	632	159	0	1041	193	271	208	0	672	193	271	208	0	672	3286
05:00 PM	29	222	31	0	282	29	81	128	0	238	82	199	40	0	321	58	81	72	0	211	58	81	72	0	211	1052
05:15 PM	24	226	15	0	265	27	63	99	0	189	63	237	53	0	353	74	114	61	0	249	74	114	61	0	249	1056
05:30 PM	21	210	26	0	257	27	61	119	0	207	60	154	31	0	245	65	77	65	0	207	65	77	65	0	207	916
05:45 PM	29	182	18	0	229	10	71	78	0	159	78	171	35	0	284	44	68	54	0	166	44	68	54	0	166	838
Total	103	840	90	0	1033	93	276	424	0	793	283	761	159	0	1203	241	340	252	0	833	241	340	252	0	833	3862
Grand Total	201	1518	182	1	1902	202	510	784	1	1497	533	1393	318	0	2244	434	611	460	0	1505	434	611	460	0	1505	7148
Approach %	10.6	79.8	9.6	0.1		13.5	34.1	52.4	0.1		23.8	62.1	14.2	0		28.8	40.5	30.6	0		28.8	40.5	30.6	0		
Total %	2.8	21.2	2.5	0	26.6	2.8	7.1	11	0	20.9	7.5	19.5	4.4	0	31.4	6.1	8.5	6.4	0	21.1	6.1	8.5	6.4	0	21.1	
Unshifted	198	1486	177	1	1862	194	496	767	0	1457	526	1379	310	0	2215	429	602	455	0	1486	429	602	455	0	1486	7020
% Unshifted	98.5	97.9	97.3	100	97.9	96	97.3	97.8	0	97.3	98.7	99	97.5	0	98.7	98.8	98.5	98.9	0	98.7	98.8	98.5	98.9	0	98.7	98.2
Bank 1	3	32	5	0	40	8	14	17	1	40	7	14	8	0	29	5	9	5	0	19	5	9	5	0	19	128
% Bank 1	1.5	2.1	2.7	0	2.1	4	2.7	2.2	100	2.7	1.3	1	2.5	0	1.3	1.2	1.5	1.1	0	1.3	1.2	1.5	1.1	0	1.3	1.8
Bank 2	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
% Bank 2	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

Start Time	OKEMOS RD From North						JOLLY RD From East						OKEMOS RD From South						JOLLY RD From West							
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
	04:45 PM	23	139	24	0	186	19	60	94	0	173	69	174	49	0	292	55	69	64	0	188	55	69	64	0	188
05:00 PM	29	222	31	0	282	29	81	128	0	238	82	199	40	0	321	58	81	72	0	211	58	81	72	0	211	1052
05:15 PM	24	226	15	0	265	27	63	99	0	189	63	237	53	0	353	74	114	61	0	249	74	114	61	0	249	1056
05:30 PM	21	210	26	0	257	27	61	119	0	207	60	154	31	0	245	65	77	65	0	207	65	77	65	0	207	916
Total Volume	97	797	96	0	990	102	265	440	0	807	274	764	173	0	1211	252	341	262	0	855	252	341	262	0	855	3863
% App. Total	9.8	80.5	9.7	0		12.6	32.8	54.5	0		22.6	63.1	14.3	0		29.5	39.9	30.6	0		29.5	39.9	30.6	0		
PHF	.836	.862	.774	.000	.878	.879	.818	.859	.000	.848	.835	.806	.816	.000	.858	.851	.748	.910	.000	.858	.851	.748	.910	.000	.858	.915

Groups Printed- Unshifted - Bank 1 - Bank 2

Start Time	OKEMOS ROAD From North						JOLLY OAK ROAD From East						OKEMOS ROAD From South						JOLLY OAK ROAD From West					
	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total
	07:00 AM	14	114	0	0	128	0	0	0	0	0	0	0	0	79	7	0	86	10	7	0	3	0	10
07:15 AM	29	145	0	0	174	0	0	0	0	0	0	0	152	11	11	0	163	10	10	0	0	0	10	347
07:30 AM	40	195	0	0	235	0	0	0	0	0	0	0	217	15	15	0	232	20	15	0	5	0	20	487
07:45 AM	20	221	0	0	241	0	0	0	0	0	0	0	219	13	13	0	232	14	9	0	5	0	14	487
Total	103	675	0	0	778	0	0	0	0	0	0	0	667	46	46	0	713	54	41	0	13	0	54	1545
08:00 AM	28	170	0	0	198	0	0	0	0	0	0	0	193	19	19	0	212	25	12	0	13	0	25	435
08:15 AM	22	198	0	0	220	0	0	0	0	0	0	0	212	14	14	0	226	20	12	0	8	0	20	466
08:30 AM	13	209	2	0	224	0	0	0	0	0	0	0	204	17	17	0	221	21	12	0	9	0	21	466
08:45 AM	13	172	0	0	185	0	0	0	0	0	0	0	191	12	12	0	203	22	10	0	12	0	22	410
Total	76	749	2	0	827	0	0	0	0	0	0	0	800	62	62	0	862	88	46	0	42	0	88	1777
Grand Total	179	1424	2	0	1605	0	0	0	0	0	0	0	1467	108	108	0	1575	142	87	0	55	0	142	3322
Approach %	11.2	88.7	0.1	0	48.3	0	0	0	0	0	0	0	93.1	6.9	6.9	0	47.4	4.3	61.3	0	38.7	0	0	0
Total %	5.4	42.9	0.1	0	1582	0	0	0	0	0	0	0	44.2	3.3	3.3	0	47.4	4.3	2.6	0	1.7	0	0	0
Unshifted	176	1404	2	0	98.6	0	0	0	0	0	0	0	1434	104	104	0	1538	139	86	0	53	0	0	3259
% Unshifted	98.3	98.6	100	0	98.6	0	0	0	0	0	0	0	97.8	96.3	96.3	0	97.7	97.9	98.9	0	96.4	0	0	98.1
Bank 1	3	20	0	0	23	0	0	0	0	0	0	0	33	4	4	0	37	3	1	0	2	0	0	63
Bank 2	1.7	1.4	0	0	1.4	0	0	0	0	0	0	0	2.2	3.7	3.7	0	2.3	2.1	1.1	0	3.6	0	0	1.9
% Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	OKEMOS ROAD From North						JOLLY OAK ROAD From East						OKEMOS ROAD From South						JOLLY OAK ROAD From West					
	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total	Right	Thru	Left	Peds	App. Total	Int. Total
	07:30 AM	40	195	0	0	235	0	0	0	0	0	0	0	0	217	15	0	232	20	15	0	5	0	20
07:45 AM	20	221	0	0	241	0	0	0	0	0	0	0	219	13	13	0	232	14	9	0	5	0	14	487
08:00 AM	28	170	0	0	198	0	0	0	0	0	0	0	193	19	19	0	212	25	12	0	13	0	20	435
08:15 AM	22	198	0	0	220	0	0	0	0	0	0	0	212	14	14	0	226	20	12	0	8	0	20	466
Total Volume	110	784	0	0	894	0	0	0	0	0	0	0	841	61	61	0	902	79	48	0	31	0	79	1875
% App. Total	12.3	87.7	0	0	927	0	0	0	0	0	0	0	93.2	6.8	6.8	0	97.2	7.9	60.8	0	39.2	0	0	1875
PHF	.688	.887	.000	.000	.927	0	.000	.000	.000	.000	.000	.000	.960	.803	.000	.000	.972	.790	.800	.000	.596	.000	.000	.963

Peak Hour for Entire Intersection Begins at 07:30 AM

Groups Printed- Unshifted - Bank 1 - Bank 2

Start Time	OKEMOS ROAD										JOLLY OAK ROAD										
	From North					From East					From South					From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	27	215	0	0	242	0	0	0	0	0	0	210	4	0	214	15	0	11	0	26	482
04:15 PM	15	198	0	0	213	0	0	0	0	0	181	5	0	186	6	0	12	0	18	417	
04:30 PM	13	232	0	0	245	0	0	0	0	0	230	14	0	244	9	0	15	1	25	514	
04:45 PM	14	218	0	0	232	0	0	0	0	0	254	10	0	264	12	0	10	0	22	518	
Total	69	863	0	0	932	0	0	0	0	0	875	33	0	908	42	0	48	1	91	1931	
05:00 PM	20	267	0	0	287	0	0	0	0	0	277	8	0	285	13	0	12	0	25	597	
05:15 PM	24	250	0	0	274	0	0	0	0	0	292	11	0	303	15	0	7	0	22	599	
05:30 PM	20	216	0	0	236	0	0	0	0	0	238	9	0	247	12	0	13	1	26	509	
05:45 PM	9	175	0	0	184	0	0	0	0	0	234	6	0	240	5	1	27	0	33	457	
Total	73	908	0	0	981	0	0	0	0	0	1041	34	0	1075	45	1	59	1	106	2162	
Grand Total	142	1771	0	0	1913	0	0	0	0	0	1916	67	0	1983	87	1	107	2	197	4093	
Approch %	7.4	92.6	0	0	46.7	0	0	0	0	0	96.6	3.4	0	48.4	44.2	0.5	54.3	1	4.8		
Total %	3.5	43.3	0	0	1887	0	0	0	0	0	1899	65	0	1964	2.1	0	2.6	0	196		
% Unshifted:	98.6	98.6	0	0	98.6	0	0	0	0	0	99.1	97	0	99	98.9	100	100	100	99.5	4047	
Bank 1	2	24	0	0	26	0	0	0	0	0	17	2	0	19	1	0	0	0	1	46	
% Bank 1	1.4	1.4	0	0	1.4	0	0	0	0	0	0.9	3	0	1	1.1	0	0	0	0.5	1.1	
Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Start Time	OKEMOS ROAD										JOLLY OAK ROAD									
	From North					From East					From South					From West				
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total
04:30 PM	13	232	0	0	245	0	0	0	0	0	230	14	0	244	9	0	15	1	25	514
04:45 PM	14	218	0	0	232	0	0	0	0	0	254	10	0	264	12	0	10	0	22	518
05:00 PM	20	267	0	0	287	0	0	0	0	0	277	8	0	285	13	0	12	0	25	597
05:15 PM	24	250	0	0	274	0	0	0	0	0	292	11	0	303	15	0	7	0	22	599
Total Volume	71	967	0	0	1038	0	0	0	0	0	1063	43	0	1096	49	0	44	1	94	2228
% App. Total	6.8	93.2	0	0	94	0	0	0	0	0	96.1	3.9	0	94	52.1	0	46.8	1.1	94	2228
PHF	.740	.905	.000	.000	.904	.000	.000	.000	.000	.000	.902	.768	.000	.904	.817	.000	.733	.250	.940	.930

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

Groups Printed- Unshifted - Bank 1 - Bank 2

Start Time	OKEMOS ROAD From North						FERRIS PKWY From East						OKEMOS ROAD From South						FERRIS PKWY From West					
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total	
07:00 AM	0	141	0	0	141		0	0	0	0	0		0	93	4	0	97		0	0	0	0	0	
07:15 AM	0	165	0	0	165		0	0	0	0	0		0	155	4	0	159		0	0	0	0	0	
07:30 AM	0	239	0	0	239		0	0	0	0	0		0	212	5	0	217		0	0	0	0	0	
07:45 AM	0	259	0	0	259		0	0	0	0	0		0	241	6	0	247		1	0	0	0	0	1
Total	0	804	0	0	804		0	0	0	0	0		0	701	19	0	720		1	0	0	0	0	1
08:00 AM	1	197	0	0	198		0	0	0	0	0		0	195	3	0	198		0	0	0	0	0	0
08:15 AM	0	216	0	0	216		0	0	0	0	0		0	200	6	0	206		0	0	0	0	0	0
08:30 AM	1	240	0	0	241		0	0	0	0	0		0	215	5	0	220		1	0	0	0	0	1
08:45 AM	0	180	0	0	180		0	0	0	0	0		0	218	5	0	223		0	0	0	0	0	0
Total	2	833	0	0	835		0	0	0	0	0		0	828	19	0	847		1	0	0	0	0	1
Grand Total	2	1637	0	0	1639		0	0	0	0	0		0	1529	38	0	1567		2	0	0	0	0	2
Approach %	0.1	99.9	0	0		0	0	0	0	0		0	97.6	2.4	0		100	0	0	0	0			
Total %	0.1	51	0	0	51.1		0	0	0	0	0		0	47.7	1.2	0	48.8		0.1	0	0	0	0	0.1
Unshifted	2	1616	0	0	1618		0	0	0	0	0		0	1491	38	0	1529		2	0	0	0	0	2
% Unshifted	100	98.7	0	0	98.7		0	0	0	0	0		0	97.5	100	0	97.6		100	0	0	0	0	100
Bank 1	0	21	0	0	21		0	0	0	0	0		0	38	0	0	38		0	0	0	0	0	0
% Bank 1	0	1.3	0	0	1.3		0	0	0	0	0		0	2.5	0	0	2.4		0	0	0	0	0	0
Bank 2	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0
% Bank 2	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0

Start Time	OKEMOS ROAD From North						FERRIS PKWY From East						OKEMOS ROAD From South						FERRIS PKWY From West					
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total	
07:45 AM	0	259	0	0	259		0	0	0	0	0		0	241	6	0	247		1	0	0	0	0	1
08:00 AM	1	197	0	0	198		0	0	0	0	0		0	195	3	0	198		0	0	0	0	0	0
08:15 AM	0	216	0	0	216		0	0	0	0	0		0	200	6	0	206		0	0	0	0	0	0
08:30 AM	1	240	0	0	241		0	0	0	0	0		0	215	5	0	220		1	0	0	0	0	1
08:45 AM	0	180	0	0	180		0	0	0	0	0		0	218	5	0	223		0	0	0	0	0	0
Total	2	912	0	0	914		0	0	0	0	0		0	851	20	0	871		2	0	0	0	0	2
% App. Total	0.2	99.8	0	0		0	0	0	0	0		0	97.7	2.3	0		100	0	0	0	0			
PHF	.500	.880	.000	.000	.882		.000	.000	.000	.000	.000		.000	.883	.833	.000	.882		.500	.000	.000	.000	.500	.881

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:45 AM

Groups Printed- Unshifted - Bank 1 - Bank 2

Start Time	OKEMOS ROAD From North						FERRIS PKWY From East						OKEMOS ROAD From South						FERRIS PKWY From West						
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		
04:00 PM	0	231	0	0	231		0	0	0	0	0		0	246	0	0	246		3	0	0	0	3		
04:15 PM	0	220	0	0	220		0	0	0	0	0		0	185	0	0	185		6	0	0	0	6		
04:30 PM	0	228	0	0	228		0	0	0	0	0		0	256	1	0	257		5	0	0	0	5		
04:45 PM	1	216	0	0	217		0	0	0	0	0		0	229	0	0	229		2	0	0	0	2		
Total	1	895	0	0	896		0	0	0	0	0		0	916	1	0	917		16	0	0	0	16		
05:00 PM	1	289	0	0	290		0	0	0	0	0		0	278	1	0	279		1	0	1	0	2		
05:15 PM	0	251	0	0	251		0	0	0	0	0		0	224	1	0	225		2	0	0	0	2		
05:30 PM	0	197	0	0	197		0	0	0	0	0		0	213	0	0	213		2	0	0	0	2		
05:45 PM	0	193	0	0	193		0	0	0	0	0		0	189	0	0	189		2	0	0	0	2		
Total	1	930	0	0	931		0	0	0	0	0		0	904	2	0	906		7	0	1	0	8		
Grand Total	2	1825	0	0	1827		0	0	0	0	0		0	1820	3	0	1823		23	0	1	0	24		
Approch %	0.1	99.9	0	0		0	0	0	0		0	99.8	0.2	0		95.8	0	4.2	0		0	0	0	0	
Total %	0.1	49.7	0	0	49.7		0	0	0	0	0		0	49.5	0.1	0	49.6		0.6	0	0	0	0.7		
Unshifted	2	1807	0	0	1809		0	0	0	0	0		0	1807	3	0	1810		23	0	1	0	24		
% Unshifted	100	99	0	0	99		0	0	0	0	0		0	99.3	100	0	99.3		100	0	100	0	100		
Bank 1	0	18	0	0	18		0	0	0	0	0		0	13	0	0	13		0	0	0	0	0		
% Bank 1	0	1	0	0	1		0	0	0	0	0		0	0.7	0	0	0.7		0	0	0	0	0		
Bank 2	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		
% Bank 2	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		

Start Time	OKEMOS ROAD From North						FERRIS PKWY From East						OKEMOS ROAD From South						FERRIS PKWY From West								
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total				
04:30 PM	0	228	0	0	228		0	0	0	0	0		0	256	1	0	257		5	0	0	0	5				
04:45 PM	1	216	0	0	217		0	0	0	0	0		0	229	0	0	229		2	0	0	0	2				
05:00 PM	1	289	0	0	290		0	0	0	0	0		0	278	1	0	279		1	0	1	0	2				
05:15 PM	0	251	0	0	251		0	0	0	0	0		0	224	1	0	225		2	0	0	0	2				
Total Volume	2	984	0	0	986		0	0	0	0	0		0	987	3	0	990		10	0	1	0	11				
% App. Total	0.2	99.8	0	0		0	0	0	0	0		0	99.7	0.3	0		90.9	0	9.1	0		0	0	0	0	0	
PHF	.500	.851	.000	.000	.850		.000	.000	.000	.000	.000		.886	.750	.000	.887		.500	.000	.250	.000	.550					

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:30 PM

Groups Printed- Unshifted - Bank 1 - Bank 2

Start Time	JOLLY OAK From North						JOLLY OAK EW From East						JOLLY OAK From South						JOLLY OAK EW From West					
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total	
07:00 AM	0	0	0	0	0		0	0	4	0	4		2	0	0	0	2		0	0	0	0	0	
07:15 AM	0	1	0	0	1		0	0	26	0	26		3	0	0	0	3		0	0	0	0	0	
07:30 AM	0	0	0	0	0		0	0	33	0	33		1	1	0	0	2		0	0	0	0	0	
07:45 AM	0	0	0	0	0		0	0	15	0	15		3	0	0	0	3		0	0	0	0	0	
Total	0	1	0	0	1		0	0	78	0	78		9	1	0	0	10		0	0	0	0	0	
08:00 AM	0	0	0	0	0		0	0	16	0	16		6	1	0	0	7		0	0	0	0	0	
08:15 AM	0	0	0	0	0		0	0	13	0	13		2	1	0	0	3		0	0	0	0	0	
08:30 AM	0	1	0	0	1		0	0	7	0	7		3	2	0	0	5		0	0	0	0	0	
08:45 AM	0	0	0	0	0		0	0	10	0	10		1	1	0	0	2		0	0	0	0	0	
Total	0	1	0	0	1		0	0	46	0	46		12	5	0	0	17		0	0	0	0	0	
Grand Total	0	2	0	0	2		0	0	124	0	124		21	6	0	0	27		0	0	0	0	0	
Approch %	0	100	0	0	0		0	0	100	0	100		77.8	22.2	0	0	0		0	0	0	0	0	
Total %	0	1.3	0	0	1.3		0	0	81	0	81		13.7	3.9	0	0	17.6		0	0	0	0	0	
Unshifted	0	2	0	0	2		0	0	119	0	119		19	6	0	0	25		0	0	0	0	0	
% Unshifted	0	100	0	0	100		0	0	96	0	96		90.5	100	0	0	92.6		0	0	0	0	0	
Bank 1	0	0	0	0	0		0	0	5	0	5		2	0	0	0	2		0	0	0	0	0	
% Bank 1	0	0	0	0	0		0	0	4	0	4		9.5	0	0	0	7.4		0	0	0	0	0	
Bank 2	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	
% Bank 2	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	

Start Time	JOLLY OAK From North						JOLLY OAK EW From East						JOLLY OAK From South						JOLLY OAK EW From West					
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total	
07:15 AM	0	1	0	0	1		0	0	26	0	26		3	0	0	0	3		0	0	0	0	0	
07:30 AM	0	0	0	0	0		0	0	33	0	33		1	1	0	0	2		0	0	0	0	0	
07:45 AM	0	0	0	0	0		0	0	15	0	15		3	0	0	0	3		0	0	0	0	0	
08:00 AM	0	0	0	0	0		0	0	16	0	16		6	1	0	0	7		0	0	0	0	0	
Total Volume	0	1	0	0	1		0	0	90	0	90		13	2	0	0	15		0	0	0	0	0	
% App. Total	0	100	0	0	100		0	0	100	0	100		86.7	13.3	0	0	0		0	0	0	0	0	
PHF	.000	.250	.000	.000	.250		.000	.000	.682	.000	.682		.542	.500	.000	.000	.536		.000	.000	.000	.000	.000	

Peak Hour Analysis From 07:00 AM to 08:30 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:15 AM

Groups Printed- Unshifted - Bank 1 - Bank 2

Start Time	JOLLY OAK From North						JOLLY OAK EW From East						JOLLY OAK From South						JOLLY OAK EW From West					
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total	
04:00 PM	0	0	0	0	0		0	0	0	0	11		5	1	0	0	0		0	0	0	0	6	
04:15 PM	0	1	0	0	1		0	0	8	0	8		2	0	0	0	0		0	0	0	0	2	
04:30 PM	0	4	0	0	4		0	0	11	0	11		2	0	0	0	0		0	0	0	0	2	
04:45 PM	0	0	0	0	0		0	0	5	0	5		3	0	0	0	0		0	0	0	0	3	
Total	0	5	0	0	5		0	0	35	0	35		12	1	0	0	0		0	0	1	0	13	
05:00 PM	0	2	0	0	2		0	0	19	0	19		0	0	0	0	0		0	0	0	0	0	
05:15 PM	0	4	0	0	4		0	0	15	0	15		1	0	0	0	0		0	0	0	0	1	
05:30 PM	0	1	0	0	1		0	0	13	0	13		0	0	0	0	0		0	0	0	0	0	
05:45 PM	0	0	0	0	0		0	0	3	0	3		3	0	0	0	0		0	0	0	0	0	
Total	0	7	0	0	7		0	0	50	0	50		4	0	0	0	0		0	0	0	0	4	
Grand Total	0	12	0	0	12		0	0	85	0	85		16	1	0	0	0		0	0	0	0	0	
Approch %	0	100	0	0	10.4		0	0	100	0	73.9		94.1	5.9	0	0	0		0	0	100	0	0	
Total %	0	10.4	0	0	10.4		0	0	73.9	0	73.9		13.9	0.9	0	0	14.8		0	0	0.9	0	0	0.9
Unshifted	0	12	0	0	12		0	0	82	0	82		16	1	0	0	17		0	0	1	0	0	1
% Unshifted	0	100	0	0	100		0	0	96.5	0	96.5		100	100	0	0	100		0	0	100	0	0	100
Bank 1	0	0	0	0	0		0	0	3	0	3		0	0	0	0	0		0	0	0	0	0	0
% Bank 1	0	0	0	0	0		0	0	3.5	0	3.5		0	0	0	0	0		0	0	0	0	0	0
Bank 2	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0
% Bank 2	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0

Start Time	JOLLY OAK From North						JOLLY OAK EW From East						JOLLY OAK From South						JOLLY OAK EW From West					
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total	
04:30 PM	0	4	0	0	4		0	0	11	0	11		2	0	0	0	2		0	0	0	0	0	
04:45 PM	0	0	0	0	0		0	0	5	0	5		3	0	0	0	3		0	0	0	0	0	
05:00 PM	0	2	0	0	2		0	0	19	0	19		0	0	0	0	0		0	0	0	0	0	
05:15 PM	0	4	0	0	4		0	0	15	0	15		0	0	0	0	0		0	0	0	0	0	
Total Volume	0	10	0	0	10		0	0	50	0	50		6	0	0	0	6		0	0	0	0	0	
% App. Total	0	.625	0	0	.625		0	0	.658	0	.658		.500	.000	.000	.000	.500		.000	.000	.000	.000	.000	.786
PHF	.000	.625	.000	.000	.625		.000	.300	.658	.000	.658		.500	.000	.000	.000	.500		.000	.000	.000	.000	.000	.786

**Appendix C**  
**Level of Service Definitions**

### Definitions of Level of Service for Unsignalized Intersections

Level of Service	Expected Delay to Minor Street Traffic	Control Delay Per Vehicle (sec)
A	Little or no delay	$\leq 10$
B	Short traffic delays	$> 10$ and $\leq 15$
C	Average traffic delays	$> 15$ and $\leq 25$
D	Long traffic delays	$> 25$ and $\leq 35$
E	Very long traffic delays	$> 35$ and $\leq 50$
F	*	$> 50$

\* When extreme delays will be encountered with queuing, which may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improvement to the intersection.

The Highway Capacity Manual describes level of service for unsignalized intersections and the quality of traffic operation in terms of control delay. Control delay is the total elapsed time from a vehicle joining the queue until its departure from the stopped position at the head of the queue. Control delay includes initial deceleration delay, queue move-up time, stopped and final acceleration delay.

Levels of service range from A to F, with A describing traffic operations with little or no delay. Level of service F describes operating conditions where average total delay exceeds 45 seconds per vehicle (control delay exceeds 50 seconds per vehicle).

Level of service analysis for unsignalized intersections considers all the turning movements of the minor street and the left-turns from the major street entering the minor street. The number of gaps in traffic is then compared to the number of vehicles waiting for a break in traffic. In all cases, the level of service of unsignalized intersections describes the delay for drivers waiting to exit the minor street or waiting to turn into the minor street. Therefore, the majority of traffic traveling through an intersection will usually operate under a better level of service, as the minor street will have little or no effect on through traffic.

## Definitions of Level of Service for Signalized Intersections

Level of service describes the quality of operation in terms of delay to the driving public. Levels range from A to F. Definitions for levels of service follow. The level of service analysis provides a basis for assessing the potential impact of traffic both in terms of how traffic conditions would change and also whether the existing transportation system would be inadequate for the additional traffic both in terms of how traffic conditions would change and also whether the additional transportation system would be inadequate for additional traffic.

Level of service for signalized intersections is defined in terms of delay. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The Highway Capacity Manual describes level of service for signalized intersections and the quality of traffic operation in terms of control delay per vehicle for a 15-minute analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Control delay may also be referred to as signal delay. The criteria for level of service are given in the following table.

Level of Service	Control Delay Per Vehicle (sec)
A	$\leq 10$
B	$> 10$ and $\leq 20$
C	$> 20$ and $\leq 35$
D	$> 35$ and $\leq 55$
E	$> 55$ and $\leq 80$
F	$> 80$

Delay is a complex measure and is dependent on a number of variables including: the quality of traffic progression, the cycle length, and the relative amount of green time for the lane group or approach in question.

LOS A describes operations with very low control delay, up to 10 sec per vehicle. The level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with control delay greater than 10 and up to 20 sec per vehicle. This level of service generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.

LOS C describes operations with control delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Then number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with control delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with control delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

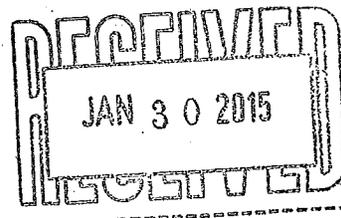
LOS F describes operations with control delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to such delay levels.

**Appendix D**  
**Synchro Level of Service Intersection Reports**

Intersection LOS

Intersection	Approach	Existing (2015) Conditions			2016 Future No-Build			2016 Future Build			2018 Future No-Build			2018 Future Build		
		LOS/Delay (sec/veh)			LOS/Delay (sec/veh)			LOS/Delay (sec/veh)			LOS/Delay (sec/veh)			LOS/Delay (sec/veh)		
		Weekday AM Peak	Weekday PM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak
Woodlake Dr/Forsberg & Jolly Rd (Unsignalized)	Eastbound Left-Turn	B/11	A/9	A/9	B/11	A/9	A/9	B/11	A/9	A/9	B/11	A/9	A/9	B/11	A/9	
	Westbound Left-Turn	A/9	A/9	A/9	A/9	A/9	A/9	A/9	A/9	A/9	A/9	A/9	A/9	A/9	A/9	
	Northbound Left-Turn	C/19	D/26	D/26	C/19	D/27	D/30	C/21	D/30	C/21	D/31	C/21	D/31	C/23	D/35	
	Northbound TR	C/21	C/16	C/16	C/21	C/16	C/16	C/22	C/16	C/22	C/16	C/23	C/16	C/24	C/17	
	Southbound Left-Turn	D/29	D/26	D/26	D/29	D/26	D/28	D/29	D/28	D/30	D/31	D/31	D/28	D/32	D/30	
	Southbound TR	B/13	B/11	B/11	B/13	B/11	B/11	B/13	B/11	B/13	B/11	B/13	B/11	B/14	B/11	
	Eastbound Left-Turn	B/10	A/8	A/8	B/10	A/9	A/9	B/10	A/9	B/10	A/9	B/10	A/9	B/10	A/9	
	Southbound Left-Turn	B/15	B/14	B/14	C/16	C/18	C/20	C/17	C/20	C/17	C/20	C/17	C/20	C/18	C/22	
	Southbound Right-Turn	B/11	B/10	B/10	B/11	B/11	B/12	B/11	B/12	B/11	B/12	B/11	B/12	B/11	B/12	
	Eastbound Left-Turn	E/78	E/70	E/70	F/83	E/72	E/72	F/83	E/72	F/83	E/72	F/83	E/73	F/83	E/73	
Okemos & Jolly Rd (Signalized)	Eastbound TR	E/79	F/115	F/115	F/108	F/209	F/220	F/127	F/220	F/127	F/127	F/127	F/225	F/150	F/237	
	Westbound Left-Turn	E/61	F/88	F/88	E/61	F/89	F/89	E/61	F/89	E/61	F/89	E/62	F/92	E/62	F/92	
	Westbound TR	D/45	D/44	D/44	D/47	D/48	D/49	D/47	D/49	D/47	D/49	D/47	D/49	D/47	D/50	
	Northbound Left-Turn	F/114	F/233	F/233	F/148	F/415	F/468	F/155	F/468	F/155	F/468	F/159	F/477	F/168	F/530	
	Northbound TR	D/46	F/100	F/100	D/47	F/102	F/109	D/47	F/109	D/48	F/113	D/48	F/113	D/48	F/120	
	Southbound Left-Turn	F/139	F/117	F/117	F/141	F/117	F/129	F/149	F/129	F/149	F/153	F/164	F/153	F/164	F/141	
	Southbound Through	E/56	E/72	E/72	E/56	E/73	E/76	E/58	E/76	E/58	E/78	E/60	E/78	E/62	F/81	
	Overall	E/62	F/94	F/94	E/69	F/123	F/132	E/72	F/132	E/72	F/132	E/73	F/135	E/78	F/144	
	Eastbound Left-Turn	C/17	C/21	C/21	C/17	C/24	C/25	C/18	C/25	C/18	C/25	C/18	D/25	C/20	D/28	
	Eastbound Right-Turn	B/12	B/13	B/13	B/12	B/13	B/14	B/12	B/14	B/12	B/14	B/12	B/14	B/13	B/14	
Okemos & Farrin Pkwy (Unsignalized)	Northbound Left-Turn	B/11	B/11	B/11	B/11	B/11	B/12	B/11	B/12	B/11	B/12	B/11	B/12	B/11	B/13	
	Eastbound Left-Turn	A/0	C/20	C/20	A/0	C/20	C/22	C/19	C/22	C/19	C/22	C/20	C/22	C/21	C/23	
	Eastbound Right-Turn	B/12	B/13	B/13	B/12	B/13	B/13	B/12	B/13	B/12	B/13	B/12	B/13	B/12	B/14	
	Northbound Left-Turn	B/11	B/11	B/11	B/11	B/11	B/11	B/11	B/11	B/11	B/11	B/11	B/11	B/11	B/11	
	Eastbound LR	N/A	N/A	N/A	N/A	N/A	A/9	A/9	A/9	A/9	A/9	A/9	A/9	A/9	A/9	
	Northbound LT	N/A	N/A	N/A	N/A	N/A	A/4	A/2	A/4	A/2	A/4	A/2	A/6	A/2	A/6	
	Eastbound LR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/9	A/9	A/9	
	Northbound LT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/2	A/1	A/2	
	Eastbound LR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/9	A/9	A/9	
	Northbound LT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/1	A/1	A/10	
Jolly Oak & Farrin (Drive 4 - Unsignalized)	Eastbound LTR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/10	
	Westbound LR	A/9	A/9	A/9	A/9	A/9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/10	
	Westbound LTR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Northbound LTR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	B/12	
	Southbound LTR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/6	
	Eastbound LTR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/2	
Water Lily & Drive 5 (Unsignalized)	Eastbound LR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/9	
	Northbound LT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/10	
	Shared Through/Left-turn	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/1	
	Shared Through/Right-turn	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A/1	

LT = Shared Through/Left-turn  
 TR = Shared Through/Right-turn  
 LR = Shared Left-turn/Right-turn  
 LTR = Shared Left-turn/Through/Right-turn



MERIDIAN CHARTER TOWNSHIP 2014 WINTER TAX

Bill # 12821

Postmarks not accepted. This tax is due in our office by 5:00 p.m. Feb. 17, 2015. Our office at 5151 Marsh Rd. is open 8am to 5pm M-F and our curbside payment dropbox is available 24 hours, 7 days. 1% interest added to winter payments received after Feb 17th. March 2nd additional charges apply. Postmarks not accepted. Allow 7 days for mailed payments.

This tax is due by: 02/17/2015 by 5:00 p.m.

Tax Detail \*
Taxable Value: \$ 545,842
State Equalized Value: \$ 3,279,400
Primary Residence %: 0.0000
P.R.E. Exemption Has Reduced This Bill By: 0.00

Property Information
Property Assessed To: OKEMOS School: 33170
FORSBERG COMMERCIAL BUILDING LLC
Prop #: 33-02-02-33-353-015
Prop Addr: 2398 JOLLY OKEMOS, MI 48864

Table with 3 columns: DESCRIPTION, MILLAGE, AMOUNT (\$). Lists various services like Okemos Non-Home, Meridian Fire, etc.

Legal Description:
M33-10 M33-10-2-1 COM. ON SEC. LINE AT PT 181.5 FT W OF S 1/8 POST OF SW 1/4 OF SEC. 33, -W 280.5 FT ALONG SAID SEC. LINE, N1414.25 FT PLL WITH N & S 1/8 LINE OF SD SW 1/4 OF SEC. 33, -E 33 FT, -N 1225.69 FT TO N LINE O
\*BALANCE OF DESCRIPTION ON FILE\*

Operating Fiscal Years
The taxes on bill will be used for governmental operations for the following fiscal years. This does NOT affect when the tax is due or its amount.
County: 01-01-15 - 12-31-15
Twp: 01-01-15 - 12-31-15
School: 07-01-14 - 06-30-15
State: 10-01-14 - 09-30-15

Total Tax 33.52210 19,355.02
Administration Fee 182.97
TOTAL WINTER AMOUNT DUE 19,537.99

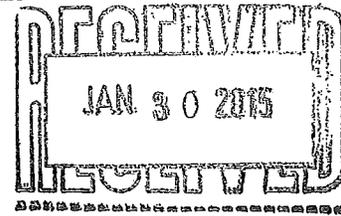
RETURN THIS PORTION WITH YOUR PAYMENT IN THE ENVELOPE SUPPLIED

\*Taxes are based upon Taxable Value. 1 mill equals \$1.00 per \$1000 of Taxable Value. Amounts with no millage are either Special Assessments or other charges.

Make check payable to:
MERIDIAN CHARTER TOWNSHIP
5151 MARSH RD
OKEMOS, MI 48864
517-853-4140
WWW.MERIDIAN.MI.US

Property name and address: FORSBERG COMMERCIAL BUILDING LLC
2398 JOLLY
OKEMOS, MI 48864
DUE DATE 02-17-15

TOTAL AMOUNT DUE: 19,537.99
2014 WINTER TAX BILL PROPERTY #: 33-02-02-33-353-015



MERIDIAN CHARTER TOWNSHIP 2014 WINTER TAX

Bill # 12653

Postmarks not accepted. This tax is due in our office by 5:00 p.m. Feb. 17, 2015. Our office at 5151 Marsh Rd. is open 8am to 5pm M-F and our curbside payment dropbox is available 24 hours, 7 days. 1% interest added to winter payments received after Feb 17th. March 2nd additional charges apply. Postmarks not accepted. Allow 7 days for mailed payments.

As of March 1st, all or part of your prior year taxes were returned delinquent to the County. For more information please call the County Treasurer (517) 676-7220.

SUMMER TAXES OWING

Property Information OKEMOS School: 33170
Property Assessed To: FORSBERG FAMILY LLC
Prop #: 33-02-02-33-302-003
Prop Addr: 2411 KANSAS OKEMOS, MI 48864

Legal Description: M 33-15 COM AT PT 24 RDS E & 108 4/7 RDS N OF SW COR OF SEC.-E 30 RDS-N 12 3/7 RDS-W 14 RDS-S 25 1/2 FT, SW'LY TO PT 176.61 FT DUE N OF BEG.- S TO BEG ON SW 1/4 OF SEC. 33, T4NR1W

Operating Fiscal Years
The taxes on bill will be used for governmental operations for the following fiscal years. This does NOT affect when the tax is due or its amount.
County: 01-01-15 - 12-31-15
Twp: 01-01-15 - 12-31-15
School: 07-01-14 - 06-30-15
State: 10-01-14 - 09-30-15

This tax is due by: 02/17/2015 by 5:00 p.m.

Tax Detail \*
Taxable Value: \$ 17,583
State Equalized Value: \$ 21,800
Primary Residence %: 0.0000
P.R.E. Exemption Has Reduced This Bill By: 0.00

Table with 3 columns: DESCRIPTION, MILLAGE, AMOUNT (\$). Rows include Okemos Non-Home, Okemos Debt, Okemos Bldg/Site, Meridian Oper, Rec/Srs/Hum Serv, Meridian Bikepth, Meridian Fire, Meridian Parks, Meridian Police, Cata/Meridian, Land Preserve, Road Millage, Firestation Debt, Cata/Regular, CADL-Library, Ingham County, Lansing Com Coll, Smith.

Total Tax 33,522.10 653.08
Administration Fee 5.89
TOTAL WINTER AMOUNT DUE 658.97

RETURN THIS PORTION WITH YOUR PAYMENT IN THE ENVELOPE SUPPLIED

\*Taxes are based upon Taxable Value. 1 mill equals \$1.00 per \$1000 of Taxable Value. Amounts with no millage are either Special Assessments or other charges.

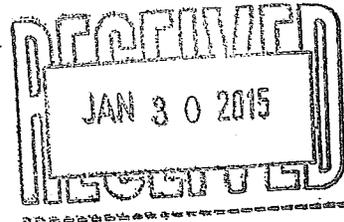
Make check payable to:
MERIDIAN CHARTER TOWNSHIP
5151 MARSH RD
OKEMOS, MI 48864
517-853-4140
WWW.MERIDIAN.MI.US

Property name and address: FORSBERG FAMILY LLC
2411 KANSAS
OKEMOS, MI 48864

DUE DATE 02-17-15

TOTAL AMOUNT DUE: 658.97

2014 WINTER TAX BILL PROPERTY #: 33-02-02-33-302-003



**MERIDIAN CHARTER TOWNSHIP 2014 WINTER TAX**

Bill # 12654

*Postmarks not accepted.*  
 This tax is due in our office by 5:00 p.m. Feb. 17, 2015. Our office at 5151 Marsh Rd. is open 8am to 5pm M-F and our curbside payment dropbox is available 24 hours, 7 days. 1% interest added to winter payments received after Feb 17th. March 2nd additional charges apply. Postmarks not accepted. Allow 7 days for mailed payments.  
 As of March 1st, all or part of your prior year taxes were returned delinquent to the County. For more information please call the County Treasurer (517) 676-7220.

**This tax is due by: 02/17/2015 by 5:00 p.m.**

Tax Detail \*  
 Taxable Value: \$ 12,090  
 State Equalized Value: \$ 12,400  
 Primary Residence %: 0.0000  
 P.R.E. Exemption Has Reduced This Bill By: 0.00

**SUMMER TAXES OWING**

Property Information  
 OKEMOS School: 33170  
 Property Assessed To:  
 FORSBERG FAMILY LLC  
 Prop #: 33-02-02-33-302-004  
 Prop Addr: 3668 KANSAS  
 OKEMOS, MI 48864

DESCRIPTION	MILLAGE	AMOUNT (\$)
Okemos Non-Home	9.00000	108.81
Okemos Debt	3.50000	42.31
Okemos Bldg/Site	0.49600	5.99
Meridian Oper	4.20020	50.78
Rec/Srs/Hum Serv	0.15000	1.81
Meridian Bikepth	0.27740	3.35
Meridian Fire	0.64050	7.74
Meridian Parks	0.98370	11.89
Meridian Police	0.60800	7.35
Cata/Meridian	0.20000	2.41
Land Preserve	0.33000	3.98
Road Millage	0.25000	3.02
Firestation Debt	0.20000	2.41
Cata/Regular	3.00700	36.35
CADL-Library	1.56000	18.86
Ingham County	4.31210	52.13
Lansing Com Coll	3.80720	46.02
Smith		52.85

Legal Description:  
 M 33-16 COM. 24 RDS. E & 102 6/7 RDS. N OF SW COR. OF SEC-E 28 RDS-N. 5 5/7 RDS-W 28 RDS-S 5 5/7 RDS TO BEG. ON SW 1/4 OF SEC. 33, T4N R1W-1 A.

Operating Fiscal Years  
 The taxes on bill will be used for governmental operations for the following fiscal years. This does NOT affect when the tax is due or its amount.  
 County: 01-01-15 - 12-31-15  
 Twp: 01-01-15 - 12-31-15  
 School: 07-01-14 - 06-30-15  
 State: 10-01-14 - 09-30-15

Total Tax 33.52210 458.06  
 Administration Fee 4.05  
**TOTAL WINTER AMOUNT DUE 462.11**

**RETURN THIS PORTION WITH YOUR PAYMENT IN THE ENVELOPE SUPPLIED**

\*Taxes are based upon Taxable Value. 1 mill equals \$1.00 per \$1000 of Taxable Value. Amounts with no millage are either Special Assessments or other charges.

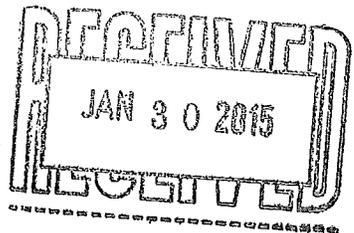
Make check payable to:  
**MERIDIAN CHARTER TOWNSHIP**  
 5151 MARSH RD  
 OKEMOS, MI 48864  
 517-853-4140  
 WWW.MERIDIAN.MI.US

Property name and address: FORSBERG FAMILY LLC  
 3668 KANSAS  
 OKEMOS, MI 48864

**DUE DATE 02-17-15**

**TOTAL AMOUNT DUE: 462.11**

2014 WINTER TAX BILL PROPERTY #: **33-02-02-33-302-004**



MERIDIAN CHARTER TOWNSHIP 2014 WINTER TAX

Bill # 12655

Postmarks not accepted. This tax is due in our office by 5:00 p.m. Feb. 17, 2015. Our office at 5151 Marsh Rd. is open 8am to 5pm M-F and our curbside payment dropbox is available 24 hours, 7 days. 1% interest added to winter payments received after Feb 17th. March 2nd additional charges apply. Postmarks not accepted. Allow 7 days for mailed payments.

As of March 1st, all or part of your prior year taxes were returned delinquent to the County. For more information please call the County Treasurer (517) 676-7220.

SUMMER TAXES OWING

Property Information
OKEMOS School: 33170
Property Assessed To:
FORSBERG FAMILY LLC
Prop #: 33-02-02-33-302-005
Prop Addr: KANSAS
OKEMOS, MI 48864

Legal Description:
M 33-17 M 33-18-2 COM. 24 RDS. E & 85 5/7 RDS N OF SW COR. OF SEC-E 28 RDS-N. 17 1/7 RDS-W 28 RDS-S 17 1/7 RDS. TO BEG. ALSO BEG. 858 FT. E & 1414.31 FT. N FROM SW COR. OF SEC. 33-N 377.08 FT -E 33 FT.-S 377.08 FT.- W

Operating Fiscal Years
The taxes on bill will be used for governmental operations for the following fiscal years. This does NOT affect when the tax is due or its amount.
County: 01-01-15 - 12-31-15
Twp: 01-01-15 - 12-31-15
School: 07-01-14 - 06-30-15
State: 10-01-14 - 09-30-15

This tax is due by: 02/17/2015 by 5:00 p.m.

Tax Detail \*
Taxable Value: \$ 24,146
State Equalized Value: \$ 27,300
Primary Residence %: 0.0000
P.R.E. Exemption Has Reduced This Bill By: 0.00

Table with 3 columns: DESCRIPTION, MILLAGE, AMOUNT (\$). Lists various services like Okemos Non-Home, Okemos Debt, Meridian Oper, etc.

Total Tax 33.52210 892.11
Administration Fee 8.09
TOTAL WINTER AMOUNT DUE 900.20

RETURN THIS PORTION WITH YOUR PAYMENT IN THE ENVELOPE SUPPLIED

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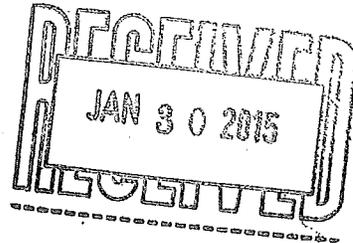
Make check payable to:
MERIDIAN CHARTER TOWNSHIP
5151 MARSH RD
OKEMOS, MI 48864
517-853-4140
WWW.MERIDIAN.MI.US

Property name and address: FORSBERG FAMILY LLC
KANSAS
OKEMOS, MI 48864

DUE DATE 02-17-15

TOTAL AMOUNT DUE: 900.20

2014 WINTER TAX BILL PROPERTY #: 33-02-02-33-302-005



MERIDIAN CHARTER TOWNSHIP 2014 WINTER TAX

Bill # 12797

Postmarks not accepted.

This tax is due in our office by 5:00 p.m. Feb. 17, 2015. Our office at 5151 Marsh Rd. is open 8am to 5pm M-F and our curbside payment dropbox is available 24 hours, 7 days. 1% interest added to winter payments received after Feb 17th. March 2nd additional charges apply. Postmarks not accepted. Allow 7 days for mailed payments.

As of March 1st, all or part of your prior year taxes were returned delinquent to the County. For more information please call the County Treasurer (517) 676-7220.

SUMMER TAXES OWING

Property Information

OKEMOS School: 33170

Property Assessed To: FORSBERG FAMILY LLC

Prop #: 33-02-02-33-329-002

Prop Addr: 2350 JOLLY OAK OKEMOS, MI 48864

Legal Description:

UNIT 2, OKEMOS POINTE OFFICE PARK CONDOMINIUM CONDO SUB PLAN NO 267, SEC 33 T4N R1W.

Operating Fiscal Years

The taxes on bill will be used for governmental operations for the following fiscal years. This does NOT affect when the tax is due or its amount.

County: 01-01-15 - 12-31-15
Twp: 01-01-15 - 12-31-15
School: 07-01-14 - 06-30-15
State: 10-01-14 - 09-30-15

This tax is due by: 02/17/2015 by 5:00 p.m.

Tax Detail \*

Taxable Value: \$ 211,869
State Equalized Value: \$ 556,400
Primary Residence %: 0.0000

P.R.E. Exemption Has Reduced This Bill By: 0.00

Table with 3 columns: DESCRIPTION, MILLAGE, AMOUNT (\$). Lists various services like Okemos Non-Home, Okemos Debt, Meridian Fire, etc.

Total Tax 33.52210 7,436.31
Administration Fee 71.02

TOTAL WINTER AMOUNT DUE 7,507.33

RETURN THIS PORTION WITH YOUR PAYMENT IN THE ENVELOPE SUPPLIED

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Make check payable to:

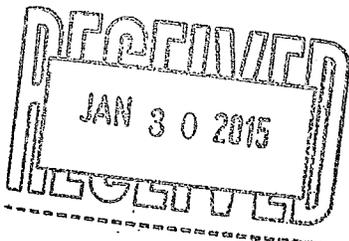
Property name and address: FORSBERG FAMILY LLC
2350 JOLLY OAK
OKEMOS, MI 48864

MERIDIAN CHARTER TOWNSHIP
5151 MARSH RD
OKEMOS, MI 48864
517-853-4140
WWW.MERIDIAN.MI.US

DUE DATE 02-17-15

TOTAL AMOUNT DUE: 7,507.33

2014 WINTER TAX BILL PROPERTY #: 33-02-02-33-329-002



MERIDIAN CHARTER TOWNSHIP 2014 WINTER TAX

Bill # 12798

Postmarks not accepted. This tax is due in our office by 5:00 p.m. Feb. 17, 2015. Our office at 5151 Marsh Rd. is open 8am to 5pm M-F and our curbside payment dropbox is available 24 hours, 7 days. 1% interest added to winter payments received after Feb 17th. March 2nd additional charges apply. Postmarks not accepted. Allow 7 days for mailed payments.

This tax is due by: 02/17/2015 by 5:00 p.m.

Tax Detail \*
Taxable Value: \$ 0
State Equalized Value: \$ 0
Primary Residence %: 0.0000

P.R.E. Exemption Has Reduced This Bill By: 0.00

Table with 3 columns: DESCRIPTION, MILLAGE, AMOUNT (\$). Row 1: Okemos Non-Home Smith, 9.00000, EXEMPT 160.97

Property Information
OKEMOS School: 33170
Property Assessed To: FORSBERG FAMILY LLC
Prop #: 33-02-02-33-329-100
Prop Addr: JOLLY OAK OKEMOS, MI 48864

Legal Description:
COMMON ELEMENT, OKEMOS POINTE OFFICE PARK
CONDOMINIUM CONDO SUB PLAN NO 267, SEC 33 T4N R1W.

Operating Fiscal Years
The taxes on bill will be used for governmental operations for the following fiscal years. This does NOT affect when the tax is due or its amount.
County: 01-01-15 - 12-31-15
Twp: 01-01-15 - 12-31-15
School: 07-01-14 - 06-30-15
State: 10-01-14 - 09-30-15

Total Tax 9.00000 160.97
Administration Fee 0.00
TOTAL WINTER AMOUNT DUE 160.97

RETURN THIS PORTION WITH YOUR PAYMENT IN THE ENVELOPE SUPPLIED

\*Taxes are based upon Taxable Value. 1 mill equals \$1.00 per \$1000 of Taxable Value. Amounts with no millage are either Special Assessments or other charges.

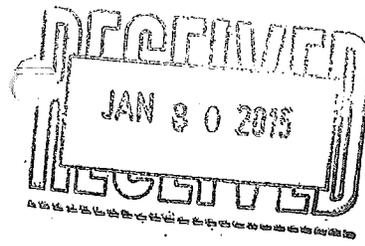
Make check payable to:
MERIDIAN CHARTER TOWNSHIP
5151 MARSH RD
OKEMOS, MI 48864
517-853-4140
WWW.MERIDIAN.MI.US

Property name and address: FORSBERG FAMILY LLC
JOLLY OAK
OKEMOS, MI 48864

DUE DATE 02-17-15

TOTAL AMOUNT DUE: 160.97

2014 WINTER TAX BILL PROPERTY #: 33-02-02-33-329-100



MERIDIAN CHARTER TOWNSHIP 2014 WINTER TAX

Bill # 12825

<p><i>Postmarks not accepted.</i></p> <p>This tax is due in our office by 5:00 p.m. Feb. 17, 2015. Our office at 5151 Marsh Rd. is open 8am to 5pm M-F and our curbside payment dropbox is available 24 hours, 7 days. 1% Interest added to winter payments received after Feb 17th. March 2nd additional charges apply. Postmarks not accepted. Allow 7 days for mailed payments.</p>	<p><b>This tax is due by: 02/17/2015 by 5:00 p.m.</b></p> <p>Tax Detail *</p> <p>Taxable Value: \$ 279,772  State Equalized Value: \$ 281,400  Primary Residence %: 0.0000</p> <p>P.R.E. Exemption Has Reduced This Bill By: 0.00</p>																																																																		
<p>Property Information  OKEMOS School: 33170</p> <p>Property Assessed To:  OLD EPI BUILDING LLC</p> <p>Prop #: 33-02-02-33-376-012  Prop Addr: 2362 JOLLY OAK  OKEMOS, MI 48864</p>	<table border="1"> <thead> <tr> <th>DESCRIPTION</th> <th>MILLAGE</th> <th>AMOUNT (\$)</th> </tr> </thead> <tbody> <tr><td>Okemos Non-Home</td><td>9.00000</td><td>2,517.94</td></tr> <tr><td>Okemos Debt</td><td>3.50000</td><td>979.20</td></tr> <tr><td>Okemos Bldg/Site</td><td>0.49600</td><td>138.76</td></tr> <tr><td>Meridian Oper</td><td>4.20020</td><td>1,175.09</td></tr> <tr><td>Rec/Srs/Hum Serv</td><td>0.15000</td><td>41.96</td></tr> <tr><td>Meridian Bikepth</td><td>0.27740</td><td>77.60</td></tr> <tr><td>Meridian Fire</td><td>0.64050</td><td>179.19</td></tr> <tr><td>Meridian Parks</td><td>0.98370</td><td>275.21</td></tr> <tr><td>Meridian Police</td><td>0.60800</td><td>170.10</td></tr> <tr><td>Cata/Meridian</td><td>0.20000</td><td>55.95</td></tr> <tr><td>Land Preserve</td><td>0.33000</td><td>92.32</td></tr> <tr><td>Road Millage</td><td>0.25000</td><td>69.94</td></tr> <tr><td>Firestation Debt</td><td>0.20000</td><td>55.95</td></tr> <tr><td>Cata/Regular</td><td>3.00700</td><td>841.27</td></tr> <tr><td>CADL-Library</td><td>1.56000</td><td>436.44</td></tr> <tr><td>Ingham County</td><td>4.31210</td><td>1,206.40</td></tr> <tr><td>Lansing Com Coll</td><td>3.80720</td><td>1,065.14</td></tr> <tr><td>Smith</td><td></td><td>82.60</td></tr> <tr><td><b>Total Tax</b></td><td><b>33.52210</b></td><td><b>9,461.06</b></td></tr> <tr><td><b>Administration Fee</b></td><td></td><td><b>93.78</b></td></tr> <tr><td><b>TOTAL WINTER AMOUNT DUE</b></td><td></td><td><b>9,554.84</b></td></tr> </tbody> </table>	DESCRIPTION	MILLAGE	AMOUNT (\$)	Okemos Non-Home	9.00000	2,517.94	Okemos Debt	3.50000	979.20	Okemos Bldg/Site	0.49600	138.76	Meridian Oper	4.20020	1,175.09	Rec/Srs/Hum Serv	0.15000	41.96	Meridian Bikepth	0.27740	77.60	Meridian Fire	0.64050	179.19	Meridian Parks	0.98370	275.21	Meridian Police	0.60800	170.10	Cata/Meridian	0.20000	55.95	Land Preserve	0.33000	92.32	Road Millage	0.25000	69.94	Firestation Debt	0.20000	55.95	Cata/Regular	3.00700	841.27	CADL-Library	1.56000	436.44	Ingham County	4.31210	1,206.40	Lansing Com Coll	3.80720	1,065.14	Smith		82.60	<b>Total Tax</b>	<b>33.52210</b>	<b>9,461.06</b>	<b>Administration Fee</b>		<b>93.78</b>	<b>TOTAL WINTER AMOUNT DUE</b>		<b>9,554.84</b>
DESCRIPTION	MILLAGE	AMOUNT (\$)																																																																	
Okemos Non-Home	9.00000	2,517.94																																																																	
Okemos Debt	3.50000	979.20																																																																	
Okemos Bldg/Site	0.49600	138.76																																																																	
Meridian Oper	4.20020	1,175.09																																																																	
Rec/Srs/Hum Serv	0.15000	41.96																																																																	
Meridian Bikepth	0.27740	77.60																																																																	
Meridian Fire	0.64050	179.19																																																																	
Meridian Parks	0.98370	275.21																																																																	
Meridian Police	0.60800	170.10																																																																	
Cata/Meridian	0.20000	55.95																																																																	
Land Preserve	0.33000	92.32																																																																	
Road Millage	0.25000	69.94																																																																	
Firestation Debt	0.20000	55.95																																																																	
Cata/Regular	3.00700	841.27																																																																	
CADL-Library	1.56000	436.44																																																																	
Ingham County	4.31210	1,206.40																																																																	
Lansing Com Coll	3.80720	1,065.14																																																																	
Smith		82.60																																																																	
<b>Total Tax</b>	<b>33.52210</b>	<b>9,461.06</b>																																																																	
<b>Administration Fee</b>		<b>93.78</b>																																																																	
<b>TOTAL WINTER AMOUNT DUE</b>		<b>9,554.84</b>																																																																	
<p>Legal Description:  MP 6858-2, M33-10-1, A PART OF LOT 2 JOLLY OKEMOS INDUSTRIAL PARK DESC AS BEG @ A PT 100 FT N ON E LOT LN FROM SE COR SD LOT 2 -S 89 DEG 46'20"W 201.43 FT -N 0 DEG 48'30"W 197.4 FT -S 89 DEG 46'20"E 204.23 FT -</p> <p>*BALANCE OF DESCRIPTION ON FILE*</p>																																																																			
<p>Operating Fiscal Years</p> <p>The taxes on bill will be used for governmental operations for the following fiscal years. This does NOT affect when the tax is due or its amount.</p> <p>County: 01-01-15 - 12-31-15  Twp: 01-01-15 - 12-31-15  School: 07-01-14 - 06-30-15  State: 10-01-14 - 09-30-15</p>																																																																			

RETURN THIS PORTION WITH YOUR PAYMENT IN THE ENVELOPE SUPPLIED

\*Taxes are based upon Taxable Value. 1 mill equals \$1.00 per \$1000 of Taxable Value. Amounts with no millage are either Special Assessments or other charges.

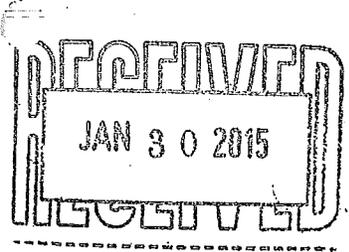
Make check payable to:  
**MERIDIAN CHARTER TOWNSHIP**  
5151 MARSH RD  
OKEMOS, MI 48864  
517-853-4140  
WWW.MERIDIAN.MI.US

Property name and address: OLD EPI BUILDING LLC  
2362 JOLLY OAK  
OKEMOS, MI 48864

**DUE DATE 02-17-15**

**TOTAL AMOUNT DUE: 9,554.84**

2014 WINTER TAX BILL PROPERTY #: **33-02-02-33-376-012**



MERIDIAN CHARTER TOWNSHIP 2014 WINTER TAX

Bill # 12824

Postmarks not accepted. This tax is due in our office by 5:00 p.m. Feb. 17, 2015. Our office at 5151 Marsh Rd. is open 8am to 5pm M-F and our curbside payment dropbox is available 24 hours, 7 days. 1% interest added to winter payments received after Feb 17th. March 2nd additional charges apply. Postmarks not accepted. Allow 7 days for mailed payments.

This tax is due by: 02/17/2015 by 5:00 p.m.

Tax Detail \*
Taxable Value: \$ 133,876
State Equalized Value: \$ 328,100
Primary Residence %: 0.0000
P.R.E. Exemption Has Reduced This Bill By: 0.00

Property Information
Property Assessed To: OKEMOS School: 33170
FORSBERG FAMILY LLC
Prop #: 33-02-02-33-376-011
Prop Addr: 2360 JOLLY OAK OKEMOS, MI 48864

Table with 3 columns: DESCRIPTION, MILLAGE, AMOUNT (\$). Lists various services like Okemos Non-Home, Debt, Bldg/Site, etc.

Legal Description:
MP 6858, LOT 2 JOLLY-OKEMOS INDUSTRIAL PARK EXC- THE S 297.4 FT THEREOF SEC 33 T4NR1W 3.34 AC M/L

Operating Fiscal Years
The taxes on bill will be used for governmental operations for the following fiscal years. This does NOT affect when the tax is due or its amount.
County: 01-01-15 - 12-31-15
Twp: 01-01-15 - 12-31-15
School: 07-01-14 - 06-30-15
State: 10-01-14 - 09-30-15

Total Tax 33.52210 4,652.60
Administration Fee 44.87
TOTAL WINTER AMOUNT DUE 4,697.47

RETURN THIS PORTION WITH YOUR PAYMENT IN THE ENVELOPE SUPPLIED

\*Taxes are based upon Taxable Value. 1 mill equals \$1.00 per \$1000 of Taxable Value. Amounts with no millage are either Special Assessments or other charges.

Make check payable to:
MERIDIAN CHARTER TOWNSHIP
5151 MARSH RD
OKEMOS, MI 48864
517-853-4140
WWW.MERIDIAN.MI.US

Property name and address: FORSBERG FAMILY LLC
2360 JOLLY OAK
OKEMOS, MI 48864
DUE DATE 02-17-15
TOTAL AMOUNT DUE: 4,697.47
2014 WINTER TAX BILL PROPERTY #: 33-02-02-33-376-011

**William F. Savage, P.E.  
Savage Traffic Engineering, Inc.**

Summer Address

6401 Timber Ridge Trail  
East Lansing, MI 48823  
Phone & Fax: 517-339-3933

e-mail: [MSUSavage@aol.com](mailto:MSUSavage@aol.com)

Winter Address

6611 Stone River Road, #206  
Bradenton, FL 34203  
Phone & Fax: 941-755-4681

**February 12, 2015**

**Gail Oranchak, Principal Planner  
Charter Township of Meridian  
5151 Marsh Road  
Okemos, MI 48826**

**RE: WestPac Campus Development**

**Dear Gail:**

The Traffic Study by "Bergmann" was excellent. Long, but easy reading and a complete study. There are no concerns, except the Okemos @ Jolly Road intersection.

What is missing are concerns for pedestrians and bicyclists. The pedestrians can be served by a shuttle bus operating during school hours.

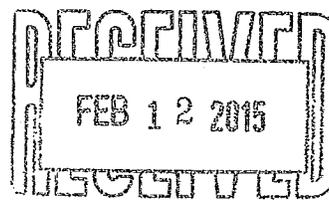
Helping the bicyclists will be challenging, but it was noticed that several streets (Jolly Oak, Water Lily Way, Woodlake Drive, Forsberg Commercial Drive, and Farrin Parkway) are 32-ft wide and could be converted to two 12-ft lanes and two 4-ft lanes for the bikers. Maybe someday a bike path will close by.

The big problem is the Okemos at Jolly intersection. It is suggested that right-turn-lanes be constructed at the intersection by redesigning it with 11-foot lanes, and buy property on one side or the other, making sure that the lanes end up in alignment.

Sincerely,

*WFSavage*

William F. Savage, P.E.



**Rezoning #15020  
(George F. Eyde Family LLC)  
March 5, 2015**

**APPLICANT:** George F. Eyde Family LLC  
4460 S. Hagadorn Road, Suite 660  
East Lansing, MI 48823

**STATUS OF APPLICANT:** Purchaser

**REQUEST:** Rezone to C-2 (Commercial)

**CURRENT ZONING:** PO (Professional and Office) and RA (Single Family, Medium Density)

**LOCATION:** 1614 and 1622 Grand River Avenue and an undeveloped parcel east of Central Park Drive and north of Grand River

**AREA OF SUBJECT SITE:** 8.66 acres (377,229.6 sq. ft.)

**EXISTING LAND USE:** Single Family residences and undeveloped

**EXISTING LAND USES IN AREA:**  
North: Undeveloped  
South: Grand River Avenue  
East: Sparrow office building, detention pond  
West: Commercial strip center

**CURRENT ZONING IN AREA:**  
North: RA (Single Family, Medium Density)  
South: C-2 (Commercial)  
East: PO (Professional and Office)  
West: C-2 (Commercial)

**FUTURE LAND USE DESIGNATION:** Office

**FUTURE LAND USE MAP:**  
North: Office  
South: Commercial (across Grand River)  
East: Office  
West: Commercial

CHARTER TOWNSHIP OF MERIDIAN

MEMORANDUM

TO: Planning Commission

FROM

  
Gail Oranchak, AICP  
Principal Planner

DATE: March 5, 2015

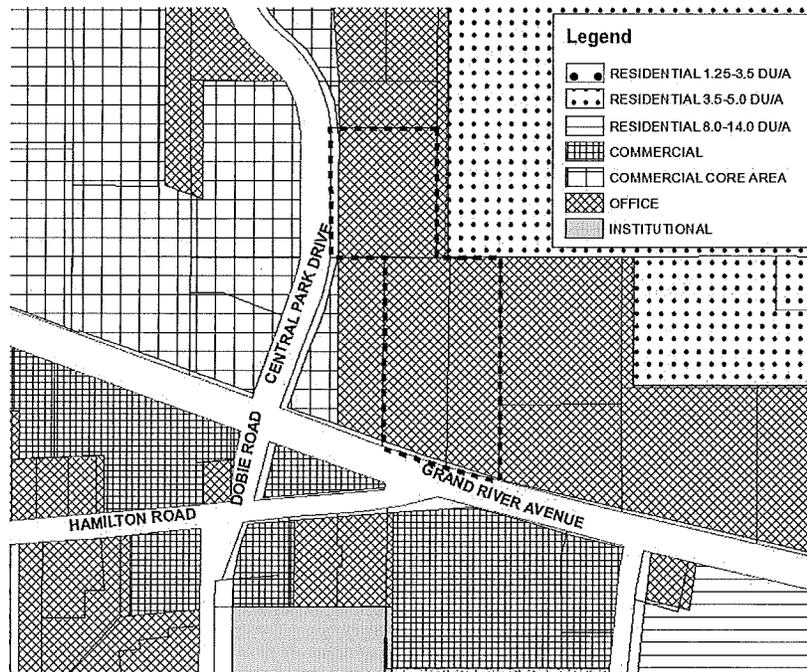
RE: Rezoning #15020 (George F. Eyde Family LLC) request to rezone approximately 8.66 acres located at 1614 and 1622 Grand River Avenue and an undeveloped parcel on Central Park Drive

George F. Eyde Family LLC has requested the rezoning of three parcels totaling approximately 8.66 acres from PO (Professional and Office) and RA (Single Family, Medium Density) to C-2 (Commercial). Single family homes are located at 1614 and 1622 Grand River while the Central Park Drive parcel is undeveloped except for two sheds.

**Master Plan**

The 2005 Master Plan designates all three parcels in the Office category.

**FUTURE LAND USE MAP**



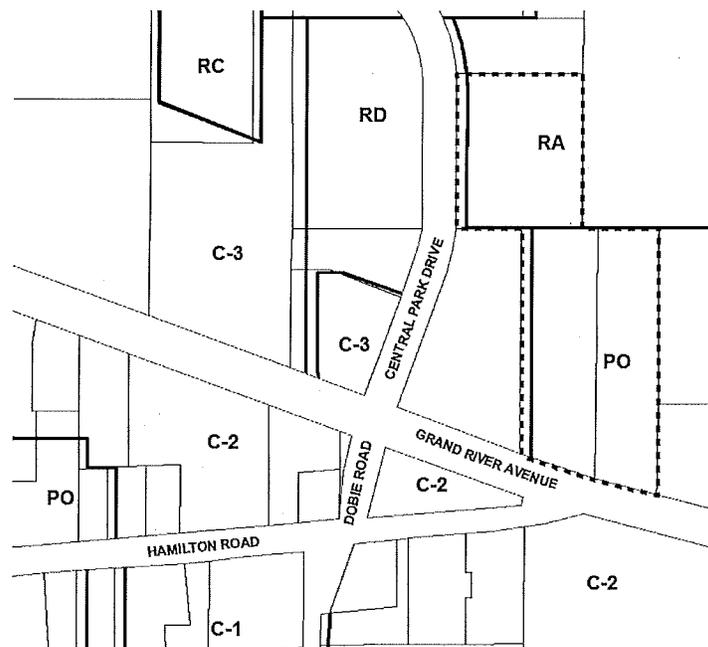
**Zoning**

As far back as 1963, Township zoning maps indicate the three parcels were zoned as they are today, PO for the two parcels with frontage on Grand River Avenue and RA for the parcel with frontage on Central Park Drive. Combined or individually, the three parcels meet the minimum lot width and lot area requirements for their current zoning districts (PO or RA) and the proposed C-2 district.

PARCEL	LOT AREA	LOT WIDTH
1614 Grand River	2.41 acres (104,980 sq. ft.)	145 ft.
1622 Grand River	3.21 acres (139,828 sq. ft.)	206 ft.
Central Park Drive	3.04 acres (132,422 sq. ft.)	359.29 ft.

ZONING DISTRICT	LOT AREA	LOT WIDTH
PO (Professional and Office)	5,000 sq. ft.	50 ft.
RA (Single Family, Medium Density)	10,000 sq. ft.	80 ft.
C-2 (Commercial)	4,000 sq. ft.	100 ft.

**ZONING MAP**



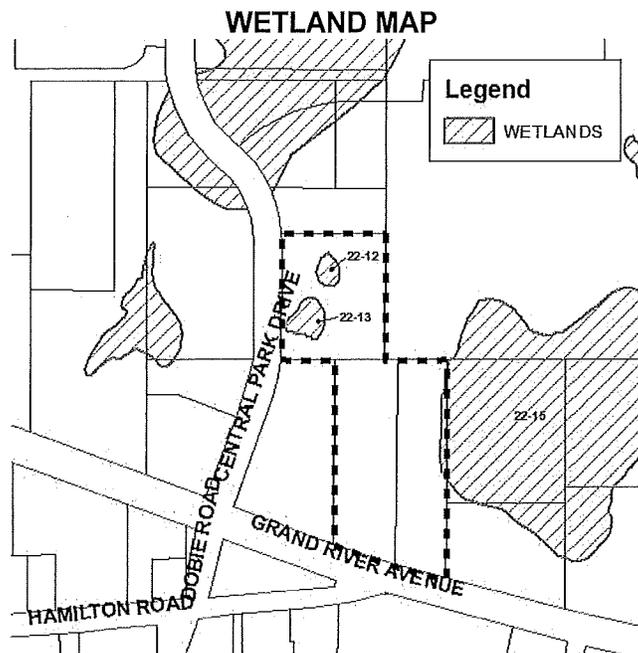
**Physical Features**

Single family residences occupy the two Grand River Avenue parcels. Township records show a 2,900 square foot greenhouse is also located on the site addressed as 1614 Grand River while two sheds of 176 square feet and 3,576 square feet are located on the Central Park Drive parcel. Vegetation consists of deciduous and conifer trees, shrubs and open lawn areas. Elevations range from 870 feet above mean sea level along the Grand River Avenue frontage to 859 feet above mean sea level in the center of the two Grand River Avenue parcels. Slope is fairly gradual from Grand River Avenue northward to the low point and then gradually increases to 867 feet above mean sea level on the Central Park Drive parcel. The Flood Insurance Rate Maps for Meridian Township show 100-year floodplain elevations are not present on this site.

Wetlands

The Township Wetland Map shows three wetlands may impact future development. Wetlands 22-12 and 22-13 are located on the Central Park Drive parcel. At less than .25 acres in size they may be unregulated. Wetland #22-15 appears to skim the east side of 1614 Grand River Avenue; it is a large detention pond owned by the Ingham County Drain Commissioner. At more than two acres in total area, a required 40 foot natural features setback is a potential factor in future development. The Township Wetland Map is a guide and a wetland delineation will be required prior to future development to determine the extent and location of wetlands.

WETLAND	SIZE	ATTRIBUTES
22-12	.23	Emergent
22-13	.23	Emergent
22-15	8.95	Emergent/Open Water/Shrub-Scrub



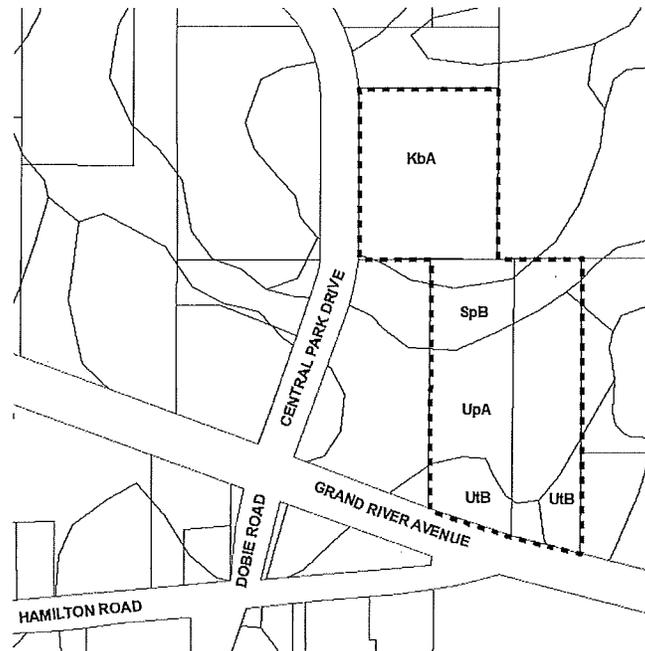
*Soils*

The following predominant soil types are found at the subject site:

SOIL ASSOCIATION	SEVERE LIMITATIONS
KbA (Kibbie)	Wetness
SpB (Spinks)	None
UpA (Urban Land-Capac/Colwood)	Wetness, Ponding
UtB (Urban Land-Marlette)	None

Source: Soil Survey of Ingham County, Michigan. 1992.

**SOILS MAP**



**Streets and Traffic**

Access to the site is available from Grand River Avenue and Central Park Drive. Grand River Avenue is classified as a Principal Arterial as shown on the map titled Street Setbacks and Service Drives, Section 86-367 in the zoning ordinance. Central Park drive is identified as a Collector street on the same map.

Grand River Avenue consists of two eastbound and two westbound lanes with a center turn lane. A Michigan Department of Transportation traffic count from 2013 showed average weekday trips totaled 17,000 vehicle trips at a location east of the Grand River Avenue and Central Park Drive intersection.

Central Park Drive consists of two northbound and two southbound lanes. Ingham County Road Department data indicates the most recent traffic count for this segment of Central Park Drive was taken in 2003. At that time, 12,557 vehicle trips were counted evenly distributed between northbound and southbound directions.

The applicant's traffic consultant has prepared a rezoning traffic assessment comparing potential uses permitted in the RA and PO zoning districts to those permitted in the C-2 district. Single family detached housing is compared to a 27,000 square foot specialty retail building for the rezoning from RA to C-2. For the PO to C-2 parcels, a 77,000 square foot office building is compared to a 49,000 square foot supermarket. The report concludes traffic volumes will increase but level of service will be acceptable at LOS D.

The Township's traffic consultant reviewed the applicant's traffic assessment commenting, "The intersection of Grand River Avenue and Central Park Drive will operate satisfactorily." He further commented, "Care should be given to the location" of future entrances into the site "to assure good site distance on Central Park Drive and adequate spacing with existing road and driveways on Grand River."

### **Utilities**

Public sanitary sewer and water lines in the vicinity of the site are available for connection.

### **Staff Analysis**

The applicant has requested the rezoning of an approximate 8.66 acre site consisting of three parcels located on Grand River Avenue and Central Park Drive from PO (Professional and Office) and RA (Single Family, Medium Density) to C-2 (Commercial). When evaluating the request, the Planning Commission should consider all uses permitted by right and by special use permit in the current and proposed zoning districts as well as topics listed on the rezoning application such as changing conditions in the vicinity of the site; consistency with the Master Plan; furtherance of health, safety and welfare; compatibility with surrounding uses; potential adverse impacts to the environment; identified community need; logical and orderly development pattern; and/or better and more efficient use of land. In support of the rezoning, the applicant responded to applicable topics in the attached application materials.

### **Planning Commission Options**

The Planning Commission may recommend approval or denial of the request or it may recommend a different zoning designation to the Township Board. A resolution will be provided for a future meeting.

### **Attachments**

1. Application and supporting materials
2. Township traffic consultant's report dated February 9, 2015

**CHARTER TOWNSHIP OF MERIDIAN  
DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT  
5151 MARSH ROAD, OKEMOS, MI 48864  
PHONE: (517) 853-4560, FAX: (517) 853-4095**

**REZONING APPLICATION**

**Part I, II and III of this application must be completed. Failure to complete any portion of this form may result in the denial of your request.**

**Part I**

A. Owner/Applicant George F. Eyde Family, LLC  
Address of applicant 4660 S. Hagadorn, Suite 660, EL, MI  
Telephone: Work 517-351-12480 Home \_\_\_\_\_  
Fax 517-351-2319 Email clouse@eyde.com

If there are multiple owners, list names and addresses of each and indicate ownership interest. Attach additional sheets if necessary. If the applicant is not the current owner of the subject property, the applicant must provide a copy of a purchase agreement or instrument indicating the owner is aware of and in agreement with the requested action.

B. Applicant's Representative, Architect, Engineer or Planner responsible for request:  
Name / Contact Person MARY CLOUSE  
Address same  
Telephone: Work \_\_\_\_\_ Home \_\_\_\_\_  
Fax \_\_\_\_\_ Email \_\_\_\_\_

C. Site address/location VL - Central Park Drive # 1614 & 1622 Grand River Ave. Okemos  
Legal description (Attach additional sheets if necessary) see Attached Survey  
Parcel number see attached Site acreage 8.7 +/- acres

D. Current zoning see attached Requested zoning C2- Commercial

E. The following support materials must be submitted with the application:

1. Nonrefundable fee.
2. Evidence of fee or other ownership of the subject property.
3. A rezoning traffic study prepared by a qualified traffic engineer based on the most current edition of the handbook entitled *Evaluating Traffic Impact Studies: A Recommended Practice for Michigan Communities*, published by the State Department of Transportation, is required for the following requests:
  - a. Rezoning when the proposed district would permit uses that could generate more than 100 additional directional trips during the peak hour than the principal uses permitted under the current zoning.
  - b. Rezoning having direct access to a principal or minor arterial street, unless the uses in the proposed zoning district would generate fewer peak hour trips than uses in the existing zoning district.  
(Information pertaining to the contents of the rezoning traffic study will be available in the Department of Community Planning and Development.)
4. Other information deemed necessary to evaluate the application as specified by the Director of Community Planning and Development.

Part II

REASONS FOR REZONING REQUEST

Respond only to the items which you intend to support with proof. Explain your position on the lines below, and attach supporting information to this form.

*see attached*

A. Reasons why the present zoning is unreasonable:

- 1) There is an error in the boundaries of the Zoning Map, specifically: \_\_\_\_\_
- 2) The conditions of the surrounding area have changed in the following respects: \_\_\_\_\_
- 3) The current zoning is inconsistent with the Township's Master Plan, explain: \_\_\_\_\_
- 4) The Township did not follow the procedures that are required by Michigan laws, when adopting the Zoning Ordinance, specifically: \_\_\_\_\_
- 5) The Township did not have a reasonable basis to support the current zoning classification at the time it was adopted; and the zoning has exempted the following legitimate uses from the area: \_\_\_\_\_
- 6) The current zoning restrictions on the use of the property do not further the health safety or general welfare of the public, explain: \_\_\_\_\_

B. Reasons why the requested zoning is appropriate:

- 1) Requested rezoning is consistent with the Township's Master Plan, explain: \_\_\_\_\_
- 2) Requested rezoning is compatible with other existing and proposed uses surrounding the site, specifically: \_\_\_\_\_
- 3) Requested rezoning would not result in significant adverse impacts on the natural environment, explain: \_\_\_\_\_
- 4) Requested rezoning would not result in significant adverse impacts on traffic circulation, water and sewer systems, education, recreation or other public services, explain: \_\_\_\_\_
- 5) Requested rezoning addresses a proven community need, specifically: \_\_\_\_\_
- 6) Requested rezoning results in logical and orderly development in the Township, explain: \_\_\_\_\_
- 7) Requested rezoning will result in better use of Township land, resources and properties and therefore more efficient expenditure of Township funds for public improvements and services, explain: \_\_\_\_\_

**Part III**

I (we) hereby grant permission for members of the Charter Township of Meridian's Boards and/or Commissions, Township staff member(s) and the Township's representatives or experts the right to enter onto the above described property (or as described in the attached information) in my (our) absence for the purpose of gathering information including but not limited to the taking and the use of photographs.

Yes  No (Please check one)

By the signature(s) attached hereto, I (we) certify that the information provided within this application and accompanying documentation is, to the best of my (our) knowledge, true and accurate

Mark K Clouse  
Signature of Applicant

12.31.2014  
Date

MARK K CLOUSE  
Type/Print Name

Fee: 1920

Received by/Date: \_\_\_\_\_

Rezoning Application  
Supplement  
Parcel 1 - 22-252-003  
Parcel 2 - 22-401-003  
Parcel 3 - 22-426-001

- A2 The Central Park Drive / Grand River Avenue area has continued to evolve into a commercial core. Parcels 2 & 3 each front Grand River Avenue – with a multi-tenant retail center to the west and Sparrow Heath Center to the east. Central Park Drive was developed with the intent to house commercial / retail uses along either side – as it has been developed from Marsh Road to Grand River.
- A3 Whereas the current Master Plan calls for Professional and Office (PO) zoning on all 3 parcels – Parcel 1 remains RA – single family.
- B1 Whereas Office zoning is set forth on the Master Plan Map – the surrounding area has been developed with a focus on commercial and retail. The subject area is a part of the Township's overall commercial core and uses consistent with that type of development will require commercial zoning.
- B2 As set forth above – the area has developed as a strong retail core – and commercial zoning would be consistent with current uses on surrounding properties.
- B3 The subject parcels front Grand River Avenue or Central Park Drive. The property is generally flat and has no wetlands on site.
- B4 The site is served by public water and sewer – with road frontage on Grand River Avenue or Central Park Drive.
- B5 Current Master Plan calls for Office on the subject parcels – however there is no demand for office space in the commercial core of the Township. Office occupancy continues to grow at a very slow pace – but only in the developed office park areas of the Township. Retail / Commercial uses have continued to grow in the core of the Township.
- B6 See B5 above.
- B7 As set forth above – the parcels front major corridors in the Township. Public utilities are available to the parcels.





# **TRAFFIC ASSESSMENT**

**For the**

**Proposed Rezoning of**

**8.66 Acres on Grand River Avenue (M-43)  
And Central Park Drive**

**Meridian Charter Township, Ingham County, MI**

**February, 2015**

**Prepared by:**

**Traffic Engineering  
Associates, Inc.**

PO Box 100 • Saranac, Michigan 48881

**517/627-6028 FAX: 517/627-6040**

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## PROJECT DESCRIPTION

The purpose of this study is to determine the difference in the traffic being generated between the existing zoning, One-Family Medium-Density Residential (RA) and Professional Office (PO), and the proposed new zoning, Commercial (C-2), of an approximate eight point six six (8.66) acre parcel located at the northeast corner of Grand River Avenue (M-43) and Central Park Drive in Meridian Charter Township, Ingham County, Michigan.

The trip generation for the existing parcels was based on the largest trip generators allowed under the Meridian Charter Township Zoning Ordinance. There are three (3) parcels, the first parcel consisting of 3.04 acres is currently zoned One-Family Medium-Density Residential, the second parcel consisting of 3.21 acres is zoned Professional Office and the third parcel consisting of 2.41 acres is also zoned Professional Office.

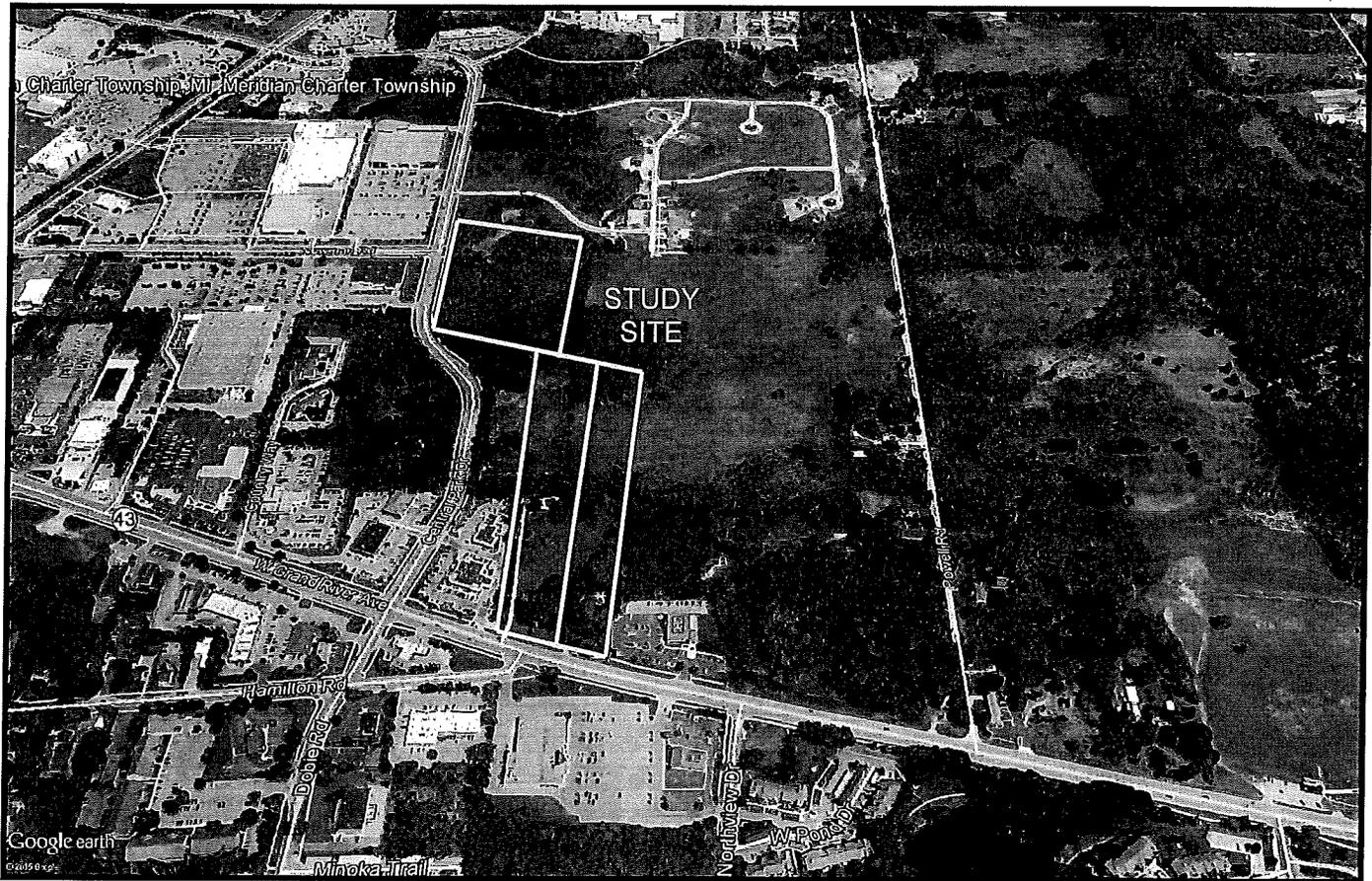
The trip generation for future development was determined by the largest trip generator use allowed under the proposed Commercial (C-2) zoning category.

The traffic analysis consists of the following items:

- Comparison of trips being generated with the existing zoning One-Family Medium-Density Residential (RA) and Professional Office (PO), versus the requested new zoning Commercial (C-2).
- Level of Service analysis for existing conditions at the intersection of Grand River Avenue (M-43) and Central Park Drive/Dobie Road
- Discussion of any potential sight distance issues.

This study was conducted in accordance with the guidelines set forth in "Evaluating Traffic Impact Studies, A Recommended Practice for Michigan Communities," sponsored by the Tri-County Regional Planning Commission and the Michigan Department of Transportation, and the Meridian Charter Township Zoning Ordinance.





Aerial Photo



## EXISTING CONDITIONS

Grand River Avenue (M-43) is an east-west, five-lane paved roadway with concrete curb and gutter. There is a concrete sidewalk along both sides of Grand River Avenue (M-43). Grand River Avenue (M-43) is under the jurisdiction of the Michigan Department of Transportation (MDOT). The posted speed limit is 50 MPH.

Central Park Drive is a north-south, four-lane paved roadway across the proposed site property with concrete curb and gutter and sidewalks on both sides. Central Park Drive is under the jurisdiction of the Ingham County Road Department. The speed limit is a posted 35 MPH.

## LAND USE

Surrounding land uses include residential to the north, to the immediate east are office suites, to the west is commercial retail property and south of this site is commercial retail.



## TRAFFIC GENERATION

The two (2) properties on Grand River Avenue (M-43) are currently zoned Professional Office (PO), and the proposed rezoning to be Commercial (C-2). These two (2) properties were combined into one (1) single parcel for the purpose of the comparison of existing zoning to proposed zoning. The single property on Central Park Drive is currently zoned Residential (RA) and the proposed rezoning to be Commercial (C-2); therefore, one comparison from existing zoning to proposed zoning was conducted for this parcel. To assess the total impact, the two (2) rezoning comparisons were combined to provide a total comparison of trip generation between existing zoning and proposed zoning.

### Grand River Avenue (M-43) Properties

In order to determine the use that would generate the maximum number of vehicle trips under Professional Office (PO), this study used the Meridian Township guidelines of 10,000 square feet of floor space for every 31,812 square feet of property as being the maximum square footage (footprint) of a building that can be built on a site zoned PO (Professional Office).

The two (2) properties on Grand River Avenue (M-43), which are currently zoned PO (Professional Office), consist of a total of 5.62 acres, or, 244,807 square feet. The maximum footprint under the zoning category would be approximately 77,000 square feet. The square footage of the possible building footprint under both the existing zoning and the proposed zoning were determined by Meridian Charter Township guidelines based on acreage.

The maximum building size estimate for Commercial (C-2) zoning is different from Professional Office (PO). The Meridian Township guideline for the maximum building footprint for C-2 zoning is a 5 to 1 ratio, or 20% of the total acreage. Using this guideline, the maximum building footprint for the two (2) properties on Grand River Avenue (M-43) under a C-2 zoning would be 49,000 square feet.

General Office Building (ITE Code 710) was selected to represent the existing zoning category, Professional Office (PO), for trip generation of the maximum building size of 77,000 square feet. The ITE description of General Office Building is as follows:

*A general office building houses multiple tenants; it is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building or buildings may contain a mixture of tenants including professional services, insurance companies, investment brokers and tenant services, such as a bank or savings and loan institution, a restaurant or cafeteria and service retail facilities.*

Supermarket (ITE Code 850) was selected to represent the proposed zoning category, Commercial (C-2), for trip generation of the maximum building size of 49,000 square feet. The ITE description of Supermarket is as follows:



*Supermarkets are free-standing retail stores selling a complete assortment of food, food preparation and wrapping materials, and household cleaning items. Supermarkets may also contain the following products and services: ATMs, automobile supplies, bakeries, books and magazines, dry cleaning, floral arrangements, greeting cards, limited-service banks, photo centers, pharmacies and video rental areas.*

A comparison of trip generation for the existing zoning to the proposed zoning for the Grand River Avenue (M-43) properties is summarized in **Table 1**. The trip generation rates were derived from the ITE Trip Generation Manual, 9<sup>th</sup> Edition.

Based on this data, it is projected that the proposed rezoning (C-2) will generate higher traffic volumes than the current zoning (PO) by 12 vehicle-trips in the AM peak hour and 294 vehicle-trips in the PM peak hour with a difference in the weekday volume of 3,596 trips.



**Table 1**  
**Traffic Generation Summary**  
**For**  
**Grand River Avenue (M-43) Properties**

	Existing Zoning – (PO)	Proposed Zoning – (C-2)	Change in Traffic Volumes
<b>ITE Code</b>	General Office Building (710)	Supermarket (850)	
<b>Size</b>	77,000 Sq. Ft.	49,000 Sq. Ft.	
<b>AM Peak Hour Vehicle Trips</b>	155	167	+12
<b>In</b>	136	104	-32
<b>Out</b>	19	63	+44
<b>PM Peak Hour Vehicle Trips</b>	165	459	+294
<b>In</b>	28	234	+206
<b>Out</b>	137	225	+88
<b>Weekday Daily Vehicle Trips</b>	1,076	4,672	+3,596



### Central Park Drive Property

The single property on Central Park Drive is currently zoned Residential (RA) and consists of a total of 3.04 acres, or, 132,422 square feet. The maximum number of lots for RA zoning would be 13 lots given a minimum of 10,000 square feet per lot under the Meridian Charter Township zoning guidelines.

The square footage of the maximum building footprint for the proposed zoning was determined by Meridian Charter Township guidelines based on acreage. The maximum building size estimate for Commercial (C-2) zoning is different from Residential (RA). The Meridian Township guideline for the maximum building footprint for C-2 zoning is a 5 to 1 ratio, or 20% of the total acreage. Using this guideline, the maximum building footprint for the single property on Central Park Drive under a C-2 zoning would be 27,000 square feet.

Single-Family Detached Housing (ITE Code 210) was selected to represent the existing zoning category, Residential (RA), for trip generation of the maximum lots of thirteen (13). The ITE description of Single-Family Detached Housing is as follows:

*Single-family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision.*

Specialty Retail Center (ITE Code 826) was selected to represent the proposed zoning category, Commercial (C-2), for trip generation of the maximum building size of 27,000 square feet. The ITE description of Specialty Retail Center is as follows:

*Specialty retail centers are generally small strip shopping centers that contain a variety of retail shops and specialize in quality apparel, hard goods and services, such as real estate offices, dance studios, florists and small restaurants.*

A comparison of trip generation for the existing zoning to the proposed zoning for the Central Park Drive property is summarized in **Table 2**. The trip generation rates were derived from the ITE Trip Generation Manual, 9<sup>th</sup> Edition.

Based on this data, it is projected that the proposed rezoning (C-2) will generate higher traffic volumes than the current zoning (PO) by 229 vehicle-trips in the AM peak hour and 119 vehicle-trips in the PM peak hour with a difference in the weekday volume of 1,032 trips.



**Table 2**  
**Traffic Generation Summary**  
**For**  
**Central Park Drive Property**

	<b>Existing Zoning – (RA)</b>	<b>Proposed Zoning – (C-2)</b>	<b>Change in Traffic Volumes</b>
<b>ITE Code</b>	Single-Family Detached Housing (210)	Specialty Retail Center (826)	
<b>Size</b>	13 Lots	27,000 Sq. Ft.	
<b>AM Peak Hour Vehicle Trips</b>	19	248	+229
<b>In</b>	5	119	+114
<b>Out</b>	14	129	+115
<b>PM Peak Hour Vehicle Trips</b>	17	136	+119
<b>In</b>	11	76	+65
<b>Out</b>	6	60	+54
<b>Weekday Daily Vehicle Trips</b>	161	1,193	+1,032



Combining Table 1, which consists of the Grand River Avenue (M-43) properties, and Table 2, which consists of the Central Park Drive property, provides a total comparison of trip generation for the existing zoning and the proposed zoning which is summarized in **Table 3**.

Based on the data, it is projected that the Commercial (C-2) rezoning for the three (3) properties will generate higher traffic volumes than the existing Residential (RA) and Professional Office (PO) zoning.

The proposed Commercial (C-2) zoning is projected to generate more traffic by 241 vehicle-trips in the AM peak hour and 413 vehicle-trips in the PM peak hour with a difference in the weekday volume of 4,628 trips.

The above comparison between the existing zoning and the proposed zoning is based on a worst case scenario in which each future use is the maximum number of trip generation for that zoning category.



**Table 3  
Rezoned Traffic Generation Summary**

	Existing Zoning (RA) and (PO)	Proposed Zoning (C-2)	Change in Traffic Volumes
<b>AM Peak Hour Vehicle Trips</b>	174	415	+241
<b>In</b>	141	223	+82
<b>Out</b>	33	192	+159
<b>PM Peak Hour Vehicle Trips</b>	182	595	+413
<b>In</b>	39	310	+271
<b>Out</b>	143	285	+142
<b>Weekday Daily Vehicle Trips</b>	1,237	5,865	+4,628



## LEVEL OF SERVICE (LOS) ANALYSIS FOR EXISTING CONDITIONS

The critical intersection defined for this study was analyzed according to the methodologies published in the most recent edition of the *Highway Capacity Manual*. The analysis determines the “Level of Service” of the intersections and is based on factors such as the number and types of lanes, signal timing, traffic volumes, pedestrian activity, etc. The level of service (LOS) is defined by average vehicle delay in seconds created by a traffic control device for a given traffic movement or intersection approach.

Level of Service	Delay per Vehicle (seconds)	
	Non-Signalized	Signalized
A	< 10	<10
B	10 to 15	10 to 20
C	15 to 25	20 to 35
D	25 to 35	35 to 55
E	35 to 50	55 to 80
F	> 50	> 80

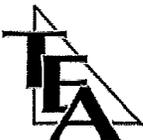
Levels of Service are expressed in a range from “A” to “F,” with “A” being the highest LOS and “F” representing the lowest LOS. Level of service “D” is considered the minimum acceptable LOS in an urban area.

The above table shows the thresholds for Levels of Service “A” through “F” for non-signalized and signalized intersections, respectively.

All Level of Service computations contained in this report were based upon the Synchro 8 software package which is approved by the Michigan Department of Transportation (MDOT). Delay per vehicle includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Traffic counts were conducted for the AM and PM peak hour at the intersection of Grand River Avenue (M-43) and Central Park Drive/Dobie Road during January, 2015. The Level of Service analysis for existing traffic at the subject intersection during the AM and PM peak hours is summarized in **Table 4**.

The existing Level of Service (LOS) for the AM and PM peak hours for the intersection of Grand River Avenue (M-43) and Central Park Drive/Dobie Road operates at an acceptable LOS (LOS D or better) for all movements.



**Table 4**  
**Level of Service (LOS) Summary**  
**Existing AM and PM Peak Hour Traffic**

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Grand River Avenue (M-43) and Central Park Drive/ Dobie Road	EB Left	9.7	A	12.9	B
	EB Thru	8.0	A	12.6	B
	EB Right	2.8	A	2.8	A
	WB Left	8.6	A	10.6	B
	WB Thru-Right	10.0	B	8.7	A
	NB Left	29.0	C	18.0	B
	NB Thru-Right	20.8	C	20.5	C
	SB Left	21.1	C	52.3	D
	SB Thru	20.3	C	19.3	B
	SB Right	1.4	A	3.5	A
	Intersection	13.3	B	16.8	B

Note: Delay = Average control delay per vehicle in seconds.  
LOS = Level of Service



## SIGHT DISTANCE

A field review shows that there are no sight distance issues with the two (2) properties on Grand River Avenue (M-43). Although there are no sight distance issues with the property on Central Park Drive with regard to vertical hills, the future driveway should be located to a point that will not create a sight distance issue due to a horizontal curve just south of the property.

## CONCLUSIONS

A summary of the findings of this study are listed as follows:

- The traffic volumes generated by the proposed rezoning (C-2) will be higher than the existing zoning categories, (RA) and (PO).
- The existing Level of Service (LOS) for the AM and PM peak hours for the intersection of Grand River Avenue (M-43) and Central Park Drive/Dobie Road operates at an acceptable LOS (LOS D or better) for all movements.
- There are no sight distance issues on Grand River Avenue (M-43), but due to a horizontal curve just south of the property on Central Park Drive, any future driveway must be located to the proper location in accordance with the Ingham County Road Department's guidelines.



**William F. Savage, P.E.  
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February 9, 2015

Gail Oranchak, Principal Planner  
Charter Township of Meridian  
5151 Marsh Road  
Okemos, MI 48846

RE: Rezoning – Grand River @ Central Park

Dear Martha:

The Traffic Assessment shows that the intersection of Grand River Avenue and Central Park Drive will operate satisfactorily, with the addition of the proposed development.

It appears that a roadway will be constructed through the development, from Central Park Drive on the North, to Grand River (M-43) on the South. Care should be given to the location of both entrances, to assure good sight distance on Central Park, and adequate spacing with existing road and driveways on Grand River.

Sincerely,

*WFSavage*

William F. Savage, P.E.

CHARTER TOWNSHIP OF MERIDIAN

MEMORANDUM

TO: Planning Commission

FROM:   
Gail Oranchak, AICP  
Principal Planner

DATE: March 5, 2015

RE: 2015 Planning Commission Meeting Schedule Change

At the February 23rd meeting, the Planning Commission agreed to hold a work session meeting on Monday March 16, 2015. The meeting will begin at 6:00 p.m. and it will be held in the Meridian Area Resource Center (MARC), 4675 Okemos Road, Okemos, MI. A resolution is attached to revise the 2015 meeting schedule and to add this meeting.

**Attachment**

1. Resolution to approve addition of March 16, 2015 work session meeting

**2015 Planning Commission  
Meeting Schedule Revision**

**RESOLUTION**

At a regular meeting of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, held at the Meridian Municipal Building, in said Township on the 9th day of March 2015 at 7:00 p.m., Local Time.

PRESENT: \_\_\_\_\_  
\_\_\_\_\_

ABSENT: \_\_\_\_\_

The following resolution was offered by Commissioner \_\_\_\_\_ and supported by Commissioner \_\_\_\_\_.

WHEREAS, the Planning Commission desires to announce the time, date, and place of all meetings of the Commission pursuant to the provisions of Act 267 of the Public Act of 1976;

WHEREAS, the Planning Commission adopted a 2015 meeting schedule; and

WHEREAS, the Planning Commission wishes to amend the 2015 meeting schedule to add a work session on March 16, 2014 to begin at 6:00 p.m. in the Meridian Area Resource Center (MARC) located at 4675 Okemos Road, Okemos, Michigan; and

WHEREAS, all regular meetings will continue to begin at 7:00 p.m. and will be held in the Town Hall Room of the Meridian Municipal Building, 5151 Marsh Road, Okemos MI 48864.

NOW THEREFORE BE IT RESOLVED THAT THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN hereby revises the 2015 meeting schedule by adding a work session on Monday, March 16, 2015.

ADOPTED: YEAS: \_\_\_\_\_  
\_\_\_\_\_

NAYS: \_\_\_\_\_

STATE OF MICHIGAN        )  
  )ss  
COUNTY OF INGHAM        )

I, the undersigned, the duly qualified Chairperson of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, DO HEREBY CERTIFY that the foregoing is a true and complete copy of a resolution adopted at a regular meeting of the Planning Commission held on the 9th day of March 2015.

\_\_\_\_\_  
John Scott-Craig, Chair  
Meridian Township Planning Commission