Office of the Clerk/Treasurer

W240N3065 Pewaukee Road
Pewaukee, WI 53072
(262) 691-0770 Fax 691-1798

***** PLEASE NOTE EARLY START TIME *****

COMMON COUNCIL
MEETING NOTICE AND AGENDA
Monday, October 5, 2020
5:00 PM

Common Council Chambers ~ Pewaukee City Hall
W240 N3065 Pewaukee Road Pewaukee, Wisconsin

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1. Call to Order and Pledge of Allegiance
2. Public Comment - Please limit your comments to two (2) minutes, if further time for discussion is needed please contact your District Alderperson prior to the meeting.
3. Consent Agenda
   - 3.1. Approval of the Common Council Meeting Minutes Dated August 3rd, 2020
   - 3.2. Approval of the Accounts Payable Listing Dated October 5th, 2020
   - 3.3. Approve the Reassignment of Park Capital Funds in the Amount of $18,070.50 Due to the Cost Savings Related to the Recent Purchase of Truck #81 and Plow: Assign $6,591.50 to Truck #72 and Unassign the Remaining Funds in the Amount of $11,479 to be put into the Capital Fund Balance at the End of the Year
4. Discussion and Possible Action Regarding a Certified Survey Map for the Pewaukee 16-94 South Proposed Industrial Development Located at N17 W25045 Bluemound Road (PWC 0948-985-003 & PWC 0945-989-001) in Order to Reconfigure Two Lots Into One Lot and an Outlot [Fuchs]
5. Discussion and Possible Action to Approve the First Reduction of the Swan View Farms Phase 1 Letter of Credit from $5,706,294.00 to $4,117,620.10 (Reduction of $1,588,673.90).
6. Discussion and Possible Action Regarding the Pewaukee Industrial Development South
   - 7.1 Approval of the Early Grading Agreement.
   - 7.2 Establish the Letter of Credit / Cash Deposit in the Amount of $189,450.00.
7. Public Comment - Please limit your comments to two (2) minutes, if further time for discussion is needed please contact your district Alderperson prior to the meeting.
8. Adjournment

Kelly Tarczewski
Clerk/Treasurer

October 2, 2020

NOTICE

This in-person meeting will have the option to attend virtually or by phone due to the Governor's Emergency Safer At Home order due to the COVID-19 virus.

To attend this meeting virtually or by phone please stop by Pewaukee City Hall or contact Kelly Tarczewski, City Clerk, 262-691-0770, tarczewski@pewaukee.wi.us **before 3 P.M. on the date of the meeting** for directions. Meeting materials are available at https://pewaukee.novusagenda.com/AgendaPublic/.

It is possible that members of other governmental bodies of the municipality may be in attendance to gather information that may form a quorum. At the above stated meeting, no action will be taken by any governmental body other than the governmental body specifically referred to above in this notice.

Any person who has a qualifying disability under the Americans with Disabilities Act that requires the meeting or materials at the meeting to be in an accessible format must contact the Clerk/Treasurer, Kelly Tarczewski, at (262) 691-0770 three business days prior to the meeting so that arrangements may be made to accommodate your request.

CITY OF PEWAUKEE
COMMON COUNCIL AGENDA ITEM 3.1.

DATE: October 5, 2020

DEPARTMENT: Clerk/Treasurer

PROVIDED BY:

SUBJECT:

Approval of the Common Council Meeting Minutes Dated August 3rd, 2020

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

CC Minutes 8.3.2020

In Attendance:
Mayor Steve Bierce, Aldermen B. Bergman, C. Brown, B. Dziwulski, R. Grosch, J. Kara and J. Wamser.

Also in Attendance:
Attorney S. Riffle, Administrator S. Klein, DPW Director M. Wagner, Utility Manager J. Mueller, IT Director B. Kewan, City Planner & Community Development Director N. Fuchs, Lieutenant M. Moonen, Lieutenant A. Scheckles and Clerk/Treasurer K. Tarczewski.

1. Call to Order and Pledge of Allegiance

   Mayor Bierce called the meeting to order at 7:00 p.m.

2. Public Comment

   Mark Mundt (W277N2869 Oak Street) stated that when he bought the house it was peaceful, but now all he hears is nonstop screaming and along with the current water project and financial hardships, he can't afford to stay at this place. He would like consideration to put his house on the market in spring and not pay the water connection fee.

3. Consent Agenda
   3.1. Approval of the Common Council Listing Dated July 20, 2020
   3.2. Approval of the Accounts Payable Listing Dated August 3, 2020

   A motion was made and seconded (J. Wamser, B. Dziwulski) to approve the consent agenda. Motion Passed: 6-For, 0-Against.

4. Second Quarter Police Services Update

   Lt. Moonen stated there were some changes in supervision in mid-July. Lt. Scheckles, the new second shift supervisor, introduced himself and gave his work history. Lieutenant Moonen discussed how Covid has impacted the quarter. There were eighteen Covid related complaints, which included neighborhoods and taverns. They worked with Municipal Court and City prosecution to run smoothly during Covid. The Badges & Buddies program was impacted and the fishing and bowling was canceled but they are hoping for fall archery. Lieutenant Moonen stated there were more speed complaints even with less volume of traffic and 3rd shift added extra patrol as of July 1st. Mr. Kara asked if these statistics are of value to evaluate performance of the Department. Lieutenant Moonen stated he compared last year's numbers and there has been a decrease in violations due to Covid, but an increase of arrest at home for domestic abuse.

5. **PUBLIC HEARING**, Discussion and Possible Action Regarding the Conditional Use Permit for the Property Located at W226 N2940 Duplainville Road (PWC 0913-997-001, PWC 0914-991, PWC 0914-992-001) for the Purpose of Constructing a One-Story 25,000 Square Foot Repair Garage Building as Requested by Duplainville Land Company, LLC / John Zignego

   Mr. Fuchs stated there is an existing outlot east of the tracks with a building which is M-1 & M-2. The applicant would like to combine into one lot and change the zoning to M-2 if approved. The Conditional use was for 24,800 square foot proposed building with 21 overhead doors, staff looked

at two issues. The east portion of the property is accessed through a private crossing and there was a possible concern over noise with the overheard doors. Plan Commission reviewed all of the conditions and asked to come up with some conditions of approval. Normal business hours would be between 7:00am –5:00pm. Activities such as cleaning drums and mixers would be done indoors and the south side doors were to be closed at that time. The applicant agrees to the conditions and a noise study would be provided. The building lighting dropped down to 12 feet.

Mayor Bierce opened the public hearing.

Jeff Hunholz (N28W22542 Foxwood Lane) referred to the new building in his backyard and stated he doesn't want it at all. He would like to see the doors closed at all times unless trucks are leaving, and he would like to see the building put on the north side of property. Mr. Hunholz stated there is a wall to block the noise so if you move the building the noise would be less, or else he would like to have the wall built ten feet higher. He was concerned about the resale value of his home and would like to find a compromise. He was concerned about the amount of traffic. Mayor Bierce stated with the new plan they have something to lose and they could be shut down if they are bad neighbors and will be held accountable.

Mike Wimmer (N28W22514 Foxwood Lane) stated he was concerned with Zignego's business activity and he believes there will be a lot more traffic.

Dan Gies (N28W22352 Foxwood Lane) was inquiring about the decibel level after 5:00 p.m. He stated at the last meeting a restaurant plan for an outdoor seating area was discussed and they were about 65 decibel at the property line. Mr. Fuchs stated no conditions were set.

Mayor Bierce closed the public hearing.

Mayor Bierce stated noise was the biggest concern.

Mr. Dziwulski stated he has received a couple calls over the last two years about noise from Zignego, The first two times it stopped for a day after sending someone over there and he requested if there is excess noise that they must shut the doors on the south side of the building during the day. Mr. Dziwulski mentioned that lighting shall not exceed 12 feet. Discussion took place regarding if the building was on the north side of the property, and it was noted this would cause an increase in activity and noise. If the yard is heading towards the track, that would not be a problem, although it won't stop all the noise. If it is in excess they will be notified. Mr. Dziwulski feels Zignego has done what they can to be good neighbors.

Ms. Brown asked if noise complaints are after hours or if people are complaining that they are doing it during the day. Mr. Dziwulski stated there were complaints after hours and during the day due to them using a certain type of concrete that is thicker and sets much faster. They were using sledge hammers to loosen the concrete in the drums and they were doing this outside during the day and at night. Mr. Dziwulski stated he got the Sheriff's Department involved and hadn't heard anything else. Mr. Dziwulski stated this needs to be done inside with the doors shut, even during the day. Discussion took place regarding the makeup of the building, which is a concrete building with insulation half way in between. The doors are insulated composite doors so noise will not go through the building. The bay where the cleaning takes place has an additional wall alongside it to keep the noise contained.

Mr. Grosch asked if anyone considered a self-monitoring program that would give them a warning if it got too loud. Mr. Fuchs stated staff discussed decibel levels and how it is monitored. Instead, they went the route of limiting the operating hours to 7:00 am to 5:00 pm.

Mr. Kara asked about the zoning being rezoned as M-2 and not being listed as one of the purposes of M-2. Mr. Kara asked if they would need the conditional use to do this under the M-2 zoning and questioned if they have to follow the rules and code of the M-2 zoning. Mr. Fuchs stated yes. Mr. Kara asked how a conditional use permit is going to help in this situation, if they have to come back every year. Mr. Fuchs stated staff can bring conditional uses back if there are issues on the site. The worst case scenario would be the City could shut them down. Attorney Rifle stated that the conditional use cannot override the zoning and there are provisions in the conditional use permit that say the holder of the conditional use permit would be required to come before the Common Council for a hearing for possible revocation. Mr. Kara suggested changing the language to "subject to review" versus annual review.

Mr. Wamser stated he like the document.

Ms. Brown stated there will be construction noise and asked if there is anything in the code or that could be added about construction of the building. Mr. Fuchs stated it would be subject to the same restrictions as any other new construction project.

Discussion took place regarding conditional uses, special regulations and uses not listed. Mr. Fuchs stated the building is a repair facility. Attorney Rifle stated the specific provisions in M-2 do not require the doors to be closed, but there is a noise ordinance in the City and if it is violated you will get a citation. Attorney Rifle stated you can't define everything that can be permitted as a conditional use in a specific zoning district and find the one that is most similar. Mr. Fuchs mentioned that 17.0209 (d) does best fit the situation.

A motion was made and seconded (B. Bergman/B. Dziwulski) to approve the conditional use permit for property located at W226 N2940 Duplainville Road for the purpose of constructing a one-Story 25,000 square foot repair garage building per staff's presentation of the conditional use permit including the amended language in paragraph two where "annual" is removed. Motion Passed: 6-For, 0-Against.

6. Discussion and Possible Action Regarding **Ordinance 20-07** to Rezone the Property Located at W226 N2940 Duplainville Road (PWC 0931-997-001 PWC 0914-992-001 & PWC 0914-991) From M-1 General Wholesale Business To M-2 Limited Industrial and From M-2 Limited Industrial to LC Lowland Conservancy as Requested by Duplainville Land Company, LLC / John Zignego

   A motion was made and seconded (B. Bergman, J. Wamser) to approve Ordinance 20-07 rezoning the property located at W226 N2940 Duplainville Road. Motion Passed: 6-For, 0-Against.

7. Discussion and Possible Action Regarding the Certified Survey Map for the Property Located at W226 N2940 Duplainville Road (PWC 0913-997-001, PWC 0914-991, PWC 0914-992-001) for the Purpose of Combining all Parcels into One Lot as Requested by Duplainville Land Company, LLC / John Zignego

A motion was made and seconded (B. Bergman, R. Grosch) to approve the certified survey map combining three parcels associated with the property located at W226 N2940 Duplainville Road as presented by staff. Motion Passed: 6-For, 0-Against.

8. Discussion and Possible Action Regarding the Selection of the Busse Road Bridge Replacement Alternative

Ms. Wagner stated in 2016 it was determined that the Busse Road bridge that services one parcel was in failure and given the design constraints need to move forward with the bridge replacement. The City did apply for grants but did not qualify so the project will be 100 percent funded by the City. Discussion took place regarding four different alternatives down to two that are viable for the replacement of the bridge. Ms. Wagner noted that when doing the preliminary design she found out Busse Road and the bridge are outside of the right-of-way and on private property.

Alternate #1 would be to relocate the bridge and road to the existing right-of-way. This project would require some acquisition from each parcel. The cost estimate in the report shows $487,000 but the actual preliminary costs is estimated at $517,000. Alternate #2 would be to replace the bridge in the current location with temporary access to serve the parcel with a temporary easement. This has an estimated cost of $621,000. A property owner has written a letter stating they would be willing to donate the land. This is the alternate the City prefers, but does come with increase of $103,000 and does comes with some risks. The whole project needs to be permitted by the DNR, which they are willing to permit in either location, but there will be some additional permits for temporary access while the bridge is being replaced. They will need to put in temporary culverts to pass the base flow of the Pewaukee river, and anything above and beyond will go over the top of the access. In storm events, they may not have access to the land until the water recedes. Ms. Wagner stated if this option is selected, they would need to speak with the DOT about temporary access off of 1-94 as an emergency access for the parcel. Alternate 1 is probably a cheaper alternate, but the property owners are opposed to it and alternat2 2 has a willing property owner but does come at a cost. Ms. Wagner stated they will also look at potential conspan which will speed up the construction of the bridge. When they first looked at this option it was more expensive, but once we have a final location and design we may see this as a potential. Ms. Wagner stated the different alternates do not include any acquisitions costs because they vary widely and there will have be a property study done. They will have to follow the acquisition process to acquire the land.

Mayor Bierce asked if there is a time frame that this needs to complete by. Ms. Wagner stated they already did an emergency repair in 2018 due to deterioration, and they have the bridge weight-restricted, so there is a sense of urgency.

Mr. Dziwulski stated he is against Alternate 1 and believes it would loom the whole atmosphere in the neighborhood and aesthetics of the river. He believes there were other alternates.

Mr. Wamser stated he didn't like Alternate #1 and asked why we couldn't use the existing footprint, cut it in half and build half of the bridge at a time. Ms. Wagner stated it was discussed, but the existing bridge is not wide enough to maintain one lane of traffic while constructing the other half and the current conditions don't allow for it.

Ms. Brown asked if the right-of-way would be changed if we move forward with alternate 2, which would maintain the look of the area, she asked what changes would be made to have the replat plotted in

the City. Ms. Wagner stated we would move forward with the acquisition of the land and follow the process of acquiring the land.

Steve Mueller stated he is Regina Jone's son who resides at W235N1264 Busse Road. Ideally the neighbors would like to see the bridge stay where it is, however, Mr. Mueller stated Alternate 1 has the right-of-way issue. He stated his mother is willing to donate the land on Alternate 2, although residents don't want Alternate 1, and both alternates create havoc. Mr. Mueller presented alternate 3 and 4. Discussion took place regarding the benefits of the alternates. The neighbors strongly suggested looking at the alternates which would cost less money, and there would be no cost in preparing the land. This would be a two to five year event and there would be very temporary large culverts. Mr. Mueller stated he spoke with Craig Webster who is the liaison between Department of Transportation and DNR. Mr. Webster agrees that alternates 3 and 4 make sense. He understands the need, lack of traffic and water flow in winter, and would need to do a hydrology study. He suggested looking at alternates before making a decision.

Ms. Wagner stated we can look at the alternates as presented. The decision needs to be made as to if we are going to replace bridge in the current location or move it. The access drive is a secondary design. Ms. Wagner stated the hydraulic analysis will be done as part of the original design. Ms. Wagner stated she is looking for a recommendation to move forward with the design and mentioned construction in 2021.

Mr. Dziwulski suggested keeping the bridge where it is and continuing with the hydrology study and getting the DNR involved.

9. Discussion and Possible Action to Extend Municipal Sanitary Sewer to N28 W24376 Watertown Road (PWC 0921-994) and Surrounding Properties

Ms. Wagner stated the property owner had a fire and the house has been torn down. Due to the fire, a traditional septic is not an option for the parcel and they would have to go with a mound system. The owner would prefer to have municipal sewer service and has asked us to extend service to the parcel. There are three parcels that don't have sewer service, but all other parcels around there do. Ms. Wagner stated there are two ways to serve the parcel; the first is from the east using an existing sanitary sewer. We could use a sewer extension and bring it west on Watertown Road to service the three properties. This would be the only way to ensure gravity service to a basement. The second option is using a sewer manhole in Single Tree Drive which is located on the north side of Watertown Road. That was brought across the road at the time they were required to stub outside of drive way for potential future connection for the three homes. It is much shallower and would not provide basement sewer service, so if a homeowner wanted a toilet in the basement, it would have to be pumped up.

Discussion took place regarding Watertown Road and the amount of water just under the surface. In order to do construction it takes a lot of pumping to get it dry enough to safely install sewer and water extensions. Ms. Wagner noted the rough estimates for the two options. Extending from Creekside Drive would be roughly 175,000-200,000 and using Single Tree. Drive would be 125,000-150,000. This request came from a property owner and was not in the budget. Ms. Wagner stated we typically want two thirds of properties in the area when requesting sewer extensions. Ms. Wagner requested this move forward and be put in the 2021 budget as a sewer extension project with 100 percent of the cost being assessed between all three parcels.

Mr. Schultz was present and stated he reached out to the owners to the west. As they were interested in sewer access. Mr. Schultz stated the previous home had septic but the house burned down and they were now unable to put in a septic system due to soil holding issues. The holding tank presents its own problems. Mr. Schultz stated he would like to build a house on this lot. Ms. Wagner recommended getting service from Single Tree Drive which would be a much less expensive project, but would result in hung plumbing. Ms. Wagner asked the Common Council if this could be added to the 2021project list as a sewer extension. Ms. Brown asked why this needed to be added to the project list if it is being funded by the home owners. Ms. Wagner stated the homeowners are not willing to pay 100 percent of the cost. The remainder will go towards the assessment policy, which requires the City to bid the work. The Council agreed to have it put on the project list.

Discussion took place regarding speaking with all three property owners and splitting the cost between them and how the special assessments would work.

10. Discussion and Possible Action Regarding the Adoption of a New Water Rate in Accordance with the Public Service Commission (PSC) Approval

Ms. Mueller stated they have finally reached a decision from the Public Service Commission with an authorized rate increase of $316,058.00 with a rate return of 4.9 percent for the utility. This breaks down to $0.79 cents per thousand. Ms. Mueller stated the debt ratio is higher than normal and recommended collecting RCA's and special assessments to pay off the debt quicker. Ms. Mueller stated the new Accountant removed deferred special assessments from the books. The Public Service Commission did not agree to this and ordered to have them added back and gave the City 90 days to do it. Ms. Mueller stated the typical house meter is 5/8 or ¾. That rate is staying the same and it's the larger meters that are commercial or industrial based that are going up.

Discussion took place regarding the last formal rate change in 2013. Ms. Mueller stated next year there will be a loan taken out to pay for the $2 million addition for the well 5 radium treatment program. Part of the loan process is to go back and have the rates re-evaluated by the Public Service Commission. Discussion took place regarding the 50/50 split, current debt and the removal of the special assessments.

A motion was made and seconded (B. Bergman, B. Dziwulski) to approve staff's recommendation of the new water utility rates established by the Wisconsin PSC to take effect on the fourth quarter billing cycle beginning on September 21st, 2020 Motion Passed: 6-For, 0-Against.

11. Presentation, Discussion and Possible Action Regarding the Updated Intersection Study for the Lindsay & Redford Intersection and Intermunicipal Agreement with Waukesha County Regarding the Intersection Improvements and Associated Costs

Ms. Wagner stated the study is complete and they have met with Waukesha County and have moved forward with filling out the grant application for the R-cut. They will be ready to submit by the August 15th deadline. They are putting in for the R-cut at the intersection and no additional improvements will be included in the grant. Ms. Wagner stated the City is responsible for any cost outside of the grant. Waukesha County will be the lead on the design and acquisition of the property. The construction would not occur until 2024 if funded by the grant. Ms. Wagner stated the estimate for the R-cut is $1 million and the grant would fund 90 percent. The remaining $130,000 would be the City's portion.

Ms. Brown stated the draft shows a total of $144,800 due to design money being added. Ms. Wagner stated the County would be responsible for the upkeep.

John Campbell from Traffic Analysis Design Inc., stated he used the year 2030 and looked at potential development in the area and estimated how much traffic it would generate. He looked at the sports complex and did a traffic count to the intersection that leads into it with two active baseball fields. He took the numbers and projected it out to seventeen fully active baseball fields and the amount of traffic that would be generated. He determined the R-cut and traffic signals are viable options from a traffic analysis perspective for the City. Mr. Campbell recommended with the 2024 timeline that the City write a letter to Department of Transportation HISP Program to advocate for the project and note the serious safety concerns and suggest that it be implemented as soon as possible.

Becky Charles (N42W22815 Beacon Ct.) stated there are164 houses in Victoria Station and she is always hearing sirens. With crash after crash she feels it's going to take someone to die to make the changes and she feels something needs to be done sooner than 2024.

Ms. Brown stated she supports the project and feels stopping the traffic isn't the right thing. She felt we needed the safety in the area.

Mr. Kara agreed with Ms. Brown and felt we have to do something. He wanted to make sure we had all the information and he would like to get it done quicker then 2024.

Mr. Wamser felt the City needed to do this as soon as possible.

Mr. Dziwulski asked how the R-cut addresses pedestrians crossing the street. Ms. Wagener stated it can be a challenge with no existing trails.

A motion was made and seconded (B. Bergman, J. Wamser) to approve the R-cut intersection improvement project, conceptually approve the Intermunicipal agreement with Waukesha County, contingent upon the County being successful in obtaining HISP grant, the City funding all costs outside of the grant funding, authorizing the City Attorney to review and approve that agreement, and directing Engineering staff to write a letter as recommended by our expert witness to move this along with HISP as quickly as possible. Motion Passed: 6-For, 0-Against.

12. Discussion Regarding Governor Evers Emergency Order #1 Relating to Preventing the Spread of COVID-19 by Requiring Face Coverings in Certain Situations - NO ACTION WILL BE TAKEN

Mayor Bierce stated he spoke to the Waukesha County Sheriff and asked why he couldn't support the order. His reasoning was that it was a public health order and not police concern. I f something escalates, they would show up. Mayor Bierce stated since we were under contract he was not sure how that would work. Since then the Attorney General agreed that it is a health order and not a police matter. Mayor Bierce asked if anyone was interested in asking the Sheriff's Department to take a more active role. No one was in favor of that action.

13. Discussion and Possible Action to Set the 2021 Budget Schedule

Mr. Klein introduced the potential schedule for the 2021 budgeting process. The Aldermen agreed with the proposed schedule and noted a few discrepancies with the information provided. It was agreed that the Clerk would revise it.

14. Discussion and Possible Action to Set the 2020 Trick or Treat Date and Time

A motion was made (B. Dziwulski) to set the 2020 Trick or Treat hours to Saturday, October 31st from 4:00 – 6:00 p.m. Motion died for lack of a second.

A motion was made and seconded (J. Kara, C. Brown) to set the 2020 Trick or Treat hours to Saturday, October 31st from 4:00 – 7:00 p.m. Motion Passed. 5-For, 1-Against (B. Dziwulski).

15. Public Comment – None.

16. Adjournment

A motion was made and seconded (J. Wamser, R. Grosch) to adjourn the meeting at 9:50 p.m. Motion Passed: 6-For, 0-Against.

Respectfully Submitted,

Kelly Tarczewski
Clerk/Treasurer

CITY OF PEWAUKEE
COMMON COUNCIL AGENDA ITEM 3.2.

DATE: October 5, 2020

DEPARTMENT: Clerk/Treasurer

PROVIDED BY:

SUBJECT:

Approval of the Accounts Payable Listing Dated October 5th, 2020

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

A/P 10/5/2020

Check Date	Check	Vendor Name	Description	Amount
Bank 100 GENERAL FUND CHECKING				
09/18/2020	129910	POSTMASTER	Billing	2,115.00
09/18/2020	88(E)	DIVERSIFIED BENEFIT SERVICES, INC.		2,687.42
09/18/2020	89(E)	WISCONSIN RETIREMENT SYSTEM	WRS GENERAL EMPLYOYEES	72,331.45
09/18/2020	91(E)	WE ENERGIES		22,660.03
09/18/2020	98(E)	LEASING SERVICES		104.00
09/23/2020	129911	ADVANCE NAME PLATE & BADGE	SW NAME PLATE	12.93
09/23/2020	129912	AILCO EQUIPMENT FINANCE GROUP	IT SCANNER CONTRACT	412.00
09/23/2020	129913	AIR ONE EQUIPMENT	COVID RESPIRATORS AND SURGICAL MASKS	1,314.40
09/23/2020	129914	AIRGAS USA	FD OXYGEN	731.12
09/23/2020	129915	ALI & HAMMAD LLC	SHIPPING	11.09
09/23/2020	129916	ALL-WAYS CONTRACTORS, INC	HWY TOP SOIL	346.00
09/23/2020	129917	AMERICAN STATE EQUIPMENT CO., INC.	HWY HOSE AND SOCKET HEAD	533.91
09/23/2020	129918	AUCA CHICAGO MC LOCKBOX	HWY UNIFORMS	220.16
09/23/2020	129919	ASSESSMENT TECHNOLOGIES LLC	IT INCIDENT REPORT	192.50
09/23/2020	129920	AT&T CAROL STREAM IL	CT TELEPHONE	2,642.43
09/23/2020	129921	BATZNER PEST CONTROL	P&R PEST CONTROL	125.00
09/23/2020	129922	BENKERT FAMILY TRUST	REFUND ON SPECIAL ASSESSMENT 0942072004	47.44
09/23/2020	129923	BOUCHER CADILLAC OF WAUKESHA	HWY STOCK TRUCKS TRANS & FUEL FILTERS	834.00
09/23/2020	129924	BUELOW VETTER BUIKEMA OLSON & VLIET	HR ATTORNEY	383.50
09/23/2020	129925	BUMPER TO BUMPER HARTLAND	SW LIGHT BULBS	12.98
09/23/2020	129926	CATHRYN GRUBER	P&R PROGRAM REFUND	52.00
09/23/2020	129927	CHALLENGER BATTERY SERVICE	FD BATTERY	300.00
09/23/2020	129928	CINTAS CORPORATION #184	FD MATS	130.41
09/23/2020	129929	CINTAS	HWY MTRL ORIGINAL GLV	764.58
09/23/2020	129930	COMET INC.	SW INSTALL ADAPTERS FOR SHAFT EXTENSIONS	469.75
09/23/2020	129931	CONLEY MEDIA	CT	743.46
09/23/2020	129932	CORE & MAIN LP	SW VALVES	2,877.21
09/23/2020	129933	COREY OIL	HWY CLEAR DIESEL	5,911.79
09/23/2020	129934	COUNTY MATERIALS CORP	ENG CATCH BASIN RISER	562.50
09/23/2020	129935	CRETEX SPECIALTY PRODUCTS	ENG PRO-RING FLAT RING	882.00
09/23/2020	129936	DWD-UI	CT UNEMPLOYMENT	918.51
09/23/2020	129937	DIAMOND VOGEL	HWY WHITE AND YELLOW HB TRF FD	2,048.73
09/23/2020	129938	DIANE TAYLOR	P&R PROGRAM REFUND	120.00
09/23/2020	129939	DIVERSIFIED BENEFIT SERVICES, INC.	HRA ADMIN SERVICES	505.30
09/23/2020	129940	CHARLIE DWYER	BLD MILEAGE REIMBURSEMENT	159.27
09/23/2020	129941	ELEVITY	IT MONTHLY SERVER MONITORING, EXCHANGE L	2,722.50
09/23/2020	129942	ELLIOTT ACE HARDWARE	FD COAT HOOK	260.39
09/23/2020	129943	FEI BEHAVIORAL HEALTH	HR EAP	976.95
09/23/2020	129944	FERGUSON WATERWORKS	SW HYDRAFINDER	855.00
09/23/2020	129945	FIRE SERVICE INC	FD PUMP SHIFTER KIT	772.40
09/23/2020	129946	GRAINGER	SW LONG SLEEVE COVERALL	54.68
09/23/2020	129947	GRENZ SERVICE CO. LLC	FD AIR FILTER SERVICE	213.87
09/23/2020	129948	HAWKINS, INC.	SW CHEMICALS	5,305.27
09/23/2020	129949	MARIANNE HILTUNEN	ENG MILEAGE REIMBURSEMENT	165.03
09/23/2020	129950	HOLIDAY INN	CRT RESTITUTION	20.00
09/23/2020	129951	HUMPHREY SERVICE PARTS, INC	P&R OIL AND AIR FILTERS	284.37
09/23/2020	129952	HURD, AMI	CT MILEAGE	25.88
09/23/2020	129953	HYDROCORP	SW MCC 2 YR	1,084.00
09/23/2020	129954	JAKE WEDIN	P&R BOOT REIMBURSEMENT	94.50
09/23/2020	129955	JEFFERSON FIRE & SAFETY, INC.	FD CORRODED BATTERY BOARD REPAIR	7,402.85
09/23/2020	129956	JENSEN EQUIPMENT	FD REOIL ASSEM	128.62
09/23/2020	129957	JERRY'S AUTOMOTIVE SERIVCE LLC	FD TAHOE REPAIR	119.60
09/23/2020	129958	JIM LANGE	P&R PROGRAM REFUND	29.00
09/23/2020	129959	JOHN'S DISPOSAL SERVICE	HWY GARBAGE	51,882.85
09/23/2020	129960	JX ENTERPRISES, INC.	HWY GASKET COOLANT	104.88
09/23/2020	129961	KAEREK HOMES INC	BLD 200103 OCCUPANCY BOND REFUND	500.00
09/23/2020	129962	KAESTNER AUTO ELECTRIC CO	HWY CABLE AND SOCKET	15.56

Check Date	Check	Vendor Name	Description	Amount
09/23/2020	129963	KWIK TRIP INC.	FD FUEL	3,002.11
09/23/2020	129964	LAFARGE AGGREGATES ILLINOIS, INC.	HWY STONE	275.00
09/23/2020	129965	LAKELAND SUPPLY, INC.	P&R SOAP	267.48
09/23/2020	129966	LANGE ENTERPRISES, INC	HWY TRAFFIC CONES AND POSTS	2,852.15
09/23/2020	129967	LAWN BOYZ CUSTOM CARE	CT PILGRIMS REST CONTRACT	2,455.63
09/23/2020	129968	LIFE-ASSIST INC	FD FIRST AID RESTOCK	7,004.22
09/23/2020	129969	LINCOLN CONTRACTORS	HWY CAULK GUN	240.00
09/23/2020	129970	LITHO-CRAFT	SW PRINTED ENVELOPES	578.00
09/23/2020	129971	KATHARINE MARLIN	CT WEBINAR REIMBURSEMENT	40.00
09/23/2020	129972	MATRIX TRUST COMPANY	CT LOAN REPAYMENT	200.00
09/23/2020	129973	MATTHEWS INTERNATIONAL	CT COLUMBARIUM	305.08
09/23/2020	129974	MAYER REPAIR	FD PUMP WORK INSPECTION AND REPAIR	4,932.46
09/23/2020	129975	MENARDS	P&R SANDING BLOCKS AND SPONGES	461.36
09/23/2020	129976	MIDWEST METER INC.	SW BEACON	7,900.00
09/23/2020	129977	MUNICIPAL LAW & LITIGATION GROUP S.	CT LEGAL FEES	10,041.40
09/23/2020	129978	NAPA	SW BOLT	117.82
09/23/2020	129979	NATIONWIDE RETIREMENT SOLUTIONS	CT RETIREMENT	5,040.36
09/23/2020	129980	OFFICE COPYING EQUIPMENT, LTD	ENG SHARP MX 4070N CONTRACT	784.63
09/23/2020	129981	OFFICE DEPOT	BLD OFFICE SUPPLIES	1,175.07
09/23/2020	129982	OFFICE DEPOT	ENG OFFICE SUPPLIES	85.45
09/23/2020	129983	OFFICE DEPOT	ENG OFFICE SUPPLIES	84.08
09/23/2020	129984	PARKING LOT MAINTENANCE	HWY PATCHING PER CONTRACT	16,980.00
09/23/2020	129985	PARKITECTURE & PLANNING	P&R CONCEPTUAL DESIGN SPLASH PAD	1,000.00
09/23/2020	129986	PAYNE & DOLAN	HWY 4LT 12.5MM	373.42
09/23/2020	129987	VILLAGE OF PEWAUKEE	SHARED P&R AUG 2020	86,258.66
09/23/2020	129988	PORT-A-JOHN	P&R SEASONAL RESTROOM	372.00
09/23/2020	129989	PREMIUM WATERS, INC	HWY WATER	94.50
09/23/2020	129990	PROHEALTH CARE MEDICAL ASSOCIATES	HR EXAMS	714.00
09/23/2020	129991	PROHEALTH PHARMACY WAUKESHA	FD PHARMACY TRANSFERS	372.17
09/23/2020	129992	PUBLIC SERVICE COMMISSION OF WI	SW PSC DIRECT ASSESSMENT	5,349.84
09/23/2020	129993	R&R INSURANCE SERVICES	CT OCT 2020 LWMMI	25,171.00
09/23/2020	129994	REINDERS, INC.	HWY FERTILIZER AND RAKE	335.20
09/23/2020	129995	RUEKERT & MIELKE, INC.	ENG DESIGN & CONTRACTS	53,857.74
09/23/2020	129996	RUNDLE-SPENCE	CT ELKAY REPLACEMENT FILTER	201.80
09/23/2020	129997	SAFETY-KLEEN CORP	HWY RECYCLE	217.00
09/23/2020	129998	SAN-A-CARE	FD PROFESSIONAL SPRAYER	784.91
09/23/2020	129999	SCHMIDT DENTISTRY & HYGIENE	PP S515 OVERPAYMENT	8.12
09/23/2020	130000	SERWE IMPLEMENT MUNICIPAL SALES	HWY JOYSTICK	2,872.89
09/23/2020	130001	SHORT POUR DELIVERY SERVICES LLC	HWY 119 5"	405.00
09/23/2020	130002	SOFT WATER, INC.	FD SOLAR SALT	75.00
09/23/2020	130003	STAFFORD ROSENBAUM ATTORNEYS LLP	CT AUDIT	332.50
09/23/2020	130004	STATE OF WI COURT FINES & ASSMTS	CRT STATES SHARE OF COURT COSTS AND ASSE	5,288.80
09/23/2020	130005	Strand Associates, Inc	SW GENERAL ON CALL SERVICES	772.46
09/23/2020	130006	SUSAN MARTZ	P&R RENTAL REFUND	294.79
09/23/2020	130007	TIME WARNER CABLE BUSINESS CLASS	IT INTERNET	2,144.98
09/23/2020	130008	VERIZON	SW TELEPHONE	1,290.14
09/23/2020	130009	WAUKESHA CO TREASURER	P&R TREE CLIMBING PROGRAM	744,133.29
09/23/2020	130010	WAUKESHA PEWAUKEE CVB	CT FINAL PAYMENT	91,250.00
09/23/2020	130011	WAUKESHA COUNTY EMERGENCY MANAGEMEN	FD NEW ID CARD FOR 8 PEFD MEMBERS	4.40
09/23/2020	130012	WAUKESHA LIME & STONE CO.	HWY STONE	1,975.86
09/23/2020	130013	WESTERN CULVERT & SUPPLY	HWY FLARED END SECTIONS	4,905.90
09/23/2020	130014	WISCONSIN DEPARTMENT OF	HR EXAMS	37.00
09/23/2020	130015	WISCONSIN LEGAL BLANK	CT VOTER ID PADS	625.15
09/23/2020	130016	WISCONSIN RURAL WATER ASSOC.	HR ANNUAL REFRESHER TRAINING	263.86
09/23/2020	130017	WONDERWARE MIDWEST	SW 2020 SUPPORT RENEWAL	6,800.00
09/23/2020	130018	XEROX CORPORATION	SW SEPT BASE CHARGE AND PRINTS	245.43
09/23/2020	92(E)	DELTA DENTAL	Dental Clearing	1,876.80
09/24/2020	90(E)	WE ENERGIES	Utilities	180.80
09/24/2020	96(E)	AUTHNET	Recreation Program - Credit Card Service	34.00
09/25/2020	130019	LYNCH BUICK GMC OF WEST BEND	P&R PURCHASE #81	21,929.50

Check Date	Check	Vendor Name	Description	Amount
09/25/2020	93(E)	DIVERSIFIED BENEFIT SERVICES, INC.	Flex Spend	711.26
09/25/2020	95(E)	AT&T		257.31
09/30/2020	102(E)	WE ENERGIES		2,253.05
09/30/2020	105(E)	DELTA DENTAL	Dental Clearing	1,765.88
09/30/2020	94(E)	MUTUAL OF OMAHA	Benefits - Life Insurance	4,523.34

100 TOTALS:

Total of 122 Checks:	1,334,363.12
Less 0 Void Checks:	0.00
Total of 122 Disbursements:	1,334,363.12

CITY OF PEWAUKEE
COMMON COUNCIL AGENDA ITEM 3.3.

DATE: October 5, 2020

DEPARTMENT: Clerk/Treasurer

PROVIDED BY:

SUBJECT:

Approve the Reassignment of Park Capital Funds in the Amount of $18,070.50 Due to the Cost Savings Related to the Recent Purchase of Truck #81 and Plow: Assign $6,591.50 to Truck #72 and Unassign the Remaining Funds in the Amount of $11,479 to be put into the Capital Fund Balance at the End of the Year

BACKGROUND:

Truck #72 (replacing Taurus – no trade in) –
- Purchase price of $39,091.50
- Budgeted amount of $32,500
- Over by $6,591.50

Truck #81 & plow –
- Purchase price of $40,929.50
- Trade in value of $19,000
- Net amount of $21,929.50
- Budgeted amount of $40,000
- Under by $18,070.50

Net of truck #72 and #81:
- Total capital amount of $72,500
- Total purchases of $61,021
- Total under by $11,479

FINANCIAL IMPACT:

RECOMMENDED MOTION:

CITY OF PEWAUKEE
COMMON COUNCIL AGENDA ITEM 4.

DATE: October 5, 2020

DEPARTMENT: Planning

PROVIDED BY: Nick Fuchs

SUBJECT:

Discussion and Possible Action Regarding a Certified Survey Map for the Pewaukee 16-94 South Proposed Industrial Development Located at N17 W25045 Bluemound Road (PWC 0948-985-003 & PWC 0945-989-001) in Order to Reconfigure Two Lots Into One Lot and an Outlot [Fuchs]

BACKGROUND:

At their September 17, 2020 meeting, the Plan Commission recommended approval of the proposed 2 Lot Certified Survey Map for the Pewaukee 16-94 South development.

Site and Building Plans are attached for reference only. These plans were also approved by the Plan Commission at the September 17th meeting.

At the September 21, 2020 meeting, the Common Council directed staff to review concerns raised regarding the process, building use, traffic, and building orientation. Please review the staff report and other attachments provided.

FINANCIAL IMPACT:

RECOMMENDED MOTION:

A motion to approve the 2 Lot Certified Survey Map for the Pewaukee 16-94 South development.

ATTACHMENTS:

Description

Davis Kuelthau Letter
Council Staff Report
Pewaukee 16 94 South Staff Report
Pewaukee 16 94 South CSM
Site & Building Plans
Traffic Impact Analysis
M-6 District
M-1 and M-2 Districts
M-4 District

September 30, 2020

VIA Email Only: fuchs@pewaukee.wi.us

Nick Fuchs
City of Pewaukee
W240N3065 Pewaukee Road
Pewaukee, WI 53072

Re: **Project Name:** Pewaukee 16-94 South
Project Address/Tax Key No.: Not Assigned/PWC 0948985003 and N17W25045 Bluemound Road/PWC 0945989001
CSM Applicant: Laurie Stollenwerk
Property Owner: Laurie Stollenwerk

Nick,

As discussed, I represent Briohn Building Corp. with regard to its efforts relating to the development of the above noted property. It is my understanding that the Application and Certified Survey Map (the "CSM") were submitted to the City of Pewaukee on September 4, 2020 and on September 17, 2020, the Plan Commission recommended approval of the CSM to the Common Council.

To my knowledge, the CSM meets all of the requirements of Chapter 18 of the City of Pewaukee's ordinances (18.0601 and 18.0603) and Wisconsin Statutes Chapter 236 as it relates to a certified survey map.

Furthermore, it is my understanding that the City of Pewaukee staff also found that the CSM is in compliance with Chapter 18 of the City of Pewaukee ordinances as well as Chapter 236 of the State Statutes related to minor land divisions. Finally, while not relevant to the certified survey map application, the staff of the City of Pewaukee has confirmed that use of the proposed development and the site plan were properly approved pursuant to prior meetings of the Plan Commission.

I look forward to the Common Council meeting on October 5, 2020. Please contact me with any questions you may have.

Sincerely,

Davis & Kuelthau, s.c.

Lisa Kleiner Wood

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REPORT TO THE COMMON COUNCIL

Meeting of October 5, 2020

Date: September 23, 2020

Project Name: Pewaukee 16-94 South

Project Address/Tax Key No.: Not Assigned/PWC 0948985003 and N17W25045 Bluemound Road/PWC 0945989001

Applicant: Laurie Stollenwerk

Property Owner: Laurie Stollenwerk

Current Zoning: M-6 Mixed Industrial Use District and LC Lowland Conservancy District

Proposed Zoning: Same

2050 Land Use Map Designation: Manufacturing / Fabrication / Warehousing

Use of Surrounding Properties: Industrial to the north and east and Highway 16 to the south and west

Introduction:

At their September 21, 2020 meeting, the Common Council tabled the subject Certified Survey Map and requested that staff provide a report regarding the process and use of this property and the proposed development. Other questions were raised regarding building orientation and the Traffic Impact Analysis.

As a reminder, site and building plans are reviewed and approved by the Plan Commission. The only item on the agenda for Common Council review is the Certified Survey Map.

Process:

According to Section 17.0207 of the City's Zoning Code (below), site and building plans must be reviewed by the Plan Commission. This process was followed and completed appropriately.

> 17.0207 SITE AND BUILDING PLAN, AND PLAN OF OPERATIONS REVIEW
> For the purpose of promoting compatible development, stability of property values, and to prevent impairment or depreciation of property value, **no person shall commence any use or erect any structure, except standard one and two family dwellings, without first obtaining from the Plan Commission, review and approval of detailed site and architectural plans and, in the case of commercial, industrial or institutional uses, or a Wisconsin statute authorized community based residential facility (CBRF), a Business Plan of Operations as set forth in this section and in sub-section 17.0210 and on forms provided by the City**. Site and building plans and business plans of operation shall be submitted to the City Planner prior to the Plan Commission meeting in a time frame determined by the City Planner. The Plan Commission members shall familiarize themselves with the site, existing and proposed

structures, architecture, neighboring uses, parking areas, driveway locations, loading and unloading in the case of commercial and industrial uses, highway access, traffic generation and circulation, drainage, landscaping, sewerage and water systems, as well as plans of proposed operation. The Plan Commission may delegate the responsibility for review and approval of Business Plans of Operation jointly to the City Planner and Zoning Administrator. The applicant for permits for site and building activity will be responsible for final grading and landscaping of all single and two-family building sites and for assuring that there is adherence to all applicable plans, ordinances and statutes. Design and construction of individual one and two family dwellings will be reviewed and approved by the Building Inspector and/or City Planner.

Future Uses:

The property is zoned M-6 Mixed Industrial Use District. Ultimately, the M-6 District allows Permitted uses listed in the M-1, M-2, and M-4 Districts as well as the Conditional Uses listed within the M-1, M-2, M-4, and B-4 Districts. These zoning districts are attached for reference.

As noted in the staff report, individual tenants/uses will be required to go through a separate use review and approval process as required by the zoning district and Section 17.0504 of the Zoning Code. This will consist of a Business Plan of Operation or Conditional Use approval depending upon the use.

At the previous Common Council meeting, it was stated that the building was a distribution center, not an industrial building. It is understood that this comment was likely related to traffic and the number of trucks that may be coming in and out of the site. Staff finds that the number of truck docks proposed is typical of a speculative industrial building. The TIA forecasted traffic of a 215,000 square foot building with 20,000 square feet of office space and 195,000 square feet of warehousing space. The TIA is further discussed below.

From a zoning code perspective related to distribution uses, it can be further noted that:

- The M-1 District intent includes wholesale business or warehousing activities, including storage and distribution of both wholesale and retail goods.
- The Zoning Code defines “Light or Limited Industrial” as “Industrial establishments such as those engaged in warehousing, wholesaling and distribution, assembly, fabrication, repair and maintenance services that comply with the standards listed in this chapter.”
- The Zoning Code defines “Warehouse” as “A building used primarily for the storage of business generated goods and materials and/or as a distribution center.”

Traffic Impact Analysis:

The TIA, dated November 10, 2016, was completed by Traffic Analysis & Design, Inc. and is attached for review. The TIA included the development of three buildings:

1. East Building - a 120,000 square foot building comprised of 12,000 square feet of office, 48,000 square feet of light industrial, and 60,000 square feet of warehousing.
2. West Building – 135,000 square feet
3. Future Building – 215,000 square feet that may accommodate about 20,000 square feet of office use.

Below are recommendations from that report.

> Recommended improvements are for jurisdictional consideration and are not legally binding. Waukesha County and the City of Pewaukee of Sussex reserve the right to determine alternative solutions.
>
> CTH JJ & Wasmer Drive
> - Background Traffic: No improvements.
> - Build Traffic: No improvements.
> - Total Traffic: No improvements.
>
> CTH JJ & Development Driveway
> - Background Traffic: Intersection does not exist.
> - Build Traffic:
>   - Construct the proposed development driveway where shown on the conceptual site plan in Exhibit 1-2.
>   - Provide a one left-turn lane, one right-turn lane, and a stop sign on the eastbound driveway approach to CTH JJ.
>   - Construct a right-turn lane on the CTH JJ southbound approach to the driveway.
>   - Construct a bypass lane on the CTH JJ northbound approach to the driveway. It is envisioned that the lane will continue north of the driveway and become the right-turn lane at Wasmer Drive. With approximately 325-feet (centerline-to-centerline) between the development driveway and Wamser Drive, and with five or fewer vehicles per hour making a right turn from CTH JJ to Wamser Drive, motorists will have sufficient distance to bypass a vehicle turning left into the development driveway and a vehicle turning right onto Wamser Drive.
> - Total Traffic: No improvements.
>
> CTH JJ & Harken Driveway
> - Background Traffic: No improvements.
> - Build Traffic: No improvements.
> - Total Traffic: No improvements.
>
> B7. Conclusion
> All movements at the study area intersections are expected to operate desirably at LOS D[1] or better conditions with the proposed development and the identified recommended improvements.

[1] The study area intersections were analyzed based on the procedures set forth in the 2010 Highway Capacity Manual (HCM). Intersection operation is defined by "level of service". Level of Service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS 'A', to very poor, represented by LOS 'F'. For the purpose of this study, and as is standard for use in the WisDOT Southeast Region, LOS D or better was used to define desirable peak hour operating conditions.

PART B – CONCLUSION
All movements at the study area intersections are expected to operate desirably at LOS D or better conditions with the proposed development and the identified recommended improvements.

Building Orientation:

Concerns regarding building orientation are certainly understandable and was discussed during staff's review as well as at the September 17th Plan Commission meeting.

Staff finds that the orientation of the building is acceptable and most appropriate for this site. Staff would oppose facing the loading docks towards I-94 and/or HWY 16. The docks would be extremely visible to these high traffic areas and there are no existing plantings adjacent to HWY 16.

On the Bluemound Road side, there is an existing tree line, which portions of will be disturbed; however, some trees will remain and the area will be restored with new plantings as well. Furthermore, as Bluemound Road curves, the loading docks are more oriented and adjacent to the Harken driveway than Bluemound Road. The existing greenspace on the Harken property will not likely remain greenspace and future development will further screen the proposed building.

Conclusion:

It is recommended that the Common Council review the proposed Certified Survey Map for compliance with Chapter 18 – Land Division of the City's Municipal Code. Staff finds that the CSM is in compliance with Chapter 18 as well as State Statutes related to minor land divisions.

Therefore, staff recommends approval of a motion to approve the Certified Survey Map reconfiguring properties located at approximately N17W25045 Bluemound Road (Tax Key Nos. 0948985003 and 0945989001), subject to showing the former property line on Sheet 1.

Staff does not find issues related to the process or use of the proposed development.

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W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

REPORT TO THE PLAN COMMISSION

Meeting of September 17, 2020

Date: September 10, 2020

Project Name: Pewaukee 16-94 South

Project Address/Tax Key No.: Not Assigned/PWC 0948985003 and N17W25045 Bluemound Road/PWC 0945989001

Applicant: Laurie Stollenwerk

Property Owner: Laurie Stollenwerk

Current Zoning: M-6 Mixed Industrial Use District and LC Lowland Conservancy District

Proposed Zoning: Same

2050 Land Use Map Designation: Manufacturing / Fabrication / Warehousing

Use of Surrounding Properties: Industrial to the north and east and Highway 16 to the south and west

Project Description/Analysis:

Briohn Building, on behalf of the applicant Laurie Stollenwerk, submitted a Certified Survey Map and Site & Building Plans for a proposed multi-tenant industrial speculative building for property located at approximately N17W25045 Bluemound Road (Tax Key Nos. 0948985003 and 0945989001).

Tenants are not known at this time, but the building may allow for anywhere from one to five or more tenants within the building. Individual tenants/uses will be required to go through a separate use review and approval process as required by the zoning district and Section 17.0504 of the Zoning Code. This will consist of a Business Plan of Operation or Conditional Use approval depending upon the use.

The subject property is currently vacant and has an area of approximately 42.61 acres. The property is zoned M-6 Mixed Industrial Use District and LC Lowland Conservancy District and is designated as Manufacturing/Fabrication/Warehousing and Floodplains, Lowland & Upland Conservancy and Other Natural Areas on the City's Year 2050 Land Use/Transportation Plan map.

The subject development complies with M-6 District development standards. Note that one of the M-6 District setback requirements states, "Loading and unloading docks or truck doors shall be located not less than 100 feet from the right-of-way of an abutting access street or highway and shall not be visible from abutting streets/highways." The loading docks are more than 100-feet from Bluemound Road and the applicant has included a screening wall that extends east from the northeast corner of the building as well as landscaping at the corner to screen the docks from the road.

Certified Survey Map

The proposed Certified Survey Map reconfigures a 37.64 acre parcel (Tax Key No. 0948985003) and a 5.01 acre parcel located at N17W25045 Bluemound Road (Tax Key No. 0945989001) to create a 24.952-acre developable site (Lot 1) and a 17.658-acre outlot (Outlot 1).

Site Plan
The applicant is proposing a 217,982 square foot building with multiple anticipated tenant spaces. The development will result in approximately 46% greenspace, which complies with the required 40% minimum greenspace standard of the City's Zoning Code.

The project includes the building, which consists of loading docks and overhead doors along the east elevation, 160 parking spaces, and associated landscaping and lighting. In addition, storm water management facilities are proposed as part of the development and located along the west side of the property.

The site will be accessed from a shared drive along Bluemound Road, which has an existing easement in place, which is shown on the CSM.

Related to the site plan, staff recommends:

- *Final grading, erosion control and storm water management plans shall be submitted for approval by the Engineering Department prior to any land disturbance.*
- *No outdoor storage shall be allowed other than trailers parked within the designated trailer parking area to the south of the building.*

Natural Resources
There are five wetland areas onsite. The larger wetland complex will be protected within the proposed outlot. The remaining four wetlands are smaller, isolated wetlands and will be filled as part of this development, except for a small portion of Wetland 4, which is located along the east property line.

According to the applicant, they have received Wisconsin Department of Natural Resources approval for the wetland impacts. *The applicant will be required to provide those approvals to City staff, prior to any land disturbing activities*.

The site also includes a significant number of trees. Those impacts are detailed in the section below.

Landscaping
The applicant is proposing to install 41 Canopy Trees, 159 Evergreen Trees, 25 Ornamental Trees, 131 Deciduous Shrubs, and 56 Evergreen Shrubs. At least three different species of each tree type is provided, except for the Evergreen Shrubs which include two different types.

Removal of existing trees will occur throughout the site. According to the tree inventory plan, which includes trees with a dBH of 4-inches or greater, about 335 trees will be removed and 95 preserved. Trees onsite primarily consist of Boxelders.

Staff has been working with the applicant to preserve as many existing trees as possible. For example, the applicant adjusted the westernmost drive, shifting it further east, to avoid a grove of mature Bur Oak Trees.

As tree removal is significant, *staff is recommending that following tree removal and installation of landscaping onsite, the applicant and City staff shall review perimeter landscaping and tree lines, particularly along the east side of the property, to ensure that screening is sufficient. If the new and remaining plantings do not provide appropriate screening as determined by staff or the Plan Commission, the applicant shall provide infill plantings, as reasonably practicable at the direction of staff or the Plan Commission, to further mitigate for the tree impacts onsite. Mitigation shall only be required for trees of a 6" caliper or greater and shall not exceed a 1:1 ratio (one tree required for every one tree removed). The review of landscaping and screening shall not result in a shift to the building or parking lot locations*.

Parking

The site plan includes 160 parking spaces. This equates to approximately 1.36 parking spaces per 1,000 square feet of gross floor area. This is a similar ratio that was provided for the recently completed Northmound development that was approved in 2018.

Eight ADA accessible stalls are included within the 160 space parking field. The applicant is also showing future parking that would accommodate 25 additional stalls (for a total of 180 spaces). In addition, the site plan shows 25 larger trailer parking stalls to the south of the building.

The passenger spaces are 9' wide by 20' long (180 square feet), which complies with the City's parking space standards. The trailer stalls are 12' by 55' (660 square feet).

As a mix of office, warehouse and industrial space, staff has no objections to the amount of parking provided.

Architecture

The proposed building exterior primarily consists of painted precast concrete wall panels of different colors. The building height varies and ranges from 38-feet to a peak of 42.5'. The M-6 District states, "No part of a principal structure shall exceed 30 feet in height unless it is serviced with a certified fire suppression sprinkler system, in which case the height may be extended to 50 feet if enclosed stair towers to the roof are also provided."

Section 17.0901f. also states, "The Height of Commercial, Industrial, and Institutional Buildings may be increased to a maximum of six (6) stories if a fully operational sprinkler system is in place included enclosed stairwells to the roof and the Fire Chief has approved in writing a fire safety plan of the structure and use."

Based on these code sections, *Fire Chief approval of a fire suppression system and fire safety plan shall be required prior to issuance of a Building Permit*.

Two dumpster enclosures are illustrated on the east side of the building at the north and south ends. The dumpster enclosures will be constructed of the same materials as the principal building as depicted and noted on Sheet A5.1.

A rooftop mechanical plan was provided (Sheet A4.1), which illustrates mechanicals centered behind parapet walls. According to the applicant, mechanicals will not be visible from any public right-of-

way. *Staff recommends that if rooftop mechanicals are visible from public rights-of-way (Bluemound Road, Highway 16, and I-94), the applicant shall install rooftop screening as approved by the City Planner*.

Signage
Sign plans have not yet been submitted. Wall signs are anticipated, but regardless, all signage must comply with standards set forth in Section 17.0700 of the City's Zoning Code and will require separate review and approval by the City Planner as well as a Sign Permit from the Building Services Department, prior to installation.

Utilities
Public sewer and water is available and will serve the subject development.

Lighting
The Lighting Plan consists of parking lot and building lighting. Light levels are at 0.0 footcandles at the property lines. The peak height of lights is 17-feet, which complies with the 20-foot maximum height requirement of the Zoning Code.

Recommendation:

A motion to approve the proposed building and site development plans submitted by Briohn Building Corporation for the property located at approximately N17W25045 Bluemound Road (Tax Key Nos. 0948985003 and 0945989001), subject to the conditions within this report.

A motion to approve the Certified Survey Map reconfiguring properties located at approximately N17W25045 Bluemound Road (Tax Key Nos. 0948985003 and 0945989001), subject to showing the former property line on Sheet 1.

CERTIFIED SURVEY MAP NO.

BEING A DIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NO. 11415 AND PARCEL 1 OF CERTIFIED SURVEY MAP 7930, BEING A PART OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND PART OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21, AND E=THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, TOWN 7 NORTH RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, STATE OF WISCONSIN.

○ INDICATES IRON PIPE FOUND

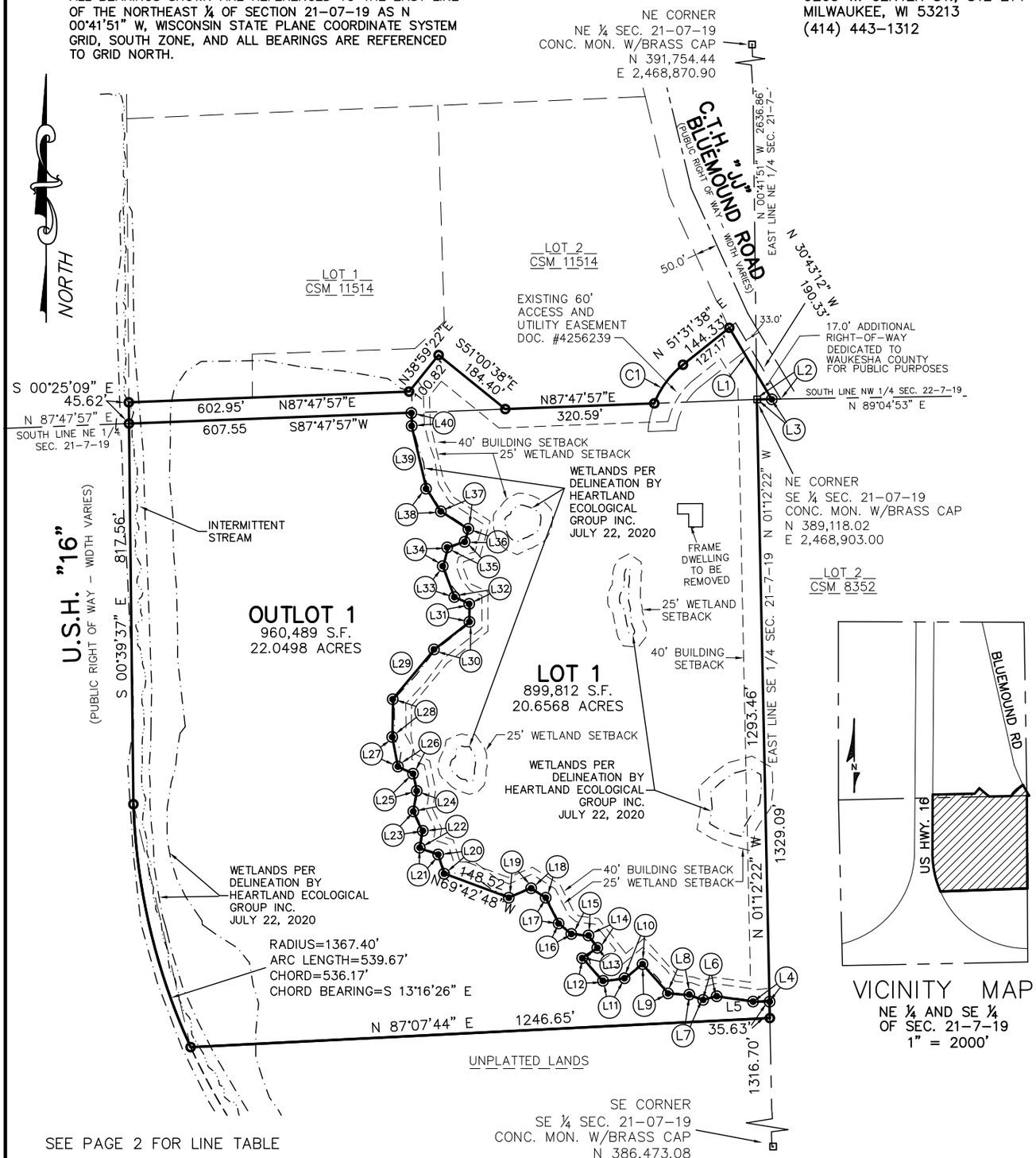
◉ INDICATES 1 INCH DIA. IRON PIPE, 18 INCHES IN LENGTH, WEIGHING 1.13 LBS PER LINEAL FOOT, SET.

ALL DIMENSIONS SHOWN ARE MEASURED TO THE NEAREST HUNDREDTH OF A FOOT.

ALL BEARINGS SHOWN ARE REFERENCED TO THE EAST LINE OF THE NORTHEAST ¼ OF SECTION 21-07-19 AS N 00°41'51" W, WISCONSIN STATE PLANE COORDINATE SYSTEM GRID, SOUTH ZONE, AND ALL BEARINGS ARE REFERENCED TO GRID NORTH.

OWNER: LAURIE STOLLENWERK
347 PARK AVENUE
PEWAUKEE, WI 53072

SURVEYOR: CHRISTOPHER A. JACKSON, PLS
CJ ENGINEERING, LLC
9205 W. CENTER ST., STE 214
MILWAUKEE, WI 53213
(414) 443-1312



VICINITY MAP
NE ¼ AND SE ¼ OF SEC. 21-7-19
1" = 2000'

SEE PAGE 2 FOR LINE TABLE

CURVE	ARC	RAD.	CHRD.	CH. BRG.
C1	104.64'	200.00'	103.45'	N36°32'20"E

GRAPHIC SCALE

0 300 600

1 INCH = 300 FT.

THIS INSTRUMENT DRAFTED BY CHRISTOPHER A. JACKSON, S-2851

CERTIFIED SURVEY MAP NO. _____

BEING A DIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NO. 11415 AND PARCEL 1 OF CERTIFIED SURVEY MAP 7930, BEING A PART OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND PART OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21, AND E=THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, TOWN 7 NORTH RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, STATE OF WISCONSIN.

SURVEYOR'S CERTIFICATE

I, CHRISTOPHER JACKSON, A PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY:

THAT I HAVE SURVEYED, DIVIDED AND MAPPED A A DIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NO. 11415 AND PARCEL 1 OF CERTIFIED SURVEY MAP 7930, BEING A PART OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND PART OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21, AND THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, TOWN 7 NORTH RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, STATE OF WISCONSIn, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF THE SOUTHEAST 1/4 OF SECTION 21; THENCE S 01°12'22" E ALONG THE EAST LINE OF SAID SOUTHEAST 1/4 OF SECTION 21, 1293.46 FEET; THENCE S 87°07'44" W 1246.65 FEET; THENCE 539.67 FEET ALONG AN ARC OF A CURVE WHOSE RADIUS IS 1367.40 FEET, WHOSE CENTER LIES TO THE EAST, WHOSE CHORD BEARS S 13°16'26" E 536.17 FEET; THENCE N 00°39'37" E 817.56 FEET; THENCE N 00°25'09" W 45.62 FEET; THENCE N 87°47'57" E 602.95 FEET; THENCE N 38°59'22" E 100.82 FEET; THENCE S 51°00'38" E 184.40 FEET; THENCE N 87°47'57" E 320.59 FEET; THENCE 104.64 FEET ALONG AN ARC OF A CURVE WHOSE RADIUS IS 200.00 FEET, WHOSE CENTER LIES TO THE SOUTH, WHOSE CHORD BEARS N 36°32'20" E 103.45 FEET; THENCE N 51°31'38" E 144.33 FEET; THENCE S 30°43'12" E 190.33 FEET; S 89°04'53" W 51.47 FEET TO THE POINT OF BEGINNING.

CONTAINING 1,860,301 SQUARE FEET OR 42.707 ACRES MORE OR LESS

THAT I HAVE MADE SUCH SURVEY, LAND DIVISION AND MAP BY THE DIRECTION OF LAURIE STOLLENWERK, OWNERS OF SAID LAND.

THAT SUCH MAP IS A CORRECT REPRESENTATION OF ALL EXTERIOR BOUNDARIES OF THE LAND SURVEYED AND THE DIVISION THEREOF MADE.

THAT I HAVE FULLY COMPLIED WITH THE PROVISIONS OF CHAPTER 236 OF THE STATUTES OF THE STATE OF WISCONSIN AND THE REGULATIONS OF THE CITY OF PEWAUKEE IN SURVEYING, DIVIDING, MAPPING AND DEDICATING THE SAME.

DATED THIS_____DAY OF_____, 20___.

LINE	DIST.	BEARING
L1	178.27'	S30°43'12"E
L2	51.47'	S89°04'53"W
L3	31.88'	S89°04'53"W
L4	33.41	S89°20'23"W
L5	82.44	N82°02'31"W
L6	29.41	S74°47'11"W
L7	31.11	N70°48'49"W
L8	44.85	N85°10'55"W
L9	84.24	N41°36'27"W
L10	47.67	S50°00'18"W
L11	48.89	S82°16'41"W
L12	67.09	N40°35'15"W
L13	39.19	N57°14'00"E
L14	32.26	N38°14'52"W
L15	37.92	N82°37'03"W
L16	34.66	N49°40'34"W
L17	62.05	N26°59'29"W
L18	37.78	N57°48'37"W
L19	50.90	S66°51'29"W
L20	42.83	N17°16'22"W
L21	42.26	N71°17'39"W
L22	37.53	N08°53'58"E
L23	45.41	N25°10'42"W
L24	44.28	N09°14'03"E
L25	37.14	N11°32'37"W
L26	36.32	N65°23'41"W
L27	64.00	N10°45'22"W
L28	83.14	N01°06'35"E
L29	137.60	N39°55'34"E
L30	95.99	N51°59'11"E
L31	39.42	N00°05'17"E
L32	35.15	N65°33'47"W
L33	68.67	N20°58'32"W
L34	44.26	N14°08'11"E
L35	37.45	N72°18'30"E
L36	28.35	N16°00'33"E
L37	72.51	N56°51'36"W
L38	56.54	N31°30'56"W
L39	135.15	N13°19'18"W
L40	30.84	N01°55'16"W

_____

CHRISTOPHER A. JACKSON
PROFESSIONAL LAND SURVEYOR, S-2851
STATE OF WISCONSIN

CERTIFIED SURVEY MAP NO. _____

BEING A DIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NO. 11415 AND PARCEL 1 OF CERTIFIED SURVEY MAP 7930, BEING A PART OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND PART OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21, AND E=THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, TOWN 7 NORTH RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, STATE OF WISCONSIN.

OWNER'S CERTIFICATE

LAURIE STOLLENWERK, AS OWNER, I HEREBY CERTIFY THAT I CAUSED THE LAND DESCRIBED ON THIS MAP TO BE SURVEYED, DIVIDED, MAPPED AND DEDICATED AS REPRESENTED ON THIS MAP. I CERTIFY THAT THIS CERTIFIED SURVEY MAP IS REQUIRED TO BE SUBMITTED TO THE FOLLOWING FOR APPROVAL: CITY OF PEWAUKEE

_____
LAURIE STOLLENWERK, OWNER

STATE OF WISCONSIN)
MILWAUKEE COUNTY) SS

PERSONALLY CAME BEFORE ME THIS_____DAY OF_____, 20__, THE ABOVE NAMED LAURIE STOLLENWERK, TO ME KNOWN TO BE THE PERSONS WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED THE SAME.

_____
NOTARY PUBLIC, STATE OF WISCONSIN
MY COMMISSION EXPIRES_____,20

MORTGAGEE CERITIFICATE

FIRST NATIONAL BANK OF HARTFORD, A CORPORATION DULY ORGANIZED AND EXISTING UNDER AND BY VIRTUE OF THE LAWS OF THE STATE OF WISCONSIN, MORTGAGEE OF THE ABOVE DESCRIBED LAND, DOES HEREBY CONSENT TO THE SURVEYING, DIVIDING AND MAPPING OF THE LAND DESCRIBED ON THIS MAP AND DOES HEREBY CONSENT TO THE ABOVE CERTIFICATION OF OWNERS

IN WITNESS WHEREOF, THE SAID FIRST NATIONAL BANK OF HARTFORD, HAS CAUSED THESE PRESENTS TO BE SIGNED BY _____ , AT _____, WISCONSIN, THIS_____ DAY OF_____, 20__.

BY: _____
NAME:
TITLE:

STATE OF WISCONSIN)
MILWAUKEE COUNTY) SS

PERSONALLY CAME BEFORE ME ON_____, 20__, BY_____, IN HIS/HER CAPACITY AS_____OF FIRST NATIONAL BANK OF HARTFORD, TO ME KNOWN TO BE THE PERSON WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED THE SAME.

_____
NOTARY PUBLIC _____
STATE OF WISCONSIN
MY COMMISSION EXPIRES:_____

THIS INSTRUMENT DRAFTED BY CHRISTOPHER A. JACKSON, S-2851

CERTIFIED SURVEY MAP NO. _____

BEING A DIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NO. 11415 AND PARCEL 1 OF CERTIFIED SURVEY MAP 7930, BEING A PART OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND PART OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21, AND E=THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, TOWN 7 NORTH RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, STATE OF WISCONSIN.

PLANNING COMMISSION APPROVAL

APPROVED BY THE PLANNING COMMISSION OF THE CITY OF PEWAUKEE ON THE ____ DAY OF _____ ,20___.

_____ STEVE BIERCE, CHAIRMAN

_____ AMI HURD, RECORDING SECRETARY

COMMON COUNCIL APPROVAL

APPROVED BY THE COMMON COUNCIL OF THE CITY OF PEWAUKEE ON THE ____ DAY OF _____ ,20___.

_____ STEVE BIERCE, MAYOR
CITY OF PEWAUKEE

_____ KELLY TARCZEWSKI, CITY CLERK/TREASURER
CITY OF PEWAUKEE

THIS INSTRUMENT DRAFTED BY CHRISTOPHER A. JACKSON, S-2851

PROPOSED NEW MULTI-TENANT BUILDING FOR:

PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT

BLUEMOUND ROAD HWY JJ (EAST OF HWY 16)
PEWAUKEE, WISCONSIN 53072

BRIOHN www.briohn.com PHONE: 262.790.0500

SHEET INDEX

1 SITE PLAN OVERALL
1" = 300'-0"

PLAN COMMISSION SUBMITTAL

SEPTEMBER 3, 2020

OWNER :

2, LLC
BRIOHN C/O WESTMINSTER CAPITAL
CHARLES E. KING MANAGING PRINCIPAL
270 WESTMINSTER, SUITE 300
LAKE FOREST, IL 60045
(847) 2345-1123 PHONE
(847) 234-2115 FAX

GENERAL CONTRACTOR :

BRIOHN BUILDING CORPORATION
MIKE MIKSICH, P.E.
3885 N. BROOKFIELD RD., SUITE 200
BROOKFIELD, WISCONSIN 53045
(262) 790-0500 PHONE
(262) 790-0505 FAX

ARCHITECT :

BRIOHN DESIGN GROUP LLC
DOMENIC FERRANTE, AIA
CHRISTOPHER WENZLER, AIA
3885 N. BROOKFIELD RD., SUITE 200
BROOKFIELD, WISCONSIN 53045
(262) 790-0500 PHONE
(262) 790-0505 FAX

STRUCTURAL ENGINEER:

BRIOHN DESIGN GROUP LLC
KEVIN JANKOWSKI, PE
CHRIS CLINE, PE
3885 N. BROOKFIELD RD., SUITE 200
BROOKFIELD, WISCONSIN 53045
(262) 790-0500 PHONE
(262) 790-0505 FAX

CIVIL ENGINEER:

CJ ENGINEERING
CHRISTOPHER A. JACKSON, P.E.
9205 WEST CENTER STREET, SUITE 214
MILWAUKEE, WISCONSIN 53222
(414) 443-1312 PHONE
(262) 443-1317 FAX

LANDSCAPE ARCHITECT :

HELLER & ASSOCIATES
DAVID HELLER, ASLA
P.O. BOX 1359
LAKE GENEVA, WISCONSIN 53147-1359
(262) 639-9733 PHONE
(262) 639-9739 FAX

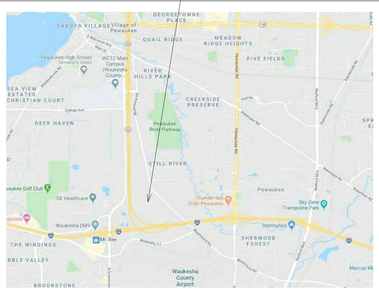
PROJECT INFORMATION:

CODE:	SPS 360-366 WISCONSIN COMMERCIAL BUILDING CODE (IBC 2015, IECC 2015/2009, IEBC 2015, IMC 2015 AND IFGC 2015) SPS 314 FIRE PREVENTION (REFERENCED NFPA) SPS 316 ELECTRICAL SPS 381-387 PLUMBING
OCCUPANCY:	F-1 (MANUFACTURING) (FUTURE ANTICIPATED) S-1 (STORAGE) (FUTURE ANTICIPATED) B (BUSINESS - OFFICE) (FUTURE POSSIBLE ACCESSORY)
CLASS OF CONSTRUCTION:	TYPE 2B
SPRINKLER SYSTEM:	FULLY SPRINKLERED - NFPA 13
FLOOR LEVELS:	1
NUMBER OF STORIES:	1
TOTAL OVERALL AREA:	217,988 SF FOOTPRINT

NOTE:

ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SPRINKLER ENGINEERING BY DESIGN-BUILD CONTRACTORS

PROJECT LOCATION:



3 SITE LOCATION MAP
NO SCALE

PROJECT SITE LOCATION:

4 VICINITY MAP
NO SCALE

BRIOHN
DESIGN GROUP
3885 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
TITLE SHEET

PROPOSED NEW MULTI-TENANT BUILDING:
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD HWY "JJ"
PEWAUKEE, WISCONSIN

Revision
Date

JOB: 3234
DRAWN: CK
CHECKED: DF /KJ
DATE: SEPTEMBER 3, 2020
SHEET:
T1.1

1 AERIAL VIEW - LOOKING NORTH / NORTH EAST
NO SCALE

2 AERIAL VIEW - LOOKING SOUTH / SOUTH WEST
NO SCALE

BRIOHN
DESIGN GROUP
3880 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-9500 PHONE
(262) 790-9505 FAX

SHEET TITLE
ARCHITECTURAL RENDERINGS

PROPOSED NEW MULTI-TENANT BUILDING:
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD HWY "J"
PEWAUKEE, WISCONSIN

Revision

Date

JOB: 3234
DRAWN: CK
CHECKED: DF / KJ
DATE: SEPTEMBER 3, 2020
SHEET:
T1.2

GENERAL NOTES

1. THE FOLLOWING SHALL APPLY TO ALL SUBCONTRACTORS AND SUPPLIERS ENGAGED IN EXECUTION OF THE WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS.

2. THE COMPLETE CONSTRUCTION DOCUMENT SET IS INCLUSIVE OF THE DRAWING SHEETS LISTED IN THE DRAWING INDEX.

3. ALL WORK SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF THE LOCAL AND STATE BUILDING, HVAC AND FIRE SAFETY CODE; LOCAL AND STATE PLUMBING CODE; LOCAL AND STATE MECHANICAL CODES; LOCAL AND STATE ELECTRICAL CODE; OSHA BARRIER FREE DESIGN; LOCAL AND STATE FIRE PROTECTION CODES. ALL WORK SHALL CONFORM TO ALL NATIONAL CODES AND REFERENCE STANDARDS AS REFERENCED IN THE LOCAL AND STATE CODES. ALL WORK, MATERIALS AND INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH ALL ORDINANCES, STATE AND LOCAL BUILDING CODES, LATEST EDITION, OF THE AUTHORITIES HAVING JURISDICTION. DESIGN LOADS: LOADS AND CODE RESTRICTIONS FOR ALL DESIGN CONSIDERATIONS SHALL CONFORM TO THE LOCAL AND STATE CODES AND ALL GOVERNING CODES, AND ALL CONSTRUCTION IS TO COMPLY WITH ALL LOCAL SEISMIC REQUIREMENTS. REFER TO STRUCTURAL SPECIFICATIONS.

4. PERMITS: THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER APPLICATION FOR AND SECURING OF ALL NECESSARY PERMITS, AS WELL AS THE OBSERVANCE OF ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL LAWS, REGULATIONS OR ORDINANCES.

5. FIRE PROTECTION: SUBCONTRACTOR SHALL PROVIDE FIRE EXTINGUISHERS WITHIN THE
PREMISES AS REQUIRED BY CODE AND OR INSURANCE COMPANIES (FOLLOW MORE STRINGENT REQUIREMENTS), OR VERIFY THAT AN ADEQUATE NUMBER OF FIRE EXTINGUISHERS EXIST IN THE CASE OF A REMODELING OR ALTERATION. DISCONNECT AND SEAL UTILITIES SERVING STRUCTURE TO BE DEMOLISHED, PRIOR TO START OF DEMOLITION WORK IF DEMOLITION WORK IS PART OF THE SCOPE OF WORK REQUIRED.
FIRE SPRINKLERS: THE GENERAL CONTRACTOR SHALL EMPLOY THE SERVICES OF A LICENSED FIRE SPRINKLER CONTRACTOR TO REWORK AND MODIFY THE EXISTING SYSTEM TO CONFORM WITH THE NEW ROOM AND CEILING HEIGHTS AS SHOWN IN THESE DRAWINGS. THE SPRINKLER CONTRACTOR SHALL DESIGN AND PREPARE SHOP DRAWINGS FOR THE PROPOSED SYSTEM MODIFICATIONS AND SUBMIT THESE DRAWINGS TO THE LOCAL AND STATE BUILDING AND CODE OFFICIALS AND THE ARCHITECT TO GAIN APPROVALS PRIOR TO CONNECTING ANY WORK. PROVIDE CONCEALED HEADS FOR AREAS WITH FINISHED CEILINGS UNLESS OTHERWISE NOTED.

6. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DRAWINGS.

7. CONTRACTOR COMPLIANCE: THE SUBCONTRACTOR SHALL VISIT THE PREMISES AND VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION AND SHALL REPORT ALL DISCREPANCIES TO THE ARCHITECT AND THE GENERAL CONTRACTOR. THE SUBCONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS REGARDING CONSTRUCTION PROCEDURES, INSURANCE, ETC AS SET FORTH BY THE GENERAL CONTRACTOR.

8. THE SUBCONTRACTOR SHALL SUBMIT A SPECIFIC CONSTRUCTION SCHEDULE TO THE GENERAL CONTRACTOR'S CONSTRUCTION/PROJECT MANAGER WITHIN 7 DAYS AFTER THE AWARD OF THE SUBCONTRACT.

9. HAZARDOUS MATERIALS: IN THE EVENT HAZARDOUS MATERIALS ARE ENCOUNTERED ON THE PREMISES DURING THE EXECUTION OF THE WORK, NOTIFY THE GENERAL CONTRACTOR BEFORE PROCEEDING WITH THE WORK. THE GENERAL CONTRACTOR SHALL NOTIFY THE OWNER/LANDLORD. AFTER THE OWNER/LANDLORD IS NOTIFIED AND WORK IS SUSPENDED, THE OWNER/LANDLORD IS RESPONSIBLE FOR DIRECTIONS TO THE GENERAL CONTRACTOR AS TO THE REMOVAL AND HANDLING OF HAZARDOUS MATERIALS. PROCEED WITH WORK WHEN THE OWNER/LANDLORD GIVES WRITTEN APPROVAL. REMOVAL AND HANDLING OF HAZARDOUS MATERIALS SHALL FOLLOW LOCAL AND STATE CODES AND REQUIREMENTS.

10. INFORMATION RELATED TO EXISTING CONDITIONS GIVEN IN THE CONSTRUCTION DOCUMENTS WAS OBTAINED FROM EXISTING BUILDING SCHEMATIC DRAWINGS AVAILABLE AT THE TIME OF DESIGN. ACCURACY CAN NOT BE GUARANTEED. DRAWINGS AND SPECIFICATIONS ARE INTENDED FOR ASSISTANCE AND GUIDANCE, BUT EXACT DIMENSIONS AND ELEVATIONS SHALL BE GOVERNED BY ACTUAL CONDITIONS AT THE SITE AND SHALL BE VERIFIED BY THE SUBCONTRACTOR.

11. NOTES ARE AN AID FOR THE SUBCONTRACTOR IN UNDERSTANDING THE WORK AND SHALL NOT BE CONSTRUED AS BEING COMPLETE IN EVERY DETAIL. IT IS THE RESPONSIBILITY OF THE SUBCONTRACTOR TO VISIT THE SITE, BECOME THOROUGHLY FAMILIAR WITH THE WORK AND REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE ACTUAL CONDITIONS TO THE ARCHITECT AND THE GENERAL CONTRACTOR.

12. DO NOT SUBSTITUTE, REVISE OR CHANGE THE WORK WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT AND THE GENERAL CONTRACTOR.

13. INSTALL WORK PLUMB LEVEL SQUARE TRUE AND IN PROPER ALIGNMENT.

14. WORK SHALL BE SCHEDULED AND PERFORMED SO AS NOT TO DISTURB OR CAUSE DAMAGE TO EXISTING BUILDING ELEMENTS INTENDED TO REMAIN WHICH IS NOT PART OF THE SCOPE OF THE WORK. WORK SHALL BE SCHEDULED AND PERFORMED SO AS NOT TO DISTURB OR CAUSE DAMAGE TO INSTALLED WORK.

15. NO WORK SHALL BE DONE IN OTHER NON DESIGNATED AREAS OR OTHER TENANT AREAS, UNLESS OTHERWISE NOTED. SCHEDULE AND PERFORM THE WORK SO THAT THE OTHER AREAS NOT DESIGNATED TO RECEIVE WORK AND THE OTHER TENANTS IN THE BUILDING WILL NOT BE DISTURBED AND COMPLY WITH THE BUILDING OWNERS REQUIREMENTS.

16. COORDINATE WORK AS REQUIRED WITH THE OWNER/LANDLORD'S REPRESENTATIVE INCLUDING THE USE OF ELEVATORS, TEMPORARY STORAGE, LOADING DOCKS, BUILDING KEYING INCLUDING THE USE OF ELEVATORS, TEMPORARY STORAGE, LOADING DOCKS, BUILDING KEYING SYSTEMS, ETC. AND PROVIDE NECESSARY BARRICADES, LIGHTING, SIGNAGE AND GUARDRAILS AS REQUIRED BY OWNER/LANDLORD AND/OR APPLICABLE REGULATORY AGENCIES FOR THE PROTECTION OF BUILDING OCCUPANTS, WORKERS, VISITORS, CUSTOMERS AND PEDESTRIANS.

17. EACH SUBCONTRACTOR IS CONSIDERED A SPECIALIST IN HIS/HER RESPECTIVE FIELD, AND PRIOR TO THE SUBMISSION OF BID OR PERFORMANCE OF WORK EACH SUBCONTRACTOR SHALL NOTIFY THE ARCHITECT AND GENERAL CONTRACTOR OF WORK CALLED OUT IN THE DRAWINGS OR SPECIFICATIONS IN HIS/HER TRADE THAT CANNOT BE FULLY GUARANTEED OR CONSTRUCTED ACCORDING TO THE DESIGN INTENT.

18. PROVIDE AND COORDINATE LOCATION AND TYPE OF BLOCKING/BACKING REQUIRED WITHIN PARTITIONS AT LOCATIONS OF WALL MOUNTED ITEMS.

19. THE DRAWINGS INDICATE LOCATION, DIMENSIONS, REFERENCE AND TYPICAL DETAILS OF CONSTRUCTION. THE DRAWINGS DO NOT ILLUSTRATE EVERY CONDITION. WORK NOT PARTICULARLY DETAILED SHALL BE OF CONSTRUCTION SIMILAR TO PARTS THAT ARE DETAILED. VERIFY WITH ARCHITECT AND GENERAL CONTRACTOR PRIOR TO FABRICATION OR INSTALLATION OF SPECIFIC DETAILS OF CONSTRUCTION.

20. DISCREPANCY IN THE PLANS SHALL BE REPORTED TO ARCHITECT AND GENERAL CONTRACTOR IMMEDIATELY. SUBCONTRACTOR SHALL NOT MAKE A DETERMINATION FOR CONFLICTS IN PLAN DIMENSIONS.

21. DIMENSIONS ARE NOT ADJUSTABLE WITHOUT THE APPROVAL OF THE ARCHITECT AND GENERAL CONTRACTOR UNLESS NOTED +/-.

22. VERTICAL DIMENSIONS ARE FROM THE TOP OF FLOOR FINISH, ESTABLISHED BY THE ARCHITECT AND GENERAL CONTRACTOR UNLESS OTHERWISE NOTED.

23. DIMENSIONS MARKED "FIELD VERIFY" SHALL BE VERIFIED IN THE FIELD BY THE SUBCONTRACTOR'S AFFECTED.

24. HORIZONTAL DIMENSIONS SHALL BE SHOWN FROM THE FINISHED FACE OF CONSTRUCTION UNLESS OTHERWISE NOTED.

25. WASTE AND REFUSE CAUSED BY WORK SHALL BE REMOVED FROM THE PREMISES AND DISPOSED OF OR RECYCLED PROPERLY BY THE SUBCONTRACTOR DAILY. FINAL CLEANING PRIOR TO FINAL INSPECTION SHALL INCLUDE A THOROUGH CLEANING OF ALL SURFACES AND REPLACEMENT OF ALL FILTERS IN NEW INSTALLED HVAC EQUIPMENT AND EXISTING HVAC EQUIPMENT AFFECTED BY CONSTRUCTION OF WORK.

26. MAINTAIN STRICT CONTROL OF DUST AND DEBRIS EMANATING FROM THE PROJECT AREA. KEEP PROJECT AREA BROOM CLEAN AND CLEAR OF DEBRIS DAILY.

27. SUBCONTRACTOR SHALL PERFORM ANY AND ALL EXCAVATING, CUTTING, PATCHING, REPAIRING, RESTORING AND THE LIKE NECESSARY TO COMPLETE THE WORK OF THIS CONTRACT. RESTORE ANY DAMAGED OR AFFECTED SURFACES RESULTING FROM THE WORK OF THIS CONTRACT TO THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE ARCHITECT, GENERAL CONTRACTOR, AND THE OWNER/LANDLORD. PATCH DAMAGE WITHIN THE WORK AREA, AS WELL AS OUTSIDE THE LIMIT OF WORK AREA IF CAUSED BY THE EXECUTION OF THE WORK.

28. EACH SUBCONTRACTOR SHALL LEAVE THE SITE IN A NEAT, CLEAN AND ORDERLY CONDITION ON A DAILY BASIS AND UPON CONCLUSION OF HIS WORK. ALL WASTE, RUBBISH AND EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE PROMPTLY. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL TRASH GENERATED FOR THE DURATION OF THE PROJECT.

29. CONSULT PROPERTY AS BUILT UTILITY PLANS BEFORE SAW CUTTING CONCRETE SLAB IF REQUIRED. IF AS BUILT DRAWINGS ARE NOT AVAILABLE UTILIZE OTHER MEANS TO UNCOVER BURIED UTILITIES.

30. NO SUBSTITUTIONS SHALL BE PERMITTED UNLESS PRIOR APPROVAL BY THE ARCHITECT AND THE GENERAL CONTRACTOR IS GIVEN.

31. PATCH AND REPAIR ALL FIREPROOFING AND FIRE STOPPING DAMAGED OR REMOVED DURING THE PERFORMANCE OF THE WORK.

32. ACCESSORIES, ETC. THEY SHALL BE PAINTED TO MATCH THE ADJACENT SURFACE AND AS DIRECTED BY THE ARCHITECT AND THE GENERAL CONTRACTOR.

33. EXTERIOR WALL OPENINGS, FLASHING, COUNTER FLASHING, COPING AND EXPANSION JOINTS SHALL BE WEATHERPROOF.

34. CAULKING AND SEALANTS: OPEN JOINTS PENETRATIONS AND OTHER OPENINGS IN THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, OR WEATHER STRIPPED TO LIMIT AIR LEAKAGE. MAINTAIN REQUIRED FIRE RATING.

35. USE ACOUSTICAL SEALANT AROUND ALL PIPES, DUCTS, CONDUITS, SWITCHES, ETC. ON BOTH SIDES OF WALLS (CROSSING/PENETRATION) WITH THERMAL AND ACOUSTIC INSULATION. MAINTAIN REQUIRED FIRE RATING.

36. NOISE BARRIER BATTS (SOUND INSULATION) SHALL BE NON COMBUSTIBLE.

37. MECHANICAL CONTRACTORS SHALL VERIFY EXACT LOCATIONS AND EXACT DIMENSIONS WITH EQUIPMENT MANUFACTURERS. MECHANICAL CONTRACTORS SHALL VERIFY ALL SIZES AND LOCATIONS OF DUCT OPENINGS BEFORE INSTALLATION AND VERIFY DISCREPANCIES, IF ANY.

38. DEFINITIONS:
A) AS REQUIRED: AS REQUIRED BY REGULATORY REQUIREMENTS BY REFERENCED STANDARDS, BY EXISTING CONDITIONS, BY GENERALLY ACCEPTED CONSTRUCTION PRACTICE OR BY THE CONTRACT DOCUMENTS.
B) TYPICAL: IDENTICAL FOR SIMILAR CONDITIONS, UNLESS OTHERWISE NOTED.
C) SIMILAR: COMPARABLE CHARACTERISTICS FOR THE CONDITION NOTED. DIFFERENCES CAN BE INFERRED FROM OTHER INFORMATION INDICATED. VERIFY DIMENSIONS AND ORIENTATIONS.
D) REMOVE: ELIMINATE AND RECYCLE OR DISPOSE OF PROPERLY.

39. SUBCONTRACTOR TO CROSS CHECK WITH ARCHITECTURAL, HVAC, AND PLUMBING PLANS FOR OTHER DETAILS, DIMENSIONS, ELEVATIONS, OPENINGS, INSERTS, BRICK LEDGES, ETC. BRIOHN DESIGN GROUP, LLC TO BE NOTIFIED OF ANY VARIANCE BEFORE CONTRACTOR BEGINS WORK.

40. DIMENSIONS SHOWN ON ARCHITECTURAL DRAWINGS SUPERSEDE DIMENSIONS SHOWN ON STRUCTURAL PLANS. THE USE OF A SCALE TO OBTAIN DIMENSIONS NOT SHOWN ON DRAWINGS IS NOT PERMITTED.

41. IN NO CASE SHALL STRUCTURAL ALTERATIONS OR WORK AFFECTING A STRUCTURAL MEMBER BE MADE, UNLESS APPROVED BY BRIOHN DESIGN GROUP, LLC.

42. IT IS THE SUBCONTRACTORS SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE-DOWNS AS MAY BE NECESSARY. ALL CONSTRUCTION AND ERECTION TO CONFORM TO OSHA REQUIREMENTS.

43. WHERE DETAILS ARE CALLED FOR IN A CERTAIN PORTION OF THE BUILDING, THEY SHALL BE DUPLICATED IN SIMILAR PORTIONS OF THE BUILDING UNLESS SHOWN OTHERWISE. CLARIFY WITH ARCHITECT BEFORE SUBCONTRACTOR BEGINS WORK.

44. CONSTRUCTION DOCUMENTS SHOW DIMENSIONS AND ELEVATIONS TO SIGNIFICANT WORKING POINTS (COLUMN CENTERLINES, OUTSIDE FACES OF WALLS, TOP OF FRAMING MEMBERS, ETC.) MATERIAL SUPPLIERS AND DESIGNERS ARE RESPONSIBLE FOR ALL OTHER INFORMATION IN ORDER TO DETAIL/FABRICATE THEIR WORK. CONTACT THE ARCHITECT WITH ANY DISCREPANCIES.

45. SUBCONTRACTOR SHALL PROVIDE A MINIMUM OF FOUR DETAILED SHOP DRAWINGS, OTHER RELATED DRAWINGS, ERECTION DRAWINGS AND SAMPLES WHERE REQUIRED PRIOR TO COMMENCEMENT OF FABRICATION AND INSTALLATION OF WORK.

GENERAL REQUIREMENTS

1. THE WORK SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT AND SERVICES NECESSARY FOR AND SAID HEADING AS INDICATED IN THE SPECIFICATIONS, DRAWINGS AND DESIGN BUILD CONSTRUCTION CONTRACT.

2. SUBCONTRACTORS SHALL VISIT THE PREMISES WHILE BIDDING AND SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND THE REQUIREMENTS OF THE PROJECT PRIOR TO DEVELOPING THEIR BID. MATERIAL QUANTITIES SHALL BE BASED ON ACTUAL FIELD CONDITIONS AND MEASUREMENTS. DO NOT RELY ON SCALING PLANS FOR ACCURATE DIMENSIONING.

3. PRIOR TO BEGINNING THE WORK, VERIFY ALL EXISTING DIMENSIONS AND SQUARE FOOTAGES. NOTIFY THE OWNER/LANDLORD OF COMPLIANCE OR DISCREPANCIES, COMPARING THOSE DISCREPANCIES TO THE NUMBERS ON THE TITLE SHEET.

4. SUBCONTRACTORS SHALL TAKE CARE TO PROTECT ADJACENT AREAS FROM DUST AND DAMAGE DURING THE CONSTRUCTION PROCESS AND SHALL CLEAN UP AFTER THEMSELVES AT THE END OF EACH WORKING DAY. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER PROTECTION OF ADJACENT ITEMS AND SURFACES FROM DAMAGE RESULTING FROM THE FURNISHING OR INSTALLATION OF SUBCONTRACTORS WORK AND SHALL PROMPTLY REPLACE, AT HIS OWN COST, SUCH DAMAGED WORK. SUBCONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE PROPER PROTECTION OF HIS AND OTHERS WORK FROM DAMAGE. USE APPROPRIATE COVERINGS OVER FURNITURE, DISPLAY CASES, EQUIPMENT AND FINISHES AS REQUIRED.

5. RUBBISH AND TRASH SHALL BE REMOVED FROM THE PREMISES AND RECYCLED AND/OR PROPERLY DISPOSED OF EACH DAY. NO RUBBISH SHALL BE LEFT IN THE PREMISES AFTER WORK IS COMPLETED.

6. UPON COMPLETION OF THE WORK INTERIOR AND EXTERIOR OF ALL GLASS AND GLAZING, FLOORS, WALLS AND CEILING SURFACES, ELECTRICAL FIXTURES, MECHANICAL EQUIPMENT, ETC.; IT IS NECESSARY TO REMOVE ALL DIRT, STAINS AND MARKS.

7. DRAWINGS HEREIN CREATE AN ENTIRE PACKAGE. ALL TRADES SHALL BE RESPONSIBLE FOR REVIEWING THEIR RESPECTIVE REQUIREMENTS AND COORDINATING THEIR HIDDEN OR EXPOSED WORK WITH OTHER RELATED TRADES.

8. COORDINATE WORK OF THE VARIOUS TRADES AND SUBCONTRACTORS TO ASSURE EFFICIENT AND ORDERLY INSTALLATION. PROVIDE ACCOMMODATION FOR ITEMS INSTALLED AT A LATER DATE. VERIFY THAT CHARACTERISTICS OF ELEMENTS OF INTERRELATED OPERATING EQUIPMENT ARE COMPATIBLE. COORDINATE WORK OF VARIOUS SECTIONS WHICH HAVE INTERDEPENDENT RESPONSIBILITIES FOR INSTALLING, CONNECTING TO, AND PLACING IN SERVICE, SUCH EQUIPMENT. COORDINATE SPACE REQUIREMENTS AND INSTALLATION OF MECHANICAL AND ELECTRICAL WORK AND FIRE SPRINKLER SYSTEM WHICH ARE INDICATED, DETAILED OR IMPLIED DIAGRAMMATIC ALLY ON DRAWINGS.

9. UNLESS SPECIFICALLY NOTED, PROVIDE AND PAY FOR LABOR, MATERIALS AND EQUIPMENT, TOOLS, CONSTRUCTION EQUIPMENT AND MACHINERY AND OTHER FACILITIES AND SERVICES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF WORK, INCLUDING PERMITS.

10. GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL PURCHASE AND MAINTAIN INSURANCE COVERAGE IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER/LANDLORD.

11. FURNISH REQUIRED TEMPORARY FACILITIES AND TEMPORARY UTILITIES IMMEDIATELY AFTER RECEIPT OF NOTICE TO PROCEED FOR USE IN CONVENIENCE OF THOSE ENGAGED IN THE PROJECT WORK.

12. SUBCONTRACTORS MUST STAY BEHIND THE BARRIERS AND MAINTAIN ACCESS TO SUCH AREAS CLEAN AND FREE OF CONSTRUCTION MATERIALS AND DEBRIS. FAILURE TO MAINTAIN CLEAN WORK AREAS WILL RESULT IN GENERAL CONTRACTOR HAVING SUCH MATERIALS AND DEBRIS REMOVED AND CHARGES FOR MAINTENANCE BILLED TO THE SUBCONTRACTOR.

13. COORDINATE CONSTRUCTION, SCHEDULING WITH THE OWNER/LANDLORD OR REPRESENTATIVE REVIEWING SCHEDULED ACTIVITIES AT OUTSET OF CONSTRUCTION.

14. ALLOWABLE TOLERANCES - UNLESS OTHERWISE NOTED OR INDICATED, THE FOLLOWING TOLERANCES SHALL APPLY TO WORK WITHIN AND RELATED TO THE SCOPE OF THESE DOCUMENTS.
A) VERTICAL SURFACES SHALL BE PLUMB OR CONSTRUCTED TO THE EXACT SLOPES OR ANGLES INDICATED.
B) THE MAXIMUM DEVIATION FROM THE TRUE PLANE FOR VERTICAL AND HORIZONTAL SURFACES SHALL NOT BE GREATER THAN 1/8" IN 10'-0" AS MEASURED BY A STRAIGHT EDGE PLACED ANYWHERE ON THE SURFACE.
C) HORIZONTAL SURFACES SHALL BE LEVEL OR CONSTRUCTED TO THE EXACT ANGLE INDICATED OR INTENDED.
D) WALL AND SOFFIT INTERSECTIONS SHALL BE 90 DEGREES OR THE EXACT ANGLE INDICATED OR INTENDED.
E) CORNERS AND EDGES SHALL BE STRAIGHT AND TRUE WITHOUT DENTS, WAVES, BULGES OR OTHER BLEMISHES.
F) JOINTS SHALL BE TIGHT, STRAIGHT, EVEN AND SMOOTH.
G) OPERABLE ITEMS SHALL OPERATE SMOOTHLY WITHOUT STICKING OR BINDING AND WITHOUT EXCESSIVE "PLAY" OR LOOSENESS.

15. THE FOLLOWING MATERIALS SHALL BE LEFT AT THE JOBSITE. THEY SHALL BE TAKEN FROM THE SAME MATERIAL, LOT OR RUN USED TO CONSTRUCT AND FINISH THE PROJECT:
A) (5) PIECES OF EACH ENTRY OF TILE, IF USED.
B) (1) GALLON OF EACH COLOR PAINT IN A TIGHTLY SEALED AND MARKED CAN.
C) (1) BOX OF EACH TYPE OF CEILING TILE, IF USED.

16. THE OWNER/LANDLORD OR OWNER/LANDLORD'S SUBCONTRACTORS MAY OCCUPY PORTIONS OF THE PROJECT DURING THE FINAL STAGE OF CONSTRUCTION, WITH THE COOPERATION AND COORDINATION OF THE GENERAL CONTRACTOR AND APPROVAL OF THE LOCAL CODE OFFICIAL IF REQUIRED.

17. DIMENSIONS AND FINISHES SHALL BE VERIFIED AND COORDINATED WITH EXISTING CONDITIONS PRIOR TO CONSTRUCTION, FABRICATION OR PURCHASING. IN CASE OF CONFLICT BETWEEN THE PROJECT REQUIREMENTS AND/OR EXISTING CONDITIONS, THE ONE HAVING THE MOST STRINGENT REQUIREMENTS SHALL GOVERN, AS APPROVED BY THE ARCHITECT AND THE GENERAL CONTRACTOR.

18. PERFORM WORK IN ACCORDANCE WITH ACCEPTABLE TRADE PRACTICE TO ENSURE THE HIGHEST QUALITY FINISHED PRODUCT - EXPRESSED OR IMPLIED. PERFORM WORK BY SKILLED MECHANICS IN ACCORDANCE WITH ESTABLISHED STANDARDS OF WORKMANSHIP IN EACH OF THE VARIOUS TRADES.

19. COORDINATE BLOCKING REQUIREMENTS WITH ADJACENT OR RELATED TRADES, ACCESSORIES, EQUIPMENT AND FIXTURES INSTALL REQUIRED BLOCKING AT NO ADDITIONAL COST TO CONTRACT.

20. REPAIR PROPERTY DAMAGE BY THE INSTALLERS TO A LIKE - NEW CONDITION OR REPLACE DAMAGED SURFACES AND MATERIALS OF THE PREVIOUSLY INSTALLED WORK BY OTHER TRADES, INSTALLERS AND SUBCONTRACTORS.

21. WHERE REQUESTED BY THE OWNER/LANDLORD TO CERTIFY CONFORMANCE TO TRADE STANDARDS OR THE PROJECT REQUIREMENTS, THE SUBCONTRACTOR SHALL ENLIST A TESTING LABORATORY AT THE OWNER/LANDLORD'S COST. IF THE REQUESTED TEST SHOWS NON - CONFORMANCE TO GENERALLY ACCEPTED TRADE STANDARDS OR THE PROJECT REQUIREMENTS, THE SUBCONTRACTOR SHALL CORRECT THE DEFICIENCY AT NO ADDITIONAL COSTS TO THE OWNER/LANDLORD AND REIMBURSE THE COSTS OF THE TESTING TO THE OWNER/LANDLORD, UNLESS THE CONTRACTOR HAS USED PRODUCTS INCORRECTLY LABELED BY THE MANUFACTURER OR HAS MADE PREVIOUSLY APPROVED CHANGES.

22. PROVIDE SECURITY OF THE WORK, INCLUDING TOOLS AND UNINSTALLED MATERIALS. PROTECT THE WORK, STORED PRODUCTS, CONSTRUCTION EQUIPMENT AND OWNER/LANDLORD'S PROPERTY FROM THEFT AND VANDALISM AND THE PREMISES FROM ENTRY BY UNAUTHORIZED PERSONNEL UNTIL FINAL ACCEPTANCE BY OWNER/LANDLORD.

23. MAINTAIN ACTIVE FIRE EXTINGUISHERS AT THE PROJECT AS REQUIRED TO ADEQUATELY COVER THE WORK AREA.

24. DO NOT USE MATERIALS OR EQUIPMENT FOR A PURPOSE OTHER THAN THAT FOR WHICH IT IS SPECIFICALLY DESIGNED OR SPECIFIED FOR. MATERIALS AND EQUIPMENT THAT ARE SIMILAR SHALL BE THE SAME TYPE, MODEL AND STYLE FOR THE SAME USE THROUGHOUT THE PROJECT OR THEY SHALL BE REJECTED.

25. WHEN THE PROJECT REQUIREMENTS REQUIRE THAT THE INSTALLATION OF WORK SHALL COMPLY WITH MANUFACTURER'S INSTRUCTIONS, PERFORM THE WORK IN STRICT ACCORDANCE WITH THE MOST CURRENT WRITTEN MANUFACTURER'S INSTRUCTIONS.

26. PRODUCTS AND EQUIPMENT SHALL BE DELIVERED IN UNDAMAGED CONDITION AND STORED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS TO AVOID DISRUPTION OF THE WORK OR DAMAGE TO THE ITEMS. REPLACE DAMAGED OR UNFIT MATERIALS, AT NO ADDITIONAL COST TO OWNER/LANDLORD.

27. NOTIFY THE OWNER/LANDLORD WHEN THE WORK IS SUBSTANTIALLY COMPLETE AND READY FOR INSPECTION. PROVIDE WRITTEN OPERATION AND MAINTENANCE INSTRUCTIONS AND GUARANTEES FOR ALL EQUIPMENT AND MATERIALS INSTALLED. PROVIDE WRITTEN GUARANTEES FOR A PERIOD OF ONE (1) YEAR FROM THE THE DATE OF FINAL ACCEPTANCE OF THE WORK.

28. PROVIDE FINAL CLEAN - UP AND DAMAGE REPAIR AT THE PROJECT CONCLUSION. LEAVE THE PREMISES NEAT, CLEAN AND CLEAR OF TOOLS, EQUIPMENT AND SURPLUS MATERIALS, UNLESS REQUESTED BY THE OWNER/LANDLORD. CLEAN - UP SHALL INCLUDE AND NOT BE LIMITED TO:

29. SUBCONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS CORRESPONDING TO THE LOCATION OF EXISTING ELEMENTS SUCH AS COLUMNS, BEAMS, WALLS, ETC. NEEDED TO CONSTRUCT THIS PROJECT.

30. SUBCONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY ARCHITECT OF ANY CONFLICTS WITH CONSTRUCTION DOCUMENTS.

31. REMOVE, REPLACE AND/OR MODIFY ALL EXISTING CONSTRUCTION (ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL) AS REQUIRED IN ORDER TO PLACE NEW STRUCTURAL WORK SHOWN ON THE CONSTRUCTION DOCUMENTS.

32. SUBCONTRACTOR SHALL DESIGN AND PROVIDE ALL SHORING REQUIRED TO SUPPORT EXISTING CONSTRUCTION AND NEW CONSTRUCTION AS REQUIRED TO BUILD THIS PROJECT.

33. IT SHALL BE THE SUBCONTRACTOR'S SOLE RESPONSIBILITY TO RECEIVE, CHECK AND CONFIRM THE ARRIVAL IN GOOD ORDER ALL ITEMS CALLED FOR TO BE FURNISHED BY THE OWNER AND INSTALLED BY THE CONTRACTOR. THE SUBCONTRACTOR SHALL NOTIFY BRIOHN BUILDING CORP. AND OWNER IN WRITING OF ANY SUCH ITEMS MISSING OR DAMAGED WITHIN 3 DAYS OF RECEIVING DATE. FAILURE TO SO NOTIFY THE BRIOHN BUILDING CORP. AND OWNER WILL BE CONSIDERED PROOF THE PROPER QUANTITIES WERE DELIVERED AND IN GOOD CONDITION, AND IT SHALL BE THE SUBCONTRACTOR'S RESPONSIBILITY (AT SUBCONTRACTOR'S OWN COST) TO PROMPTLY REORDER, REPLACE AND OR REPAIR ANY SUCH ITEMS NEEDED FOR THE PROPER COMPLETION OF THIS PROJECT, ON THE AGREED DATE OF COMPLETION.

34. THE APPLICATION OF A MATERIAL AND OR EQUIPMENT ITEM BY A SUBCONTRACTOR TO UNSATISFACTORY WORK INSTALLED BY OTHERS, CONSTITUTES ACCEPTANCE OF THAT WORK AND ASSUMPTION OF FULL RESPONSIBILITY. PRIOR TO STARTING THE SPECIFIC APPLICATION, NOTIFY BRIOHN BUILDING CORP. IN WRITING OF ANY DEFECT OR DEFICIENCY WHICH WOULD IMPAIR COMPLETE AND SATISFACTORY APPLICATIONS OR INSTALLATION OF SUBCONTRACTOR'S WORK INCLUDING GUARANTEE.

35. WHERE INSTALLATION INCLUDE MANUFACTURED PRODUCTS, COMPLY WITH MANUFACTURER'S APPLICABLE INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION, TO THE EXTENT THESE ARE MORE EXPLICIT OR MORE STRINGENT THAN REQUIREMENTS INDICATED IN THE CONTRACT DOCUMENTS.

36. PROVIDE ATTACHMENT AND CONNECTION DEVISES AND METHODS FOR SECURING WORK PROPERLY AS IT IS INSTALLED; TRUE TO LINE AND LEVEL, AND WITHIN RECOGNIZED INDUSTRY TOLERANCES UNLESS OTHERWISE NOTED. ALLOW FOR EXPANSION AND BUILDING MOVEMENT.

37. PROVIDE UNIFORM JOINT WIDTHS IN EXPOSED WORK, ORGANIZED FOR BEST POSSIBLE VISUAL EFFECT. REFER QUESTIONABLE VISUAL-EFFECT CHOICES TO ARCHITECT AND GENERAL CONTRACTOR FOR A FINAL DECISION. RECHECK MEASUREMENTS AND DIMENSIONS OF THE WORK, AS AN INTEGRAL STEP OF STARTING EACH INSTALLATION.

38. MOUNTING HEIGHTS: WHERE MOUNTING HEIGHTS ARE NOT INDICATED, MOUNT INDIVIDUALUNITS OF WORK AT INDUSTRY RECOGNIZED STANDARD MOUNTING HEIGHTS FOR APPLICATIONS INDICATED. REFER QUESTIONABLE MOUNTING HEIGHT CHOICES TO ARCHITECT AND GENERAL CONTRACTOR FOR FINAL DECISION.

39. PROVIDE AND COMPLETE ALL PRELIMINARY WORK AND TEMPORARY CONSTRUCTION REQUIRED AS INDICATED AND REQUIRED. INSTALL TEMPORARY BARRICADE AS REQUIRED BY LOCAL OFFICIALS IN MANNER STIPULATED BY SAME.

40. INSTALLATION OF ANY COMBUSTIBLE MATERIALS ABOVE FINISHED CEILINGS OR IN ANY OTHER CONCEALED, NON-SPRINKLERED SPACE IS STRICTLY PROHIBITED.

41. IMPOSING ANY STRUCTURAL LOAD, TEMPORARY OR PERMANENT ON ANY PART OF THE EXISTING OR PROPOSED STRUCTURE WITHOUT ARCHITECT AND STRUCTURAL ENGINEER'S APPROVAL IS STRICTLY PROHIBITED.

42. CUTTING ANY HOLE IN EXISTING OR PROPOSED FLOOR SLABS, WALLS, COLUMNS, BEAMS OR ROOF WITHOUT PROPER APPROVAL BY ARCHITECT AND STRUCTURAL ENGINEER AND NOT IN ACCORDANCE WITH INSTRUCTIONS HEREIN AND PROPER CONSTRUCTION PROCEDURES IS STRICTLY PROHIBITED.

42. ATTACHING ANY WORK TO METAL DECK OR HANGING WORK FROM PLUMBING AND SPRINKLER PIPING OR CONDUIT IS STRICTLY PROHIBITED.

SITE WORK

WATER DISTRIBUTION

PART 1 GENERAL
1.1 SUMMARY
A. THIS SECTION INCLUDES WATER-DISTRIBUTION PIPING AND RELATED COMPONENTS OUTSIDE THE BUILDING FOR COMBINED WATER SERVICE AND FIRE-SERVICE.
B. UTILITY-FURNISHED PRODUCTS INCLUDE WATER METERS THAT WILL BE FURNISHED TO THE SITE. C. RELATED SECTIONS:
1. EARTHWORK

1.2 REFERENCES
A. STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
B. MILWAUKEE WATER WORKS RULES AND REGULATIONS GOVERNING WATER SERVICE AND WATER SERVICE PIPING
SPECIFICATIONS, LATEST EDITION.

1.3 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

1.4 QUALITY ASSURANCE
A. REGULATORY REQUIREMENTS:
1. COMPLY WITH REQUIREMENTS OF MILWAUKEE WATER WORKS.
2. COMPLY WITH STANDARDS OF AUTHORITIES HAVING JURISDICTION FOR POTABLE-WATER-SERVICE PIPING, INCLUDING MATERIALS, INSTALLATION, TESTING, AND DISINFECTION.
3. COMPLY WITH STANDARDS OF AUTHORITIES HAVING JURISDICTION FOR FIRE-SUPPRESSION WATER- SERVICE PIPING, INCLUDING MATERIALS, HOSE THREADS, INSTALLATION, AND TESTING.

1.5 PROJECT CONDITIONS
A. INTERRUPTION OF EXISTING WATER-DISTRIBUTION SERVICE: DO NOT INTERRUPT SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY WATER-DISTRIBUTION SERVICE ACCORDING TO REQUIREMENTS INDICATED:
1. NOTIFY ARCHITECT AND OWNER NO FEWER THAN FIVE (5) DAYS IN ADVANCE OF PROPOSED INTERRUPTION OF SERVICE.
2. DO NOT PROCEED WITH INTERRUPTION OF WATER-DISTRIBUTION SERVICE WITHOUT ARCHITECT'S AND
OWNER'S WRITTEN PERMISSION.

1.6 COORDINATION
A. COORDINATE CONNECTION TO WATER MAIN WITH MILWAUKEE WATER UTILITY.

PART 2 PRODUCTS

2.1 PIPE AND FITTINGS
A. DUCTILE-IRON PIPE WITH PUSH-ON RUBBER GASKETS JOINTS: CONFORM TO AWWA C151/A21.51-96 AND MILWAUKEE WATER WORKS WATER SERVICE PIPING SPECIFICATIONS.

2.2 CORPORATION VALVES AND CURB VALVES
A. CONFORM TO MILWAUKEE WATER WORKS WATER SERVICE PIPING SPECIFICATIONS.

2.3 WATER METERS
A. WATER METERS WILL BE FURNISHED BY UTILITY COMPANY.

PART 3 EXECUTION

3.1 EARTHWORK
A. REFER TO DIVISION 2 SECTION "EARTHWORK" FOR EXCAVATING, TRENCHING, AND BACKFILLING.

3.2 PIPING INSTALLATION
A. WATER-MAIN CONNECTION: TAP WATER MAIN ACCORDING TO REQUIREMENTS OF WATER UTILITY COMPANY AND OF SIZE AND IN LOCATION INDICATED.
B. INSTALL DUCTILE-IRON, WATER-SERVICE PIPING ACCORDING TO AWWA C600 AND AWWA M41 AND IN ACCORDANCE WITH MILWAUKEE WATER WORKS WATER SERVICE PIPING SPECIFICATIONS.

3.3 JOINT CONSTRUCTION
A. MAKE PIPE JOINTS ACCORDING TO THE FOLLOWING:.
1. DUCTILE-IRON PIPING, GASKETED JOINTS FOR WATER-SERVICE PIPING: AWA C600 AND AWWA M41 AND MILWAUKEE WATER WORKS WATER SERVICE PIPING SPECIFICATIONS.

3.4 VALVE INSTALLATION
A. IN ACCORDANCE WITH MILWAUKEE WATER WORKS WATER SERVICE PIPING SPECIFICATIONS.

3.5 FIELD QUALITY CONTROL
A. ARRANGE INSPECTION AND TESTING OF WATER SERVICE PIPING WITH MILWAUKEE WATER WORKS AND CITY OF MILWAUKEE DEPARTMENT OF NEIGHBORHOOD SERVICES PLUMBING INSPECTION. CONDUCT INSPECTION AND TESTING BEFORE JOINTS ARE COVERED.

3.6 CLEANING/DISINFECTION
A. CLEAN AND DISINFECT WATER SERVICE PIPING IN ACCORDANCE WITH DCOMM CHAPTER 82.40(8)(I) AND
MILWAUKEE WATER WORKS REQUIREMENTS.

SANITARY SEWERAGE

PART 1 GENERAL

1.1 SUMMARY
A. THIS SECTION INCLUDES GRAVITY-FLOW, NONPRESSURE SANITARY SEWERAGE OUTSIDE THE BUILDING, WITH THE FOLLOWING COMPONENTS:
1. CLEANOUTS.
2. PRECAST CONCRETE MANHOLES.
B. RELATED SECTIONS
1. SECTION 31 20 00 EARTHWORK

1.2 REFERENCES
A. STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION
B. WISCONSIN DEPARTMENT OF COMMERCE PLUMBING CODE DCOMM CHAPTERS 82 – 85.

1.3 SUBMITTALS
A. SHOP DRAWINGS: FOR MANHOLES. INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND FRAMES AND COVERS.
B. PRODUCT DATA: FORE EACH TYPE OF PRODUCT INDICATED.

PART 2 PRODUCTS

2.1 PIPING MATERIALS
A. PVC SEWER PIPE AND FITTINGS, ASTM D 3034, [SDR 35] , WITH BELL-AND-SPIGOT ENDS FOR GASKETED JOINTS IN ACCORDANCE WITH CHAPTER 8.10.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

2.2 NONPRESSURE-TYPE PIPE COUPLINGS
A. COMPLY WITH ASTM C 1173, ELASTOMERIC, SLEEVE-TYPE, REDUCING OR TRANSITION COUPLING, FOR JOINING UNDERGROUND NONPRESSURE PIPING. INCLUDE ENDS OF SAME SIZES AS PIPING TO BE JOINED AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.

B. SLEEVE MATERIALS:
1. FOR PLASTIC PIPES: ASTM F 477, ELASTOMERIC SEAL OR ASTM D 5926, PVC.
2. FOR DISSIMILAR PIPES: ASTM D 5926, PVC OR OTHER MATERIAL COMPATIBLE WITH PIPE MATERIALS BEING JOINED.
C. UNSHIELDED, FLEXIBLE COUPLINGS: ELASTOMERIC SLEEVE WITH STAINLESS-STEEL SHEAR RING AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.
1. MANUFACTURERS:
A. DALLAS SPECIALTY & MFG. CO. B. FERNCO INC.
C. LOGAN CLAY PRODUCTS COMPANY (THE).
D. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC. E. NDS INC.
F. PLASTIC ODDITIES, INC.
G. SHIELDED, FLEXIBLE COUPLINGS: ASTM C 1460, ELASTOMERIC OR RUBBER SLEEVE WITH FULL-LENGTH, CORROSION-RESISTANT OUTER SHIELD AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.
1. MANUFACTURERS:
A. CASCADE WATERWORKS MFG.
B. DALLAS SPECIALTY & MFG. CO.
C. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC.
E. RING-TYPE, FLEXIBLE COUPLINGS: ELASTOMERIC COMPRESSION SEAL WITH DIMENSIONS TO FIT INSIDE BELL OF LARGER PIPE AND FOR SPIGOT OF SMALLER PIPE TO FIT INSIDE RING.
1. MANUFACTURERS:
A. FERNCO INC.
B. LOGAN CLAY PRODUCTS COMPANY (THE).
C. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC.

2.3 CLEANOUTS
A. CLEANOUTS: IN ACCORDANCE WITH DEPARTMENT OF COMMERCE CODE CHAPTER 82.35.

2.4 MANHOLES
A. STANDARD PRECAST CONCRETE MANHOLES: CONFORM TO ASTM C478 AND SECTION 8.39.0 AND FILE NO. 12 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
B. MANHOLE STEPS: CONFORM TO SECTION 8.40.0 AND FILE NO. 15 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

PART 3 EXECUTION

3.1 PIPING APPLICATIONS
A. PIPE COUPLINGS AND FITTINGS WITH PRESSURE RATINGS AT LEAST EQUAL TO PIPING RATING MAY BE USED IN APPLICATIONS BELOW, UNLESS OTHERWISE INDICATED.
1. USE NONPRESSURE-TYPE FLEXIBLE COUPLINGS WHERE REQUIRED TO JOIN GRAVITY-FLOW, NONPRESSURE SEWER PIPING, UNLESS OTHERWISE INDICATED.
A. UNSHIELDED FLEXIBLE COUPLINGS FOR SAME OR MINOR DIFFERENCE OD PIPES.
B. UNSHIELDED, INCREASER/REDUCER-PATTERN, FLEXIBLE COUPLINGS FOR PIPES WITH DIFFERENT OD.
C. RING-TYPE FLEXIBLE COUPLINGS FOR PIPING OF DIFFERENT SIZES WHERE ANNULAR SPACE BETWEEN SMALLER PIPING'S OD AND LARGER PIPING'S ID PERMITS INSTALLATION.

3.2 PIPING INSTALLATION
A. GENERAL LOCATIONS AND ARRANGEMENTS: DRAWING PLANS AND DETAILS INDICATE GENERAL LOCATION AND ARRANGEMENT OF UNDERGROUND SANITARY SEWERAGE PIPING. LOCATION AND ARRANGEMENT OF PIPING LAYOUT TAKE DESIGN CONSIDERATIONS INTO ACCOUNT. INSTALL PIPING AS INDICATED, TO EXTENT PRACTICAL. WHERE SPECIFIC INSTALLATION IS NOT INDICATED, FOLLOW PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. INSTALL IN ACCORDANCE WITH CHAPTER 3.2.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER
CONSTRUCTION IN WISCONSIN, LATEST EDITION.
C. INSTALL PROPER SIZE INCREASERS, REDUCERS, AND COUPLINGS WHERE DIFFERENT SIZES OR MATERIALS OF PIPES AND FITTINGS ARE CONNECTED. REDUCING SIZE OF PIPING IN DIRECTION OF FLOW IS PROHIBITED.
D. USE CLASS B COMPACTED TRENCH SECTION IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
E. CLEAR INTERIOR OF PIPING AND MANHOLES OF DIRT AND SUPERFLUOUS MATERIAL AS WORK PROGRESSES.
MAINTAIN SWAB OR DRAG IN PIPING, AND PULL PAST EACH JOINT AS IT IS COMPLETED. PLACE PLUG IN END OF INCOMPLETE PIPING AT END OF DAY AND WHEN WORK STOPS.
F. INSTALL TRACER WIRE OVER NON-METALLIC PIPING IN ACCORDANCE WITH DCOMM CH. 82.30(11)(H).

3.3 PIPE JOINT CONSTRUCTION
A. FOLLOW PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. JOIN GRAVITY-FLOW, NONPRESSURE, DRAINAGE PIPING ACCORDING TO THE FOLLOWING:
1. JOIN PVC SEWER PIPING ACCORDING TO ASTM D 2321 AND ASTM D 3034 FOR ELASTOMERIC- GASKET JOINTS.
2. JOIN DISSIMILAR PIPE MATERIALS WITH NONPRESSURE-TYPE, FLEXIBLE COUPLINGS.

3.4 MANHOLE INSTALLATION
A. SET MANHOLE RIMS TO ELEVATIONS INDICATED.
B. INSTALL IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

3.5 CLEANOUT INSTALLATION
A. INSTALL CLEANOUTS AND RISER EXTENSIONS FROM SEWER PIPES TO CLEANOUTS AT GRADE. INSTALL PIPING SO CLEANOUTS OPEN IN DIRECTION OF FLOW IN SEWER PIPE.
1. USE LIGHT-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN EARTH OR UNPAVED FOOT-TRAFFIC AREAS.
2. USE MEDIUM-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN PAVED FOOT-TRAFFIC AREAS.
3. USE HEAVY-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN VEHICLE-TRAFFIC SERVICE AREAS.
4. USE EXTRA-HEAVY-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN [ROADS] <INSERT OTHER>.
B. SET CLEANOUT FRAMES AND COVERS IN EARTH IN CAST-IN-PLACE-CONCRETE BLOCK, 18 BY 18 BY 12 INCHES DEEP. SET WITH TOPS 1 INCH ABOVE SURROUNDING GRADE.
C. SET CLEANOUT FRAMES AND COVERS IN PAVEMENT WITH TOPS FLUSH WITH PAVEMENT SURFACE.

SITE WORK CONTINUED

3.6 FIELD QUALITY CONTROL
A. INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED.
INSPECT AFTER APPROXIMATELY 24 INCHES OF BACKFILL IS IN PLACE, AND AGAIN AT COMPLETION OF PROJECT.
1. DEFECTS REQUIRING CORRECTION INCLUDE THE FOLLOWING:
A. ALIGNMENT: LESS THAN FULL DIAMETER OF INSIDE OF PIPE IS VISIBLE BETWEEN STRUCTURES.
B. DEFLECTION: FLEXIBLE PIPING WITH DEFLECTION THAT PREVENTS PASSAGE OF BALL OR CYLINDER OF SIZE NOT LESS THAN 92.5 PERCENT OF PIPING DIAMETER.
C. CRUSHED, BROKEN, CRACKED, OR OTHERWISE DAMAGED PIPING.
D. INFILTRATION: WATER LEAKAGE INTO PIPING.
E. EXFILTRATION: WATER LEAKAGE FROM OR AROUND PIPING.
1. REPLACE DEFECTIVE PIPING USING NEW MATERIALS, AND REPEAT INSPECTIONS UNTIL DEFECTS ARE WITHIN ALLOWANCES SPECIFIED.
2. REINSPECT AND REPEAT PROCEDURE UNTIL RESULTS ARE SATISFACTORY.
F. TEST NEW SANITARY BUILDING SEWER IN ACCORDANCE WITH SECTION 5.4.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
1. DO NOT ENCLOSE, COVER, OR PUT INTO SERVICE BEFORE INSPECTION AND APPROVAL.
2. SCHEDULE TESTS AND INSPECTIONS BY AUTHORITIES HAVING JURISDICTION WITH AT LEAST 24 HOURS' ADVANCE NOTICE.
3. SUBMIT SEPARATE REPORT FOR EACH TEST.
4. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.
5. REPLACE LEAKING PIPING USING NEW MATERIALS, AND REPEAT TESTING UNTIL LEAKAGE IS WITHIN ALLOWANCES SPECIFIED.

SITE CLEARING

PART 1 GENERAL

1.1 SUMMARY
A. THIS SECTION INCLUDES THE FOLLOWING:
1. REMOVING EXISTING TREES, SHRUBS, GROUNDCOVERS, PLANTS, AND GRASS.
2. CLEARING AND GRUBBING.
3. STRIPPING AND STOCKPILING TOPSOIL.
4. REMOVING ABOVE- AND BELOW-GRADE SITE IMPROVEMENTS.
5. DISCONNECTING AND CAPPING OR SEALING SITE UTILITIES.
6. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES.

1.2 MATERIAL OWNERSHIP
A. EXCEPT FOR STRIPPED TOPSOIL OR OTHER MATERIALS INDICATED TO REMAIN OWNER'S PROPERTY, CLEARED MATERIALS SHALL BECOME CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM PROJECT SITE.

1.3 PROJECT CONDITIONS
A. TRAFFIC: MINIMIZE INTERFERENCE WITH ADJOINING ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING SITE-CLEARING OPERATIONS.
1. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER ADJACENT OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM OWNER AND AUTHORITIES HAVING JURISDICTION.
2. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS IF REQUIRED BY AUTHORITIES HAVING JURISDICTION.
B. SALVABLE IMPROVEMENTS: CAREFULLY REMOVE ITEMS INDICATED TO BE SALVAGED AND STORE ON OWNER'S PREMISES WHERE INDICATED.
C. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE SITE CLEARING.
D. DO NOT COMMENCE SITE CLEARING OPERATIONS UNTIL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE.

PART 2 PRODUCTS

2.1 SOIL MATERIALS
A. SATISFACTORY SOIL MATERIALS: REQUIREMENTS FOR SATISFACTORY SOIL MATERIALS ARE SPECIFIED IN SECTION "EARTHWORK."
1. OBTAIN APPROVED BORROW SOIL MATERIALS OFF-SITE WHEN SATISFACTORY SOIL MATERIALS ARE NOT AVAILABLE ON-SITE.

PART 3 EXECUTION

3.1 PREPARATION
A. PROTECT AND MAINTAIN BENCHMARKS AND SURVEY CONTROL POINTS FROM DISTURBANCE DURING CONSTRUCTION.
B. LOCATE AND CLEARLY FLAG TREES AND VEGETATION TO REMAIN OR TO BE RELOCATED.
C. PROTECT EXISTING SITE IMPROVEMENTS TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
1. RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO OWNER.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL
A. CONTRACTOR SHALL OBTAIN EROSION CONTROL PERMIT FROM CITY OF MILWAUKEE PRIOR TO ANY LAND DISTURBANCE.
B. PROVIDE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES TO PREVENT SOIL EROSION AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS, ACCORDING TO SITE EROSION CONTROL PLAN, AND CITY OF MILWAUKEE EROSION CONTROL PERMIT.
C. INSPECT, REPAIR, AND MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED.
D. REMOVE EROSION AND SEDIMENTATION CONTROLS AND RESTORE AND STABILIZE AREAS DISTURBED DURING REMOVAL.

3.3 UTILITIES
A. LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF UTILITIES INDICATED TO BE REMOVED.
1. ARRANGE WITH UTILITY COMPANIES TO SHUT OFF INDICATED UTILITIES.
B. EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES ACCORDING TO REQUIREMENTS INDICATED:
1. NOTIFY ARCHITECT NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS.
2. DO NOT PROCEED WITH UTILITY INTERRUPTIONS WITHOUT ARCHITECT'S WRITTEN PERMISSION.
C. REMOVAL OF UNDERGROUND UTILITIES IS INCLUDED IN DIVISION 2 SECTIONS COVERING SITE UTILITIES.

3.4 CLEARING AND GRUBBING
A. FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIAL UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED.
1. PLACE FILL MATERIAL IN HORIZONTAL LAYERS NOT EXCEEDING A LOOSE DEPTH OF 8 INCHES (200 MM), AND COMPACT EACH LAYER TO A DENSITY EQUAL TO ADJACENT ORIGINAL GROUND.

3.5 TOPSOIL STRIPPING
A. REMOVE SOD AND GRASS BEFORE STRIPPING TOPSOIL.
B. STRIP TOPSOIL TO WHATEVER DEPTHS ARE ENCOUNTERED IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL OR OTHER WASTE MATERIALS.
C. STOCKPILE TOPSOIL MATERIALS AWAY FROM EDGE OF EXCAVATIONS WITHOUT INTERMIXING WITH SUBSOIL. GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.

3.6 SITE IMPROVEMENTS
A. REMOVE EXISTING ABOVE- AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION.

3.7 DISPOSAL
A. DISPOSAL: REMOVE SURPLUS SOIL MATERIAL, UNSUITABLE TOPSOIL, OBSTRUCTIONS, DEMOLISHED MATERIALS, AND WASTE MATERIALS INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
1. SEPARATE RECYCLABLE MATERIALS PRODUCED DURING SITE CLEARING FROM OTHER NONRECYCLABLE MATERIALS. STORE OR STOCKPILE WITHOUT INTERMIXING WITH OTHER MATERIALS AND TRANSPORT THEM TO RECYCLING FACILITIES.

EARTHWORK

PART 1 GENERAL

1.1 RELATED DOCUMENTS
A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY
A. THIS SECTION INCLUDES THE FOLLOWING:
1. PREPARING SUBGRADES FOR SLABS-ON-GRADE, WALKS, PAVEMENTS, LAWNS AND GRASSES AND EXTERIOR PLANTS.
2. EXCAVATING AND BACKFILLING FOR BUILDINGS AND STRUCTURES.
3. DRAINAGE COURSE FOR SLABS-ON-GRADE.
4. BASE COURSE FOR CONCRETE WALKS, PAVEMENTS.
5. BASE COURSE FOR ASPHALT PAVING.
6. EXCAVATING AND BACKFILLING FOR UTILITY TRENCHES.
B. RELATED SECTIONS INCLUDE THE FOLLOWING:
1. DIVISION 1 SECTION "TEMPORARY FACILITIES AND CONTROLS" FOR TEMPORARY CONTROLS, UTILITIES, AND SUPPORT FACILITIES.
2. SECTION "SITE CLEARING" FOR TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES, SITE STRIPPING, GRUBBING, STRIPPING AND STOCKPILING TOPSOIL, AND REMOVAL OF ABOVE- AND BELOW- GRADE IMPROVEMENTS AND UTILITIES.

1.3 REFERENCES
A. STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION
B. STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
C. PRELOADING COMPLETION REPORT, NORTH REGION OF BLOCK 4 LOT 1 MENOMONEE VALLEY INDUSTRIAL PARK; GESTRA ENGINEERING; JUNE 30, 2011
D. GEOTECHNICAL RECOMMENDATIONS REVIEW, PROPOSED INDUSTRIAL DEVELOPMENT, NORTHERN HALF BLOCK 4 LOT 1 (MVBP); GESTRA ENGINEERING; JULY 22, 2013

1.4 DEFINITIONS
A. BACKFILL: SOIL MATERIAL USED TO FILL AN EXCAVATION.
B. BASE COURSE: COURSE PLACED BETWEEN THE PREPARED SUBGRADE AND HOT-MIX ASPHALT PAVING OR CEMENT CONCRETE PAVEMENT, SIDEWALK OR CURB AND GUTTER.
C. BEDDING COURSE: COURSE PLACED OVER THE EXCAVATED SUBGRADE IN A TRENCH BEFORE LAYING PIPE.
D. BORROW SOIL: SATISFACTORY SOIL IMPORTED FROM OFF-SITE FOR USE AS FILL OR BACKFILL.
E. DRAINAGE COURSE: COURSE SUPPORTING THE SLAB-ON-GRADE THAT ALSO MINIMIZES UPWARD CAPILLARY FLOW OF PORE WATER.
F. EXCAVATION: REMOVAL OF MATERIAL ENCOUNTERED ABOVE SUBGRADE ELEVATIONS AND TO LINES AND DIMENSIONS INDICATED.
1. AUTHORIZED ADDITIONAL EXCAVATION: EXCAVATION BELOW SUBGRADE ELEVATIONS OR BEYOND INDICATED LINES AND DIMENSIONS AS DIRECTED BY ARCHITECT. AUTHORIZED ADDITIONAL EXCAVATION AND REPLACEMENT MATERIAL WILL BE PAID FOR ACCORDING TO CONTRACT PROVISIONS FOR CHANGES IN THE WORK.
2. UNAUTHORIZED EXCAVATION: EXCAVATION BELOW SUBGRADE ELEVATIONS OR BEYOND INDICATED LINES AND DIMENSIONS WITHOUT DIRECTION BY ARCHITECT. UNAUTHORIZED EXCAVATION, AS WELL AS REMEDIAL WORK DIRECTED BY ARCHITECT, SHALL BE WITHOUT ADDITIONAL COMPENSATION.
G. FILL: SOIL MATERIALS USED TO RAISE EXISTING GRADES.
H. PIPE COVER MATERIAL: MATERIAL WHICH IS PLACED IN A TRENCH AROUND AND OVER SEWER OR WATER PIPE ABOVE THE BEDDING COURSE.
I. STRUCTURES: BUILDINGS, FOOTINGS, FOUNDATIONS, RETAINING WALLS, SLABS, TANKS, CURBS, MECHANICAL AND ELECTRICAL APPURTENANCES, OR OTHER MAN-MADE STATIONARY FEATURES CONSTRUCTED ABOVE OR BELOW THE GROUND SURFACE.
J. SUBGRADE: SURFACE OR ELEVATION REMAINING AFTER COMPLETING EXCAVATION, OR TOP SURFACE OF A FILL OR BACKFILL IMMEDIATELY BELOW BASE COURSE, DRAINAGE FILL, OR TOPSOIL MATERIALS.
K. TRENCH BACKFILL: MATERIAL PLACED IN A TRENCH AVOVE THE PIPE COVER MATERIAL FOR SEWER OR WATER PIPE.
L. UTILITIES: ON-SITE UNDERGROUND PIPES, CONDUITS, DUCTS, AND CABLES, AS WELL AS UNDERGROUND SERVICES WITHIN BUILDINGS.

1.5 SUBMITTALS
A. MATERIAL TEST REPORTS: FROM A QUALIFIED TESTING AGENCY INDICATING AND INTERPRETING TEST RESULTS FOR COMPLIANCE OF THE FOLLOWING WITH REQUIREMENTS INDICATED:
1. CLASSIFICATION ACCORDING TO ASTM D 2487 OF EACH ON-SITE AND BORROW SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
2. LABORATORY COMPACTION CURVE ACCORDING TO ASTM D 1557 FOR EACH ON-SITE AND BORROW SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
B. PREEXCAVATION PHOTOGRAPHS OR VIDEOTAPE: SHOW EXISTING CONDITIONS OF ADJOINING CONSTRUCTION AND SITE IMPROVEMENTS, INCLUDING FINISH SURFACES, THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY EARTHWORK OPERATIONS. SUBMIT BEFORE EARTHWORK BEGINS.

1.6 QUALITY ASSURANCE
A. GEOTECHNICAL TESTING AGENCY QUALIFICATIONS: AN INDEPENDENT TESTING AGENCY QUALIFIED ACCORDING TO ASTM E 329 TO CONDUCT SOIL MATERIALS AND ROCK-DEFINITION TESTING, AS DOCUMENTED ACCORDING TO ASTM D 3740 AND ASTM E 548.

1.7 PROJECT CONDITIONS
A. EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED IN WRITING BY ARCHITECT AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES ACCORDING TO REQUIREMENTS INDICATED.
1. NOTIFY ARCHITECT NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS.
2. DO NOT PROCEED WITH UTILITY INTERRUPTIONS WITHOUT ARCHITECT'S WRITTEN PERMISSION.
3. CONTACT UTILITY-LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE EXCAVATING.
B. DEMOLISH AND COMPLETELY REMOVE FROM SITE EXISTING UNDERGROUND UTILITIES INDICATED TO BE REMOVED. COORDINATE WITH UTILITY COMPANIES TO SHUT OFF SERVICES IF LINES ARE ACTIVE.

SITE WORK CONTINUED

PART 2 PRODUCTS

2.1 SOIL MATERIALS
A. GENERAL: PROVIDE BORROW SOIL MATERIALS WHEN SUFFICIENT SATISFACTORY SOIL MATERIALS ARE NOT AVAILABLE FROM EXCAVATIONS.
B. SATISFACTORY SOILS: ASTM D 2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, SW, SP, AND SM OR A COMBINATION OF THESE GROUPS; FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER OR ANY SOIL GROUP OR COMBINATION OF GROUPS APPROVED OF BY THE PROJECT GEOTECHNICAL ENGINEER
C. UNSATISFACTORY SOILS: SOIL CLASSIFICATION GROUPS GC, SC, CL, ML, OL, CH, MH, OH, AND PT
ACCORDING TO ASTM D 2487 OR A COMBINATION OF THESE GROUPS.
1. UNSATISFACTORY SOILS ALSO INCLUDE SATISFACTORY SOILS NOT MAINTAINED WITHIN 2 PERCENT OF OPTIMUM MOISTURE CONTENT AT TIME OF COMPACTION.
D. BASE COURSE: SHALL BE 1-1/4" DENSE GRADED BASE COURSE CONFORMING TO SECTION 305 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.
E. ENGINEERED FILL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D 2940; WITH AT LEAST 90 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND NOT MORE THAN 12 PERCENT PASSING A NO. 200 SIEVE.
F. BEDDING COURSE: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND CONFORMING TO THE REQUIREMENTS OF SECTION 8.43.2 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
G. DRAINAGE COURSE: NARROWLY GRADED MIXTURE OF WASHED,CRUSHED STONE, OR CRUSHED OR UNCRUSHED GRAVEL; ASTM D 448; COARSE-AGGREGATE GRADING SIZE 57; WITH 100 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND 0 TO 5 PERCENT PASSING A NO. 8 SIEVE.
H. PIPE COVER MATERIAL: CONFORM TO SECTION 8.43.3 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
I. TRENCH BACKFILL: CONFORM TO SECTIONS 8.43.4 AND 8.43.5 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. TRENCH BACKFILL BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS SHALL BE GRANULAR BACKFILL. TRENCH BACKFILL BENEATH LANDSCAPE AREAS MAY BE SATISFACTORY SOIL MATERIAL.

PART 3 EXECUTION

3.1 PREPARATION
A. SITE PREPARATION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE REFERENCED PRELOADING COMPLETION REPORT AND GEOTECHNICAL RECOMMENDATIONS REVIEW OR AS DIRECTED BY THE PROJECT GEOTECHNICAL ENGINEER IN THE FIELD.
B. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT, AND OTHER HAZARDS CREATED BY EARTHWORK OPERATIONS.
C. PREPARATION OF SUBGRADE FOR EARTHWORK OPERATIONS INCLUDING REMOVAL OF VEGETATION, TOPSOIL, DEBRIS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE IS SPECIFIED IN DIVISION 2 SECTION "SITE CLEARING."
D. PROTECT AND MAINTAIN EROSION AND SEDIMENTATION CONTROLS, WHICH ARE SPECIFIED IN DIVISION 2 SECTION "SITE CLEARING," DURING EARTHWORK OPERATIONS.
E. PROVIDE PROTECTIVE INSULATING MATERIALS TO PROTECT SUBGRADES AND FOUNDATION SOILS AGAINST FREEZING TEMPERATURES OR FROST.

3.2 DEWATERING
A. PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
B. PROTECT SUBGRADES FROM SOFTENING, UNDERMINING, WASHOUT, AND DAMAGE BY RAIN OR WATER ACCUMULATION.
1. REROUTE SURFACE WATER RUNOFF AWAY FROM EXCAVATED AREAS. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. DO NOT USE EXCAVATED TRENCHES AS TEMPORARY DRAINAGE DITCHES.
2. INSTALL A DEWATERING SYSTEM TO KEEP SUBGRADES DRY AND CONVEY GROUND WATER AWAY FROM EXCAVATIONS. MAINTAIN UNTIL DEWATERING IS NO LONGER REQUIRED.

3.3 EXPLOSIVES
A. EXPLOSIVES: DO NOT USE EXPLOSIVES.

3.4 EXCAVATION, GENERAL
A. UNCLASSIFIED EXCAVATION: EXCAVATE TO SUBGRADE ELEVATIONS REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED. UNCLASSIFIED EXCAVATED MATERIALS MAY INCLUDE ROCK, SOIL MATERIALS, AND OBSTRUCTIONS. NO CHANGES IN THE CONTRACT SUM OR THE CONTRACT TIME WILL BE AUTHORIZED FOR ROCK EXCAVATION OR REMOVAL OF OBSTRUCTIONS.
1. IF EXCAVATED MATERIALS INTENDED FOR FILL AND BACKFILL INCLUDE UNSATISFACTORY SOIL MATERIALS AND ROCK, REPLACE WITH SATISFACTORY SOIL MATERIALS.
B. SHORING, SHEETING AND BRACING: SHORE, BRACE OR SLOPE BANKS OF EXCAVATION TO PROTECT WORKWEN, BANKS, ADJACENT PAVING, STRUCTURES, AND UTILITIES TO MEET OSHA REQUIREMENTS. DESIGN OF TEMPORARY SUPPORT OF EXCAVATION IS THE RESPONSIBILITY OF THE CONTRACTOR.

3.5 EXCAVATION FOR STRUCTURES
A. EXCAVATE TO INDICATED ELEVATIONS AND DIMENSIONS WITHIN A TOLERANCE OF PLUS OR MINUS 1 INCH. IF APPLICABLE, EXTEND EXCAVATIONS A SUFFICIENT DISTANCE FROM STRUCTURES FOR PLACING AND REMOVING CONCRETE FORMWORK, FOR INSTALLING SERVICES AND OTHER CONSTRUCTION, AND FOR INSPECTIONS.
1. EXCAVATIONS FOR FOOTINGS AND FOUNDATIONS: DO NOT DISTURB BOTTOM OF EXCAVATION.
EXCAVATE BY HAND TO FINAL GRADE JUST BEFORE PLACING CONCRETE REINFORCEMENT. TRIM BOTTOMS TO REQUIRED LINES AND GRADES TO LEAVE SOLID BASE TO RECEIVE OTHER WORK.
2. PILE FOUNDATIONS: STOP EXCAVATIONS 6 TO 12 INCHES ABOVE BOTTOM OF PILE CAP BEFORE PILES ARE PLACED. AFTER PILES HAVE BEEN DRIVEN, REMOVE LOOSE AND DISPLACED MATERIAL. EXCAVATE TO FINAL GRADE, LEAVING SOLID BASE TO RECEIVE CONCRETE PILE CAPS.
3. EXCAVATION FOR UNDERGROUND TANKS, BASINS, AND MECHANICAL OR ELECTRICAL UTILITY STRUCTURES: EXCAVATE TO ELEVATIONS AND DIMENSIONS INDICATED WITHIN A TOLERANCE OF PLUS OR MINUS 1 INCH. DO NOT DISTURB BOTTOM OF EXCAVATIONS INTENDED AS BEARING SURFACES.

3.6 EXCAVATION FOR WALKS AND PAVEMENTS
A. EXCAVATE SURFACES UNDER WALKS AND PAVEMENTS TO INDICATED LINES, CROSS SECTIONS, ELEVATIONS, AND SUBGRADES.

3.7 EXCAVATION FOR UTILITY TRENCHES
A. EXCAVATE TRENCHES TO INDICATED GRADIENTS, LINES, DEPTHS, AND ELEVATIONS.
B. TRENCH BOTTOMS: EXCAVATE TRENCHES DEEPER THAN BOTTOM OF PIPE ELEVATION TO ALLOW FOR REQUIRED BEDDING COURSE.
C. CONFORM TO CLASS B COMPACTED SECTION IN ACCORDANCE WITH FILE NO. 4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

3.8 SUBGRADE INSPECTION
A. PROOF-ROLL SUBGRADE BELOW THE BUILDING SLABS AND PAVEMENTS WITH HEAVY PNEUMATIC-TIRED EQUIPMENT TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING. DO NOT PROOF-ROLL WET OR SATURATED SUBGRADES. PROOF ROLL IN PRESENCE OF PROJECT GEOTECHNICAL ENGINEER.
1. COMPLETELY PROOF-ROLL SUBGRADE IN ONE DIRECTION, REPEATING PROOF-ROLLING IN DIRECTION PERPENDICULAR TO FIRST DIRECTION. LIMIT VEHICLE SPEED TO 5 MPH.
2. PROOF-ROLL WITH A 20-TON TRI-AXIAL DUMP TRUCK.
3. EXCAVATE SOFT SPOTS, UNSATISFACTORY SOILS, AND AREAS OF EXCESSIVE PUMPING OR RUTTING, AS DETERMINED BY ENGINEER, AND REPLACE WITH COMPACTED BACKFILL OR FILL AS DIRECTED.
B. AUTHORIZED ADDITIONAL EXCAVATION AND REPLACEMENT MATERIAL WILL BE PAID FOR ACCORDING TO CONTRACT PROVISIONS FOR CHANGES IN THE WORK.
C. RECONSTRUCT SUBGRADES DAMAGED BY FREEZING TEMPERATURES, FROST, RAIN, ACCUMULATED WATER, OR CONSTRUCTION ACTIVITIES, AS DIRECTED BY ARCHITECT, WITHOUT ADDITIONAL COMPENSATION.

3.9 UNAUTHORIZED EXCAVATION
A. FILL UNAUTHORIZED EXCAVATION UNDER FOUNDATIONS OR WALL FOOTINGS BY EXTENDING BOTTOM ELEVATION OF CONCRETE FOUNDATION OR FOOTING TO EXCAVATION BOTTOM, WITHOUT ALTERING TOP ELEVATION. LEAN CONCRETE FILL, WITH 28-DAY COMPRESSIVE STRENGTH OF 2500 PSI, MAY BE USED WHEN APPROVED BY ARCHITECT.
1. FILL UNAUTHORIZED EXCAVATIONS UNDER OTHER CONSTRUCTION OR UTILITY PIPE AS DIRECTED BY .

3.10 STORAGE OF SOIL MATERIALS
A. STOCKPILE BORROW SOIL MATERIALS AND EXCAVATED SATISFACTORY SOIL MATERIALS WITHOUT INTERMIXING. PLACE, GRADE, AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.
1. STOCKPILE SOIL MATERIALS AWAY FROM EDGE OF EXCAVATIONS. DO NOT STORE WITHIN DRIP LINE OF REMAINING TREES.

3.11 BACKFILL
A. PLACE AND COMPACT BACKFILL IN EXCAVATIONS PROMPTLY, BUT NOT BEFORE COMPLETING THE FOLLOWING:
1. CONSTRUCTION BELOW FINISH GRADE INCLUDING, WHERE APPLICABLE, SUBDRAINAGE, DAMPPROOFING, WATERPROOFING, AND PERIMETER INSULATION.
2. SURVEYING LOCATIONS OF UNDERGROUND UTILITIES FOR RECORD DOCUMENTS.
3. TESTING AND INSPECTING UNDERGROUND UTILITIES.
4. REMOVING CONCRETE FORMWORK.
5. REMOVING TRASH AND DEBRIS.
6. REMOVING TEMPORARY SHORING AND BRACING, AND SHEETING.
7. INSTALLING PERMANENT OR TEMPORARY HORIZONTAL BRACING ON HORIZONTALLY SUPPORTED WALLS.
B. PLACE BACKFILL ON SUBGRADES FREE OF MUD, FROST, SNOW, OR ICE.

3.12 UTILITY TRENCH BACKFILL
A. PLACE BACKFILL ON SUBGRADES FREE OF MUD, FROST, SNOW, OR ICE.
B. PLACE AND COMPACT BEDDING COURSE ON TRENCH BOTTOMS AND WHERE INDICATED. SHAPE BEDDING COURSE TO PROVIDE CONTINUOUS SUPPORT FOR BELLS, JOINTS, AND BARRELS OF PIPES AND FOR JOINTS, FITTINGS, AND BODIES OF CONDUITS.
C. CONFORM TO CLASS B COMPACTED TRENCH SECTION IN ACCORDANCE WITH FILE NO. 4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
D. BEDDING PLACEMENT: CONFORM TO SECTION 3.2.6 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
E. BACKFILL PLACEMENT: CONFORM TO SECTION 2.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWERE AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION EXCEPT THAT FLOODING OF GRANULAR TRENCH BACKFILL SHALL NOT BE ALLOWED FOR BACKFILL CONSOLIDATION.
F. INSTALL TRACER WIRE ABOVE NON-METALLIC PIPING IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF COMMERCE CODE SECTION 82.30(11)(H).

3.13 SOIL FILL
A. PLOW, SCARIFY, BENCH, OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SO FILL MATERIAL WILL BOND WITH EXISTING MATERIAL.
B. PLACE AND COMPACT FILL MATERIAL IN LAYERS TO REQUIRED ELEVATIONS AS FOLLOWS:
1. UNDER GRASS AND PLANTED AREAS, USE SATISFACTORY SOIL MATERIAL.
2. UNDER WALKS AND PAVEMENTS, USE SATISFACTORY SOIL MATERIAL.
3. UNDER STEPS AND RAMPS, USE ENGINEERED FILL.
4. UNDER BUILDING SLABS, USE ENGINEERED FILL.
5. UNDER FOOTINGS AND FOUNDATIONS, USE ENGINEERED FILL.
C. PLACE SOIL FILL ON SUBGRADES FREE OF MUD, FROST, SNOW, OR ICE.

3.14 SOIL MOISTURE CONTROL
A. UNIFORMLY MOISTEN OR AERATE SUBGRADE AND EACH SUBSEQUENT FILL OR BACKFILL SOIL LAYER BEFORE COMPACTION TO WITHIN 2 PERCENT OF OPTIMUM MOISTURE CONTENT.
1. DO NOT PLACE BACKFILL OR FILL SOIL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST OR ICE.
2. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY OTHERWISE SATISFACTORY SOIL MATERIAL THAT EXCEEDS OPTIMUM MOISTURE CONTENT BY 2 PERCENT AND IS TOO WET TO COMPACT TO SPECIFIED DRY UNIT WEIGHT.

3.15 COMPACTION OF SOIL BACKFILLS AND FILLS
A. PLACE BACKFILL AND FILL SOIL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
B. PLACE BACKFILL AND FILL SOIL MATERIALS EVENLY ON ALL SIDES OF STRUCTURES TO REQUIRED ELEVATIONS, AND UNIFORMLY ALONG THE FULL LENGTH OF EACH STRUCTURE.
C. COMPACT SOIL MATERIALS TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 1557:
1. UNDER STRUCTURES, BUILDING SLABS, AND STEPS, SCARIFY AND RECOMPACT TOP 12 INCHES OF EXISTING SUBGRADE AND EACH LAYER OF BACKFILL OR FILL SOIL MATERIAL AT 92 PERCENT.
2. UNDER PAVEMENTS AND WALKWAYS, SCARIFY AND RECOMPACT TOP 6 INCHES BELOW SUBGRADE AND COMPACT EACH LAYER OF BACKFILL OR FILL SOIL MATERIAL WITHIN THREE FEET OF THE BASE COURSE ELEVATION AT 92 PERCENT.
3. UNDER LAWN OR UNPAVED AREAS, SCARIFY AND RECOMPACT TOP 6 INCHES BELOW SUBGRADE AND COMPACT EACH LAYER OF BACKFILL OR FILL SOIL MATERIAL AT 85 PERCENT.

SITE WORK CONTINUED

3.16 GRADING
A. GENERAL: UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES. COMPLY WITH COMPACTION REQUIREMENTS AND GRADE TO CROSS SECTIONS, LINES, AND ELEVATIONS INDICATED.
1. PROVIDE A SMOOTH TRANSITION BETWEEN ADJACENT EXISTING GRADES AND NEW GRADES.
2. CUT OUT SOFT SPOTS, FILL LOW SPOTS, AND TRIM HIGH SPOTS TO COMPLY WITH REQUIRED SURFACE TOLERANCES.
B. SITE GRADING: SLOPE GRADES TO DIRECT WATER AWAY FROM BUILDINGS AND TO PREVENT PONDING. FINISH SUBGRADES TO REQUIRED ELEVATIONS WITHIN THE FOLLOWING TOLERANCES:
1. LAWN OR UNPAVED AREAS: PLUS OR MINUS 1 INCH.
2. WALKS: PLUS OR MINUS 1/2 INCH .
3. PAVEMENTS: PLUS OR MINUS 1/2 INCH.
C. GRADING INSIDE BUILDING LINES: FINISH SUBGRADE TO A TOLERANCE OF 1/2 INCH WHEN TESTED WITH A 10- FOOT STRAIGHTEDGE.

3.17 SUBBASE AND BASE COURSES
A. PLACE BASE COURSE ON SUBGRADES FREE OF MUD, FROST, SNOW, OR ICE.
B. ON PREPARED SUBGRADE, PLACE BASE COURSE UNDER PAVEMENTS AND WALKS AS FOLLOWS:
1. SHAPE BASE COURSE TO REQUIRED CROWN ELEVATIONS AND CROSS-SLOPE GRADES.
2. COMPACT BASE COURSE AT OPTIMUM MOISTURE CONTENT TO REQUIRED GRADES, LINES, CROSS SECTIONS, AND THICKNESS TO CONFORM TO STANDARD COMPACTION REQUIREMENTS CONTAINED IN SECTION 301.3.4.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.

3.18 DRAINAGE COURSE
A. PLACE DRAINAGE COURSE ON SUBGRADES FREE OF MUD, FROST, SNOW, OR ICE.
B. ON PREPARED SUBGRADE, PLACE AND COMPACT DRAINAGE COURSE UNDER CAST-IN-PLACE CONCRETE SLABS- ON-GRADE AS FOLLOWS:
1. INSTALL SUBDRAINAGE GEOTEXTILE ON PREPARED SUBGRADE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, OVERLAPPING SIDES AND ENDS.
2. PLACE DRAINAGE COURSE 6 INCHES OR LESS IN COMPACTED THICKNESS IN A SINGLE LAYER.
3. PLACE DRAINAGE COURSE THAT EXCEEDS 6 INCHES IN COMPACTED THICKNESS IN LAYERS OF EQUAL THICKNESS, WITH NO COMPACTED LAYER MORE THAN 6 INCHES THICK OR LESS THAN 3 INCHES THICK.
4. COMPACT EACH LAYER OF DRAINAGE COURSE TO REQUIRED CROSS SECTIONS AND THICKNESSES TO NOT LESS THAN 95 PERCENT OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 698.

3.19 FIELD QUALITY CONTROL
A. TESTING AGENCY: OWNER WILL ENGAGE A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM FIELD QUALITY-CONTROL TESTING.
B. ALLOW TESTING AGENCY TO INSPECT AND TEST SUBGRADES AND EACH FILL OR BACKFILL LAYER. PROCEED WITH SUBSEQUENT EARTHWORK ONLY AFTER TEST RESULTS FOR PREVIOUSLY COMPLETED WORK COMPLY WITH REQUIREMENTS.
C. FOOTING SUBGRADE: AT FOOTING SUBGRADES, AT LEAST ONE TEST OF EACH SOIL STRATUM WILL BE PERFORMED TO VERIFY DESIGN BEARING CAPACITIES. SUBSEQUENT VERIFICATION AND APPROVAL OF OTHER FOOTING SUBGRADES MAY BE BASED ON A VISUAL COMPARISON OF SUBGRADE WITH TESTED SUBGRADE WHEN APPROVED BY ARCHITECT.
D. TESTING AGENCY SHALL OBSERVE PROOF ROLLING OF BUILDING AND PAVEMENT SUBGRADES.
E. TESTING AGENCY WILL TEST COMPACTION OF SOILS IN PLACE ACCORDING TO ASTM D 1556, ASTM D 2167, ASTM D 2922, AND ASTM D 2937, AS APPLICABLE. TESTS WILL BE PERFORMED AT THE FOLLOWING LOCATIONS AND FREQUENCIES:
1. BUILDING SLAB AREAS: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST 1 TEST FOR EVERY 2500 SQ. FT. OR LESS OF BUILDING SLAB, BUT IN NO CASE FEWER THAN 3 TESTS.
2. PAVEMENT AREAS: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST ONE TEST FOR EVERY 5,000 SQUARE FEET OF PAVEMENT AREA.
3. FOUNDATION WALL BACKFILL: AT EACH COMPACTED BACKFILL LAYER, AT LEAST 1 TEST FOR EACH 100 FEET OR LESS OF WALL LENGTH, BUT NO FEWER THAN 2 TESTS.
4. TRENCH BACKFILL: AT EACH COMPACTED INITIAL AND FINAL BACKFILL LAYER, AT LEAST 1 TEST FOR EACH 150 FEET OR LESS OF TRENCH LENGTH, BUT NO FEWER THAN 2 TESTS.
F. WHEN TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.

3.20 PROTECTION
A. PROTECTING GRADED AREAS: PROTECT NEWLY GRADED AREAS FROM TRAFFIC, FREEZING, AND EROSION. KEEP FREE OF TRASH AND DEBRIS.
B. REPAIR AND REESTABLISH GRADES TO SPECIFIED TOLERANCES WHERE COMPLETED OR PARTIALLY COMPLETED SURFACES BECOME ERODED, RUTTED, SETTLED, OR WHERE THEY LOSE COMPACTION DUE TO SUBSEQUENT CONSTRUCTION OPERATIONS OR WEATHER CONDITIONS.
1. SCARIFY OR REMOVE AND REPLACE SOIL MATERIAL TO DEPTH AS DIRECTED BY ARCHITECT; RESHAPE AND RECOMPACT.
C. WHERE SETTLING OCCURS BEFORE PROJECT CORRECTION PERIOD ELAPSES, REMOVE FINISHED SURFACING, BACKFILL WITH ADDITIONAL SOIL MATERIAL, COMPACT, AND RECONSTRUCT SURFACING.
1. RESTORE APPEARANCE, QUALITY, AND CONDITION OF FINISHED SURFACING TO MATCH ADJACENT WORK, AND ELIMINATE EVIDENCE OF RESTORATION TO GREATEST EXTENT POSSIBLE.

3.21 DISPOSAL OF SURPLUS AND WASTE MATERIALS
A. DISPOSAL: REMOVE SURPLUS SATISFACTORY SOIL AND WASTE MATERIAL, INCLUDING UNSATISFACTORY SOIL, TRASH, AND DEBRIS, AND LEGALLY DISPOSE OF IT OFF OWNER'S PROPERTY.

HOT-MIX ASPHALT PAVING

PART 1 GENERAL

1.1 SUMMARY
A. THIS SECTION INCLUDES HOT-MIX ASPHALT PAVING.
B.RELATED SECTIONS:
1. SECTION 31 20 00 – EARTHWORK

1.2 REFERENCES
A. STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION (WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION).

1.3 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED. INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES.
B. JOB-MIX DESIGNS: CERTIFICATION THAT MIX MEETS OR EXCEEDS WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
C. MATERIAL CERTIFICATES CERTIFYING COMPLIANCE WITH WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

1.4 QUALITY ASSURANCE
A. MANUFACTURER QUALIFICATIONS: MANUFACTURER SHALL BE REGISTERED WITH AND APPROVED BY THE DOT OF THE STATE IN WHICH PROJECT IS LOCATED.
B. REGULATORY REQUIREMENTS: COMPLY WITH WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION FOR ASPHALT PAVING WORK.

1.5 PROJECT CONDITIONS
A. ENVIRONMENTAL LIMITATIONS: DO NOT APPLY ASPHALT MATERIALS IF BASE COURSE IS WET OR EXCESSIVELY DAMP OR IF THE FOLLOWING CONDITIONS ARE NOT MET:
1. ASPHALT LOWER LAYER COURSE, TACK COAT, ASPHALT UPPER LAYER COURSE: MINIMUM SURFACE TEMPERATURE OF 36 DEG F AND RISING AT TIME OF PLACEMENT.
B. PAVEMENT-MARKING PAINT: PROCEED WITH PAVEMENT MARKING ONLY ON CLEAN, DRY SURFACES. DO NOT APPLY BELOW THE MINIMUM PAVEMENT TEMPERATURE AS RECOMMENDED BY THE MANUFACTURER.

PART 2 PRODUCTS

2.1 AGGREGATES
A. IN ACCORDANCE WITH SECTION 460.2.2 OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.

2.2 ASPHALT MATERIALS
A. IN ACCORDANCE WITH CHAPTER 455 OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.

2.3 PAVEMENT MARKING PAINT
A. PROVIDE PAINT FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCTS LIST.
1. COLOR: WHITE

2.4 MIXES
A. HOT-MIX ASPHALT: ASPHALTIC BINDER COURSE AND SURFACE COURSE SHALL BE MIXTURE E-1 COMPLYING WITH THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.

PART 3 EXECUTION

3.1 GENERAL
A. ASPHALT CONCRETE PAVING EQUIPMENT, WEATHER LIMITATIONS, JOB-MIX FORMULA, MIXING, CONSTRUCTION METHODS, COMPACTION, FINISHING, TOLERANCE AND PROTECTION SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE SECTIONS OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.

3.2 SURFACE PREPARATION
A. PROOF-ROLL BASE COURSE USING HEAVY, PNEUMATIC-TIRED ROLLERS TO LOCATE AREAS THAT ARE UNSTABLE OR THAT REQUIRE FURTHER COMPACTION.
B. IMMEDIATELY BEFORE PLACING ASPHALT MATERIALS, REMOVE LOOSE AND DELETERIOUS MATERIAL FROM SUBSTRATE SURFACES. ENSURE THAT PREPARED BASE COURSE IS READY TO RECEIVE PAVING.
1. SWEEP LOOSE GRANULAR PARTICLES FROM SURFACE OF UNBOUND-AGGREGATE BASE COURSE. DO NOT DISLODGE OR DISTURB AGGREGATE EMBEDDED IN COMPACTED SURFACE OF BASE COURSE.

3.3 HOT-MIX ASPHALT PLACING
A. SPREAD AND FINISH ASPHALTIC MIXTURE IN ACCORDANCE WITH SECTION 450.3.2.5 OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
B. PROMPTLY CORRECT SURFACE IRREGULARITIES IN PAVING COURSE BEHIND PAVER. USE SUITABLE HAND TOOLS TO REMOVE EXCESS MATERIAL FORMING HIGH SPOTS. FILL DEPRESSIONS WITH HOT-MIX ASPHALT TO PREVENT SEGREGATION OF MIX; USE SUITABLE HAND TOOLS TO SMOOTH SURFACE.

3.4 COMPACTION
A. COMPACT ASPHALTIC PAVEMENT IN ACCORDANCE WITH SECTION 450.3.2.6 OF THE WISDOT STANDARD
SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.
B. PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED.
C. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.

3.5 INSTALLATION TOLERANCES
A. THICKNESS: COMPACT EACH COURSE TO PRODUCE THE THICKNESS INDICATED WITHIN THE FOLLOWING TOLERANCES:
1. BASE COURSE: PLUS OR MINUS 1/2 INCH.
2. SURFACE COURSE: PLUS 1/4 INCH, NO MINUS.
B. SURFACE SMOOTHNESS: COMPACT EACH COURSE TO PRODUCE A SURFACE SMOOTHNESS WITHIN THE FOLLOWING TOLERANCES AS DETERMINED BY USING A 10-FOOT STRAIGHTEDGE APPLIED TRANSVERSELY OR LONGITUDINALLY TO PAVED AREAS:
1. LOWER LAYER: 1/4 INCH.
2. UPPER LAYER: 1/8 INCH.
3. REMOVE AND REPLACE ALL HUMPS OR DEPRESSIONS EXCEEDING THE SPECIFIED TOLERANCES

CEMENT CONCRETE PAVEMENT

PART 1 GENERAL

1.1 SUMMARY
A. THIS SECTION INCLUDES EXTERIOR CEMENT CONCRETE PAVEMENT FOR THE FOLLOWING:
1. SITE CURBS AND GUTTERS
2. SITE WALKWAYS
3. PUBLIC SIDEWALK
4. DRIVE APPROACH
5. PUBLIC CURB AND GUTTER
B. RELATED SECTIONS
1. SECTION 31 20 00 EARTHWORK

1.2 REFERENCES
A. WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
B. CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS
1.3 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
B. DESIGN MIXTURES: FOR EACH CONCRETE PAVEMENT MIXTURE.

1.4 QUALITY ASSURANCE
A. MANUFACTURER QUALIFICATIONS: MANUFACTURER OF READY-MIXED CONCRETE PRODUCTS WHO COMPLIES WITH ASTM C 94/C 94M REQUIREMENTS FOR PRODUCTION FACILITIES AND EQUIPMENT AND APPROVED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.
B. ACI PUBLICATIONS: COMPLY WITH ACI 301, "SPECIFICATION FOR STRUCTURAL CONCRETE," UNLESS MODIFIED BY REQUIREMENTS IN THE CONTRACT DOCUMENTS.
C. MOCKUPS: PROVIDE MOCKUPS OF DECORATIVE STAMPED CONCRETE PAVING NOT LESS THAN 96 INCHES BY
96 INCHES TO DEMONSTRATE SURFACE COLOR, PATTERN, AND TEXTURE.

SITE WORK CONTINUED

PART 2 PRODUCTS

2.1 CONCRETE MATERIALS: ON-SITE WORK
A. CONCRETE GRADE: GRADE A OR GRADE A-2 CONFORMING TO SECTION 501.3.1.3 OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
B. AGGREGATES: CONFORM TO SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS. PROVIDE AGGREGATES FROM A SINGLE SOURCE.
C. WATER: ASTM C 94/C 94M AND SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
D. AIR-ENTRAINING ADMIXTURE: ASTM C 260 AND SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
E. CHEMICAL ADMIXTURES: PER SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
F. COLOR PIGMENT: ASTM C 979, SYNTHETIC MINERAL-OXIDE PIGMENTS OR COLORED WATER-REDUCING ADMIXTURES; COLOR STABLE, NONFADING, AND RESISTANT TO LIME AND OTHER ALKALIS.
G. CURING MATERIALS
1. IN ACCORDANCE WITH SECTION 415.3.12 OF THE WISDOT STANDARD SPECIFICATIONS.
H. RELATED MATERIALS
1. EXPANSION JOINT MATERIAL: CONFORM TO SECTION 415.2.2 OF THE WISDOT STANDARD
SPECIFICATIONS.
I. CONCRETE MIXTURES
1. GRADE A OR GRADE A2 CONFORMING TO SECTION 501.3.1 OF THE WISDOT STANDARD SPECIFICATIONS.
J. CONCRETE MIXING
1. MEASURE, BATCH, AND MIX CONCRETE MATERIALS AND CONCRETE IN ACCORDANCE WITH SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.

2.2 CONCRETE MATERIALS: PUBLIC RIGHT OF WAY
A. CONFORM TO SECTION 902 OF THE CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS

PART 3 EXECUTION

3.1 GENERAL
A. CONFORM TO SECTION 415 OF THE WISDOT STANDARD SPECIFICATIONS FOR CONCRETE PAVEMENTS FOR ON- SITE WORK
B. CONFORM TO THE CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR WORK IN THE PUBLIC RIGHT- OF-WAY.

3.2 EXAMINATION AND PREPARATION
A. PROOF-ROLL PREPARED SUBBASE OR BASE SURFACE BELOW CONCRETE PAVING TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING.
B. REMOVE LOOSE MATERIAL FROM COMPACTED SUBBASE OR BASE SURFACE IMMEDIATELY BEFORE PLACING CONCRETE.

3.3 EDGE FORMS AND SCREED CONSTRUCTION
A. SET, BRACE, AND SECURE EDGE FORMS, BULKHEADS, AND INTERMEDIATE SCREED GUIDES FOR PAVEMENT TO REQUIRED LINES, GRADES, AND ELEVATIONS. INSTALL FORMS TO ALLOW CONTINUOUS PROGRESS OF WORK AND SO FORMS CAN REMAIN IN PLACE AT LEAST 24 HOURS AFTER CONCRETE PLACEMENT.
B. CLEAN FORMS AFTER EACH USE AND COAT WITH FORM-RELEASE AGENT TO ENSURE SEPARATION FROM CONCRETE WITHOUT DAMAGE.

3.4 JOINTS
A. GENERAL: FORM CONSTRUCTION, ISOLATION, AND CONTRACTION JOINTS AND TOOL EDGINGS TRUE TO LINE WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT TRANSVERSE JOINTS AT RIGHT ANGLES TO CENTERLINE, UNLESS OTHERWISE INDICATED. CONFORM TO SECTION 415 OF THE WISDOT STANDARD SPECIFICATIONS FOR ON-SITE WORK. CONFORM TO CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR WORK IN THE PUBLIC RIGHT-OF-WAY.
B. CONSTRUCTION JOINTS: SET CONSTRUCTION JOINTS AT SIDE AND END TERMINATIONS OF PAVEMENT AND AT LOCATIONS WHERE PAVEMENT OPERATIONS ARE STOPPED FOR MORE THAN ONE-HALF HOUR UNLESS PAVEMENT TERMINATES AT ISOLATION JOINTS.
C. ISOLATION JOINTS: FORM ISOLATION JOINTS OF PREFORMED JOINT-FILLER STRIPS ABUTTING CONCRETE CURBS, CATCH BASINS, MANHOLES, INLETS, STRUCTURES, WALKS, OTHER FIXED OBJECTS, AND WHERE INDICATED.
D. CONTRACTION JOINTS: FORM WEAKENED-PLANE CONTRACTION JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED. CONSTRUCT CONTRACTION JOINTS FOR A DEPTH EQUAL TO AT LEAST ONE-FOURTH OF THE CONCRETE THICKNESS TO MATCH JOINTING OF EXISTING ADJACENT CONCRETE PAVEMENT.
E. EDGING: TOOL EDGES OF PAVEMENT, GUTTERS, CURBS, AND JOINTS IN CONCRETE AFTER INITIAL FLOATING WITH AN EDGING TOOL TO A 1/4-INCH RADIUS. REPEAT TOOLING OF EDGES AFTER APPLYING SURFACE FINISHES. ELIMINATE TOOL MARKS ON CONCRETE SURFACES.

3.5 CURBING
A. COMPLY WITH SECTION 601 OF THE WISDOT STANDARD SPECIFICATIONS FOR ON-SITE WORK.
B. COMPLY WITH SECTION 502 OF THE CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR WORK IN THE PUBLIC RIGHT-OF-WAY.

3.6 SIDEWALKS
A. COMPLY WITH SECTION 602 OF THE WISDOT STANDARD SPECIFICATIONS FOR ON-SITE WORK.
B. COMPLY WITH SECTION 503 OF THE CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR PUBLIC SIDEWALK CONSTRUCTION.

3.7 DRIVE APPROACH
A. COMPLY WITH SECTION 503 OF THE CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS.

3.8 CONCRETE PLACEMENT
A. MOISTEN SUBBASE TO PROVIDE A UNIFORM DAMPENED CONDITION AT TIME CONCRETE IS PLACED.
B. COMPLY WITH ACI 301 REQUIREMENTS AND WISDOT STANDARD SPECIFICATIONS SECTION 501 REQUIREMENTS FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE.

3.9 FINISHING
A. ON-SITE WORK
1. FINISH CURBING IN ACCORDANCE WITH SECTION 601.3.5 OF THE WISDOT STANDARD
SPECIFICATIONS.
2. FINISH SIDEWALK AND PATIO IN ACCORDANCE WITH SECTION 602.3.2.3 OF THE WISDOT STANDARD
SPECIFICATIONS (LIGHT BROOM FINISH).
B. COMPLY WITH CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR WORK IN THE PUBLIC RIGHT-OF- WAY.
3.10 STAMPING
A. MAT STAMPING: AFTER FLOATING AND WHILE CONCRETE IS PLASTIC, APPLY MAT-STAMPED FINISH.
1. PIGMENTED POWDER RELEASE AGENT: UNIFORMLY DISTRIBUTE ONTO CONCRETE AT A RATE OF 3 TO 4 LB./100 SQ. FT.
2. LIQUID RELEASE AGENT: APPLY LIQUID RELEASE AGENT TO THE CONCRETE SURFACE AND THE STAMP MAT. UNIFORMLY MIST SURFACE OF CONCRETE AT A RATE OF 5 GAL/1000 SQ. FT.
3. AFTER APPLICATION OF RELEASE AGENT, ACCURATELY ALIGN AND PLACE STAMP MATS IN SEQUENCE.
4. PRODUCE REQUIRED IMPRINT AND PATTERN AND DEPTH OF IMPRINT ON CONCRETE SURFACE. HAND STAMP EDGES AND SURFACES UNABLE TO BE IMPRINTED BY STAMP MATS.
5. REMOVE RESIDUAL RELEASE AGENT ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, BUT NO FEWER THAN THREE DAYS AFTER STAMPING CONCRETE.
B. TOOL STAMPING: AFTER FLOATING AND WHILE CONCRETE IS PLASTIC, APPLY TOOL-STAMPED FINISH.
1. COVER SURFACE WITH POLYETHYLENE FILM, STRETCH TAUT TO REMOVE WRINKLES, LAP SIDES AND ENDS, AND SECURE TO EDGE FORMS. LIGHTLY BROOM SURFACE TO REMOVE AIR BUBBLES.
2. ALIGN AND PLACE STAMP TOOLS IN SEQUENCE AND TAMP INTO CONCRETE TO PRODUCE REQUIRED IMPRINT PATTERN AND DEPTH OF IMPRINT ON CONCRETE SURFACE. HAND STAMP EDGES AND SURFACES UNABLE TO BE IMPRINTED BY STAMP TOOLS.
3. CAREFULLY REMOVE POLYETHYLENE FILM IMMEDIATELY AFTER TOOL STAMPING.
A. ROLLER STAMPING: AFTER FLOATING AND WHILE CONCRETE IS PLASTIC, APPLY ROLLER-STAMPED FINISH.
1. COVER SURFACE WITH POLYETHYLENE FILM, STRETCH TAUT TO REMOVE WRINKLES, LAP SIDES AND ENDS, AND SECURE TO EDGE FORMS. LIGHTLY BROOM SURFACE TO REMOVE AIR BUBBLES.
2. ALIGN ROLLER AND PERFORM ROLLING OPERATION TO PRODUCE REQUIRED IMPRINT PATTERN AND EPTH OF IMPRINT ON CONCRETE SURFACE. HAND STAMP SURFACES INACCESSIBLE TO ROLLER.
3. CAREFULLY REMOVE POLYETHYLENE FILM IMMEDIATELY AFTER ROLLER STAMPING.

3.11 CONCRETE PROTECTION AND CURING
A. ON-SITE WORK
1. PROTECT AND CURE SIDEWALK IN ACCORDANCE WITH SECTION 602.3.2.6 OF THE WISDOT STANDARD SPECIFICATIONS.
2. PROTECT AND CURE CURBING IN ACCORDANCE WITH SECTION 601.3.7 OF THE WISDOT STANDARD SPECIFICATIONS.
B. COMPLY WITH CITY OF MILWAUKEE STREET CONSTRUCTION SPECIFICATIONS FOR WORK IN THE PUBLIC RIGHT-OF- WAY.

3.12 REPAIRS AND PROTECTION
A. REMOVE AND REPLACE CONCRETE PAVEMENT THAT IS BROKEN, DAMAGED, OR DEFECTIVE OR THAT DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION.
B. PROTECT CONCRETE FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVEMENT FOR AT LEAST 7 DAYS AFTER PLACEMENT.
C. MAINTAIN CONCRETE PAVEMENT FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP CONCRETE PAVEMENT NOT MORE THAN TWO DAYS BEFORE DATE SCHEDULED FOR SUBSTANTIAL COMPLETION INSPECTIONS.

STORM DRAINAGE

PART 1 GENERAL

1.1 SUMMARY
A. THIS SECTION INCLUDES GRAVITY-FLOW, NONPRESSURE STORM DRAINAGE OUTSIDE THE BUILDING, WITH THE FOLLOWING COMPONENTS:
1. STORM SEWER PIPING
2. PRECAST CONCRETE CATCH BASINS.
B.RELATED SECTIONS:
1. SECTION 31 20 00 EARTHWORK

1.2 REFERENCES
A. STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION
B. WISCONSIN DEPARTMENT OF COMMERCE PLUMBING CODE DCOMM CHAPTERS 82 – 85.

1.3 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
B. SHOP DRAWINGS: FOR CATCH BASINS. INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND CATCH BASIN FRAMES AND GRATES.

PART 2 PRODUCTS

2.1 PIPING MATERIALS
A. PVC SEWER PIPE AND FITTINGS: ASTM D 3034, SDR 35, WITH BELL-AND-SPIGOT ENDS WITH RUBBER GASKETED JOINTS IN ACCORDANCE WITH CHAPTER 8.10.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. JOINTS SHALL CONFORM TO ASTM D-3212.

2.2 NONPRESSURE-TYPE PIPE COUPLINGS
A. COMPLY WITH ASTM C 1173, ELASTOMERIC, SLEEVE-TYPE, REDUCING OR TRANSITION COUPLING, FOR JOINING UNDERGROUND NONPRESSURE PIPING. INCLUDE ENDS OF SAME SIZES AS PIPING TO BE JOINED AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.
B. SLEEVE MATERIALS:
1. FOR PLASTIC PIPES: ASTM F 477, ELASTOMERIC SEAL OR ASTM D 5926, PVC.
2. FOR DISSIMILAR PIPES: ASTM D 5926, PVC OR OTHER MATERIAL COMPATIBLE WITH PIPE MATERIALS BEING JOINED.
C. UNSHIELDED FLEXIBLE COUPLINGS: ELASTOMERIC SLEEVE WITH STAINLESS-STEEL SHEAR RING AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.
1. MANUFACTURERS:
A. DALLAS SPECIALTY & MFG. CO. B. FERNCO INC.
B. LOGAN CLAY PRODUCTS COMPANY (THE).
C. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC. NDS INC.
D. PLASTIC ODDITIES, INC.
E. SHIELDED FLEXIBLE COUPLINGS: ASTM C 1460, ELASTOMERIC OR RUBBER SLEEVE WITH FULL-LENGTH, CORROSION-RESISTANT OUTER SHIELD AND CORROSION-RESISTANT-METAL TENSION BAND AND TIGHTENING MECHANISM ON EACH END.
1. MANUFACTURERS:
A.CASCADE WATERWORKS MFG.
B. DALLAS SPECIALTY & MFG. CO.
C. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC.
D. RING-TYPE FLEXIBLE COUPLINGS: ELASTOMERIC COMPRESSION SEAL WITH DIMENSIONS TO FIT INSIDE BELL OF LARGER PIPE AND FOR SPIGOT OF SMALLER PIPE TO FIT INSIDE RING.
1. MANUFACTURERS:
A. FERNCO INC.
B. LOGAN CLAY PRODUCTS COMPANY (THE).
C. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC.

2.3 CLEANOUTS
A. CLEANOUTS SHALL BE IN ACCORDANCE WITH DEPARTMENT OF COMMERCE CODE CHAPTER 82.35.

2.4 CATCH BASINS
A. STANDARD PRECAST CONCRETE CATCH BASINS: CONFORMING TO CHAPTER 3.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION, OF DEPTH INDICATED.
1. BASE SECTION: 12-INCH MINIMUM THICKNESS FOR FLOOR SLAB AND 5-INCH MINIMUM THICKNESS FOR WALLS AND BASE RISER SECTION.
2. TOP SECTION: ECCENTRIC-CONE TYPE.
B. FRAMES AND GRATES: ASTM A-48, CLASS NO. 35B. NEENAH R-2501 WITH TYPE G GRATE OR EQUAL. NEENAH R-3229-A FOR CURB TYPE FRAMES OR EQUAL.

2.5 MANHOLES
A. STANDARD PRECAST REINFORCED CONCRETE MANHOLES: CONFORM TO ASTM C478 AND SECTION 8.39.0 AND FILE NO. 12 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
B. MANHOLE STEPS: CONFORM TO SECTION 8.40.0 AND FILE NO. 15 OF THE STANDARD SPECIFICATIONS FOR
SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. C. FRAMES AND COVERS: AS INDICATED ON PLANS

2.6 TRENCH DRAIN
A. ACO MODEL S200K, OR EQUAL

SITE WORK CONTINUED

PART 3 EXECUTION

3.1 PIPING APPLICATIONS
A. PIPE COUPLINGS AND FITTINGS WITH PRESSURE RATINGS AT LEAST EQUAL TO PIPING RATING MAY BE USED IN APPLICATIONS BELOW, UNLESS OTHERWISE INDICATED.
1. USE NONPRESSURE-TYPE FLEXIBLE COUPLINGS WHERE REQUIRED TO JOIN GRAVITY-FLOW, NONPRESSURE SEWER PIPING, UNLESS OTHERWISE INDICATED.
A. UNSHIELDED FLEXIBLE COUPLINGS FOR SAME OR MINOR DIFFERENCE OD PIPES.
B. UNSHIELDED, INCREASER/REDUCER-PATTERN, FLEXIBLE COUPLINGS FOR PIPES WITH DIFFERENT OD.
C. RING-TYPE FLEXIBLE COUPLINGS FOR PIPING OF DIFFERENT SIZES WHERE ANNULAR SPACE BETWEEN SMALLER PIPING'S OD AND LARGER PIPING'S ID PERMITS INSTALLATION.

3.2 PIPING INSTALLATION
A.GENERAL LOCATIONS AND ARRANGEMENTS: DRAWING PLANS AND DETAILS INDICATE GENERAL LOCATION AND ARRANGEMENT OF UNDERGROUND STORM DRAINAGE PIPING. LOCATION AND ARRANGEMENT OF PIPING LAYOUT TAKE DESIGN CONSIDERATIONS INTO ACCOUNT. INSTALL PIPING AS INDICATED, TO EXTENT PRACTICAL. WHERE SPECIFIC INSTALLATION IS NOT INDICATED, FOLLOW PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. INSTALL IN ACCORDANCE WITH CHAPTER 3.2.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER
CONSTRUCTION IN WISCONSIN, LATEST EDITION.
C. INSTALL PROPER SIZE INCREASERS, REDUCERS, AND COUPLINGS WHERE DIFFERENT SIZES OR MATERIALS OF PIPES AND FITTINGS ARE CONNECTED. REDUCING SIZE OF PIPING IN DIRECTION OF FLOW IS PROHIBITED.
D. USE CLASS B COMPACTED TRENCH SECTION IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR
SEWER AND WATER CONSTRUCTION IN WISCONSIN.
E. CLEAR INTERIOR OF PIPING AND MANHOLES OF DIRT AND SUPERFLUOUS MATERIAL AS WORK PROGRESSES.
F. INSTALL TRACER WIRE OVER NON-METALLIC PIPING IN ACCORDANCE WITH DCOMM CH. 82.30(11)(H) AND 82.36(7)(D).

3.3 PIPE JOINT CONSTRUCTION
A.BASIC PIPE JOINT CONSTRUCTION IS SPECIFIED IN DIVISION 2 SECTION "PIPED UTILITIES - BASIC MATERIALS AND METHODS." WHERE SPECIFIC JOINT CONSTRUCTION IS NOT INDICATED, FOLLOW PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. JOIN GRAVITY-FLOW, NONPRESSURE DRAINAGE PIPING ACCORDING TO THE FOLLOWING:
1. JOIN PVC SEWER PIPING ACCORDING TO ASTM D 2321 AND ASTM D 3034 FOR ELASTOMERIC- GASKET JOINTS.
2. JOIN DISSIMILAR PIPE MATERIALS WITH NONPRESSURE-TYPE FLEXIBLE COUPLINGS.

3.4 CLEANOUT INSTALLATION
A. INSTALL CLEANOUTS AND RISER EXTENSIONS FROM SEWER PIPES TO CLEANOUTS AT GRADE. INSTALL PIPING SO CLEANOUTS OPEN IN DIRECTION OF FLOW IN SEWER PIPE.
1. USE LIGHT-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN EARTH OR UNPAVED FOOT-TRAFFIC AREAS.
2. USE MEDIUM-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN PAVED FOOT-TRAFFIC AREAS.
3. USE HEAVY-DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN VEHICLE-TRAFFIC SERVICE] AREAS. B. SET CLEANOUT FRAMES AND COVERS IN PAVEMENT WITH TOPS FLUSH WITH PAVEMENT SURFACE.

3.5 CATCH BASIN INSTALLATION
A. SET FRAMES AND GRATES TO ELEVATIONS INDICATED.
B. INSTALL IN ACCORDANCE WITH CHAPTER 3.6.1 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER
CONSTRUCTION IN WISCONSIN, LATEST EDITION.
C. CATCH BASIN EXCAVATION AND PREPARATION OF SUBGRADE SHALL BE IN ACCORDANCE WITH SECTION 3.5.4(A) AND (B) OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

3.6 MANHOLE INSTALLATION
A. SET MANHOLE RIMS TO ELEVATIONS INDICATED.
B. INSTALL IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER
CONSTRUCTION IN WISCONSIN, LATEST EDITION.

3.7 FIELD QUALITY CONTROL
A. INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED.
B. CONDUCT DEFLECTION TESTING OF INSTALLED PIPE IN ACCORDANCE WITH SECTION 3.2.6(I)4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
1. REPLACE ANY PIPE SECTION NOT PASSING THE DEFLECTION TEST USING NEW MATERIALS.
2.REINSPECT AND REPEAT PROCEDURE UNTIL RESULTS ARE SATISFACTORY.

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SHEET TITLE
SPECIFICATIONS

PROPOSED NEW MULTI-TENANT BUILDING:
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD HWY "J"
PEWAUKEE, WISCONSIN

Date	Revision

JOB: 3234
DRAWN: BDG
CHECKED: BDG
DATE: SEPTEMBER 3, 2020
SHEET:
GS0.1

CONCRETE

01. ALL CONCRETE, UNLESS OTHERWISE SPECIFIED, SHALL BE READY MIXED IN ACCORDANCE WITH ASTM C94.

02. ALL CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150 TYPE 1 AND SHALL BE THE PRODUCT OF ONE MANUFACTURER, IF POSSIBLE. PLEASE NOTIFY BRIOHN BUILDING CORP. IN WRITING IF NOT POSSIBLE, SO THAT THEY MAY DISCUSS IMPACT WITH THE CUSTOMER. THE TEMPERATURE OF CEMENT DELIVERED TO THE PLANT SHALL NOT EXCEED 150° AT THE TIME OF MIXING.

03. MIX DESIGN TO BE SUBMITTED TO BRIOHN DESIGN GROUP A MINIMUM OF 3 WEEKS PRIOR TO POUR AND APPROVED IN WRITING FOLLOWING PRE-POUR MEETING.

1. CLASS 'C' FLY ASH MAY BE ADDED.
2. 1 " STONE TO BE USED IN ALL SLABS THAT ARE MINIMUM 5" THICK.
3. TYPE 'A' WATER REDUCERS ARE PERMITTED.
4. LOW SHRINKAGE CEMENTS ARE PERMITTED.

04. CEMENT CONTENT PER CUBIC YARD SHALL CONFORM TO THE FOLLOWING BASIC REQUIREMENTS:

1. 2,000 PSI = SLURRY CONCRETE (SUBMIT SUPPLIERS MIX DESIGN FOR APPROVAL)
2. 3,000 PSI = 5 BAGS, 470# MIN. CEMENT
3. 3,500 PSI = 5 BAGS, 510# MIN. CEMENT
4. 4,000 PSI =5 BAGS, 550# MIN. CEMENT
5. 4,500 PSI = 6 BAGS 590# MIN. CEMENT
6. 5,000 PSI = 6 BAGS, 630# MIN. CEMENT
7. 3,000 PSI CONCRETE FOR FOOTINGS MAY BE REDI-MIX SUPPLIERS STANDARD FOOTING DESIGN.

05. AGGREGATES SHALL CONFORM TO ASTM C33.

06. ALL WATER SHALL BE CLEAN AND FREE FROM INJURIOUS AMOUNTS OF OIL, ACID, ALKALI, SALT, ORGANIC MATTER, AND OTHER DELETERIOUS SUBSTANCES. IN ALL CASES WATER FROM A MUNICIPAL WATER SOURCE WILL BE ACCEPTABLE.

07. THE USE OF CHEMICAL ADMIXTURES IN CONCRETE SHALL ALWAYS BE SUBJECT TO THE WRITTEN APPROVAL OF BRIOHN DESIGN GROUP, LLC.

08. CURING COMPOUNDS TO CONFORM TO ASTM C309, TYPE 1, MIN. 12%WEIGHT SOLIDS CONTENT, CLEAR SOLVENT TYPE. SONNEBORN KURE 'n SEAL IS ACCEPTABLE.

09. ISOLATION JOINT MATERIAL TO BE POLYETHYLENE FOAM EXPANSION ISOLATION JOINT FILLER OF " THICKNESS UNLESS OTHERWISE INDICATED. THE MINIMUM DEPTH OF ISOLATION JOINT MATERIAL TO BE EQUAL TO THE SMALL OF THE CONCRETE SLAB THICKNESS WITH WHICH IT COMES IN CONTACT.

10. VAPOR BARRIER TO BE MOISTOP GRADE 395 AS MANUFACTURED BY FORTIFIBER CORP.

11. USE FIBER MESH REINFORCED CONCRETE OVER PRE CAST DECK UNLESS OTHERWISE INDICATED.

12. MAXIMUM WATER TO CEMENT RATIO TO BE 0.5.

1. ASTM C94 REQUIRES THAT NO WATER FROM THE TRUCK WATER SYSTEM OR ELSEWHERE SHALL BE ADDED, EXCEPT WHEN ON ARRIVAL AT THE JOB SITE, THE SLUMP OF THE CONCRETE IS LESS THAN SPECIFIED.
2. IF WATER IS ADDED, FOLLOW DIRECTIONS OF ASTM C94. ONLY THE INDIVIDUAL AGREED TO AT THE PRE-POUR MEETING HAS AUTHORITY TO ADD WATER AFTER PRODUCT HAS LEFT BATCH PLANT.
3. SUCH ADDITIONAL WATER THAT IS ADDED TO BRING THE SLUMP WITHIN REQUIRED LIMITS SHALL BE INJECTED INTO THE MIXER UNDER CORRECT PRESSURES AND DIRECTION. THE DRUM OR BLADES SHALL BE TURNED AN ADDITIONAL 30 REVOLUTIONS OR MORE IF NECESSARY, AT MIXING SPEED, UNTIL UNIFORMITY OF THE CONCRETE. WATER SHALL NOT BE ADDED TO THE BATCH AT ANY LATER TIME. DISCHARGE OF THE CONCRETE SHALL BE COMPLETED WITHIN 1 HOURS OR BEFORE THE DRUM HAS REVOLVED 300 TIMES, WHICHEVER COMES FIRST. SEE ASTM C94 FOR ADDITIONAL REQUIREMENTS. NO DEVIATION ALLOWED FROM THIS SECTION.

13. SLUMPS SHALL CONFORM TO THE FOLLOWING STANDARDS:

3 " = FORMED REINFORCED FOUNDATION WALLS AND FOOTINGS
3 " = FORMED PLAIN FOOTINGS AND STRUCTURAL WALLS
5" = EARTH FORM FOUNDATIONS
8" = CAISSONS
3 " = BUILDING COLUMNS
3 " = PAVEMENTS AND SLABS ON GRADE
3 " = STRUCTURAL SLABS
2" = MASS CONCRETE
4" = BOND BEAMS AND LINTELS
5" = METAL PANS AND STAIRS AND LANDINGS
9" = HIGH SLUMP CONCRETE FOR FILLING MASONRY PIERS AND PILASTERS

14. TOLERANCES = WHEN SPECIFIED SLUMP IS 3" OR LESS, + OR - "

15. TOLERANCES = WHEN SPECIFIED SLUMP IS GREATER THAN 3", + OR - 1"

16. ALL CONCRETE EXPOSED TO FREEZING AND THAWING AND/OR REQUIRED TO BE WATERTIGHT SHALL HAVE AN AIR CONTENT AT THE TIME OF PLACEMENT OF 4.5% TO 7.5%. (CONCRETE TO BE "NON-REACTIVE" CHERT.)

17. ALL STRENGTH TESTS SHALL CONSIST OF FOUR STANDARD CYLINDERS, WITH TESTS AT THREE AND SEVEN DAYS AND TWO TESTS AT 28 DAYS. STRENGTH AT THREE DAYS TO BE MINIMUM 1800 PSI. CONCRETE TEST REPORTS SHALL DIRECTLY STATE WHETHER OR NOT THE TEST RESULTS COMPLY WITH THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS. CONCRETE TEST REPORTS SHALL STATE THE FOLLOWING INFORMATION:

LOCATION ON THE PROJECT WHERE THE CONCRETE IS USED
7 DAY COMPRESSIVE STRENGTH
28 DAY COMPRESSIVE STRENGTH
AIR CONTENT
SLUMP
AMOUNT OF WATER ADDED ON JOB SITE
MIX USED

18. PRIOR TO ALL WORK OF THIS SECTION, CAREFULLY INSPECT THE INSTALLED WORK OF OTHER TRADES AFFECTING CONCRETE PLACEMENT AND VERIFY THAT ALL SUCH WORK IS COMPLETE TO THE POINT WHERE THIS INSTALLATION MAY PROPERLY COMMENCE.

19. VERIFY THAT ALL ITEMS TO BE EMBEDDED IN CONCRETE ARE IN PLACE.

20. VERIFY THAT CONCRETE MAY BE PLACED TO THE LINES AND ELEVATIONS INDICATED ON THE DRAWINGS, WITH ALL REQUIRED CLEARANCE FROM REINFORCEMENT. PROVIDE THE FOLLOWING CLEAR COVER DISTANCES FOR REINFORCEMENT IN CONCRETE:

FOOTINGS - BOTTOM AND SIDES.................3"
FOOTINGS - TOP.......................................2"
SLABS - BOTTOM AND SIDES......................1"
SLABS - TOP.. $\frac{3}{4}$"
INTERIOR WALLS.......................................1"
EXTERIOR WALLS - OUTSIDE FACE................1 $\frac{1}{2}$"
BEAMS AND GIRDERS................................1 $\frac{1}{2}$"
PIERS AND COLUMNS.................................2"

21. CONVEY CONCRETE FROM MIXER TO PLACE OF FINAL DEPOSIT BY METHODS THAT WILL PREVENT SEPARATION AND LOSS OF MATERIAL.

22. DEPOSIT CONCRETE AS NEARLY AS POSSIBLE IN ITS FINAL POSITION TO AVOID SEGREGATION DUE TO RE HANDLING AND FLOWING.

23. PLACE CONCRETE AS DRY AS POSSIBLE CONSISTENT WITH GOOD WORKMANSHIP, NEVER EXCEEDING THE MAXIMUM SPECIFIED SLUMP.

24. PLACE CONCRETE AT SUCH A RATE THAT CONCRETE IS AT ALL TIMES PLASTIC AND FLOWS READILY BETWEEN REINFORCEMENT.

25. WHEN PLACING IS ONCE STARTED, CARRY IT ON AS CONTINUOUS OPERATION UNTIL PLACEMENT OF THE PANEL SECTION IS COMPLETE.

26. DO NOT PLACE A GREATER AREA AT ONE TIME THAN CAN BE PROPERLY FINISHED WITHOUT CRACKING. THIS IS PARTICULARLY IMPORTANT DURING HOT OR DRY WEATHER.

27. THOROUGHLY CONSOLIDATE CONCRETE BY SUITABLE MEANS DURING PLACEMENT, WORKING IT AROUND ALL EMBEDDED FIXTURES AND INTO CORNERS OF THE FORMS. TYPE AND USE OF VIBRATORS SHALL BE IN STRICT CONFORMANCE WITH ACI C309.

28. INSTALL EXPANSION AND CONTROL JOINTS ONLY IN LOCATIONS SHOWN AND AS DETAILED ON THE DRAWINGS.

29. PLACE, CONSOLIDATE, STRIKE OFF AND LEVEL CONCRETE TO THE PROPER ELEVATIONS.

30. AFTER THE CONCRETE HAS STIFFENED SUFFICIENTLY TO PERMIT THE OPERATION AND THE WATER SHEEN HAS DISAPPEARED, THE SURFACE SHALL BE FLOATED AT LEAST TWICE TO A UNIFORM SANDY TEXTURE.

CONCRETE CONTINUED

31. TAKE CARE THAT THE SURFACE OF THE SLAB MEETS THE SCREEDS ACCURATELY AND DOES NOT RISE ABOVE OR FALL BELOW THEM.

32. CAREFULLY PROVIDE SLAB DEPRESSIONS AS REQUIRED FOR THE FINISHES INDICATED ON THE DRAWINGS.

33. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MAKE ALL SLABS EVEN AND UNIFORM IN APPEARANCE AND IN TRUE PLANES, SO THE DEPRESSIONS BETWEEN HIGH SPOTS DO NOT EXCEED " UNDER A 10' STRAIGHT EDGE, OR Ff30.

34. WHERE FLOOR DRAINS OR FLOOR SLOPES ARE INDICATED, SLOPE SLABS UNIFORMLY TO PROVIDE EVEN FALL FOR DRAINAGE.

35. TROWEL ALL INTERIOR SLABS TO A SMOOTH, HARD FINISH USING STEEL TROWELS.

36. WHERE 'BROOM FINISH' IS INDICATED AND WHERE NO OTHER EXTERIOR SLAB FINISH IS INDICATED, FINISH THE EXPOSED CONCRETE SURFACES BY LIGHTLY COMBING WITH A MEDIUM STIFF BROOM AFTER FLOATING IS COMPLETE.

37. RUBBED SURFACES SHALL BE PROVIDED ON ALL EXPOSED WALLS AND PIERS, IMMEDIATELY AFTER FORMS ARE REMOVED. EXPOSED SURFACES SHALL BE WETTED AND RUBBED WITH CARBORUNDUM BRICK OR OTHER ABRASIVE UNTIL EVEN, SMOOTH, AND UNIFORM IN APPEARANCE.

38. PVC WATER STOPS SHALL BE INSTALLED IN LOCATIONS INDICATED, SUBCONTRACTOR SHALL ATTACH WATER STOPS FIRMLY TO REINFORCEMENT AND/OR FORM WORK TO ENSURE THAT WATER STOP WILL NOT BE DISPLACED OR BENT DURING CONCRETE OPERATIONS.

39. BRIOHN SUPERINTENDENT IS TO BE PRESENT DURING CONCRETE POURS, UNLESS SPECIFIC AUTHORITY IS GRANTED BY BRIOHN TO POUR WITHOUT SUPERINTENDENT PRESENT.

40. THE FOLLOWING CONCRETE FLOOR POUR PROCEDURES SHALL BE USED AS A GUIDE AND AMENDED AS NECESSARY FOR INDIVIDUAL PROJECT NEEDS. A PRE-POUR MEETING IS TO BE HELD WITH REPRESENTATIVES OF THE OWNER, BRIOHN BUILDING CORP., CONCRETE SUBCONTRACTOR, ELECTRICIAN, PLUMBER, TESTING AGENCY, CONCRETE SUPPLIER AND FLOORING CONTRACTOR. THIS MEETING TO BE HELD A MINIMUM OF ONE (1) WEEK PRIOR TO POURING. ACTUAL POUR PROCEDURES WILL BE AGREED TO AT THIS MEETING AND PUT IN WRITING BEFORE POURING BEGINS. THE FOLLOWING PROCEDURE WILL BE FOLLOWED, UNLESS OTHERWISE AGREED TO OR AUTHORIZED AT PRE-POUR MEETING:

41. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY IRREGULARITIES OR DEFECTS IN CONCRETE SLABS (CRACKS, BUMPS, FLOOR CURLING, ETC.) BEFORE ANY FLOOR FINISHES ARE APPLIED.

A. POUR CONCRETE FLOORS ONLY AFTER THE ROOF IS ON.

B. MAKE SURE THERE IS EQUIVALENT TEMPERATURES BETWEEN THE SUB GRADE AND THE AIR TEMPERATURE.

C. IF THE SUB GRADE IS EXTREMELY DRY, IT SHOULD BE WET DOWN PRIOR TO POURING THE CONCRETE TO AVOID RAPID DRYING UNDER SIDE OF SLAB.

D. THE TOP OF SLAB WILL BE COVERED WITH A 6 MIL VISQUEEN AS SOON AS POSSIBLE AFTER FINISHING TO PREVENT RAPID DRYING FOR A MINIMUM OF 7 DAYS.

E. THE CONCRETE SHALL BE POURED PER THIS SPECIFICATION WITH A 3 " SLUMP, PLUS OR MINUS 1". BRIOHN BUILDING CORP. HAS THE RIGHT TO TEST ALL LOADS PRIOR TO PLACEMENT.

F. MESH WILL BE FLAT, NOT ROLLED.

G. "DIAMOND" OVER POURS AT COLUMNS TO BE POURED " LOW.

H. THE FLOOR WILL BE SAW CUT ON A GRID PER PLANS GETTING ON THE FLOOR AS SOON AS POSSIBLE WITH A SOFT CUT SAW, AFTER IT IS POURED.

I. PUT A HARD TROWEL FINISH IN THIS CONCRETE.

J. KURE-N-SEAL WILL BE APPLIED TO ALL SLABS, INCLUDING A DOUBLE COAT ON ALL SAW CUTS, AS SOON AS POSSIBLE AFTER FINISHING.

K. NO WATER MAY BE ADDED TO CONCRETE ON SITE, UNLESS PRIOR AUTHORITY GRANTED. (SEE SECTION 3.01 A)

L. VERIFY FLOOR DRAINS ARE AT LOW POINT OF FLOOR AND FLOOR PITCHES TOWARDS DRAIN.

REINFORCED CONCRETE

1. WHERE REQUIRED, REMOVE UNSUITABLE EXISTING SOILS BELOW FOOTINGS AND SLABS ON GRADE. PROVIDE ENGINEERED FILL TO RAISE SITE TO ELEVATIONS CALLED FOR ON PLANS. REVIEW SOIL REPORT AND SITE PLAN. FILL MATERIAL SHALL HAVE A MINIMUM 3000 PSF BEARING CAPACITY. FILL MATERIAL SHALL BE APPROVED BY BRIOHN DESIGN GROUP, LLC. PLACEMENT SHALL CONFORM TO SOIL REPORT UNDER THE DIRECTION AND SUPERVISION OF BRIOHN BUILDING CORP.

2. FOOTING EXCAVATIONS MUST EXTEND TO COMPETENT BEARING MATERIAL. BRIOHN BUILDING CORP. TO HIRE A SOILS ENGINEER TO FIELD VERIFY NET ALLOWABLE SOIL BEARING CAPACITY STATED ON THESE CONSTRUCTION DOCUMENTS AND IN GEOTECHNICAL REPORT FOR THIS PROJECT. IF SUITABLE BEARING STRATUM DOES NOT EXIST AT FOOTING ELEVATIONS STATED ON CONSTRUCTION DOCUMENTS, EXCAVATIONS SHALL EXTEND UNTIL SOIL WITH STATED BEARING CAPACITY IS REACHED. PLACE COMPACTED FILL OR SLURRY BELOW FOOTINGS OR EXTEND FOOTINGS DOWN TO SUITABLE BEARING STRATUM. ENGINEERED FILL BELOW SLABS ON GRADE AND FOOTINGS SHALL BE FREE DRAINING GRANULAR MATERIAL COMPACTED TO 95% MODIFIED PROCTOR AND PLACED PER THE SOIL ENGINEERS' RECOMMENDATIONS.

3. ALL BACK FILL AGAINST WALLS TO BE FREE-DRAINING GRANULAR MATERIAL AS APPROVED BY BRIOHN DESIGN GROUP, LLC AND COMPACTED PER SOIL REPORT RECOMMENDATIONS UNDER SUPERVISIONS OF BRIOHN BUILDING CORP.

4. CENTER PIERS AND COLUMN FOOTINGS ON COLUMN CENTERLINES, AND CENTER WALL FOOTINGS ON WALL CENTERLINES, UNLESS NOTED OTHERWISE.

5. FILL OR BACK FILL SHALL EXTEND LATERALLY BEYOND THE EDGE OF BUILDING OR FOUNDATIONS A MINIMUM OF TWO FEET. SLOPES SHOULD NOT EXCEED 1:1 FOR COHESIVE SOILS AND 2(HORIZONTAL):1(VERTICAL) FOR GRANULAR SOILS.

6. SUBCONTRACTOR SHALL PLACE FOUNDATIONS ON UNDISTURBED NON-ORGANIC BEARING SOILS. IF EXCAVATION ACTIVITY LOOSENS BOTTOM OF FOOTING, BASE SHALL BE COMPACTED.

7. SUBCONTRACTOR SHALL FOLLOW ANY AND ALL ADDITIONAL REQUIREMENTS AS SPECIFIED IN SOIL REPORT.

8. ALL EXTERIOR FOOTINGS MUST BEAR AT A MINIMUM DEPTH OF 4'-0" BELOW ADJACENT FINISH EXTERIOR GRADE.

9. DO NOT PLACE ANY FOOTINGS ON FROZEN SUB-GRADE.

10. WHERE NEW FOOTINGS ABUT EXISTING FOOTINGS, STEP THE NEW FOOTING AS REQUIRED TO HAVE NEW BOTTOM OF FOOTING ELEVATION MATCH THE EXISTING BOTTOM OF FOOTING ELEVATION. SUBCONTRACTOR SHALL FIELD VERIFY EXISTING BOTTOM OF FOOTING ELEVATION.

REINFORCED CONCRETE FOUNDATIONS

1. WHERE REQUIRED, REMOVE UNSUITABLE EXISTING SOILS BELOW FOOTINGS AND SLABS ON GRADE. PROVIDE ENGINEERED FILL TO RAISE SITE TO ELEVATIONS CALLED FOR ON PLANS. REVIEW SOIL REPORT AND SITE PLAN. FILL MATERIAL SHALL HAVE A MINIMUM 3000 PSF BEARING CAPACITY. FILL MATERIAL SHALL BE APPROVED BY BRIOHN DESIGN GROUP, LLC. PLACEMENT SHALL CONFORM TO SOIL REPORT UNDER THE DIRECTION AND SUPERVISION OF BRIOHN BUILDING CORP.

2. FOOTING EXCAVATIONS MUST EXTEND TO COMPETENT BEARING MATERIAL. BRIOHN BUILDING CORP. TO HIRE A SOILS ENGINEER TO FIELD VERIFY NET ALLOWABLE SOIL BEARING CAPACITY STATED ON THESE CONSTRUCTION DOCUMENTS AND IN GEOTECHNICAL REPORT FOR THIS PROJECT. IF SUITABLE BEARING STRATUM DOES NOT EXIST AT FOOTING ELEVATIONS STATED ON CONSTRUCTION DOCUMENTS, EXCAVATIONS SHALL EXTEND UNTIL SOIL WITH STATED BEARING CAPACITY IS REACHED. PLACE COMPACTED FILL OR SLURRY BELOW FOOTINGS OR EXTEND FOOTINGS DOWN TO SUITABLE BEARING STRATUM. ENGINEERED FILL BELOW SLABS ON GRADE AND FOOTINGS SHALL BE FREE DRAINING GRANULAR MATERIAL COMPACTED TO 95% MODIFIED PROCTOR AND PLACED PER THE SOIL ENGINEERS' RECOMMENDATIONS.

3. ALL BACK FILL AGAINST WALLS TO BE FREE-DRAINING GRANULAR MATERIAL AS APPROVED BY BRIOHN DESIGN GROUP, LLC AND COMPACTED PER SOIL REPORT RECOMMENDATIONS UNDER SUPERVISIONS OF BRIOHN BUILDING CORP.

4. CENTER PIERS AND COLUMN FOOTINGS ON COLUMN CENTERLINES, AND CENTER WALL FOOTINGS ON WALL CENTERLINES, UNLESS NOTED OTHERWISE.

5. FILL OR BACK FILL SHALL EXTEND LATERALLY BEYOND THE EDGE OF BUILDING OR FOUNDATIONS A MINIMUM OF TWO FEET. SLOPES SHOULD NOT EXCEED 1:1 FOR COHESIVE SOILS AND 2(HORIZONTAL):1(VERTICAL) FOR GRANULAR SOILS.

6. SUBCONTRACTOR SHALL PLACE FOUNDATIONS ON UNDISTURBED NON-ORGANIC BEARING SOILS. IF EXCAVATION ACTIVITY LOOSENS BOTTOM OF FOOTING, BASE SHALL BE COMPACTED.

7. SUBCONTRACTOR SHALL FOLLOW ANY AND ALL ADDITIONAL REQUIREMENTS AS SPECIFIED IN SOIL REPORT.

8. ALL EXTERIOR FOOTINGS MUST BEAR AT A MINIMUM DEPTH OF 4'-0" BELOW ADJACENT FINISH EXTERIOR GRADE.

9. DO NOT PLACE ANY FOOTINGS ON FROZEN SUB-GRADE.

10. WHERE NEW FOOTINGS ABUT EXISTING FOOTINGS, STEP THE NEW FOOTING AS REQUIRED TO HAVE NEW BOTTOM OF FOOTING ELEVATION MATCH THE EXISTING BOTTOM OF FOOTING ELEVATION. SUBCONTRACTOR SHALL FIELD VERIFY EXISTING BOTTOM OF FOOTING ELEVATION.

TILT UP CONCRETE

01. TILT UP DESIGN SHALL CONFORM TO TCI AND ACI STANDARDS. GOVERNING SPECIFICATION FOR TILT UP CONCRETE PANELS TO BE IN ACCORDANCE WITH THE TILT-UP CONCRETE ASSOCIATIONS GUIDELINE SPECIFICATIONS. DESIGN LOADS SHALL CONFORM TO DESIGN LOADS INDICATED IN "DESIGN LOADS" SECTION OF THE PLAN AND APPLICABLE CODES. DESIGN AND CONSTRUCT TILT-UP WALL PANELS TO WITHSTAND CONSTRUCTION LOADS WHICH MAY OCCUR DURING LIFTING, BRACING, AND IMPACT OF ADJOINING PANELS. PERMANENT LOADS SHALL CONFORM TO CODE REQUIREMENTS.

02. THE PROJECT ARCHITECT/ENGINEER HAS NOT BEEN RETAINED TO DESIGN THE WALL PANELS OR THE FLOOR SLAB TO RESIST THE STRESSES CAUSED BY ERECTION OF THE WALL PANELS, NOR TO DETERMINE THE MEANS AND METHODS TO BE USED FOR ERECTION AND BRACING UNTIL PERMANENT BRACING IS IN PLACE.

03. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ERECT THE PANEL IN A MANNER THAT WILL BE BOTH SAFE FOR PERSONNEL AND PROPERTY, AND TO BRACE AND OTHERWISE PROTECT THE PANELS AGAINST WIND AND OTHER FORCES THAT MAY OCCUR DURING CONSTRUCTION AND UNTIL CONNECTIONS TO THE PERMANENT STRUCTURAL SYSTEM ARE COMPLETED.

04. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT A SUITABLE SLAB HAS BEEN PREPARED TO PROVIDE FOR THE LEVEL OF FINISH THAT HAS BEEN ESTABLISHED WITHIN THIS SPECIFICATION.

05. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE THE SLAB FINISHING INCLUDING SAW CUTTING OF ALL JOINTS WITH THE PANEL FORMING TO MINIMIZE THE IMPACT TO THE ARCHITECTURAL FINISH OF THE PANELS.

06. SHOP DRAWINGS
A. DRAWINGS SHALL BE COMPLETE AND INCLUDE PLANS, ELEVATIONS, CROSS SECTIONS AND DETAILS OF ALL BUILDING COMPONENTS AND ACCESSORIES TO BE FURNISHED BY THE TILT UP SUPPLIER.
B. APPROVAL OF SHOP AND ERECTION DRAWINGS IS AN APPROVAL OF GENERAL DESIGN ONLY AND DOES NOT RELIEVE THE TILT UP SUPPLIER FROM THE NECESSITY OF MAKING, WITHOUT COST, CHANGES OR CORRECTIONS DUE TO ERRORS IN FABRICATION, OR RESULTING FROM ERRORS IN SHOP AND/OR ERECTION DRAWING DIMENSIONS.
C. CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND COORDINATE ALL OPENINGS IN TILT UP WITH TILT UP SUPPLIER.
D. ONE TILT UP SUPPLIER WILL BE RESPONSIBLE FOR COORDINATING ENGINEERING, DRAFTING, AND SHOP DRAWING SUBMITTALS IN THE EVENT THAT TILT UP COMPONENTS WILL BE PROVIDED BY MORE THAN ONE SUPPLIER.
E. SUBMIT PRODUCT DATA, SHOP DRAWINGS, AND CONCRETE MIX DESIGNS TO OWNER AND OWNERS CONTRACTED TESTING LABORATORY FOR REVIEW.

07. TILT UP SUPPLIER SHALL INCLUDE ERECTION, GROUTING, SAWING OF OPENINGS AT NEW AND EXISTING TILT UP . TILT UP SUPPLIER SHALL INCLUDE CAULKING OF ALL TILT UP TO TILT UP JOINTS, AND CAULKING OF ALL TILT UP TO OTHER MATERIAL JOINTS AT ALL EXPOSED AREAS. CAULK TO BE "TREMCO DYMERIC 240 FC". PROVIDE "SONNEBORN DEGUSSA NP1" CAULK AT ALL STRANLOK FINISH LOCATIONS IN FOOD PROCESSING FACILITIES, FOOD PREP AND FOOD STORAGE AREAS. PROVIDE "TREMCO DYMERIC 240 FC" AT ALL NON-FINISH INTERIOR AND EXTERIOR LOCATIONS. SEE FLOOR PLAN.

08. FACING CONCRETE SHALL BE DESIGNED FOR MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS INDICATED ON PROJECT DRAWINGS, OR SPECIFIED, AND TESTED ACCORDING TO ASTM C39.

09. THE BOND BREAKER USED ON THE TILT-UP PANELS AND THE CASTING SLAB MUST BE COMPATIBLE WITH ANY COATING SUITABLE FOR INTERIOR AND EXTERIOR CONCRETE PANELS AND SLAB.

10. CONTRACTOR SHALL ENSURE THAT FINISHED FLOOR SLAB DOES NOT SHOW SPALLING, BOLT HOLES, OR OTHER SURFACE DEFECTS AFTER TILT-UP CONSTRUCTION IS COMPLETE. CONTRACTOR SHALL FIGURE ALL COSTS REQUIRED TO PROVIDE OWNER WITH FLOOR SLABS THAT MEET ALL QUALITY REQUIREMENTS STATED WITHIN THIS SPECIFICATION. WASTE SLABS ARE STRONGLY RECOMMENDED.

11. CASTING SLAB SHALL BE CURED. SAW CUTS, CRACKS OR JOINTS IN THE CASTING BED SHALL BE FILLED AND LEVELED WITH A SEALANT SO AS TO MINIMIZE TRANSFER OF THE JOINT LINE TO THE PANEL FACE.

12. SURFACES TO BE PAINTED SHALL BE PREPARED TO RECEIVE PAINT FINISH AS SPECIFIED. ALL EXPOSED EXTERIOR SURFACES SHALL BE SACKED AND GROUTED TO CREATE A SMOOTH HONECOMB-FREE SURFACE TO ACCEPT FINAL PAINT.

13. PANELS DAMAGED DURING ERECTION, CRACKS READILY VISIBLE FROM 40 FEET, PERMANENT BOWING FROM ERECTION, SPALLS AND PANELS WITH INSUFFICIENT TESTED STRENGTH, SHALL BE REPAIRED OR REPLACED IN A MANNER ACCEPTABLE TO OWNER, AT THE CONTRACTORS EXPENSE. ANY DEMOLITION OR REPAIR OF OTHER MATERIALS OR SYSTEMS AS A RESULT OF REPAIR OR REPLACEMENT OF DEFECTIVE CONCRETE SHALL BE AT THE CONTRACTORS EXPENSE.

MASONRY

1. MASONRY CONSTRUCTION SHALL CONFORM TO THE CURRENT EDITION OF "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" ACI AND "SPECIFICATIONS FOR MASONRY STRUCTURES" ACI.

2. BOND BEAMS, PILASTERS, AND LINTELS SHALL BE FILLED WITH CONCRETE HAVING F'c = 3000 PSI UNLESS NOTED OTHERWISE. COARSE AGGREGATE SHALL PEA GRAVEL. REINFORCE ALL CONTINUOUS BOND BEAMS WITH 2-#5, U.N.O. PROVIDE CORNER BARS TO MATCH. THE MINIMUM LENGTH OF LAP FOR BARS EMBEDDED IN CONCRETE SHALL BE 24" FOR #4 BARS, 30" FOR #5 BARS, 36" FOR #6 BARS AND 42" FOR #7 BARS.

3. MASONRY CONTRACTORS TO GROUT COURSE(S) SOLID WHERE EXPANSION ANCHORS ARE SHOWN/CALLED OUT ON DRAWINGS.

4. USE ONLY U-SHAPED LINTEL BLOCK FOR MASONRY LINTELS. CENTERLINE OF REINFORCING TO BE LOCATED 3" MAX FROM BOTTOM OF LINTEL BLOCK.

5. LINTELS SHALL BEAR A MINIMUM OF 8" AT EACH END. THE FIRST COURSE OF MASONRY ABOVE THE LINTEL SHALL BE LAID WITH FULL MORTAR BEDDING. AT BEARING WALLS, GROUT END CELL SOLID TO FLOOR BELOW. SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR SPECIAL BOND BEAM AND LINTEL CONDITIONS.

6. FOR STEEL BEAMS BEARING PERPENDICULAR TO MASONRY WALL, GROUT AN AREA OF 4 CELLS WIDE, 4 COURSES DEEP, UNLESS NOTED OTHERWISE.

7. PROVIDE POCKETS IN MASONRY WALLS FOR STEEL BEAMS, JOISTS, GIRDERS AND COLUMN BASE PLATES AND BACK PATCH.

8. WALLS MUST BE BRACED OR TIED INTO FLOORS PRIOR TO BACKFILLING.

9. GROUT PLACEMENT IN REINFORCED MASONRY WALLS OR PIERS SHALL FOLLOW THE PROCEDURES DESCRIBED IN NCMA TEK MANUAL 3-2A FOR EITHER LOW-LIFT OR HIGH-LIFT GROUTING.

10. PROVIDE HORIZONTAL JOINT REINFORCEMENT SUCH AS DUR-O-WALL, 16 INCHES ON CENTER VERTICALLY FOR RUNNING BOND WALLS, AND 8" AND 10" STACK BOND WALLS. FOR 12" STACK BOND WALLS, STANDARD HORIZONTAL JOINT REINFORCEMENT AT 8" ON CENTER OR HEAVY (A = 0.056"MIN) JOINT REINFORCEMENT AT 16" ON CENTER.

11. CONSTRUCTION SHALL BE RUNNING BOND UNLESS OTHERWISE NOTED.

12. REFER TO ARCHITECTURAL DRAWINGS &/OR STRUCTURAL FOUNDATION PLAN FOR LOCATION OF ALL VERTICAL CONTROL JOINTS IN EXTERIOR WALLS. SEE STANDARD CONTROL JOINT DETAIL.

13. CONNECTIONS OF MASONRY VENEERS TO STRUCTURAL BACKUP WALL TO ADHERE TO THE FOLLOWING:

A. MASONRY VENEER ANCHORED TO MASONRY BACKING MAY BE ATTACHED USING WIRE ANCHORS, ADJUSTABLE ANCHORS, OR JOINT REINFORCEMENT. VENEER ANCHORED TO A CONCRETE OR STEEL BACKING MUST BE ATTACHED WITH ADJUSTABLE ANCHORS. VENEER ANCHORED TO WOOD STUDS TO BE ATTACHED WITH MINIMUM 22 GA. CORRUGATED SHEET METAL. ANCHOR SPACING TO BE SPACED AT MAXIMUM 32" HORIZONTALLY & 18" VERTICALLY WITH A MAXIMUM WALL SURFACE SUPPORTED OF 2.67 SQ. FT.

B. AROUND OPENINGS LARGER THAN 16" IN EITHER DIMENSION, SPACE ANCHORS AROUND PERIMETER OF OPENING AT A MAXIMUM OF 3 FT. ON CENTER & PLACE ANCHORS WITHIN 12" OF OPENING.

C. WHEN MASONRY VENEER IS ANCHORED TO WOOD BACKING, ANCHOR TO BE ATTACHED WITH A CORROSION RESISTANT 8d COMMON MAIL, OR A FASTENER EQUIVALENT OR GREATER PULL-OUT VALUE. WHEN VENEER IS ANCHORED TO STEEL BACKING, ATTACH WITH CORROSION-RESISTANT SCREW THAT HAS A MINIMUM NOMINAL SHANK DIAMETER OF 0.19".

D. ALL WALL TIES, ANCHORS, AND CONNECTORS TO CONFORM WITH NCMA TEK MANUALS 3-6B AND 12-1A.

14. TEMPORARY CONSTRUCTION BRACING OF FREESTANDING WALLS IS THE RESPONSIBILITY OF THE SUB-CONTRACTOR. PROCEDURES OUTLINED IN NCMA TEK MANUAL 3-4B TO BE FOLLOWED.

METALS

01. PROVIDE MISCELLANEOUS METAL ITEMS INCLUDING MATERIALS, FABRICATIONS, FASTENINGS AND ACCESSORIES REQUIRED FOR FINISHED INSTALLATION AS INDICATED AND SPECIFIED.

02. WHERE METAL ITEMS ARE TO BE ERECTED AND IN CONTACT WITH DISSIMILAR MATERIALS, PROVIDE CONTACT SURFACES WITH COATING OF AN IMPROVED ZINC CHROMATE PRIMER IN A MANNER TO OBTAIN NOT LESS THAN 1.0 MIL DRY FILM THICKNESS.

03. ALUMINUM EXTRUSIONS SHALL CONFORM TO ASTM B221. PROVIDE A CLEAR ANODIZED FINISH UNLESS OTHERWISE NOTED.

04. FASTENERS SHALL BE AS REQUIRED FOR PROPER ASSEMBLY AND INSTALLATION OF FABRICATED ITEMS.

05. MISCELLANEOUS MATERIALS: PROVIDE INCIDENTAL ACCESSORY MATERIALS, TOOLS, METHODS AND METHODS AND EQUIPMENT REQUIRED FOR FABRICATION AND INSTALLATION OF MISCELLANEOUS METAL ITEMS AS INDICATED ON DRAWINGS.

06. VERIFY DIMENSIONS PRIOR TO FABRICATION OR CASTING. FORM METAL ITEMS TO ACCURATE SIZES AND CONFIGURATIONS AS INDICATED ON DRAWINGS AND OTHERWISE REQUIRED FOR PROPER INSTALLATION.
FABRICATE WITH ALL LINES STRAIGHT AND ANGLES SHARP, CLEAN AND TRUE. DRILL, COUNTERSINK, TAP AND OTHERWISE PREPARE ITEMS FOR CONNECTION WITH WORK OF OTHER TRADES MAKE PERMANENT CONNECTIONS BY WELDING AND GRIND ALL EXPOSED WELDS SMOOTH TO MATCH ADJACENT SURFACES. ROUGH JOINT SURFACES NOT PERMITTED. AVOID USING BOLTS AND SCREWS UNLESS SPECIFICALLY INDICATED OR APPROVED. WHEN USED, DRAW UP TIGHT AND TIE THREADS TO PREVENT LOOSENING.

07. ALL FERROUS METAL ITEMS SHALL BE SHOP FINISHED. TOUCH UP OR REPAIR DAMAGED AREAS PRIOR TO INSTALLATION WITH SAME MATERIAL.

08. PROVIDE ALL STEEL BLOCKING AND BRACING IN METAL STUD FRAMED PARTITIONS NECESSARY FOR A COMPLETE INSTALLATION INCLUDE AS REQUIRED FOR SUPPORT OF ALL WALL-MOUNTED EQUIPMENT AND FABRICATIONS AS INDICATED ON DRAWINGS. PROVIDE SUPPORTS AT JAMBS OF DOORS AND ELSEWHERE, AS REQUIRED.

09. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.

METALS: STRUCTURAL STEEL

1. DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL MEMBERS SHALL BE GOVERNED BY THE CURRENT EDITION OF AISC "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDERS TO BE CERTIFIED. ALL WELDING TO CONFORM TO AWS D1.1 LATEST EDITION USING E70-XX ELECTRODES.

3. BOLTED CONNECTIONS TO BE DOUBLE ANGLE WITH " DIAMETER ASTM A-325 BOLTS UNLESS SHOWN OTHERWISE. USE " DIAMETER A-325 BOLTS FOR SINGLE SHEAR, WING PLATE CONNECTIONS. PROVIDE MAXIMUM NUMBER OF BOLTS IN A SINGLE LINE WITH 3" GAGE. PROVIDE WASHERS FOR ALL ANCHOR BOLTS (ASTM A-307).

4. PROVIDE AND MAINTAIN TEMPORARY BRACING OF STEEL UNTIL SECURELY INCORPORATED INTO CONSTRUCTION SUCH AS SHEAR WALLS, X-BRACING, ETC.

5. STEEL COLUMNS BUILT IN MASONRY SHALL HAVE ADJUSTABLE MASONRY WALL ANCHORS AT 2-0" ON CENTER VERTICALLY EACH SIDE, LOCATED IN COURSING.

6. WIDE FLANGE BEAMS 12" OR DEEPER SHALL HAVE A " STIFFENER PLATE EACH SIDE AT ALL POINTS OF SUPPORT INCLUDING BEARING ENDS ON CONCRETE OR MASONRY. PROVIDE " BEARING PLATES WITH (2) - " ANCHOR BOLTS 12" LONG WITH 3" HOOKS.

7. UNLESS NOTED OTHERWISE, FRAME AROUND ALL ROOF DECK OPENINGS LARGER THAN 12" IN DIAMETER, INCLUDING ROOF DRAINS/SUMPS, WITH 4-L's 3x3x " DOWN-TURNED.

8. ALL STEEL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER (WITHIN THE MILL TOLERANCE) LOCATED ABOVE THE HORIZONTAL CENTERLINE BETWEEN THE END CONNECTIONS.

9. STAIRS, HANDRAILS, AND GUARDRAILS SHALL BE DESIGNED BY THE STEEL SUPPLIER.

10. SUBCONTRACTOR SHALL SUBMIT FIVE SETS OF STEEL SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS MUST BE SUBMITTED TO BRIOHN DESIGN GROUP A MINIMUM OF SEVEN WORKING DAYS PRIOR TO FABRICATION DATE NEEDED FOR PROJECT SCHEDULING.

11. ROOF SLOPE TO BE " PER FOOT UNLESS OTHERWISE NOTED, ON CONSTRUCTION DOCUMENTS. ROOF SLOPE IS GENERALLY TO BE ACHIEVED BY SLOPING THE STRUCTURE UNLESS THICKENED OR TAPERED INSULATION IS NOTED ON THE ROOF PLAN. ROOF SLOPE MAY BE " PER FOOT IF A PONDING ANALYSIS IS PERFORMED PROVING STABILITY OF THE ROOF STRUCTURE AGAINST PROGRESSIVE DEFLECTIONS. SEE ASCE 7-05 SECTIONS 7.11 & 8.4. IF DIFFERENCE IN HEIGHT BETWEEN ROOF DRAINS AND HIGH POINT IN ROOF IS GREATER THAN 6", PLUMBING CONTRACTOR TO PROVIDE OVERFLOW DRAINS @ EACH DRAINAGE "FIELD" ON THE ROOF.

METALS: DECK

1. DECK, ACCESSORIES, AND ATTACHMENTS SHALL CONFORM WITH THE CURRENT EDITION OF "STEEL DECK INSTITUTE SPECIFICATIONS".

2. PROVIDE SUPPORT AT COLUMNS AS REQUIRED FOR DECK SUPPORT. PROVIDE L2X2X " MINIMUM.

3. AT OPENINGS IN DECK LESS THAN 12"X12", PROVIDE A 16 GAUGE COVER PLATE FASTENED TO DECK WITH #12 TEK SCREWS.

4. AT CHANGE IN DECK DIRECTION, PROVIDE A 22 GAUGE X 12" CONTINUOUS PLATE. PROVIDE SAME PLATE AT ALL RIDGES, VALLEYS, AND HIPS BENT TO MATCH PROFILE OF ROOF.

METALS: STEEL JOISTS & JOIST GIRDERS

1. DESIGN, FABRICATION, AND ERECTION SHALL CONFORM TO THE CURRENT EDITION OF "STEEL JOIST INSTITUTE SPECIFICATIONS."

2. JOIST MANUFACTURER SHALL BE A MEMBER OF THE SJI (STEEL JOIST INSTITUTE).

3. SUBCONTRACTOR SHALL SUBMIT FIVE SETS OF STEEL JOIST SHOP DRAWINGS TO BRIOHN DESIGN GROUP FOR APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS MUST BE SUBMITTED TO BRIOHN DESIGN GROUP A MINIMUM OF SEVEN WORKING DAYS PRIOR TO FABRICATION DATE NEEDED FOR PROJECT SCHEDULING.

4. PROVIDE SJI STANDARD BRIDGING AS SHOWN ON THE CONSTRUCTION DOCUMENTS OR AS REQUIRED BY DESIGN.

5. DO NOT DRILL OR CUT THROUGH ANY JOIST OR GIRDER.

6. ALL CONCENTRATED LOADS SHALL BE APPLIED AT A JOIST PANEL POINT UNLESS SPECIFICALLY NOTED OTHERWISE.

7. JOIST MANUFACTURER SHALL DESIGN JOISTS FOR ROOF TOP UNIT LOADS AND SUSPENDED UNIT OR BULKHEAD LOADS SHOWN ON CONSTRUCTION DOCUMENTS. COORDINATE EXACT LOCATION OF APPLIED LOAD WITH APPROPRIATE SUB-CONTRACTOR.

8. DESIGN JOIST, JOIST GIRDERS, AND BRIDGING TO RESIST A NET UPLIFT LOAD OF 5 PSF UNLESS OTHERWISE NOTED.

9. PROVIDE CAMBER IN JOIST AS RECOMMENDED BY SJI SPECIFICATIONS UNLESS OTHERWISE NOTED ON CONSTRUCTION DOCUMENTS.

10. JOIST SUPPLIER SHALL COORDINATE HIS WORK WITH THE STEEL SUPPLIER ON THE PROJECT.

11. DESIGN JOISTS AND JOIST GIRDERS FOR L/240 LIVE LOAD DEFLECTION UNLESS NOTED OTHERWISE.

METALS: COLD-FORMED STEEL FRAMING

1. DESIGN, FABRICATION, AND ERECTION OF COLD-FORMED STEEL FRAMING SHALL BE IN ACCORDANCE WITH THE AISI DESIGN MANUAL AS AMENDED TO DATE. ALL FRAMING MEMBERS SHOWN ON PLANS ARE SCHEMATIC AND ARE SHOWN FOR INTENT ONLY. (ASSUMES THAT THE DESIGN AND CALCULATIONS ARE DONE BY THE SUPPLIER)

1A. ALL LIGHT GAUGE FRAMING DESIGN & CALCULATIONS TO BE DONE BY SUPPLIER. THIS INCLUDES BEAMS, HEADERS, STUDS, COLUMNS, ECT. INCLUDING ALL CONNECTIONS TO MASONRY, CONCRETE, STEEL & OTHER LIGHT GAUGE MEMBERS.

2. STEEL STUD CURTAIN WALL AND CONNECTIONS TO BE DESIGNED BY SUPPLIER. (STEEL STUD CURTAIN WALL AND CONNECTION DESIGN SHALL BE SEALED BY PROFESSIONAL STRUCTURAL ENGINEER EXPERIENCED IN THIS WORK)

COMPONENTS & CLADDING
UPLIFT.. PER ASCE 7 (FM 1-28)
V .... 90 MPH
I 1.15
GCPI 0.55

LIVE LOADS: GROUND SNOW LOAD .... 30 PSF
IMPORTANCE FACTOR 1.0
FLAT ROOF SNOW LOAD .... 27 PSF
FACTOR Ct 1.1
FACTOR Ce 1.1
L/600 FOR BRICK VENEER
L/360 FOR WALL STUDS W/ATTACHED DRYWALL

3. MINIMUM DESIGN THICKNESS OF STUDS AND TRACK AT EXTERIOR OF BUILDING VERTICALLY SUPPORTING MASONRY SHALL BE 0.045 INCHES (GAGE: 18)

4. MINIMUM DESIGN THICKNESS OF STUDS AND TRACK AT EXTERIOR OF BUILDING VERTICALLY NOT SUPPORTING MASONRY SHALL BE 0.045 INCHES (GAGE: 18)

5. LOAD BEARING STUDS VERTICALLY SUPPORTING MASONRY SHALL BE DESIGNED TO CARRY ALL GRAVITY LOADS AND LATERAL FORCES INCLUDING BUT NOT LIMITED TO DEAD LOADS, LIVE LOADS, WIND LOADS, AND AXIAL LOAD ECCENTRICITIES.

6. LOAD BEARING STUDS NOT VERTICALLY SUPPORTING MASONRY SHALL BE DESIGNED TO CARRY ALL GRAVITY LOADS AND LATERAL FORCES INCLUDING BUT NOT LIMITED TO DEAD LOADS, LIVE LOADS, WIND LOADS, AND AXIAL LOAD ECCENTRICITIES.

7. NON-LOAD BEARING STUDS NOT VERTICALLY SUPPORTING MASONRY SHALL TRANSFER LATERAL LOADS TO STRUCTURE BY MEANS OF SLIDE CLIPS TO ALLOW FOR VERTICAL MOVEMENT OF PRIMARY STRUCTURAL MEMBERS.
8. SPLICES IN AXIALLY LOADED STUDS ARE NOT PERMITTED.
9. STUDS, TRACK, AND ACCESSORIES SHALL BE GALVANIZED WITH A MINIMUM G-90 COATING PER ASTM A-525
10. STUDS SHALL BE PLUMBED, ALIGNED, AND SECURELY ATTACHED TO FLANGES OR WEBS OF LOWER TRACK. STUDS SHALL BE SEATED TIGHT TO TRACK, EXCEPT AS NEEDED FOR DIAGONAL BRACING OR REQUIRED FOR NON-PLUMB WALLS OR WARPED SURFACES AND SIMILAR REQUIREMENTS.
11. JOINTS SHALL BE LOCATED DIRECTLY OVER BEARING STUDS OR A LOAD DISTRIBUTION MEMBER SHALL BE PROVIDED AT THE TOP OF THE WALL.
12. REFER TO ARCHITECTURAL WALL SECTIONS AND DETAILS FOR ADDITIONAL INFO.
13. ALL MEMBERS 0.0566 INCH MINIMUM THICKNESS OR THICKER (16 GAGE OR LOWER) SHALL BE OF MINIMUM 50 KSI STEEL. ALL MEMBERS OF 0.0451 INCH MINIMUM THICKNESS OR THINNER (18 GAGE OR HIGHER) AND ALL ACCESSORIES SHALL BE OF MINIMUM 33 KSI STEEL.
14. STEEL STUD ERECTOR SHALL CONSTRUCT ALL LIGHT GAGE FRAMING IN A MANNER WHICH PROTECTS LATERAL STABILITY OF THE STRUCTURE.
15. ALL WELDS PERFORMED ON GALVANIZED LIGHT GAGE COMPONENTS SHALL BE COATED WITH ZINC RICH PAINT FOR CORROSION PROTECTION IN ACCORDANCE WITH ASTM A780. CONTRACTOR SHALL NOTIFY THE ENGINEER TO ALLOW ADEQUATE TIME FOR WELDS TO BE REVIEWED BEFORE SYSTEMS ARE ENCLOSED
16. STEEL STUD WALLS SHALL BE DESIGNED AND CONSTRUCTED TO PROVIDE REQUIRED CAPACITIES TO CARRY CONSTRUCTION LOADS. CONTRACTOR SHALL PROVIDE NECESSARY BRIDGING OR ATTACHMENT TO WALL SHEATHING BEFORE STRUCTURAL COMPONENTS ARE LOADED.

METALS: COLD-FORMED STEEL FRAMING CONT

17. INSTALL SUPPLEMENTARY FRAMING, BLOCKING AND BRACING IN METAL FRAMING SYSTEM WHENEVER WALLS OR PARTITIONS ARE INDICATED TO SUPPORT FIXTURES, EQUIPMENT, SERVICES, CASEWORK, HEAVY TRIM AND FURNISHING AND SIMILAR WORK.

WOOD AND PLASTICS

01. PROVIDE AND OR INSTALL ALL ROUGH CARPENTRY, FINISH CARPENTRY INCLUDING MILLWORK, FINISH HARDWARE, ROUGH HARDWARE, FASTENING DEVICES AND MISCELLANEOUS ACCESSORIES AS MAY BE REQUIRED HEREIN AND OR AS SHOWN ON THE DRAWINGS.

02. ROUGH CARPENTRY: FURNISH AND INSTALL ALL FRAMING AS MAY BE REQUIRED FOR INTERIOR PARTITION, BAFFLE, WALLS, SOFFITS, CEILINGS, STOREFRONTS, EXTERIOR WALLS, ETC. AS NOTED AND WHERE SHOWN ON THE DRAWINGS.

03. FINISH CARPENTRY: FURNISH AND INSTALL ALL THAT IS REQUIRED FOR DOORS AND FRAMES, FINISH TRIM AND MOLDING AND PANELING. PERFORM FINISH CARPENTRY WORK IN ACCORDANCE WITH AWI QUALITY STANDARDS, PREMIUM GRADE. USE FULL LENGTH PIECES, MITER ALL JOINTS, SHOULDER JOINT AT DOOR JAMBS. FILL ALL NAIL HOLES AND SAND SMOOTH.

04. PROVIDE ROUGH LUMBER AND PLYWOOD IN STANDARD DIMENSIONS, MOISTURE CONTENT NOT MORE THAN 19%.

05. PROVIDE ALL NECESSARY ROUGH HARDWARE IN SIZES AND QUANTITIES REQUIRED BY LOCAL CODE OR APPROVED BY ARCHITECT.

06. USE FINISH OR CASING NAILS FOR EXPOSED WORK. USE TYPE "S" TRIM HEAD SCREWS FOR ATTACHMENT OF WOOD TRIM TO METAL STUDS, RUNNERS OR FURRING.

07. RELIEVE BACKS OF WOOD TRIM. KERF BACKS OF MEMBERS MORE THAN 5" WIDE AND 1" NOMINAL THICKNESS. EASE ALL EXTERNAL CORNERS.

08. INSTALL LAMINATES ONLY WHEN RECEIVING SURFACES ARE IN A SATISFACTORY CONDITION FOR INSTALLATION.

09. USE ADHESIVES RECOMMENDED BY THE MANUFACTURER FOR THE PARTICULAR APPLICATION. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOST CURRENT PRINTED APPLICATION INSTRUCTIONS. USE LOWEST VOC ADHESIVES AVAILABLE WHICH MEET OR EXCEED THE MANUFACTURES REQUIREMENTS.

10. PROTECT FROM DAMAGE BY OTHER TRADES WORKING ADJACENT TO THE INSTALLATION. REPLACE DAMAGED SURFACES.

11. REMOVE EXCESS ADHESIVE AND CLEAN SURFACES USING MANUFACTURER'S RECOMMENDED SOLVENT AND CLEANING PROCEDURES.

12. FILL IN ALL SEAMS WITH MANUFACTURER'S RECOMMENDED SOLVENT AND CLEANING PROCEDURES. USE LOWEST VOC CLEANING AGENTS AVAILABLE THAT MEET OR EXCEED THE MANUFACTURER'S REQUIREMENTS.

13. WOOD PRODUCTS SHALL MEET OR EXCEED THE AMERICAN WOODWORK INSTITUTE STANDARDS.

14. INSTALL WOODS AND PLASTICS IN CONFORMANCE WITH DETAILS AND THE FOLLOWING CONSIDERATIONS AND REQUIREMENTS:
A) INSTALL WOODS AND PLASTICS WITH TIGHT JOINTS.
B) MITER CASINGS AND MOLDINGS UNLESS OTHERWISE NOTED.
C) ALL RUNNING TRIM ONE (1) PIECE UP TO 10'-0" LONG. MATCH GRAIN AND COLOR PIECE TO PIECE.
D) USE FINISH NAILS EXCEPT WHERE ARE SPECIFICALLY CALLED FOR OR WHERE SCREWS DO NOT SHOW.
E) SET FASTENERS FOR PUTTYING.
F) WHERE SCREW ATTACHMENT REQUIRED, SPACE SCREWS AT EQUAL INTERVALS. SINK AND PUTTY IN FINISH WOOD SURFACES.
G) ALL MEMBERS AND LINES LEVEL AND PLUMB.
H) SELECT AND CUT MATERIAL TO EXCLUDE DAMAGED, MARKED OR DEFECTIVE AREAS.
I) FINISH EXPOSED SURFACES SMOOTH, FREE FROM TOOL AND MACHINE MARKS.
J) EASE ALL EXPOSED WOOD EDGES 1/8" MINIMUM RADIUS.
K) INSTALL FIRE RATED DOORS IN ACCORDANCE WITH REQUIREMENTS OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RECOMMENDATIONS.

15. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.

WOOD: LUMBER

01. LUMBER SHALL BE GRADED AND STAMPED WITH MINIMUM STRUCTURAL DESIGN VALUES AS LISTED BELOW:
A. #1/#2 DOUGLAS FIR 850 PSI FB. 95 PSI FV. 1600 KSI E (BEAMS, JOISTS, LINTELS & HEADERS, UNLESS OTHERWISE NOTED)
B. #1/#2 S.P.F. 875 PSI FB. 1150 PSI FV. 1400 KSI E (ALL STUDS & PLATES, UNLESS OTHERWISE NOTED)
C. LVL @1800 KSI E OR MICRO-LAM @1900 KSI E 2600 PSI FB. 285 PSI FV (OR AS NOTED ON THE STRUCTURAL DRAWINGS)
D. WOOD HEADER AND FRAMING MATERIAL MATERIAL SHALL BE THOROUGHLY SEASONED, FREE FROM WARP AND FREE OF ALL SPLITS, SHAKES AND CHECKS.

02. MISCELLANEOUS LUMBER: PROVIDE NO. 3 OR STANDARD GRADE LUMBER OF ANY SPECIES FOR SUPPORT OR ATTACHMENT OF OTHER CONSTRUCTION, INCLUDING ROOFTOP EQUIPMENT CURBS AND SUPPORT BASES, CANT STRIPS, BUCKS, NAILERS, BLOCKING AND SIMILAR MEMBERS.

03. PROTECTION AGAINST DECAY WITH PRESERVATIVE-TREATED WOOD SHALL BE REQUIRED IN THE FOLLOWING AREAS:
A. ALL WOOD SILL PLATES, FRAMING AND FURRING STRIPS ATTACHED TO EXTERIOR BELOW GRADE MASONRY AND CONCRETE WALLS.
B. ALL WOOD PLATES, BLOCKING, FRAMING AND FURRING STRIPS ATTACHED TO EXTERIOR, SINGLE WITHE MASONRY WALLS.
C. ALL WOOD CAP FLASHING BLOCKING ATTACHED TO MASONRY OR CONCRETE PARAPETS.
D. ALL WOOD SLEEPERS AND SILL PLATES ON CONCRETE SLABS IN DIRECT CONTACT WITH EARTH.
E. ALL WOOD IN CONTACT WITH GROUND OR EXPOSED TO THE WEATHER.

04. EXCEPTION: WOOD SILL PLATES ON CONCRETE SLABS SEPARATED FROM DIRECT CONTACT TO THE EARTH WITH A 10 MIL POLYETHYLENE VAPOR BARRIER WILL NOT REQUIRE PRESERVATIVE-TREATMENT.

05. FINISHES FOR FASTENERS AND HARDWARE IN CONTACT WITH PRESERVATIVE-TREATED WOOD ARE BASED ON THE FOLLOWING ASSUMPTIONS:
A. ALL INTERIOR TREATED WOOD SHALL USE AN ACQ-C, ACQ-D (CARBONATE), CBA-A OR CA-B TREATMENT WITH RETENTION LEVELS LESS THAN OR EQUAL TO 0.40 PCF, 0.40 PCF, 0.41 PCF AND 0.21 PCF RESPECTIVELY.
B. ALL CONNECTION HARDWARE AND FASTENERS IN DIRECT CONTACT WITH INTERIOR TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED, MECHANICALLY GALVANIZED OR STAINLESS STEEL.
C. ALL CONNECTION HARDWARE AND FASTENERS IN DIRECT CONTACT WITH EXPOSED EXTERIOR TREATED WOOD OR UNKNOWN TREATMENTS SHALL BE STAINLESS STEEL.
D. USE TAPCON CLIMASEAL FASTENERS TO CONNECT ACQ-TREATED WOOD BLOCKING TO MASONRY OR CONCRETE PARAPETS.

06. SHOP DRAWINGS FOR PRESERVATIVE-TREATED WOOD, HARDWARE AND FASTENERS:
A. THE SUBCONTRACTOR SHALL FURNISH MATERIAL CERTIFICATES FOR ALL PRESERVATIVE TREATED WOOD TYPES, SPECIFYING THE NAME OF THE TREATING COMPANY, THE PRESERVATIVE USED, THE LEVEL OF TREATMENT (0.10, 0.25, 0.40, ETC.), THE INTENDED USE (ABOVE GROUND, GROUND CONTACT, ETC.) AND A REFERENCE TO THE APPROPRIATE AWPA STANDARD.
B. THE SUBCONTRACTOR SHALL FURNISH MATERIAL DATA SHEETS FOR HARDWARE AND FASTENERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD.

07. PLACE 2" THICK NOMINAL FIRE-BLOCKING IN STUD WALLS AT CEILING, SOFFIT, FLOOR LEVELS AND AT EACH10'0" HEIGHT OF STUD.

08. JOISTS SHALL BE BLOCKED AT SUPPORTS AND BRIDGED OR BLOCKED AT INTERVALS OF 8'0" WHERE JOISTS ARE 2'x12" OR DEEPER.

09. JOISTS UNDER NON-BEARING PARTITIONS SHALL BE DOUBLED AND TRIPLED FOR BEARING PARTITIONS ABOVE, UNLESS OTHERWISE NOTED.

10. COMMON NAILS SHALL BE USED, UNLESS OTHERWISE NOTED.

11. LAG BOLTS AND SCREWS SHALL BE PRE-DRILLED TO SHANK DIAMETER AND FULL DEPTH AND SCREWED, NOT DRIVEN INTO PLACE.

12. CUT WASHERS SHALL BE PLACED UNDER HEADS AND NUTS OF ALL BOLTS AND UNDER HEADS OF LAG BOLTS. ONE CUT WASHER SHALL BE USED FOR BOLTS CONNECTING WOOD LEDGERS TO CONCRETE OR MASONRY WALLS.

13. SEE LUMBER, PLYWOOD AND NAILING SPECIFICATIONS ON STRUCTURAL DRAWINGS. PROVIDE AND INSTALL ALL WOOD FRAMING AS INDICATED ON THE DRAWINGS.

14. METAL CONNECTORS AND FRAMING DEVICES SHOWN ON DRAWINGS OTHER THAN CUSTOM FABRICATED ITEMS SHALL BE "STRONG-TIE" CONNECTORS BY SIMPSON COMPANY.

THERMAL AND MOISTURE PROTECTION

01. CAULK AROUND ALL WINDOWS (HEAD AND JAMB), DOORS, VENT, OPENINGS, WHERE DIFFERENT MATERIALS MEET, ROOF OPENINGS, EAVES, SOFFITS, JOINTS, COUNTERTOPS, DOOR FRAMES, ETC. AS REQUIRED FOR A WATERTIGHT AND AIRTIGHT CONNECTION. PROVIDE CAULK PER MANUFACTURERS RECOMMENDATIONS. CAULK TO BE "TREMCO DYMERIC 240 FC" FOR FOOD PROCESSING FACILITIES OR FOOD PREP/FOOD STORAGE AREAS. CAULK TO BE INSTALLED AFTER FINISH IS APPLIED TO SURFACES PER MANUFACTURE'S RECOMMENDATIONS.

02. PROVIDE NON-SAG SEALANT COMPLYING WITH REQUIREMENTS OF FEDERAL SPECIFICATIONS TTS-1543 OR FS TT-S-230 TYPE "II", CLASS "A". PROVIDE ACOUSTICAL SEALANT WHICH SHALL BE NON-HARDENING, NONDRYING SYNTHETIC RUBBER SEALING COMPOUND WITH MINIMUM 90% SOLIDS. USE AT ALL INTERIOR JOINTS AT INTERSECTIONS BETWEEN PLANES. AROUND DOOR AND WINDOW FRAMES PRIMER SHALL BE MADE OR RECOMMENDED BY SEALANT MANUFACTURER FOR THE SPECIFIC CONDITIONS AND SUBSTRATES. USE LOWEST VOC SEALANTS AND CAULKING AVAILABLE WHICH MEET OR EXCEED THE CODE AND MANUFACTURES REQUIREMENTS.

03. PROVIDE BACKING MATERIAL BY DOW "ETHAFOAM" OR APPROVED EQUAL. APPLY SEALANT OVER BACKING TO UNIFORM THICKNESS IN CONTINUOUS BEADS FILLING ALL JOINTS AND VOIDS, SOLID. SUPERFICIAL POINTING WITH A SKIM BEAD WILL NOT BE ACCEPTED.

04. ALL SURFACES SHALL BE ADEQUATELY CLEANED AND PREPARED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS PRIOR TO INSTALLATION. USE LOWEST VOC CLEANING AGENTS AVAILABLE THAT MEET OR EXCEED THE MANUFACTURER'S REQUIREMENTS.

05. ISOLATION AND CONTROL JOINT MATERIAL TO BE POLYETHYLENE FOAM EXPANSION ISOLATION JOINT FILLER OF 1/2" THICKNESS UNLESS OTHERWISE INDICATED. THE MINIMUM DEPTH OF ISOLATION JOINT MATERIAL TO BE EQUAL TO THE SMALL OF THE CONCRETE SLAB THICKNESS WITH WHICH IT COMES IN CONTACT.

06. WIND RESISTANCE OF EDGE FLASHING SHALL MEET OR EXCEED THE MINIMUM STANDARDS PER THE CODE AND SATISFY THE ANSI AND SPRI REFERENCED STANDARDS INCLUDING TESTING.

07. REFER TO ROOF PLAN FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS FOR ROOFING MATERIALS AS THEY PERTAIN TO THERMAL AND MOISTURE PROTECTION.

DOORS AND WINDOWS

01. PROVIDE PRIMED HOLLOW METAL GALVANIZED FRAMES FOR EXTERIOR DOOR FRAMES. PROVIDE PRIMED HOLLOW METAL FRAMES FOR INTERIOR DOORS. WHERE WEATHERSTRIPPING IS IDENTIFIED ON THE DOOR SCHEDULE PROVIDE "CURRISEAL" TYPE WEATHER STRIPPING FOR EXTERIOR AND INTERIOR APPLICATIONS.

02. PROVIDE HOLLOW METAL EXIT DOOR CONSTRUCTED WITH THE FOLLOWING MATERIALS:
A) MINIMUM 18 GA. FOR FACE SHEETS OF INTERIOR DOORS.
B) 16GA. FOR EDGE CHANNELS.
C) MINIMUM 22 GA. FOR FACE STIFFENERS.
D) MINIMUM 16GA. FOR INTERIOR FRAMES.

03. PROVIDE DOORS OF SIZES AND TYPES INDICATED ON DRAWINGS, FULLY WELDED SEAMLESS CONSTRUCTION WITH NO VISIBLE SEAMS OR JOINTS ON FACES OR VERTICAL EDGES. THICKNESS AS SCHEDULED ON DRAWINGS.

04. FACE STIFFENERS, EDGES AND HARDWARE REINFORCEMENT SHALL BE THE HIGHEST QUALITY WORKMANSHIP AND MATERIALS. PROVIDE IN ACCORDANCE WITH BEST TRADE PRACTICE AND MANUFACTURER'S WRITTEN REQUIREMENTS AND RECOMMENDATIONS FOR THE USE INTENDED.

05. PROVIDE CUSTOM MADE WELDED UNITS WITH INTEGRAL TRIM. SIZES AND SHAPES AS INDICATED ON DRAWINGS. FABRICATE UNITS SQUARE, TRUE AND FREE FROM DEFECTS.

06. HARDWARE REINFORCEMENT AND ANCHORS (ERECTION, FLOOR, AND JAMS) SHALL BE AS REQUIRED FOR A SECURE INSTALLATION AND SHALL BE IN ACCORDANCE WITH TRADE REQUIREMENTS FOR THE SPECIFIED HARDWARE AND INTENDED USE.

07. INSTALL FRAMES IN ACCURATE LOCATIONS AS INDICATED ON DRAWINGS. INSTALL RIGID, PLUMB, LEVEL AND TRUE. ALIGN WITH ADJACENT CONSTRUCTION. SECURE FLOOR ANCHORS TO FLOOR CONSTRUCTION WITH APPROVED TYPE MECHANICAL FASTENINGS. ANCHOR TO ADJOINING WALLS WITH SPECIFIED ANCHORS. BRACE FRAMES TO RETAIN POSITION AND CONTINUOUSLY CHECK ALIGNMENT DURING CONSTRUCTION OF ADJACENT WALLS. ADJUST FRAME LOCATIONS AS NECESSARY USING SHIMS BEFORE FASTENING. LEAVE READY TO RECEIVE SEALANT WHERE INDICATED ON DRAWINGS. ADJUST AND CHECK OPERATION OF EVERY UNIT. REPAIR OR REPLACE UNITS WHICH CANNOT BE ADJUSTED TO OPERATE FREELY AND SMOOTHLY.

08. INSTALL WOOD DOORS, FRAMES AND TRIM. SIZES AND THICKNESS AS SCHEDULED ON THE DRAWINGS.

09. HANG DOORS AS SCHEDULED ON DRAWINGS, IN ACCURATE LOCATIONS WITH 1/8" CLEARANCE AT THE TOPS AND 3/8" CLEARANCE AT BOTTOM, UNLESS SPECIFICALLY NOTED FOR "UNDERCUTS" OR OTHER DEVIATIONS IN FIT. MAKE NO JOB SITE FIT IN CUTS UNLESS APPROVED. HANG PAIRS OF DOORS AS SPECIFIED WITH 3/32" CLEARANCE AT MEETING EDGES. DEMONSTRATE THAT DOORS OPEN FREELY WITHOUT BINDING, AND WHEN CLOSED, WILL LATCH PROPERLY.

10. PROVIDE ACCESS DOORS AS REQUIRED FOR SPECIFIED RATING. SIZE AS INDICATED.

11. PROVIDE ALL DOORS PER DOOR AND FRAME AND HARDWARE SCHEDULES. INSTALLATION TO COMPLY WITH MANUFACTURER'S INSTRUCTIONS.

12. PROVIDE ALL HARDWARE WITH ALL NECESSARY SCREWS, AND OTHER FASTENERS OF SUITABLE SIZE AND TYPE TO ANCHOR THE HARDWARE IN POSITION FOR LONG LIFE UNDER HARD USE. FURNISH ITEMS COMPLETE WITH EXPANSION SHIELDS, TOGGLE BOLTS AND OTHER ANCHORS, IN ACCORDANCE WITH THE MATERIAL TO WHICH THE HARDWARE IS TO BE APPLIED TO AND THE RECOMMENDATIONS OF THE HARDWARE MANUFACTURER. FASTENER FINISH SHALL HARMONIZE WITH THE HARDWARE MATERIAL.

13 COORDINATE WITH OTHER TRADES TO ASSURE PROPER AND ADEQUATE PROVISION IN THE WORK OF THOSE TRADES FOR INTERFACE WITH THE WORK OF THIS SECTION.

FINISHES

01. GENERAL FINISH REQUIREMENTS:
A) PROVIDE AND INSTALL ALL FINISHES AS INDICATED ON PLANS.
B) INSTALL ALL MATERIALS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
C) "FINISH" INSTALLER INSPECT SUBSURFACE AND PREPARE AS PER MANUFACTURER'S REQUIREMENTS, RECOMMENDATIONS, AND SPECIFICATIONS PRIOR TO INSTALLATION OF PRODUCT.
D) ALL FINISHES TO MEET ALL CODE REQUIREMENTS AND REGULATIONS INCLUDING FLAME SPREAD AND SMOKE DEVELOPMENT.

SPECIALTIES

01. NOT USED.

EQUIPMENT

01. NOT USED.

FURNISHINGS

01. NOT USED.

SPECIAL CONSTRUCTION

01. NOT USED.

CONVEYING SYSTEMS

01. REFER TO ELEVATOR DRAWINGS.

MECHANICAL

01. REFER TO MECHANICAL DRAWINGS.

ELECTRICAL

01. REFER TO ELECTRICAL DRAWINGS.

BRIOHN
DESIGN GROUP
3885 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
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(262) 790-0505 FAX

SHEET TITLE
SPECIFICATIONS

PROPOSED NEW MULTI-TENANT BUILDING:
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD HWY "J"
PEWAUKEE, WISCONSIN

Revision	Date

JOB: 3234
DRAWN: BDG
CHECKED: BDG
DATE: SEPTEMBER 3, 2020
SHEET:
GS0.2

LEGAL DESCRIPTION:

PARCEL A:

LOT 3, CERTIFIED SURVEY MAP NO. 11514, IN THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, STATE OF WISCONSIN.

PARCEL B:

PARCEL 1, CERTIFIED SURVEY MAP NO. 7930, IN THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4, THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21, AND THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, TOWNSHIP 7 NORTH, RANGE 19 EAST, IN THE TOWN OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

NOTES

1. LEGAL DESCRIPTION FROM CSM 11514 AND CSM 7930.

2. THE UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS BASED, IN PART, ON INFORMATION FURNISHED BY THE UTILITY COMPANIES, DIGGERS HOTLINE AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED TO.

3. SUBJECT PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION X: AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN AND ZONE DESIGNATION AE: AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD PER INFORMATION FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 55133C0211G, WITH A DATE OF IDENTIFICATION OF 11/5/2014, IN COMMUNITY NO. 550192, THE CITY OF PEWAUKEE, WHICH IS THE COMMUNITY IN WHICH THE SUBJECT PROPERTY IS SITUATED.

4. PROJECT BENCHMARK – CONCRETE MONUMENT FOUND AT THE NE CORNER OF THE SOUTHEAST 1/4 OF SECTION 21-7-19 EL = 872.46

5. SITE BENCHMARK – HYDRANT FLANGE BOLTS AS SHOWN HEREON.

6. ELEVATIONS BASED ON INFORMATION FROM THE SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION AND ARE AT NORTH AMERICAN VERTICAL DATUM OF 1929.

7. ALL BEARINGS ARE REFERENCED TO THE SOUTH LINE OF THE NORTHEAST 1/4 OF SECTION 21-7-19 WHICH HAS A MEASURED BEARING OF N 87°47' 57 E.

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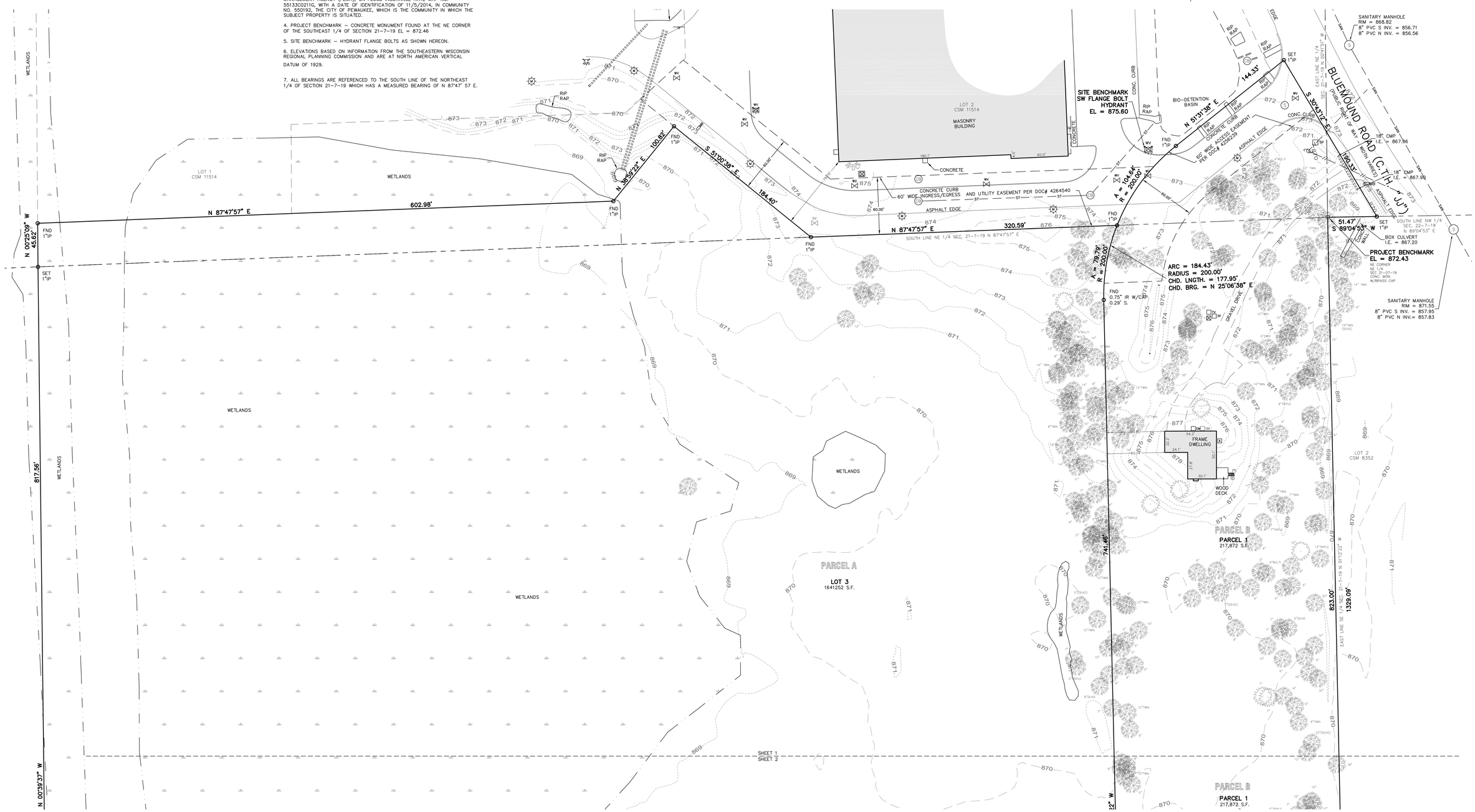

I CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY, AND THE ABOVE MAP IS A TRUE REPRESENTATION THEREOF AND SHOWS THE SIZE AND LOCATION OF THE PROPERTY, ITS EXTERIOR BOUNDARIES, THE LOCATION AND DIMENSIONS OF ALL VISIBLE STRUCTURES THEREON, BOUNDARY FENCES, APPARENT EASEMENTS AND ROADWAYS AND VISIBLE ENCROACHMENTS, IF ANY.

THIS SURVEY IS MADE FOR THE EXCLUSIVE USE OF THE PRESENT PROPERTY, AND ALSO THOSE WHO PURCHASE, MORTGAGE, OR GUARANTEE THE TITLE THERETO, WITHIN ONE (1) YEAR FROM DATE THEREOF.

JULY 30, 2020
DATE

MICHAEL J. BERRY, R.L.S.
REGISTERED LAND SURVEYOR S-2545

WISCONSIN MICHAEL J. BERRY S-2545 BROOKFIELD, WI LAND SURVEYOR

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 INCH = 40 FT.

LEGEND

SAN	SANITARY SEWER	ELECTRIC TRANSFORMER	HYDRANT
ST	STORM SEWER	ELECTRIC METER	WATER VALVE
W	WATER MAIN	ELECTRIC PEDESTAL	GAS VALVE
G	BURIED GAS LINE	ELECTRIC BOX AT GRADE	MANHOLE
TEL	BURIED TELEPHONE LINE	TELEPHONE BOX AT GRADE	STORM MANHOLE
E	BURIED ELECTRIC LINE	TELEPHONE PEDESTAL	CATCH BASIN
FO	BURIED FIBER OPTIC LINE	TV PEDESTAL	CURB INLET
OHU	OVERHEAD UTILITY LINES	GAS METER	METAL LIGHT POLE
CATV	BURIED CABLE TELEVISION LINES	AIR CONDITIONER	CONCRETE LIGHT POLE
COMB	COMBINATION SEWER	UTILITY POLE	WOOD LIGHT POLE
	WOOD FENCE	WOOD SIGN	MAIL BOX
	METAL FENCE	METAL SIGN	FIBER OPTIC MARKER
	EDGE OF TREES AND BRUSH	FLAG POLE	GUY WIRE
	DOOR SILL ELEVATION	BOLLARD	
	FIRE DEPARTMENT CONNECTION	BOLLARD LIGHT	
		YARD LIGHT	

PLAT OF SURVEY WITH TOPOGRAPHY

FOR

WESTMINSTER SOUTH

N17W25045 BLUEMOUND RD
PEWAUKEE, WI

DRAWN BY:	NJF	DATE:	JULY 30, 2020
CHECKED BY:	MJB	DRAWING No.	P - 0
CSE JOB No.:	20 - 064	SHEET	1 OF 2

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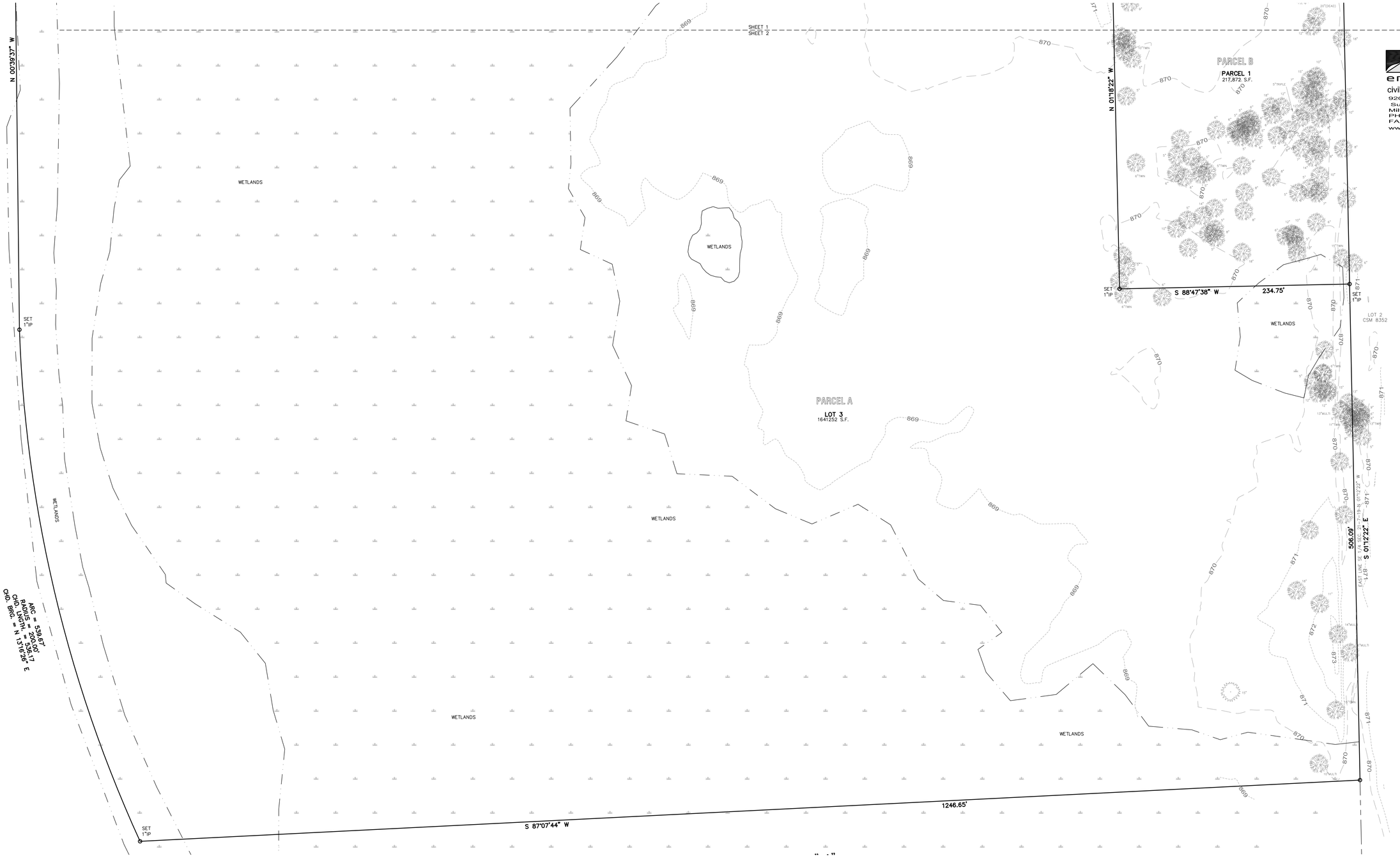

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JULY 30, 2020
DATE

MICHAEL J. BERRY, R.L.S.
REGISTERED LAND SURVEYOR S-2545

WISCONSIN
MICHAEL J. BERRY
S-2545
BROOKFIELD, WI
LAND SURVEYOR

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 INCH = 40 FT.

LEGEND

SAN	SANITARY SEWER	ELECTRIC TRANSFORMER	HYDRANT
ST	STORM SEWER	ELECTRIC METER	WATER VALVE
W	WATER MAIN	ELECTRIC PEDESTAL	GAS VALVE
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	METAL FENCE	METAL SIGN	FIBER OPTIC MARKER
	EDGE OF TREES AND BRUSH	FLAG POLE	GUY WIRE
	DOOR SILL ELEVATION	BOLLARD	
	FIRE DEPARTMENT CONNECTION	BOLLARD LIGHT	
		YARD LIGHT	

PLAT OF SURVEY WITH TOPOGRAPHY

FOR

WESTMINSTER SOUTH

N17W25045 BLUEMOUND RD
PEWAUKEE, WI

DRAWN BY:	NJF	DATE:	JULY 30, 2020
CHECKED BY:	MJB	DRAWING No.	P - 0
CSE JOB No.:	20 - 064	SHEET	2 OF 2

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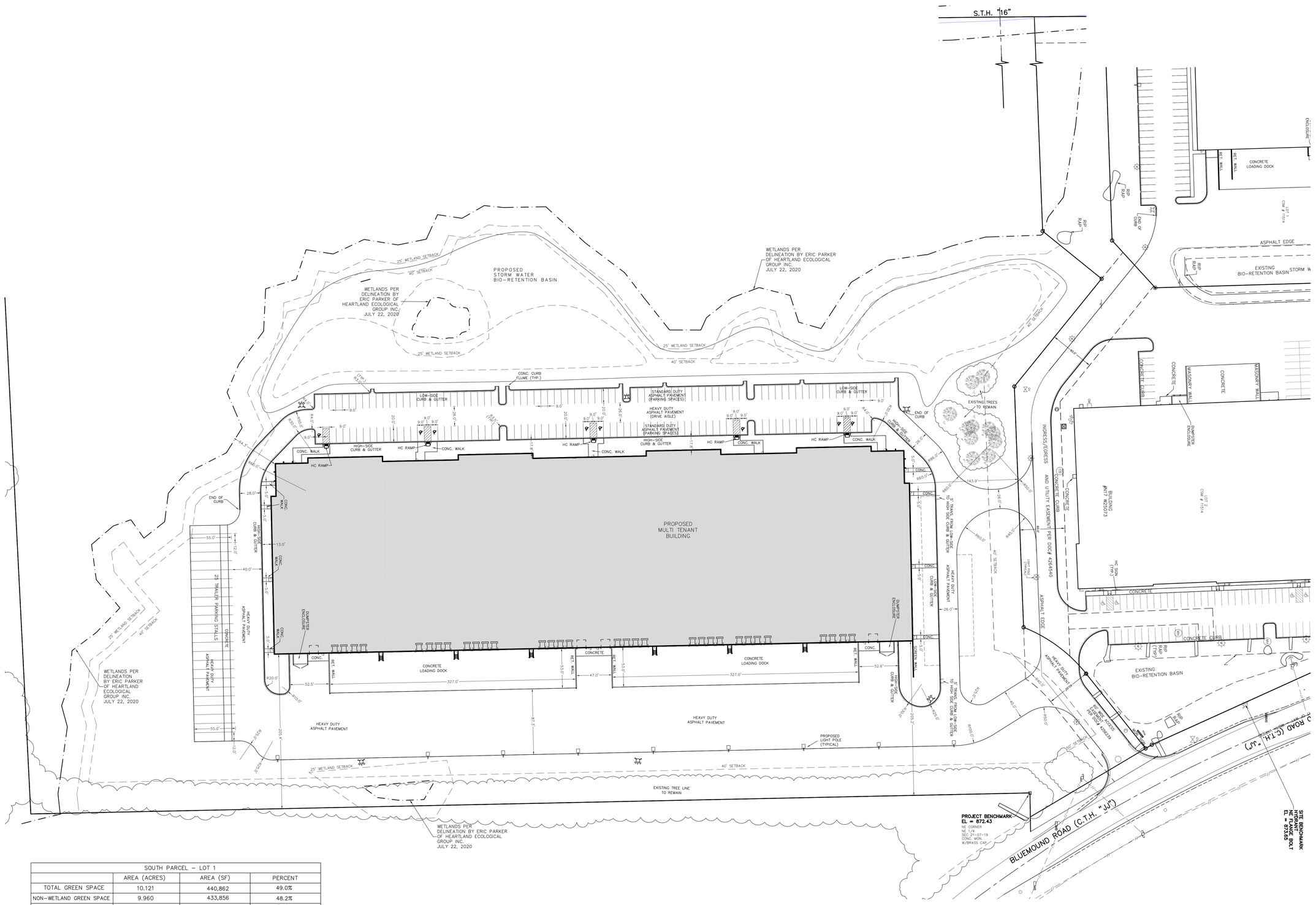
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT

BLUEMOUND ROAD (C.T.H. "JJ") PEWAUKEE, WISCONSIN



SOUTH PARCEL – LOT 1			
	AREA (ACRES)	AREA (SF)	PERCENT
TOTAL GREEN SPACE	10.121	440,862	49.0%
NON-WETLAND GREEN SPACE	9.960	433,856	48.2%
TOTAL WETLAND AREA	0.804	35,028	3.9%
WETLAND AREA INCLUDED IN GREEN SPACE	0.161	7,006	0.8%
WETLAND AREA NOT INCLUDED IN GREEN SPACE	0.643	28,022	3.1%
GREEN SPACE (USED TO MEET CODE)	9.477	412,840	45.9%
PAVEMENT	5.438	236,885	26.3%
BUILDING	5.004	217,982	24.2%
IMPERVIOUS	10.442	454,867	50.6%
ULTIMATE IMPERVIOUS	10.536	458,950	51.0%
TOTAL LOT 1	20.657	899,812	100.0%

SITE PARKING:

REGULAR PARKING SPACES = 152
ACCESSIBLE PARKING SPACES = 8

FUTURE PARKING SPACES = 25

TOTAL PARKING SPACES = 160
ULTIMATE PARKING SPACES = 185

TRUCK TRAILING PARKING SPACES = 25

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 INCH = 50 FT.

ZONING:
SUBJECT PROPERTY ZONED: M-6/LC, MIXED INDUSTRIAL/LOWLAND CONSERVANCY

BUILDING SETBACK INFORMATION FOR PROPERTIES ZONED M-6/LC ARE AS FOLLOWS:
STREET = 50' MINIMUM
SIDE = 40' MINIMUM
REAR = 40' MINIMUM
BUILDING SEPARATION = 50' MINIMUM

CJE NO.: 1625-02R7
SEPTEMBER 3, 2020

SITE PLAN C1.0

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PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT

BLUEMOUND ROAD (C.T.H. "JJ") PEWAUKEE, WISCONSIN

CJE NO.: 1625-02R7
SEPTEMBER 3, 2020

NORTH

PROPOSED STORM WATER BIO-RETENTION BASIN

PROPOSED MULTI TENANT BUILDING
FIRST FLOOR ELEV. 876.00

WETLANDS PER DELINEATION BY ERIC PARKER OF HEARTLAND ECOLOGICAL GROUP INC. JULY 22, 2020

EXISTING WETLANDS TO REMAIN

LIMITS OF ENGINEERED SOIL

TOP OF BERM ELEV. 873.1

15" CULVERT 35' @ S=1.43%

15" INV. 869.5

15" INV. 870.0

10' SPILLWAY ELEV. 872.1

6" UNDER DRAINS

8" STORM SEWER 640' L.F. S=0.22%

24" DIA. STANDPIPE RIM 871.00
6" E INV. 866.50 (x2)
8" W INV. 866.40

RIP RAP

STORM INLET RIM 874.25

STORM INLET RIM 873.7

STORM INLET RIM 873.8

STORM INLET RIM 874.0

STORM INLET ENDSECTION INV. 871.0

TRENCH DRAIN RIM 871.95

25 TRAILER PARKING STALLS

EXISTING TREES TO REMAIN

INGRESS/EGRESS AND UTILITY EASEMENT PER DOC# 4264540

CONCRETE CURB

ASPHALT EDGE

BUILDING #17 W25073

40' WIDE ACCESS EASEMENT PER DOC# 4264539

EXISTING TREE LINE TO REMAIN

PROJECT BENCHMARK
EL = 872.43
NE CORNER
NE 1/4
SEC 21-07-19
CONC. MON.
W/BRASS CAP

BLUEMOUND ROAD (C.T.H. "JJ")

LEGEND

96	EXISTING CONTOUR
96	PROPOSED CONTOUR
	PROPOSED ELEVATION
ST	PROPOSED STORM SEWER

www.DiggersHotline.com
DIGGERS HOTLINE
DIAL 811 OR (800) 242-8511

NOTES:

1. SPOT GRADES ALONG THE CURB ARE AT THE FLANGE LINE OF THE CURB.
2. THE DISTURBED AREA: 761,200 S.F. (17.48 ACRES)
3. THIS DEVELOPMENT WILL REQUIRE THE IMPORT OF STRUCTURAL FILL AND THE EXPORT OF TOP SOIL. CITY APPROVAL OF THIS IS REQUIRED PRIOR TO ANY SOIL IMPORT OR REMOVAL FROM THE SITE.

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 INCH = 40 FT.

SITE GRADING PLAN

C2.0

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PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT

BLUEMOUND ROAD (C.T.H. "JJ") PEWAUKEE, WISCONSIN

NORTH

S.T.H. "16"

8" STORM ENDSECTION INV. 865.5

8" STORM SEWER 640' L.F. S=0.22%

24" DIA. STANDPIPE RIM 871.00
6" E INV. 867.00 (x2)
8" W INV. 866.90

RIP RAP

15" INV. 869.5
15" CULVERT 35' @ S=1.43%
15" INV. 870.0

PROPOSED STORM WATER BIO-RETENTION BASIN

WETLANDS PER DELINEATION BY ERIC PARKER OF HEARTLAND ECOLOGICAL GROUP INC. JULY 22, 2020

WETLANDS PER DELINEATION BY ERIC PARKER OF HEARTLAND ECOLOGICAL GROUP INC. JULY 22, 2020

6" INV. 868.0

6" UNDER DRAINS

#15
24" ENDSECTION INV. 870.0

#13
18" ENDSECTION INV. 869.50

#7
24" ENDSECTION INV. 869.50

#17
24" ENDSECTION INV. 870.0

STORM INLET #6
RIM 873.70
24" E INV. 869.65
24" W INV. 869.63

8" X 6" REDUCER

HYDRANT
6" LEAD
6" VALVE
NOZZLE EL. 876.0

24" STORM SEWER
47' @ S=0.26%

24" STORM SEWER
108' @ S=0.278%
(FROM SOUTH 1/2 OF THE BUILDING)

8" WATER MAIN

HYDRANT
6" LEAD
6" VALVE
NOZZLE EL. 876.0

24" STORM SEWER
105' @ S=0.285%
(FROM NORTH 1/2 OF THE BUILDING)

CONCRETE CURB

MASONRY WALL

CONCRETE

24" STORM SEWER
135' @ S=0.26%

#16
24" INV. 870.30
@ BLDG.

#14
24" INV. 870.30
@ BLDG.

HYDRANT
6" LEAD
6" VALVE
NOZZLE EL. 875.3

18" STORM SEWER
220' @ S=0.26%

INGRESS/EGRESS AND UTILITY EASEMENT PER DOC# 4264540

CONCRETE CURB

CONCRETE

BUILDING #N17 W25073

STORM INLET #5
RIM 874.25
24" E INV. 870.02
24" W INV. 870.00

PROPOSED MULTI TENANT BUILDING

#12
STORM INLET
RIM 873.70
18" E INV. 870.09
18" W INV. 870.07

8" WATER MAIN

CONNECT NEW 8" WATER TO THE EXISTING 8" WATER MAIN

18" STORM SEWER
75' @ S=0.26%

24" STORM SEWER
90' @ S=0.26%

#11
STORM INLET
RIM 873.80
18" E INV. 870.30
18" W INV. 870.29

EXISTING 8" WATER MAIN

25 TRAILER PARKING STALLS

#4
STORM INLET
RIM 874.25
18" E INV. 870.30
24" W INV. 870.25

18" STORM SEWER
75' @ S=0.26%

ASPHALT EDGE

18" STORM SEWER
70' @ S=0.26%

12" STORM SEWER
98' @ S=0.26%

12" STORM SEWER
120' @ S=0.26%

8" WATER SERVICE

F.D.C.

8" WATER MAIN

6" SANITARY SEWER @ S=2.08%

#2
TRENCH DRAIN
308' LONG
RIM 871.95
12" S INV. 870.75

#2
TRENCH DRAIN
NORTH END
BOTTOM EL. 871.25

#9
TRENCH DRAIN
SOUTH END
BOTTOM EL. 871.30

#9
TRENCH DRAIN
308' LONG
RIM 871.95
12" N INV. 870.82

#10
STORM INLET
RIM 874.00
12" S INV. 870.50
15" SE INV. 870.55
18" W INV. 870.49

EXISTING BIO-RETENTION BASIN

RIP RAP (TYP)

CONCRETE

STORM INLET #3
RIM 874.60
12" N INV. 870.50
15" NE INV. 870.50
18" W INV. 870.48

15" STORM SEWER
160' @ S=0.313%

15" STORM SEWER
162' @ S=0.278%

#8
15" ENDSECTION INV. 871.00

HYDRANT
6" LEAD
6" VALVE
NOZZLE EL. 876.0

EXISTING 60' ACCESS AND UTILITY EASEMENT PER DOC# 4264540

60' WIDE ACCESS EASEMENT PER DOC# 4264539

RIP RAP

SAMPLING MH
RIM 874.0
6" SW-NE INV. 861.5
6" SANITARY SEWER
@ S=2.08%

15" ENDSECTION INV. 871.00

8" X 6" REDUCER

8" WATER MAIN

HYDRANT
6" LEAD
6" VALVE
NOZZLE EL. 875.5

HYDRANT
6" LEAD
6" VALVE
NOZZLE EL. 876.5

WETLANDS PER DELINEATION BY ERIC PARKER OF HEARTLAND ECOLOGICAL GROUP INC. JULY 22, 2020

EXIST SANITARY MANHOLE
EXIST 8" PVC INV. = 856.71
EXIST 8" PVC INV. = 856.56
PROPOSED 6" INV. 857.0

PROJECT BENCHMARK
EL = 872.43
NE CORNER
NE 1/4
SEC 21-07-19
CONC. MON.
W/BRASS CAP

BLUEMOUND ROAD (C.T.H. "JJ")

LEGEND

ST	EXISTING STORM SEWER
ST	PROPOSED STORM SEWER
SAN	EXISTING SANITARY SEWER
SAN	PROPOSED SANITARY SEWER
W	EXISTING WATER MAIN
W	PROPOSED WATER MAIN
G	BURIED GAS MAIN
OHW	OVER HEAD WIRE
E	BURIED ELECTRIC
	UTILITY POLE WITH GUY WIRE

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DIGGERS HOTLINE
DIAL 811 OR (800) 242-8511

NOTES:

1. ALL STORM SEWER, SANITARY SEWER, AND WATER MAIN MATERIALS AND INSTALLATION PER APPLICABLE SECTIONS OF THE LATEST EDITIONS OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN (STANDARD SPECIFICATIONS), WISCONSIN ADMINISTRATIVE PLUMBING CODE AND THE CITY OF PEWAUKEE REQUIREMENTS.

2. ALL TRENCHES IN PAVEMENT AREAS SHALL HAVE GRAVEL BACKFILL IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 8.43.4 AND PER FILE NO.4 COMPACTED SECTION (CLASS "B" BEDDING).

3. PRIOR TO ANY UTILITY CONSTRUCTION, THE CONTRACTOR AND PLUMBER SHALL VERIFY THE SIZE, SLOPE AND LOCATION OF SANITARY AND WATER SERVICE TO PROPOSED BUILDING. DOCUMENTATION CONFIRMING THE SIZING REQUIREMENTS SHALL BE PROVIDED TO THE CITY PRIOR TO ANY CONSTRUCTION OF THE SANITARY AND WATER SERVICES

4. PROPOSED WATER SERVICE SHALL HAVE A MINIMUM 6.0 FEET OF COVER.

5. THE CONTRACTOR SHALL VERIFY ALL SEWER AND WATER CONNECTIONS PRIOR TO UTILITY CONSTRUCTION. NOTIFY THE ENGINEER WITH ANY DISCREPANCIES.

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 INCH = 40 FT.

CJE NO.: 1625-02R7
SEPTEMBER 3, 2020

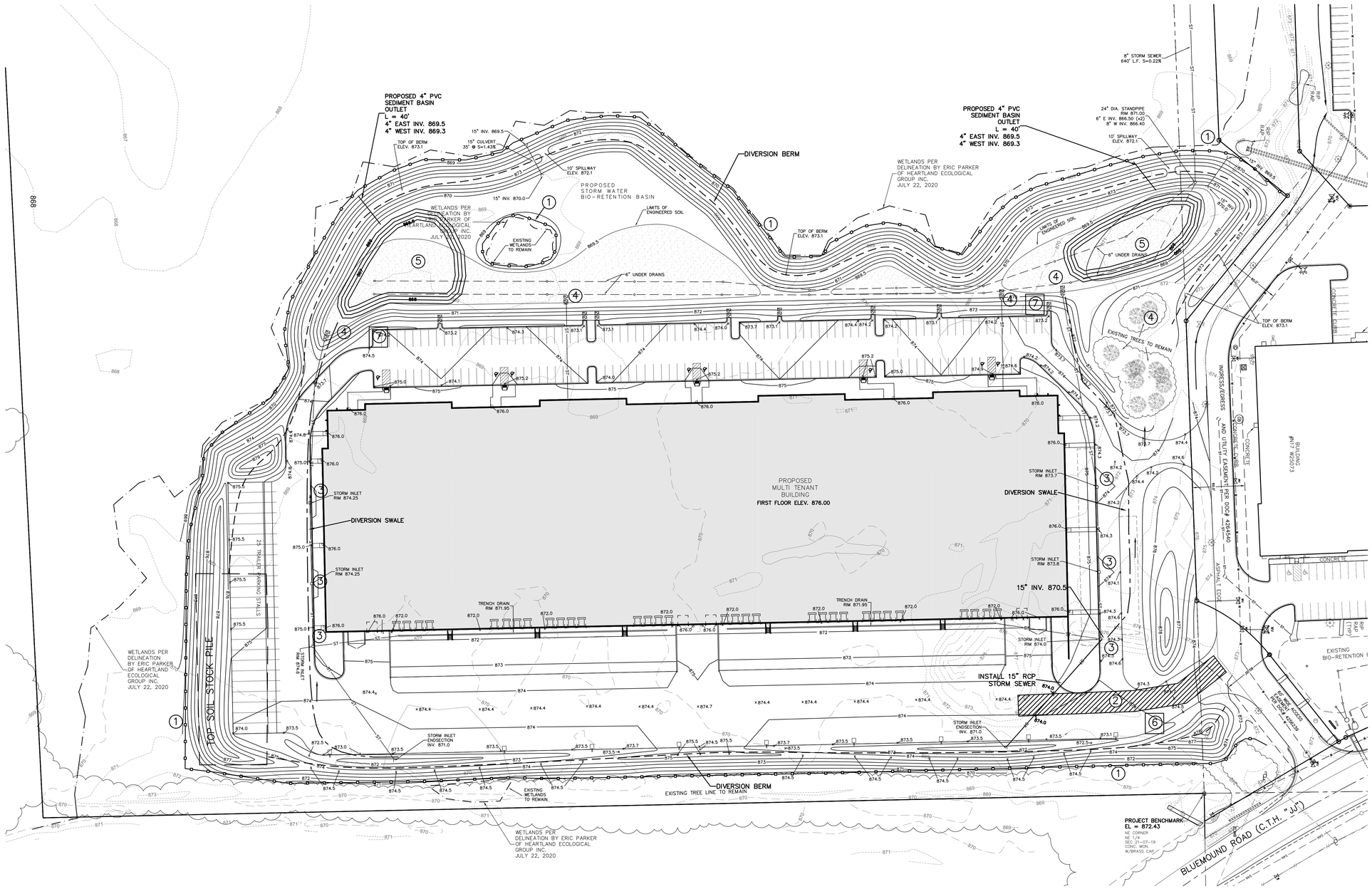
SITE UTILITY PLAN

C3.0

CJ engineering
civil design and consulting
9205 W. Center Street
Suite 214
Milwaukee, WI 53222
PH. (414) 443-1312
www.cj-engineering.com

PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT

BLUEMOUND ROAD (C.T.H. "JJ") PEWAUKEE, WISCONSIN



GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 INCH = 50 FT.

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DIGGERS HOTLINE
DIAL 811 OR (800) 242-8511

LEGEND

96	EXISTING CONTOUR
96	PROPOSED CONTOUR
x 96.5	PROPOSED ELEVATION
ST	PROPOSED STORM SEWER
	SILT FENCE LOCATION

MAINTENANCE PLAN

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY ½" RUNOFF-PRODUCTION RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FT. DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
3. ALL SEEDED AREAS WILL BE WATERED, FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
4. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING AT A MINIMUM BEFORE THE END OF THE DAY OR MORE FREQUENTLY AS CONDITIONS WARRENT OR AS DIRECTED BY THE CITY OF PEWAUKEE/WAUKESHA COUNTY.

CONSTRUCTION SCHEDULE

1. OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2. INSTALL SILT FENCE.
3. INSTALL TRACKING PAD / CONSTRUCTION EXIT. THIS ENTRANCE TO BE USED FOR HAULING FILL INTO PROJECT LIMITS. INSTALL 15" STORM SEWER.
4. INSTALL SEDIMENT BASIN
   A. THE AREA OF THE BIO-RETENTION BASINS WILL BE USED FOR SEDIMENTATION BASINS DURING CONSTRUCTION.
   B. STRIP TOPSOIL FROM THESE AREAS. STOCK PILE AND SURROUND WITH SILT FENCE.
   C ROUGH GRADE AND OVER EXCAVATE STORM WATER PONDS (BASINS).
   D. INSTALLTEMPORARY
   D. UTILIZE DEWATERING BAG AS NECESSARY DURING EXCAVATION
6. INSTALL THE DIVERSION BERM AND SWALES (USING THE EXISTING TOPSOIL)
7. DEMO EXISTING HOUSE, GRAVEL DRIVE AND PAVEMENT. PROPERLY DISPOSE OF MATERIAL OFF SITE.
8. STOCKPILE ANY ADDITIONAL TOP SOIL AT LOCATIONS SHOWN. SURROUND WITH SILT FENCE.
9. IMPORT, STOCK PILE AND COMPACT FILL NEEDED TO GRADE SITE.
10. ROUGH GRADE ENTIRE SITE.
11. BEGIN WEST BUILDING CONSTRUCTION.
12. UTILIZE DEWATERING BAG AS NECESSARY DURING EXCAVATION FOR BUILDING CONSTRUCTION. DIRECT RUNOFF FROM BAG TO SEDIMENT POND. SEE DEWATERING NOTE.
13. INSTALL PROPOSED UTILITIES.
14. INSTALL INLET PROTECTION IN ALL NEW STORM INLETS AND RIP-RAP OUTLET PROTECTION ON ALL STORM END SECTIONS.
15. ALL EXPOSED SOIL AREAS NOT DISTURBED FOR UP TO SEVEN DAYS MUST BE IMMEDIATELY RESTORED WITH TEMPORARY SEED AND MULCH.
16. INSTALL CURB, WALK AND BASE COURSE OF PAVEMENT.
17. REMOVE SEDIMENTATION BASIN. DEWATER BASIN AND INSTALL LINERS WITHIN BIO-RETETION BASIN,THE 6" DRAIN TILE AND ASSOCIATED OUTLET PIPE AND ENGINEERED SOIL.
18. FINAL GRADE SLOPES AND TOPSOIL CRITICAL SLOPES; VEGETATE AND MULCH ALL DISTURBED AREAS.
19. ALL EROSION CONTROL METHODS SHALL BE INSTALLED IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS AND THE CITY OF PEWAUKEE REQUIREMENTS AND STANDARDS.
20. ALL EROSION CONTROL PRACTICES WILL BE INSPECTED WEEKLY AND AFTER RAINFALL; NEEDED REPAIRS WILL BE PERFORMED IMMEDIATELY.
21. AFTER SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND VEGETATE THE DISTURBED AREAS.
22. ESTIMATED TIME BEFORE FINAL STABILIZATION – 18 MONTHS.

DUST CONTROL

DUST CONTROL INCLUDES PRACTICES USED TO REDUCE OR PREVENT THE SURFACE AND AIR TRANSPORT OF DUST DURING CONSTRUCTION. DUST CONTROL SHALL BE USED DURING EXTENDED PERIODS OF DRY, WINDY WEATHER WHERE FUGITIVE DUST PARTICLES FROM EXPOSED SOIL WILL BECOME AIRBORNE. DUST CONTROL SHALL ALSO BE UTILIZED AS DIRECTED BY THE CITY OF PEWAUKEE OR WAUKESHA COUNTY.

DUST CONTROL MEASURES FOR CONSTRUCTION ACTIVITIES INCLUDE THE MINIMIZATION OF SOIL DISTURBANCE, APPLYING MULCH AND ESTABLISHING VEGETATION, WATER SPRAYING, SURFACE ROUGHENING, APPLYING POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES AND BARRIERS. DUST CONTROL MEASURES TO BE IN CONFORMANCE WITH WDNR CONSERVATION PRACTICE STANDARD 1068.

TEMPORARY STABILIZATION METHODS

LAND APPLICATION OF ADDITIVES:
DURING WINTER CONSTRUCTION (NOVEMBER 1 TO MAY 1), CONTRACTOR MAY PROVIDE TYPE A SOIL STABILIZER, POLYACRYLAMIDE (PAM) PER LATEST WDOT PAL (UPDATED 11/2/2017) ON ALL DISTURBED AREAS. CONTRACTOR TO INSTALL PAM PER WDNR TECHNICAL STANDARD 1050 AND THE MANUFACTURERS SPECIFICATIONS.

ALSO SEE SHEET C5.0 FOR ADDITIONAL CITY OF PEWAUKEE EROSION CONTROL WINTER STABILIZATION REQUIREMENTS.

TEMPORARY SEEDING:
DURING GROWING SEASON (MAY 2 – OCTOBER 31) TEMPORARY SEEDING (COVER CROP) MAY BE USED FOR TEMPORARY STABILIZATION DURING SITE CONSTRUCTION.

Species	Lbs/Acre	Percent Purity
Oats	131	98
Cereal Rye	131*	97
Winter Wheat	131*	95
Annual Ryegrass	80*	97

* Fall Seeding

STABILIZATION SHOULD BE COMPLETED WITHIN 7 DAYS OF ESTABLISHING FINAL GRADE OR THAT WILL OTHERWISE EXIST FOR MORE THAN 14 DAYS.

SITE DEWATERING

DEWATERING TO CONFORM WITH WDNR CONSERVATION PRACTICE STANDARD 1061.
THE SITE HAS HIGH GROUND WATER SO DEWATERING IS ANTICIPATED.
ALL PUMPED EFFLUENT FROM DEWATERING OPERATIONS (TRENCH DEWATERING OR OTHERWSE) SHALL BE DISCHARGED TO A GEOTEXTILE FILTER BAG CONFORMING TO WDNR CONSERVATION PRACTICE STANDARD 1061. THE GEOTEXTILE BAG SHALL BE PLACED ON A VEGETATED/STABILIZED GROUND AND DISCHARGE TO A SEDIMENT BASIN OR TRAP. SHOULD NO BASIN EXIST, THE GEOTEXTILE BAG SHALL BE PLACED ON FILTER FABRIC AND SURROUNDED BY A SEDIMENT BALE BARRIER CONFORMING TO CONSERVATION PRACTICE STANDARD 1055. THE FILTER FABRIC SHALL BE BROUGHT UP THE SIDES AND OVER THE TOP OF THE HAY BALES AND SECURED. DISCHARGE SHALL NOT BE ALLOWED TO FLOW OVER UNPROTECTED GROUND. IN NO CASE SHALL PUMPED WATER BE DIVERTED OUTSIDE THE PROJECT LIMITS PRIOR TO SEDIMENT REMOVAL.

EROSION MATTING

AFTER FINISH GRADING AND TOPSOILING, PROVIDE CLASS I, TYPE B EROSION MAT PER "WSDOT EROSION CONTROL PAL" (OR EQUAL) IN ALL ROADSIDE DITCHES, DEFINED SWALES, SIDE SLOPES, BERMS AND ALL OTHER SLOPES 4:1 OR GREATER. INSTALL PER MANUFACTURERS SPECIFICATIONS.

GENERAL NOTES:
1. EROSION CONTROL MATERIALS AND INSTALLATION PER MOST CURRENT WDNR TECHNICAL STANDARDS AND THE CITY OF PEWAUKEE TECHNICAL STANDARDS SECTION 050.

2. DRAINAGE SWALES, TEMPORARY DIVERSIONS, SEDIMENT TRAPS AND SEDIMENT BASINS ARE REQUIRED TO BE STABILIZED AND FULLY OPERATIONAL PRIOR TO RECEIVING RUNOFF. FULLY OPERATIONAL INCLUDES THE INSTALLATION OF THE PRIMARY AND EMERGENCY OUTLET STRUCTURES.

3. SEE SHEET C5.0 FOR THE CITY OF PEWAUKEE EROSION CONTROL WINTER STABILIZATION REQUIREMENTS.

4. THE DISTURBED AREA: 761,200 S.F. (17.48 ACRES)

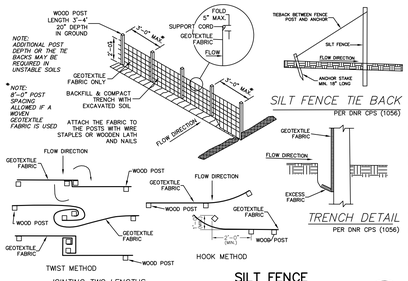
5. THIS DEVELOPMENT WILL REQUIRE THE IMPORT OF STRUCTURAL FILL AND THE EXPORT OF TOP SOIL. CITY APPROVAL OF THIS IS REQUIRED PRIOR TO ANY SOIL IMPORT OR REMOVAL FROM THE SITE.

EROSION CONTROL PRACTICES SCHEDULE

1. SILT FENCE
2. TRACKING PAD
3. INLET PROTECTION
4. OUTLET PROTECTION
5. SEDIMENT BASIN
6. CONCRETE WASHOUT STATION
7. HAY BALE SEDIMENT DEWATERING PIT

CJE NO.: 1625-02R7
SEPTEMBER 3, 2020

EROSION CONTROL PLAN C4.0



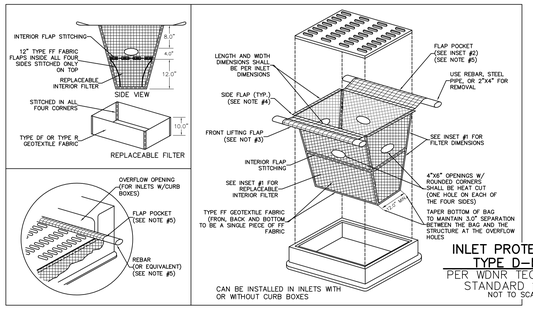
SILT FENCE
PER WDNR TECHNICAL STANDARD 1056 (1)
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS
PER DNR CPS (1056)

1. CONSTRUCTION SILT FENCE AROUND THE DISTURBED AREAS AS SHOWN ON EROSION CONTROL PLAN, TO PREVENT SEDIMENT FROM BEING WASHED INTO THE DRAINAGE SYSTEM
2. LOCATE POSTS PER DNR CPS (1056)
3. WHEN JOINTS ARE NECESSARY REFER, TO DNR CPS (1056)
4. FILTER FABRIC TO BE OF NYLON, POLYESTER, PROPYLENE OR ETHYLENE YARN WITH EXTRA STRENGTH – 50 LB/LIN. IN. (MIN.) – AND WITH A FLOW RATE OF AT LEAST 0.3 GAL./SQ. FT./MIN. FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS.
5. THE FILTER FABRIC SHALL BE ANCHORED BY SPREADING AT LEAST 8 INCHES OF FABRIC IN A 4" X 6" TRENCH
6. THE FILTER FABRIC SHALL BE STAPLED AND/OR NAILED TO THE UPSLOPE SIDE OF THE POSTS.
7. POST TO BE 1 1/8" X 1 1/8" HICKORY OR OAK, 3 FEET LONG, SPACED A MAXIMUM OF 3 FEET APART.
8. USE WIRE REINFORCEMENT IN UNSTABILIZED MINOR SWALES, DITCHES AND DIVERSIONS.
9. USE WISDOT APPROVED SILT FENCE

JOINTING TWO LENGTHS OF SILT FENCE
PER DNR CPS (1056)

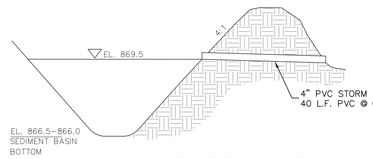
TRACKING PAD
PER WDNR TECHNICAL STANDARD 1057 (2)
NOTE: EXIT SHALL BE MINIMUM 18' WIDE
NOT TO SCALE



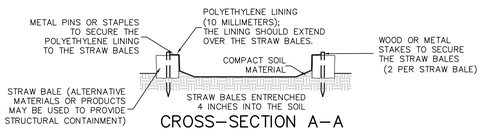
INLET PROTECTION
TYPE D–M
PER WDNR TECHNICAL
STANDARD 1060 (3)
NOT TO SCALE

NOTES:
1. TAPER BOTTOM OF BAG TO MAINTAIN THREE INCHES OF CLEARANCE BETWEEN THE BAG AND THE STRUCTURE, MEASURED FROM THE BOTTOM OF THE OVERFLOW OPENINGS TO QHT STRUCTURE WALL.
2. GEOTEXTILE FABRIC TYPE FF FOR FLAPS, TOP AND BOTTOM OF OUTSIDE OF FILTER BAG. FRONT, BACK AND BOTTOM OF FILTER BAG BEING ONE PIECE.
3. FRONT LIFTING FLAP IS TO BE USED WEN REMOVING AND MAINTAINING FILTER BAG.
4. SIDE FLAPS SHALL BE A MAXIMUM OF TWO INCHES LONG. FOLD THE FABRIC OVER AND REINFORCE WITH MULTIPLE STITCHES.
5. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2"X4". THE REBAR, STEEL PIPE, OR WOOD SHALL BE INSTALLED IN THE REAR FLAP AND SHALL NOT BLOCK THE TOP HALF OF THE CURB FACE OPENING.

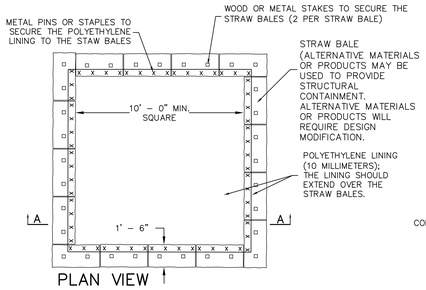
MAINTENANCE NOTES:
1. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED IN THE FABRIC DOES NOT FALL INTO THE STRUCTURE. MATERIAL THAT HAS FALLEN INTO THE INLET SHALL BE IMMEDIATELY REMOVED.



SEDIMENT BASIN DETAIL
PER WDNR TECHNICAL STANDARD 1063 (5)
NOT TO SCALE

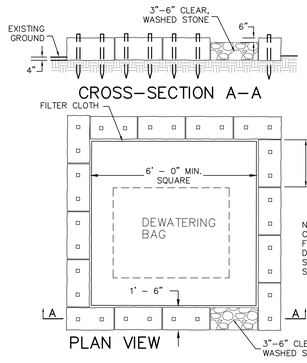


CROSS–SECTION A–A



PLAN VIEW

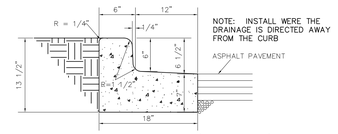
CONCRETE WASHOUT STATION (6)
NOT TO SCALE



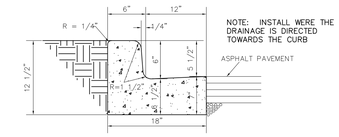
PLAN VIEW

HAY BALE SEDIMENT DEWATERING PIT (7)
NOT TO SCALE

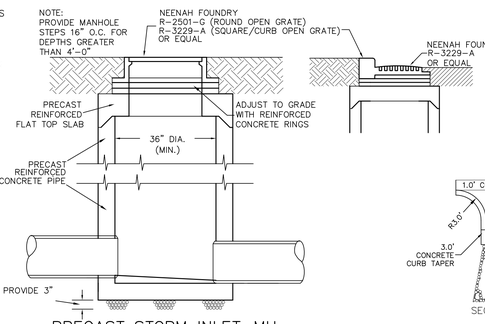
CROSS–SECTION A–A



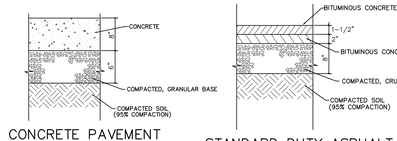
HIGH SIDE CONCRETE CURB (H.S. C&G) DETAIL
NOT TO SCALE



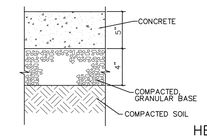
LOW SIDE CONCRETE CURB (L.S. C&G) DETAIL
NOT TO SCALE



PRECAST STORM INLET–MH
NOT TO SCALE

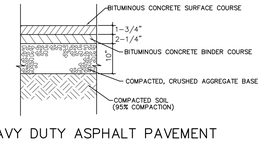


CONCRETE PAVEMENT
(LOADING DOCKS)
NOT TO SCALE

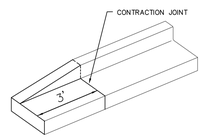


CONCRETE SIDEWALK
NOT TO SCALE

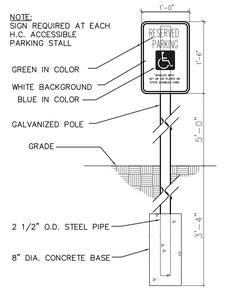
STANDARD DUTY ASPHALT PAVEMENT
(PARKING AREA)
NOT TO SCALE



HEAVY DUTY ASPHALT PAVEMENT
(TRUCK TRAFFIC AREA)
NOT TO SCALE

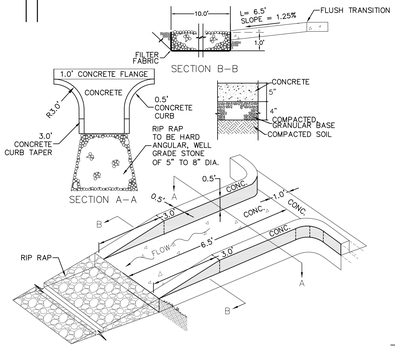


END SECTION CURB TAPER
NOT TO SCALE

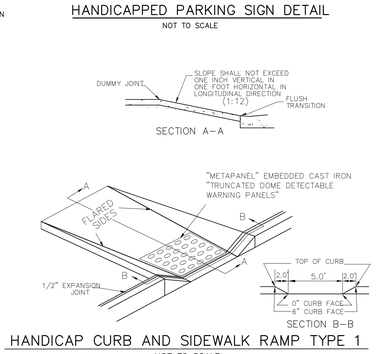


NOTE:
SIGN REQUIRED AT EACH
H.C. ACCESSIBLE
PARKING STALL
GREEN IN COLOR
WHITE BACKGROUND
BLUE IN COLOR
GALVANIZED POLE
GRADE

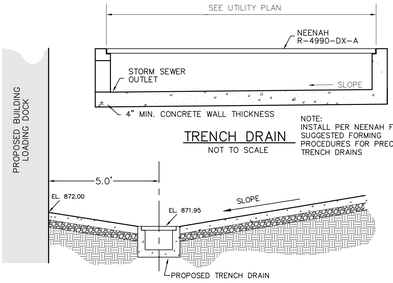
HANDICAPPED PARKING SIGN DETAIL
NOT TO SCALE



CONCRETE FLUME (TYP.)
NOT TO SCALE



HANDICAP CURB AND SIDEWALK RAMP TYPE 1
NOT TO SCALE



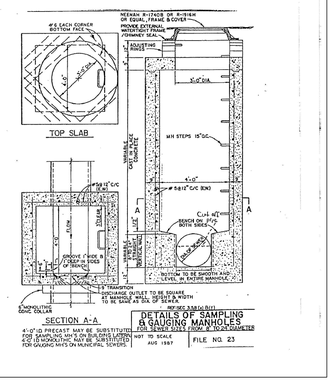
TRENCH DRAIN
NOT TO SCALE

NOTE:
INSTALL PER NEENAH FOUNDARY
SUGGESTED FORMING
PROCEDURES FOR PRECAST
TRENCH DRAINS

LOADING DOCK DETAIL
NOT TO SCALE

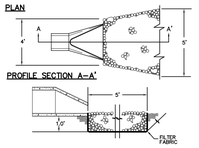
Figure C

SAMPLING MANHOLES ARE REQUIRED FOR ALL NON–RESIDENTIAL USERS

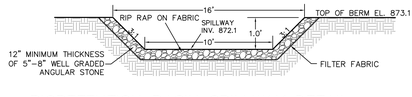


CONSTRUCTION SPECIFICATIONS

1. EXCAVATE BELOW CHANNEL OUTLET AND WDEN CHANNEL TO THE REQUIRED RIP RAP THICKNESS FOR EACH APRON. FOUNDATION TO BE CUT TO ZERO GRADE AND SMOOTHED.
2. PLACE FILTER CLOTH ON BOTTOM AND SIDES OF PREPARED FOUNDATION. ALL JOINTS TO OVERLAP A MINIMUM OF 1.0'.
3. EXERCISE CARE IN RIP RAP PLACEMENT TO AVOID DAMAGE TO FILTER FABRIC.
4. PLACE RIP RAP ON ZERO GRADE – TOP OF RIP RAP TO BE LEVEL WITH EXISTING OUTLET – NO OVERFALL AT ENDS.
5. RIP RAP TO BE HARD, ANGULAR, WELL GRADE STONE OF 5" TO 8" DIA.
6. IMMEDIATELY AFTER CONSTRUCTION, STABILIZE ALL DISTURBED AREAS WITH VEGETATION.

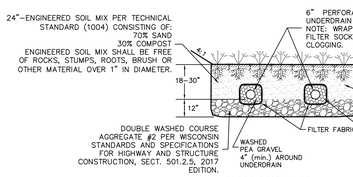


OUTLET PROTECTION FOR ENDSECTION (4)
NOT TO SCALE

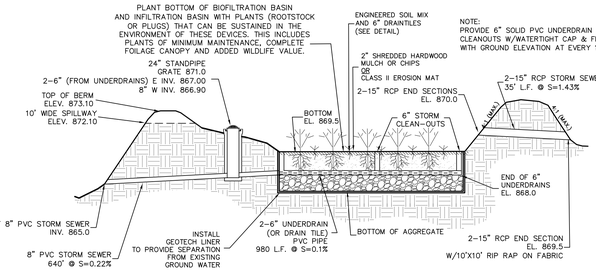


BIORETENTION BASIN SPILLWAY DETAIL
NOT TO SCALE

BIORETENTION BASIN NOTES:
1. CONTRACTOR IS RESPONSIBLE TO CONSTRUCT BIORETENTION BASIN PER WDNR TECHNICAL STANDARD 1004. ANY DIFFERENCES BETWEEN THE STANDARD AND THE PLAN, THE PLAN SHOULD SUPERCEDE.
2. FILTER FABRIC SHALL MEET THE SPECIFICATIONS OF WISCONSIN STANDARDS AND SPECS. FOR HIGHWAY AND STRUCTURE CONSTRUCTION, SECTION 645.2.2.4, SCHEDULE TEST B, 2017 EDITION.
3. FILTER SOCK SHALL MEET THE SPECIFICATIONS OF WISCONSIN STANDARDS AND SPECS. FOR HIGHWAY AND STRUCTURE CONSTRUCTION, SECTION 612.2.8(1–6), 2017 EDITION.
4. COMPOST SHALL MEET THE REQUIREMENTS OF WDNR SPECIFICATION 5100, COMPOST.
5. SAND SHALL BE USDA COURSE SAND (.02–.04 INCHES)
6. ALL ELEVATIONS SHOWN ARE AFTER SETTLING.
7. MULCH ENTIRE BASIN BEFORE PLANTING.
8. CONTRACTOR SHALL FOLLOW THE CONSTRUCTION SEQUENCING AND OVERSIGHT SECTION "C" PER WDNR TECHNICAL STANDARD 1004 FOR GRADING THE BASIN, ONLY USE LIGHT EQUIPMENT TO AVOID COMPACTION.
9. GRADING CONTRACTOR SHALL PREPARE THE BIORETENTION BASIN AS SHOWN INCLUDING THE ENGINEERED SOIL MIXTURE. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE MULCH LAYER AND PLANTINGS.
10. INITIAL MAINTENANCE SHALL INCLUDE WATERING, PLANT REPLACEMENT AND REMULCH ALL VOID AREAS.

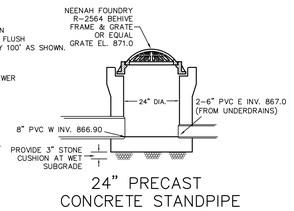


CROSS SECTION OF
PERFORATED PORTION OF UNDERDRAIN



NOTE:
PROVIDE 6" SOLID PVC UNDERDRAIN
CLEANOUTS W/WATERTIGHT CAP & FLUSH
WITH GROUND ELEVATION AT EVERY 100' AS SHOWN.

BIORETENTION BASIN DETAIL
NOT TO SCALE



24" PRECAST
CONCRETE STANDPIPE

CITY OF PEWAUKEE, SECTION 050 OF THE TECHNICAL STANDARDS FOR WINTER CONSTRUCTION SITE EROSION CONTROL:

A. ALL PROJECTS INVOLVING CONSTRUCTION BETWEEN NOVEMBER 1 AND MAY 1 WILL REQUIRE MEASURES TO STABILIZE THE SITE OVER WINTER. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, GRAVEL ROAD BASE OR 70% MATURE VEGETATIVE COVER OR RIP RAP BY NOVEMBER 1, THEN THE SITE MUST BE PROTECTED WITH OVER–WINTER STABILIZATION PRACTICES.
B. CONSIDERATIONS. WINTER EXCAVATION AND EARTHWORK ACTIVITIES SHOULD BE LIMITED IN EXTENT AND DURATION TO MINIMIZE POTENTIAL EROSION AND SEDIMENTATION IMPACTS.
  i. EXPOSE ONLY AS MUCH AREA AS NECESSARY TO COMPLETE THE WORK AND CAN BE STABILIZED IN ONE DAY PRIOR TO ANY RAIN OR SNOW EVENT.
  ii. SUBSEQUENT WORK AREAS SHOULD NOT BE EXPOSED UNTIL THE PREVIOUSLY EXPOSED AREA HAS BEEN STABILIZED.
  iii. ALL EROSION AND SEDIMENT CONTROL MEASURES INSTALLED FOR THE PROJECT SHOULD BE ROUTINELY MAINTAINED, CLEANED, INSPECTED AND REPAIRED AS NEEDED FOR THE CONSTRUCTION SEASON. TEMPORARY EMBANKMENTS SHOULD BE FULLY VEGETATED OR OTHERWISE STABILIZED BY ACCEPTED METHODS.
C. MAINTENANCE REQUIREMENTS.
  i. MAINTENANCE MEASURES SHOULD OCCUR THOUGHOUT CONSTRUCTION, INCLUDING THE OVER–WINTER PERIOD. AFTER EACH RAINFALL, SNOWSTORM OR PERIOD OF THAWING AND RUNOFF, THE CONSTRUCTION SITE CONTRACTOR SHOULD CONDUCT AN INSPECTION OF ALL EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO ENSURE THEIR CONTINUING FUNCTION.
  ii. FOR ANY AREA STABILIZED BY TEMPORARY OR PERMANENT SEEDING PRIOR TO NOVEMBER 1, THE CONTRACTOR SHOULD CONDUCT AN INSPECTION IN THE SPRING TO ASCERTAIN THE CONDITION OF VEGETATIVE COVER AND REPAIR ANY DAMAGED AREAS OR BARE SPOTS AND RESEED AS REQUIRED TO ACHIEVE AN ESTABLISHED VEGETATIVE COVER (AT LEAST 70% AREA VEGETATED WITH HEALTHY, VIGOROUS GROWTH).
D. SPECIFICATIONS. TO ADEQUATELY PROVIDE SEDIMENT AND EROSION CONTROL DURING COLD WEATHER AND EARLY SPRING RUNOFF, THE FOLLOWING STABILIZATION TECHNIQUES SHALL BE EMPLOYED DURING THE PERIOD FROM NOVEMBER 1 TO MAY 1.
  i. THE AREA OF EXPOSED, UNSTABILIZED SOIL SHOULD BE LIMITED TO ONLY WHAT IS REQUIRED TO PERFORM THE WORK. THE EXPOSED AREA SHOULD BE PROTECTED AGAINST EROSION BY METHODS DESCRIBED IN THIS SECTION PRIOR TO ANY THAW OR RUNOFF PRODUCING CONDITIONS:
  ii. STABILIZATION AS FOLLOWS SHOULD BE COMPLETED WITHIN 7 DAYS OF ESTABLISHING FINAL GRADE OR THAT WILL OTHERWISE EXIST FOR MORE THAN 14 DAYS:
    a) ALL PROPOSED VEGETATED AREAS HAVING A SLOPE LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM 70% VEGETATIVE GROWTH BY NOVEMBER 1, OR WHICH IS DISTURBED AFTER NOVEMBER 1 SHOULD BE DORMANT SEEDED AT A RATE 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND COVERED WITH 2 TO 3 TONS OF HAY OR STRAW MULCH PER ACRE WITH EITHER ANCHORED NETTING OR AN APPROVED TACKIFIER FROM THE WISDOT PRODUCT ACCEPTABILITY LIST (PAL). AN EROSION CONTROL BLANKET OR TYPE A SOIL STABILIZER FROM THE WISDOT PAL MAY BE USED IN LIEU OF MULCH AND NETTING OR MULCH AND TACKIFIER.
    b) ALL PROPOSED VEGETATED AREAS HAVING A SLOPE GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 70% VEGETATIVE GROWTH BY NOVEMBER 1 OR WHICH ARE DISTURBED AFTER NOVEMBER 1, SHOULD BE DORMANT SEEDED AT A RATE 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND COVERED WITH A PROPERLY INSTALLED AND ANCHORED EROSION CONTROL BLANKET.
  iii. ALL STONE COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 1.
  iv. INSTALLATION OF ANCHORED HAY OR STRAW MULCH SHOULD NOT OCCUR OVER SNOW DEPTH GREATER THAN 1".
  v. ALL MULCH APPLIED DURING WINTER SHOULD BE ANCHORED WITH NETTING OR TACKIFIER FROM WISDOT PAL.
  vi. STOCKPILES OF SOIL MATERIALS SHOULD BE SEEDED AND MULCHED FOR OVER–WINTER PROTECTION WITH HAY OR STRAW AT 2 TO 3 TONS PER ACRE. MULCHING SHOULD BE DONE WITHIN 24 HOURS OF STOCKPILING AND RE–ESTABLISHED PRIOR TO ANY RAINFALL OR SNOW FALL. NO STOCKPILE SHOULD BE LOCATED WITHIN 25' OF ANY WETLAND OR OTHER WATER RESOURCE AREA. SOIL STABILIZER TYPE A OR EROSION CONTROL BLANKET MAY BE USED IN LIEU OF MULCH.
  vii. FROZEN MATERIALS SHOULD BE STOCKPILED SEPARATELY AND IN A LOCATION THAT IS AWAY FROM ANY AREA NEEDING TO BE PROTECTED. STOCKPILES OF FROZEN MATERIAL WILL MELT IN THE SPRING AND BECOME UNWORKABLE AND DIFFICULT TO TRANSPORT DUE TO HIGH MOISTURE CONTENT IN THE SOIL.
  viii. INSTALLATION OF EROSION BLANKETS SHOULD NOT OCCUR OVER SNOW OF GREATER DEPTH THAN 1" IN DEPTH OR OVER FROZEN GROUND.
  ix. ALL GRASS–LINED DITCHES AND CHANNELS SHOULD BE CONSTRUCTED AND STABILIZED BY OCTOBER 15. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM 70% VEGETATIVE GROWTH BY NOVEMBER 1 OR WHICH ARE DISTURBED AFTER NOVEMBER 1 SHOULD BE STABILIZED WITH TEMPORARY STONE WITH FILTER FABRIC OR TEMPORARY SEED AND EROSION CONTROL BLANKETS APPROPRIATE TO THE DESIGN FLOW CONDITIONS.
  x. ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 1.
  xi. SEDIMENT BARRIERS THAT ARE INSTALLED DURING FROZEN CONDITIONS SHOULD CONFORM TO CONSERVATION PRACTICE STANDARD 1071 V.C.1.C ANCHORED IN PLACE AND IN FULL CONTACT WITH THE GROUND SURFACE. SILT FENCE AND HAY BALES SHOULD NOT BE INSTALLED WHEN FROZEN GROUND CONDITIONS PREVENT PROPER EMBEDMENT OF THESE BARRIER.
  xii. AFTER DECEMBER 1, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS CEASED FOR THE WNTER SEASON SHOULD BE PROTECTED WITH A 3" LAYER OF SAND AND GRAVEL WITH A GRADATION CONFORMING TO TABLE 37 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.

CJ engineering
civil design and consulting
9205 W. Center Street
Suite 214
Milwaukee, WI 53222
PH. (414) 443–1312
www.cj–engineering.com

PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT

BLUEMOUND ROAD (C.T.H. "JJ") PEWAUKEE, WISCONSIN

CJE NO.: 1625–02R7
SEPTEMBER 3, 2020

SITE DETAILS C5.0

TO OBTAIN LOCATIONS OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

DIGGERS HOTLINE

CALL DIGGERS HOTLINE
811 or 1-800-242-8511
MILW. AREA 259-1181
WIS STATUTE 182.0175(1974)
REQUIRES MIN. 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE

Agrecol LLC
www.agrecol.com
10101 N. Casey Road
Evansville, Wisonsin 53536
Ph: 608-223-3571

Infiltration Swale Seed Mix

Botanical Name	Common Name	PLS Ounces/Acre
Permanent Grasses/Sedges/Rushes:		
Andropogon gerardii	Big Bluestem	10.00
Bromus ciliatus	Fringed Brome	36.00
Carex comosa	Bristly Sedge	5.00
Carex vulpinoidea	Brown Fox Sedge	1.50
Elymus virginicus	Virginia Wild Rye	36.00
Glyceria striata	Fowl Manna Grass	2.00
Panicum virgatum	Switchgrass	3.00
Scirpus atrovirens	Dark-Green Bullrush	0.50
Scirpus cyperinus	Wool Grass	0.25
Sorghastrum nutans	Indian Grass	16.00
Spatina pectinata	Prairie Cordgrass	8.00
	Total	**118.25**
Forbs:		
Alisma subcordatum	Common Water Plantain	2.00
Asclepias incarnata	Marsh (Red) Milkweed	6.00
Aster novae-angliae	New England Aster	2.00
Desmadium canadense	Canada Tick Trefoil	4.00
Ratibida pinnata	Yellow Coneflower	3.00
Rudbeckia hirta	Black-eyed Susan	2.00
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	2.00
Solidago ohioensis	Ohio Goldenrod	1.00
Verbena hastata	Blue Vervain	1.75
Vernonia fasciculata	Ironweed	2.00
	Total	**25.75**

Approximate area of coverage:	
Total area (SF) of coverage of infiltration area:	32,750
Total area (acres) of coverage of infiltration area:	**0.75**

STORMWATER SEED MIX

Agrecol LLC
www.agrecol.com
10101 N. Casey Road
Evansville, Wisonsin 53536
Ph: 608-223-3571

Economy Prairie Seed Mix

Botanical Name	Common Name	PLS Ounces/Acre
Permanent Grasses/Sedges/Rushes:		
Andropogon gerardii	Big Bluestem	8.00
Bouteloua curtipendula	Side Oats Grama	32.00
Elymus canadensis	Canada Wild Rye	16.00
Elymus virginicus	Virginia Wild Rye	20.00
Panicum virgatum	Switchgrass	8.00
Schizachyrium scoparium	Little Bluestem	16.00
Spatina pectinata	Prairie Cordgrass	12.00
	Total	**112.00**
Forbs:		
Asclepias tuberosa	Butterfly Weed	2.00
Aster novae-angliae	New England Aster	0.50
Chamaecrista fasciclata	Partridge Pea	8.00
Coreopsis lanceolata	Lance-Leaf (Sand) Coreopsis	2.00
Dalea purpurea	Purple Prairie Clover	4.00
Echinacea purpurea	Purple Coneflower	8.00
Heliopsis helianthoides	Early Sunflower	6.00
Liatris pycnostachya	Prairie Blazing Star	2.00
Monarda fistulosa	Wild Bergamot	1.00
Penstemon digitalis	Foxglove Beard Tongue	0.50
Ratibida pinnata	Yellow Coneflower	4.00
Rudbeckia hirta	Black-eyed Susan	2.00
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	1.00
Solidago rigida	Stiff Goldenrod	1.00
Tradescantia ohioensis	Ohio Spiderwort	4.00
Zizia aurea	Golden Alexanders	2.00
	Total	**48.00**

Approximate area of coverage:	
Total area (SF) of coverage:	141,645
Total area (acres) of coverage:	**3.25**

PRAIRIE SEED MIX

SHADE TREES (DECIDUOUS)
ABM Autumn Blaze Maple
GMSM Green Mountain Sugar Maple
PPH Prairie Pride Hackberry
SHL Skyline Honeylocust
AGM Autumn Gold Maidenhair
SWO Swamp White Oak
BC Bald Cypress
AE Accolade Elm

ORNAMENTAL TREES (DECIDUOUS)
TCH Thornless Cockspur Hawthorn
SSFC Spring Snow Flowering Crabapple
JTL Ivory Silk Japanese Tree Lilac

EVERGREEN TREES
CF Concolor Fir
FVJ Fairview Upright Juniper (upright)
NS Norway Spruce
BHS Black Hills Spruce

EVERGREEN SHRUBS
SGJ Sea Green Juniper
KCPJ Kallay Compact Pfitzer Juniper

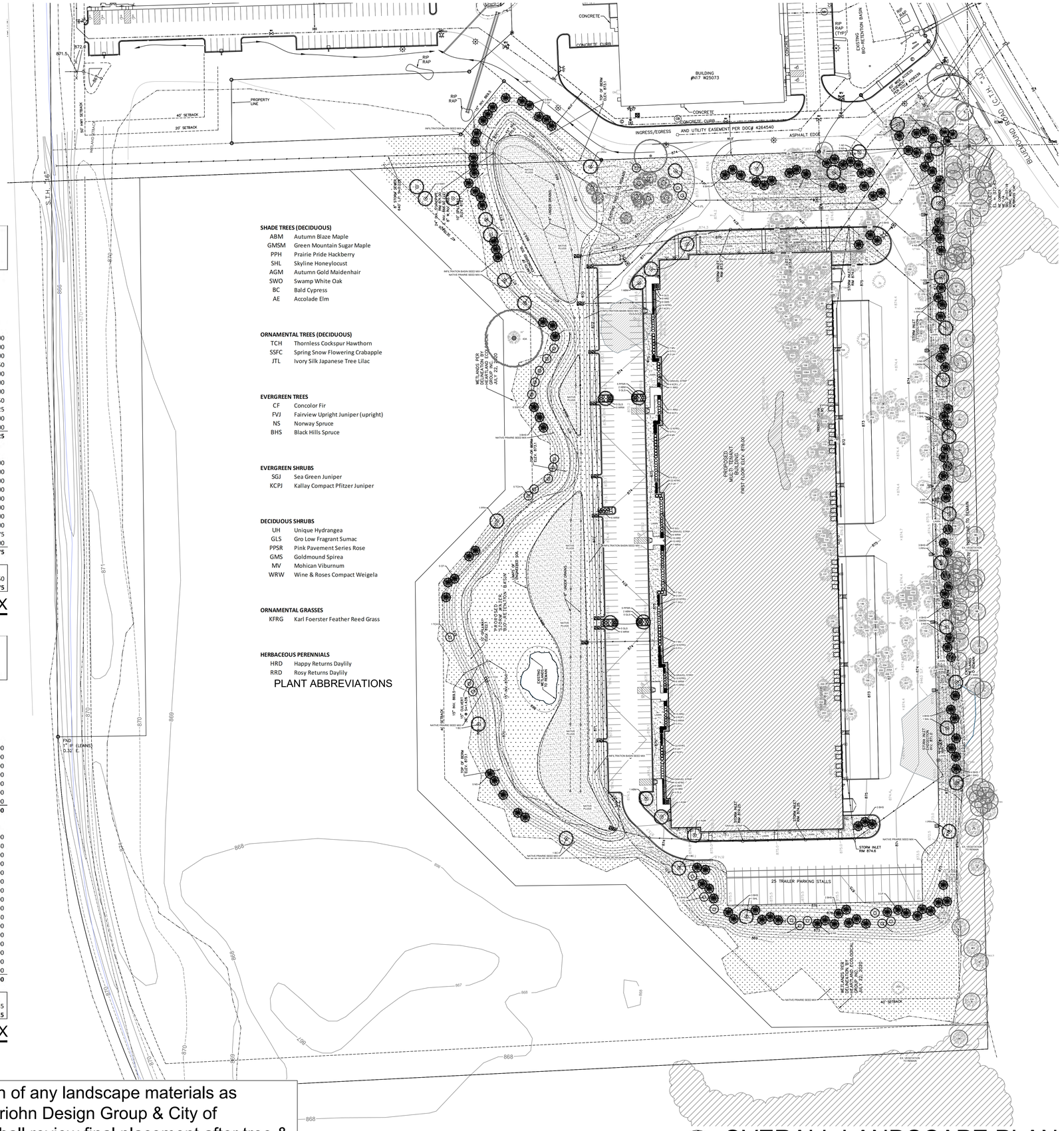
DECIDUOUS SHRUBS
UH Unique Hydrangea
GLS Gro Low Fragrant Sumac
PPSR Pink Pavement Series Rose
GMS Goldmound Spirea
MV Mohican Viburnum
WRW Wine & Roses Compact Weigela

ORNAMENTAL GRASSES
KFRG Karl Foerster Feather Reed Grass

HERBACEOUS PERENNIALS
HRD Happy Returns Daylily
RRD Rosy Returns Daylily

PLANT ABBREVIATIONS

Prior to installation of any landscape materials as outlined herein, Briohn Design Group & City of Pewaukee Staff shall review final placement after tree & brush removal and rough grading have been completed.



NORTH

OVERALL LANDSCAPE PLAN

Scale: 1" = 60'0"

HELLER & ASSOCIATES, LLC
LANDSCAPE ARCHITECTURE
P.O. Box 1359
Lake Geneva, Wisconsin 53147-1359
ph 262.639.9733
david@wdavidheller.com
www.wdavidheller.com

BRIOHN DESIGN GROUP
3885 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
OVERALL LANDSCAPE PLAN

PROPOSED BUILDING FOR
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD | HWY "J"
PEWAUKEE, WISCONSIN

JOB:	3224
DRAWN:	PCA/WDH
CHECKED:	DF
DATE:	9/03/20
SHEET:	L 1.0

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

DIGGERS HOTLINE

CALL DIGGERS HOTLINE
811 or 1-800-242-8511
MILW. AREA 259-1181
WIS STATUTE 182.0175(1974)
REQUIRES MIN. 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE

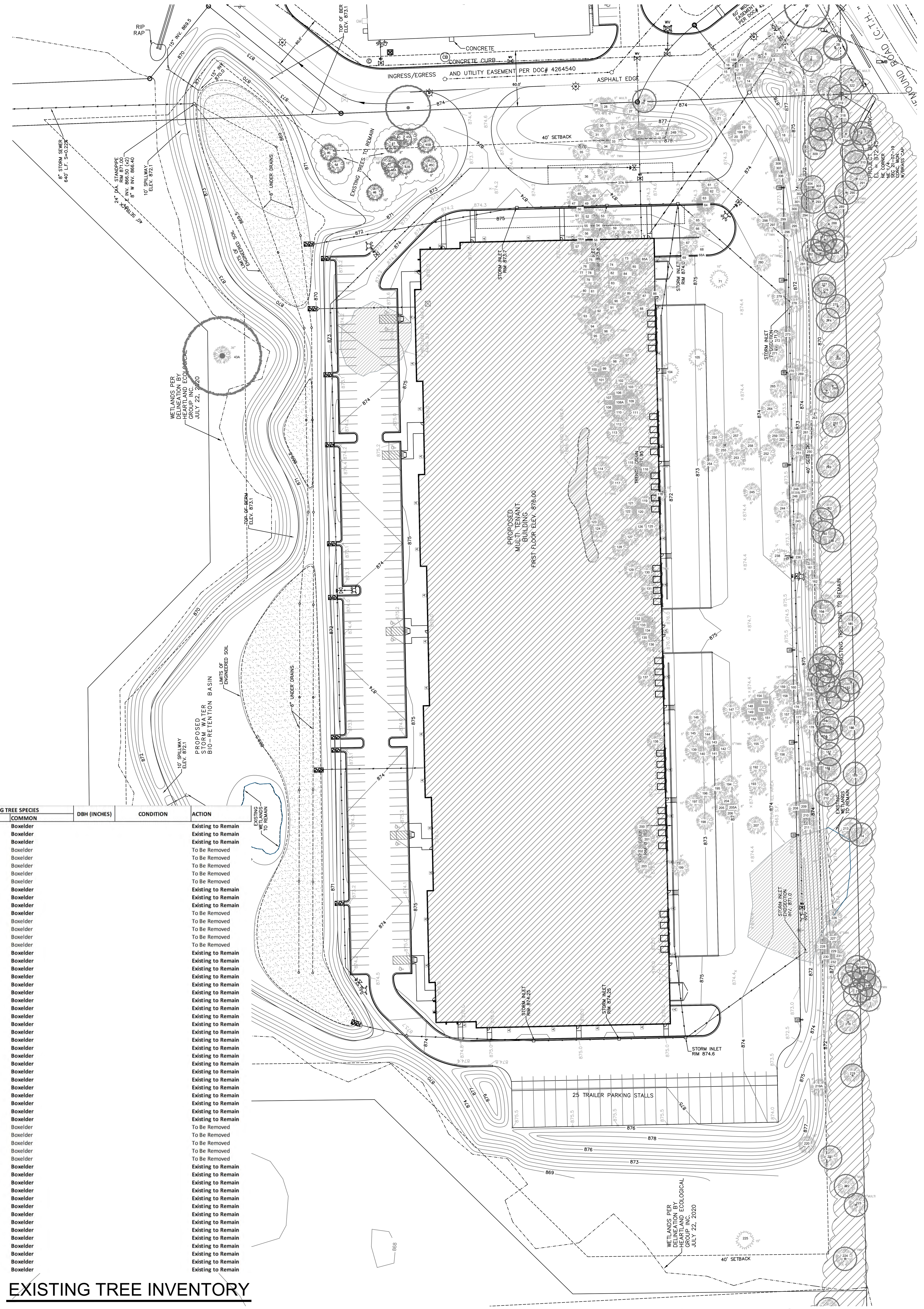
Prior to installation of any landscape materials as outlined herein, Briohn Design Group & City of Pewaukee Staff shall review final placement after tree & brush removal and rough grading have been completed.

TAG NUMBER	EXISTING TREE SPECIES: BOTANIC GENUS	EXISTING TREE SPECIES: COMMON	DBH (INCHES)	CONDITION	ACTION
1	*Not Found*				
2	**Acer negundo**	**Boxelder**	**12"/12" twin**		**Existing to Remain**
2B	**Quercus macrocarpa**	**Bur Oak**	**14"/14" twin**		**Existing to Remain**
3	Acer negundo	Boxelder	24"		To Be Removed
4	Acer negundo	Boxelder	18"		To Be Removed
5	Acer negundo	Boxelder	36"		To Be Removed
6	Acer negundo	Boxelder	28"		To Be Removed
7	Acer negundo	Boxelder	18"		To Be Removed
8	Acer negundo	Boxelder	12"		To Be Removed
9	Acer negundo	Boxelder	8"/10"/12" ms		To Be Removed
10	Acer negundo	Boxelder	15"		To Be Removed
11	*Not Found*				
12	Acer negundo	Boxelder	16"		To Be Removed
13	Acer negundo	Boxelder	18"		To Be Removed
14	Acer negundo	Boxelder	18"		To Be Removed
15	Acer negundo	Boxelder	24"		To Be Removed
16	Acer negundo	Boxelder	24"		To Be Removed
16B	*Not Found*				
17	Juglans nigra	Black Walnut	6"	Good Condition	To Be Removed
18	Acer negundo	Boxelder	7"		To Be Removed
19	Acer negundo	Boxelder	18"		To Be Removed
19B	Acer negundo	Boxelder	22"		To Be Removed
20	Acer negundo	Boxelder	20"		To Be Removed
21	Acer negundo	Boxelder	12"		To Be Removed
22	Acer negundo	Boxelder	36"		To Be Removed
23	Acer negundo	Boxelder	36"		To Be Removed
24	Acer negundo	Boxelder	24"		To Be Removed
24B	Acer negundo	Boxelder	20"		To Be Removed
25	Acer negundo	Boxelder	12"/16"/24"	Multiple Trunks	To Be Removed
26	**Juglans nigra**	**Black Walnut**	**6"**	**Good Condition**	**Existing to Remain**
27	Acer negundo	Boxelder	18"		To Be Removed
28	Rhamnus	Buckthorn	6"		To Be Removed
29	Rhamnus	Buckthorn	8"		To Be Removed
30	Rhamnus	Buckthorn	8"		To Be Removed
31	Acer negundo	Boxelder	15"		To Be Removed
32	Tilia	Linden	10"	Average Condition	To Be Removed
33	Acer negundo	Boxelder	15"		To Be Removed
34	Acer negundo	Boxelder	15"/18" twin		To Be Removed
35	Juglans nigra	Black Walnut	5"	Poor Condition	To Be Removed
36	Picea	Spruce	6"	Poor Condition	To Be Removed
37	Acer negundo	Boxelder	5"		To Be Removed
37A	Quercus macrocarpa	Bur Oak	36"	Good Condition	To Be Removed
38	*Not Found*				
39	*Not Found*				
40	**Quercus macrocarpa**	**Bur Oak**	**8"**	**Good Condition**	**Existing to Remain**
41	**Quercus macrocarpa**	**Bur Oak**	**10"**	**Good Condition**	**Existing to Remain**
42	**Quercus macrocarpa**	**Bur Oak**	**10"**	**Good Condition**	**Existing to Remain**
42A	**Quercus macrocarpa**	**Bur Oak**	**10"**	**Good Condition**	**Existing to Remain**
42B	**Quercus macrocarpa**	**Bur Oak**	**8"**	**Good Condition**	**Existing to Remain**
43	**Quercus macrocarpa**	**Bur Oak**	**12"**	**Good Condition**	**Existing to Remain**
44	**Quercus macrocarpa**	**Bur Oak**	**12"**	**Good Condition**	**Existing to Remain**
45	**Quercus macrocarpa**	**Bur Oak**	**10"**	**Good Condition**	**Existing to Remain**
46	Acer negundo	Boxelder	16"		To Be Removed
47	Acer negundo	Boxelder	18"		To Be Removed
48	Acer negundo	Boxelder	24"		To Be Removed
49	Acer negundo	Boxelder	18"		To Be Removed
50	Acer negundo	Boxelder	24"		To Be Removed
51	Juglans	Black Walnut	10"		To Be Removed
52	*Not Found*				
53	Dead - Unknown		4"	Dead Tree	To Be Removed
54	Dead - Unknown		4"	Dead Tree	To Be Removed
55	Acer negundo	Boxelder	6"		To Be Removed
56	Dead - Unknown		8"	Dead Tree	To Be Removed
56A	Acer negundo	Boxelder	15"		To Be Removed
57	Acer negundo	Boxelder	13"		To Be Removed
58	Juglans	Black Walnut	20"	Good Condition	To Be Removed
59	Juglans nigra	Black Walnut	8"	Good Condition	To Be Removed
60	Juglans nigra	Black Walnut	6"	Good Condition	To Be Removed
61	Acer negundo	Boxelder	10"		To Be Removed
62	Acer negundo	Boxelder	10"		To Be Removed
63	Acer negundo	Boxelder	8"		To Be Removed
64	Acer negundo	Boxelder	15"		To Be Removed
65	Acer negundo	Boxelder	6"		To Be Removed
66	Acer negundo	Boxelder	10"		To Be Removed
67	Acer negundo	Boxelder	18"		To Be Removed
68	Acer negundo	Boxelder	10"		To Be Removed
68A	Acer negundo	Boxelder	15"		To Be Removed
69	Prunus	Black Cherry	12"		To Be Removed
70	Dead - Unknown			Dead Tree	To Be Removed
71	Dead - Unknown			Dead Tree	To Be Removed
72	*Not Found*				
73	Dead - Unknown			Dead Tree	To Be Removed
74	Acer	Boxelder	12"/16"	Twin Trunks	To Be Removed
75	Acer negundo	Boxelder	10"		To Be Removed
76	Acer negundo	Boxelder	8"		To Be Removed
77	Acer negundo	Boxelder	8"/10"	Twin Trunks	To Be Removed
78	Acer negundo	Boxelder	12"		To Be Removed
79	*Not Found*				
80	Acer negundo	Boxelder	10"		To Be Removed
81	Acer negundo	Boxelder	15"		To Be Removed
82	Acer negundo	Boxelder	24"		To Be Removed
83	Acer negundo	Boxelder	15"		To Be Removed
84	Acer negundo	Boxelder	30"		To Be Removed
85	Acer negundo	Boxelder	12"		To Be Removed
85A	Acer negundo	Boxelder	12"	Twin Trunks	To Be Removed
86	Acer negundo	Boxelder	24"	Twin Trunks	To Be Removed
87	Acer negundo	Boxelder	12"		To Be Removed
88	Acer negundo	Boxelder	14"		To Be Removed
89	Acer negundo	Boxelder	9"	Leaning	To Be Removed
90	Acer negundo	Boxelder	6"/8"/8"	Multiple Trunks- Dead	To Be Removed
91	Dead - Unknown		4"	Dead Tree	To Be Removed
92	Acer negundo	Boxelder	14"		To Be Removed
93	Acer negundo	Boxelder	30"		To Be Removed
94	Juglans nigra	Black Walnut	10"	Average Condition	To Be Removed
95	Crataegus	Hawthorn	11"		To Be Removed
96	Acer negundo	Boxelder	5"	Twin Trunks	To Be Removed
97	Acer negundo	Boxelder	8"/30"/40"	Multiple Trunks	To Be Removed
98	Acer negundo	Boxelder	8"/30"/40"	Multipe Trunks	To Be Removed
99	Quercus macrocarpa	Bur Oak	8"		To Be Removed
100	Crataegus	Hawthorn	6"		To Be Removed
101	Crataegus	Hawthorn	6"/6"	Twin Trunks	To Be Removed
102	Acer negundo	Boxelder	6"		To Be Removed
103	*Not Found*				
104	Picea pungens	Colorado Blue Spruce	15"	Good Condition	To Be Removed
105	Picea pungens	Colorado Blue Spruce	14"	Good Condition	To Be Removed
106	Crataegus	Hawthorn	6"	Poor Condition	To Be Removed
106A	Crataegus	Hawthorn	6"	Poor Condition	To Be Removed
107	Crataegus	Hawthorn	6"	Poor Condition	To Be Removed
108	*Dead - Unknown*				To Be Removed
109	Ulmus	Elm	6"	Average Condition	To Be Removed
110	Ulmus	Elm	6"	Average Condition	To Be Removed
111	Acer negundo	Boxelder	10"		To Be Removed
112	Ulmus	Elm	6"	Average Condition	To Be Removed
113	Acer negundo	Boxelder	10"	Twin Trunks	To Be Removed
114	Rhamnus	Buckthorn	5"		To Be Removed
115	Acer negundo	Boxelder	13"		To Be Removed
116	Acer negundo	Boxelder	9"/12"	Twin Trunks	To Be Removed
117	Acer negundo	Boxelder	10"/8"/6"	Multiple Trunks	To Be Removed
118	Acer negundo	Boxelder	15"		To Be Removed
119	Acer negundo	Boxelder	5"		To Be Removed
120	Rhamnus	Buckthorn	5"		To Be Removed
121	Ulmus	Elm	4"		To Be Removed
122	Acer negundo	Boxelder	10"		To Be Removed
123	Rhamnus	Buckthorn Massing	Varies		To Be Removed
124	Rhamnus	Buckthorn Massing	Varies		To Be Removed
125	Ulmus	Elm	5"		To Be Removed
126	Ulmus	Elm	6"		To Be Removed
127	Rhamnus	Buckthorn	6"		To Be Removed
128	Rhamnus	Buckthorn	8"	Quad	To Be Removed
129	Rhamnus	Buckthorn	Varies	Massing	To Be Removed
130	Rhamnus	Buckthorn	6"		To Be Removed

TAG NUMBER	EXISTING TREE SPECIES: BOTANIC GENUS	EXISTING TREE SPECIES: COMMON	DBH (INCHES)	CONDITION	ACTION
131	Rhamnus	Buckthorn	9"		To Be Removed
132	Acer negundo	Boxelder	5"		To Be Removed
133	Acer negundo	Boxelder	9"/8"	Twin Trunks	To Be Removed
134	Acer negundo	Boxelder	10"		To Be Removed
135	Prunus	Black Cherry	5"		To Be Removed
136	Prunus	Black Cherry	5"		To Be Removed
137	Acer negundo	Boxelder	5"		To Be Removed
137A	Prunus	Black Cherry	6"		To Be Removed
137B	Rhamnus	Buckthorn	6"		To Be Removed
138	Acer negundo	Boxelder	6"	Twin Trunks	To Be Removed
139	Acer negundo	Boxelder	6"		To Be Removed
140	Acer negundo	Boxelder	6"		To Be Removed
141	Acer negundo	Boxelder	5"		To Be Removed
142	Acer negundo	Boxelder	5"/5"	Twin Trunks	To Be Removed
143	Acer negundo	Boxelder	5"		To Be Removed
144	Acer negundo	Boxelder	4"		To Be Removed
145	Acer negundo	Boxelder	5"		To Be Removed
146	Acer negundo	Boxelder	7"		To Be Removed
147	Prunus	Black Cherry	6"		To Be Removed
148	Juniperus	Cedar	6"	Poor Condition	To Be Removed
149	Juniperus	Cedar	5"	Poor Condition	To Be Removed
150	Juniperus	Cedar	5"	Poor Condition	To Be Removed
151	Juniperus	Cedar	6"	Poor Condition	To Be Removed
152	Rhamnus	Buckthorn	5"		To Be Removed
153	Rhamnus	Buckthorn	6"		To Be Removed
154	Rhamnus	Buckthorn	5"		To Be Removed
155	Acer negundo	Boxelder	8"/10"/16"	Multiple Trunks	To Be Removed
156	Acer negundo	Boxelder	8"		To Be Removed
157	Acer negundo	Boxelder	5"		To Be Removed
158	Malus	Domestic Apple Tree	8"	Poor Condition	To Be Removed
159	Malus	Apple Tree	18"	Poor Condition	To Be Removed
160	Malus	Apple Tree	12"	Poor Condition	To Be Removed
161	Acer negundo	Boxelder	6"		To Be Removed
162	Acer negundo	Boxelder	6"/6"		To Be Removed
163	*Dead-Unknown*		8"		To Be Removed
164	**Acer negundo**	**Boxelder**	**12"**		**Existing to Remain**
165	**Acer negundo**	**Boxelder**	**18"**		**Existing to Remain**
166	Acer negundo	Boxelder	7"		To Be Removed
167	**Acer negundo**	**Boxelder**	**15"**		**Existing to Remain**
168	**Acer negundo**	**Boxelder**	**10"**		**Existing to Remain**
169	**Acer negundo**	**Boxelder**			**Existing to Remain**
170	**Acer negundo**	**Boxelder**	**10"**		**Existing to Remain**
171	**Acer negundo**	**Boxelder**	**11"**		**Existing to Remain**
172	**Acer negundo**	**Boxelder**	**8"**		**Existing to Remain**
173	**Acer negundo**	**Boxelder**	**8"**		**Existing to Remain**
174	Acer negundo	Boxelder	12"		To Be Removed
175	**Acer negundo**	**Boxelder**			**Existing to Remain**
176	**Acer negundo**	**Boxelder**			**Existing to Remain**
177	**Juniperus**	**Cedar**	**10"**	**1/2 Dead**	**Existing to Remain**
178	**Acer negundo**	**Boxelder**	**7"**		**Existing to Remain**
179	**Acer negundo**	**Boxelder**			**Existing to Remain**
180	**Acer negundo**	**Boxelder**	**8"**		**Existing to Remain**
181	Acer negundo	Boxelder	10"		To Be Removed
182	Acer negundo	Boxelder	10"		To Be Removed
183	Acer negundo	Boxelder	12"		To Be Removed
184	**Acer negundo**	**Boxelder**	**5"**		**Existing to Remain**
185	**Acer negundo**	**Boxelder**	**8"**		**Existing to Remain**
186	**Acer negundo**	**Boxelder**	**8"**		**Existing to Remain**
187	**Acer negundo**	**Boxelder**	**10"**		**Existing to Remain**
188	**Acer negundo**	**Boxelder**	**7"/7"**	**Twin Trunks**	**Existing to Remain**
189	**Acer negundo**	**Boxelder**	**18"**		**Existing to Remain**
190	Acer negundo	Boxelder	5"		To Be Removed
191	Acer negundo	Boxelder	5"		To Be Removed
192	Prunus	Black Cherry	8"		To Be Removed
193	Prunus	Black Cherry	8"	Poor Condition	To Be Removed
194	Prunus	Black Cherry	10"		To Be Removed
195	Prunus	Black Cherry	14"		To Be Removed
196	Prunus	Black Cherry	5"		To Be Removed
197	Prunus	Black Cherry	10"		To Be Removed
198	Acer negundo	Boxelder	6"		To Be Removed
199	Acer negundo	Boxelder	6"		To Be Removed
200	Malus	Domestic Apple Tree	6"/8"	Twin Trunks	To Be Removed
201	Rhamnus	Buckthorn Massing	Varies		To Be Removed
202	Acer negundo	Boxelder	8"		To Be Removed
203	Acer negundo	Boxelder	8"/6"	Twin Trunks	To Be Removed
204	*Not Found*				
205	Acer negundo	Boxelder	18"		To Be Removed
205A	Acer negundo	Boxelder	8"		To Be Removed
206	Acer negundo	Boxelder	15"		To Be Removed
207	Acer negundo	Boxelder	18"		To Be Removed
208	Acer negundo	Boxelder	15"		To Be Removed
209	Acer negundo	Boxelder	10"		To Be Removed
210	Acer negundo	Boxelder	10"		To Be Removed
211	Acer negundo	Boxelder	10"		To Be Removed
212	**Acer negundo**	**Boxelder**	**15"**		**Existing to Remain**
213	**Acer negundo**	**Boxelder**	**22"**		**Existing to Remain**
214	**Acer negundo**	**Boxelder**			**Existing to Remain**
215	**Acer negundo**	**Boxelder**			**Existing to Remain**
216	**Acer negundo**	**Boxelder**			**Existing to Remain**
217	**Acer negundo**	**Boxelder**			**Existing to Remain**
217A	**Acer negundo**	**Boxelder**	**8"**		**Existing to Remain**
217B	**Acer negundo**	**Boxelder**	**11"**	**Twin Trunks**	**Existing to Remain**
218	**Acer negundo**	**Boxelder**			**Existing to Remain**
219	Acer negundo	Boxelder			To Be Removed
219A	**Acer negundo**	**Boxelder**	**6"**		**Existing to Remain**
220	Juglans nigra	Black Walnut	18"	Average Condition	To Be Removed
221	**Acer negundo**	**Boxelder**	**11"**		**Existing to Remain**
222	**Populus**	**Cottonwood**	**14"**	**Multiple Trunks**	**Existing to Remain**
223	**Acer negundo**	**Boxelder**	**6"**	**Multiple Trunks**	**Existing to Remain**
224	**Acer negundo**	**Boxelder**	**15"**	**Twin Trunks**	**Existing to Remain**
225	Juniperus	Cedar	7"		To Be Removed
226	Acer negundo	Boxelder	7"		To Be Removed
227	Acer negundo	Boxelder	6"	Twin Trunks	To Be Removed
228	Acer negundo	Boxelder	5"		To Be Removed
229	Acer negundo	Boxelder	11"		To Be Removed
230	Acer negundo	Boxelder	12"		To Be Removed
231	Acer negundo	Boxelder	15"		To Be Removed
232	Acer negundo	Boxelder	12"		To Be Removed
233	**Acer negundo**	**Boxelder**	**13"**		**Existing to Remain**
234	**Acer negundo**	**Boxelder**	**9"**		**Existing to Remain**
235	**Acer negundo**	**Boxelder**	**13"**	**Multiple Trunks**	**Existing to Remain**
236	Acer negundo	Boxelder	9"		To Be Removed
237	Juniperus	Cedar	7"		To Be Removed
238	Juniperus	Cedar	7"		To Be Removed
239	**Acer negundo**	**Boxelder**			**Existing to Remain**
240	**Acer negundo**	**Boxelder**			**Existing to Remain**
241	**Acer negundo**	**Boxelder**			**Existing to Remain**
242	**Acer negundo**	**Boxelder**			**Existing to Remain**
243	Acer negundo	Boxelder			To Be Removed
244	Acer negundo	Boxelder			To Be Removed
245	Acer negundo	Boxelder			To Be Removed
246	Acer negundo	Boxelder			To Be Removed
247	Acer negundo	Boxelder			To Be Removed
248	Acer negundo	Boxelder			To Be Removed
249	**Acer negundo**	**Boxelder**			**Existing to Remain**
250	Acer negundo	Boxelder			To Be Removed
251	Acer negundo	Boxelder			To Be Removed
252	Acer negundo	Boxelder			To Be Removed
253	Acer negundo	Boxelder			To Be Removed
254	Acer negundo	Boxelder			To Be Removed
255	Acer negundo	Boxelder			To Be Removed
256	Acer negundo	Boxelder			To Be Removed
257	Acer negundo	Boxelder			To Be Removed
258	Acer negundo	Boxelder			To Be Removed
259	Acer negundo	Boxelder			To Be Removed
260	Acer negundo	Boxelder			To Be Removed
261	Acer negundo	Boxelder			To Be Removed
262	**Acer negundo**	**Boxelder**			**Existing to Remain**
263	Acer negundo	Boxelder			To Be Removed
264	Acer negundo	Boxelder			To Be Removed
265	Acer negundo	Boxelder			To Be Removed

TAG NUMBER	EXISTING TREE SPECIES: BOTANIC GENUS	EXISTING TREE SPECIES: COMMON	DBH (INCHES)	CONDITION	ACTION
266	**Acer negundo**	**Boxelder**			**Existing to Remain**
267	**Acer negundo**	**Boxelder**			**Existing to Remain**
268	**Acer negundo**	**Boxelder**			**Existing to Remain**
269	Acer negundo	Boxelder			To Be Removed
270	Acer negundo	Boxelder			To Be Removed
271	Acer negundo	Boxelder			To Be Removed
272	Acer negundo	Boxelder			To Be Removed
273	Acer negundo	Boxelder			To Be Removed
274	**Acer negundo**	**Boxelder**			**Existing to Remain**
275	**Acer negundo**	**Boxelder**			**Existing to Remain**
276	**Acer negundo**	**Boxelder**			**Existing to Remain**
277	**Acer negundo**	**Boxelder**			To Be Removed
278	Acer negundo	Boxelder			To Be Removed
279	Acer negundo	Boxelder			To Be Removed
280	Acer negundo	Boxelder			To Be Removed
281	Acer negundo	Boxelder			To Be Removed
282	**Acer negundo**	**Boxelder**			**Existing to Remain**
283	**Acer negundo**	**Boxelder**			**Existing to Remain**
284	**Acer negundo**	**Boxelder**			**Existing to Remain**
285	**Acer negundo**	**Boxelder**			**Existing to Remain**
286	**Acer negundo**	**Boxelder**			**Existing to Remain**
287	**Acer negundo**	**Boxelder**			**Existing to Remain**
288	**Acer negundo**	**Boxelder**			**Existing to Remain**
289	**Acer negundo**	**Boxelder**			**Existing to Remain**
290	**Acer negundo**	**Boxelder**			**Existing to Remain**
291	**Acer negundo**	**Boxelder**			**Existing to Remain**
292	**Acer negundo**	**Boxelder**			**Existing to Remain**
293	**Acer negundo**	**Boxelder**			**Existing to Remain**
294	**Acer negundo**	**Boxelder**			**Existing to Remain**
295	**Acer negundo**	**Boxelder**			**Existing to Remain**
296	**Acer negundo**	**Boxelder**			**Existing to Remain**
297	**Acer negundo**	**Boxelder**			**Existing to Remain**
298	**Acer negundo**	**Boxelder**			**Existing to Remain**
299	**Acer negundo**	**Boxelder**			**Existing to Remain**
300	**Acer negundo**	**Boxelder**			**Existing to Remain**
301	**Acer negundo**	**Boxelder**			**Existing to Remain**
302	**Acer negundo**	**Boxelder**			**Existing to Remain**
303	**Acer negundo**	**Boxelder**			**Existing to Remain**
304	Acer negundo	Boxelder			To Be Removed
305	Acer negundo	Boxelder			To Be Removed
306	Acer negundo	Boxelder			To Be Removed
307	Acer negundo	Boxelder			To Be Removed
308	Acer negundo	Boxelder			To Be Removed
309	**Acer negundo**	**Boxelder**			**Existing to Remain**
310	**Acer negundo**	**Boxelder**			**Existing to Remain**
311	**Acer negundo**	**Boxelder**			**Existing to Remain**
312	**Acer negundo**	**Boxelder**			**Existing to Remain**
313	**Acer negundo**	**Boxelder**			**Existing to Remain**
314	**Acer negundo**	**Boxelder**			**Existing to Remain**
315	**Acer negundo**	**Boxelder**			**Existing to Remain**
316	**Acer negundo**	**Boxelder**			**Existing to Remain**
317	**Acer negundo**	**Boxelder**			**Existing to Remain**
318	**Acer negundo**	**Boxelder**			**Existing to Remain**
319	**Acer negundo**	**Boxelder**			**Existing to Remain**
320	**Acer negundo**	**Boxelder**			**Existing to Remain**
321	**Acer negundo**	**Boxelder**			**Existing to Remain**
322	**Acer negundo**	**Boxelder**			**Existing to Remain**

EXISTING TREE INVENTORY



TREE INVENTORY PLAN

Scale: 1" = 50'0"

NORTH

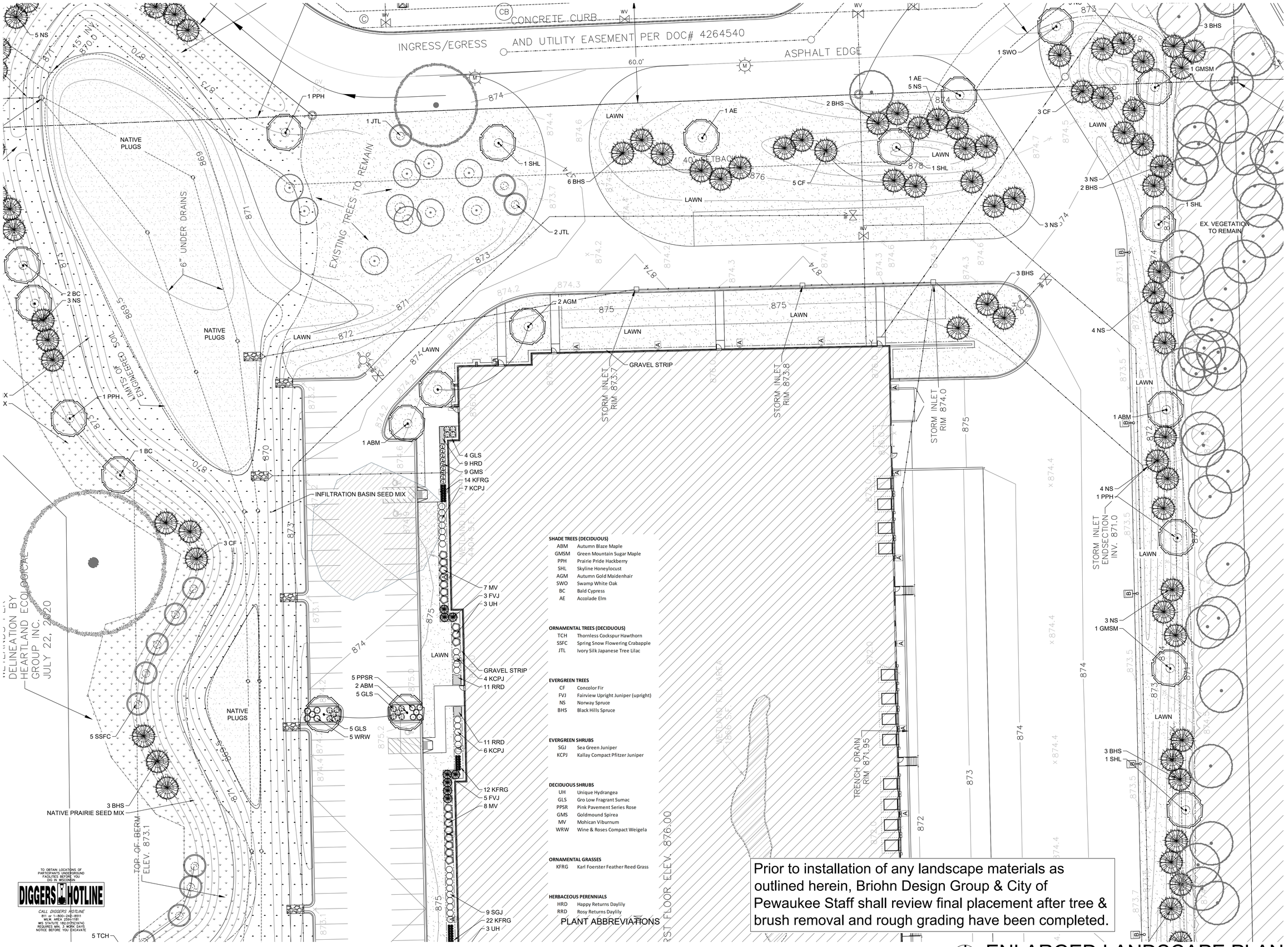
BRIOHN DESIGN GROUP
3885 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
TREE INVENTORY / PRESERVATION PLAN

PROPOSED BUILDING FOR
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD | HWY "J"
PEWAUKEE, WISCONSIN

JOB: 3224
DRAWN: PCA/WDH
CHECKED: DF
DATE: 9/03/20
SHEET:
L 1.1

HELLER & ASSOCIATES, LLC
LANDSCAPE ARCHITECTURE
P.O. Box 1359
Lake Geneva, Wisconsin 53147-1359
ph 262.639.9733
david@wdavidheller.com
www.wdavidheller.com



SHADE TREES (DECIDUOUS)

ABM	Autumn Blaze Maple
GMSM	Green Mountain Sugar Maple
PPH	Prairie Pride Hackberry
SHL	Skyline Honeylocust
AGM	Autumn Gold Maidenhair
SWO	Swamp White Oak
BC	Bald Cypress
AE	Accolade Elm

ORNAMENTAL TREES (DECIDUOUS)

TCH	Thornless Cockspur Hawthorn
SSFC	Spring Snow Flowering Crabapple
JTL	Ivory Silk Japanese Tree Lilac

EVERGREEN TREES

CF	Concolor Fir
FVJ	Fairview Upright Juniper (upright)
NS	Norway Spruce
BHS	Black Hills Spruce

EVERGREEN SHRUBS

SGJ	Sea Green Juniper
KCPJ	Kallay Compact Pfitzer Juniper

DECIDUOUS SHRUBS

UH	Unique Hydrangea
GLS	Gro Low Fragrant Sumac
PPSR	Pink Pavement Series Rose
GMS	Goldmound Spirea
MV	Mohican Viburnum
WRW	Wine & Roses Compact Weigela

ORNAMENTAL GRASSES

KFRG	Karl Foerster Feather Reed Grass

HERBACEOUS PERENNIALS

HRD	Happy Returns Daylily
RRD	Rosy Returns Daylily

PLANT ABBREVIATIONS

Prior to installation of any landscape materials as outlined herein, Briohn Design Group & City of Pewaukee Staff shall review final placement after tree & brush removal and rough grading have been completed.

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN
DIGGERS HOTLINE
CALL DIGGERS HOTLINE 811 or 1-800-242-8511 MILW. AREA 259-1181 WIS STATUTE 182.0175(1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

HELLER & ASSOCIATES, LLC
LANDSCAPE ARCHITECTURE
P.O. Box 1359
Lake Geneva, Wisconsin 53147-1359
ph 262.639.9733
david@wdavidheller.com
www.wdavidheller.com

NORTH

ENLARGED LANDSCAPE PLAN

Scale: 1" = 20'0"

BRIOHN DESIGN GROUP
3885 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
ENLARGED LANDSCAPE PLAN
NORTH ENLARGEMENT

PROPOSED BUILDING FOR
PEWAUKEE SOUTH
INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD | HWY "J"
PEWAUKEE, WISCONSIN

JOB:	3224
DRAWN:	PCA/WDH
CHECKED:	DF
DATE:	9/03/20
SHEET:	L 1.2

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

DIGGERS HOTLINE

CALL DIGGERS HOTLINE
811 or 1-800-242-8511
MUW AREA 259-1181
MIS STATUTE 182.0175(1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

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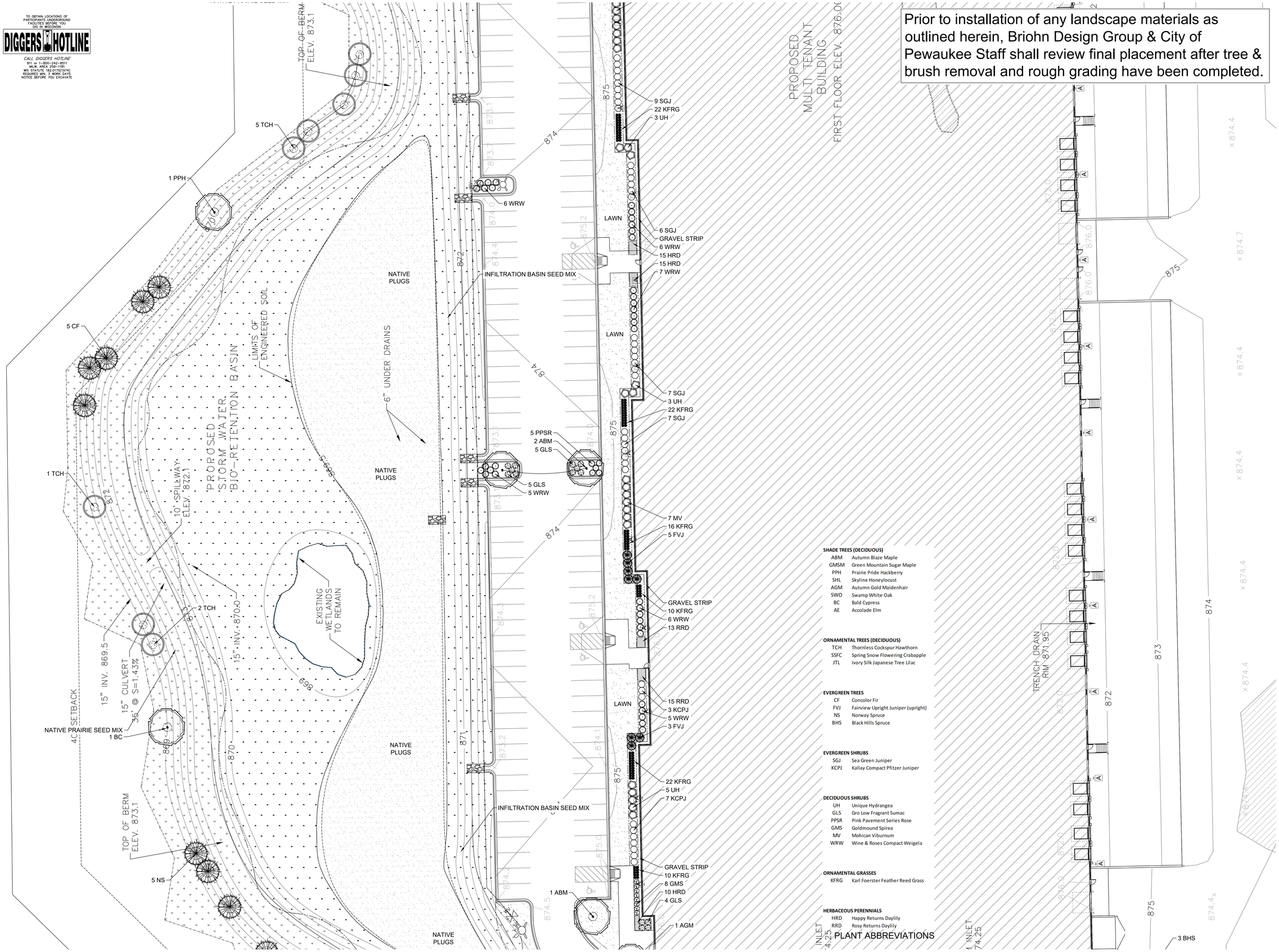

SHADE TREES (DECIDUOUS)

ABM	Autumn Blaze Maple
GMSM	Green Mountain Sugar Maple
PPH	Prairie Pride Hackberry
SHL	Skyline Honeylocust
AGM	Autumn Gold Maidenhair
SWO	Swamp White Oak
BC	Bald Cypress
AE	Accolade Elm

ORNAMENTAL TREES (DECIDUOUS)

TCH	Thornless Cockspur Hawthorn
SSFC	Spring Snow Flowering Crabapple
JTL	Ivory Silk Japanese Tree Lilac

EVERGREEN TREES

CF	Concolor Fir
FVJ	Fairview Upright Juniper (upright)
NS	Norway Spruce
BHS	Black Hills Spruce

EVERGREEN SHRUBS

SGJ	Sea Green Juniper
KCPJ	Kallay Compact Pfitzer Juniper

DECIDUOUS SHRUBS

UH	Unique Hydrangea
GLS	Gro Low Fragrant Sumac
PPSR	Pink Pavement Series Rose
GMS	Goldmound Spirea
MV	Mohican Viburnum
WRW	Wine & Roses Compact Weigela

ORNAMENTAL GRASSES

KFRG	Karl Foerster Feather Reed Grass

HERBACEOUS PERENNIALS

HRD	Happy Returns Daylily
RRD	Rosy Returns Daylily

PLANT ABBREVIATIONS

NORTH

ENLARGED LANDSCAPE PLAN

Scale: 1" = 20'0"

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BROOKFIELD WISCONSIN 53045-1950
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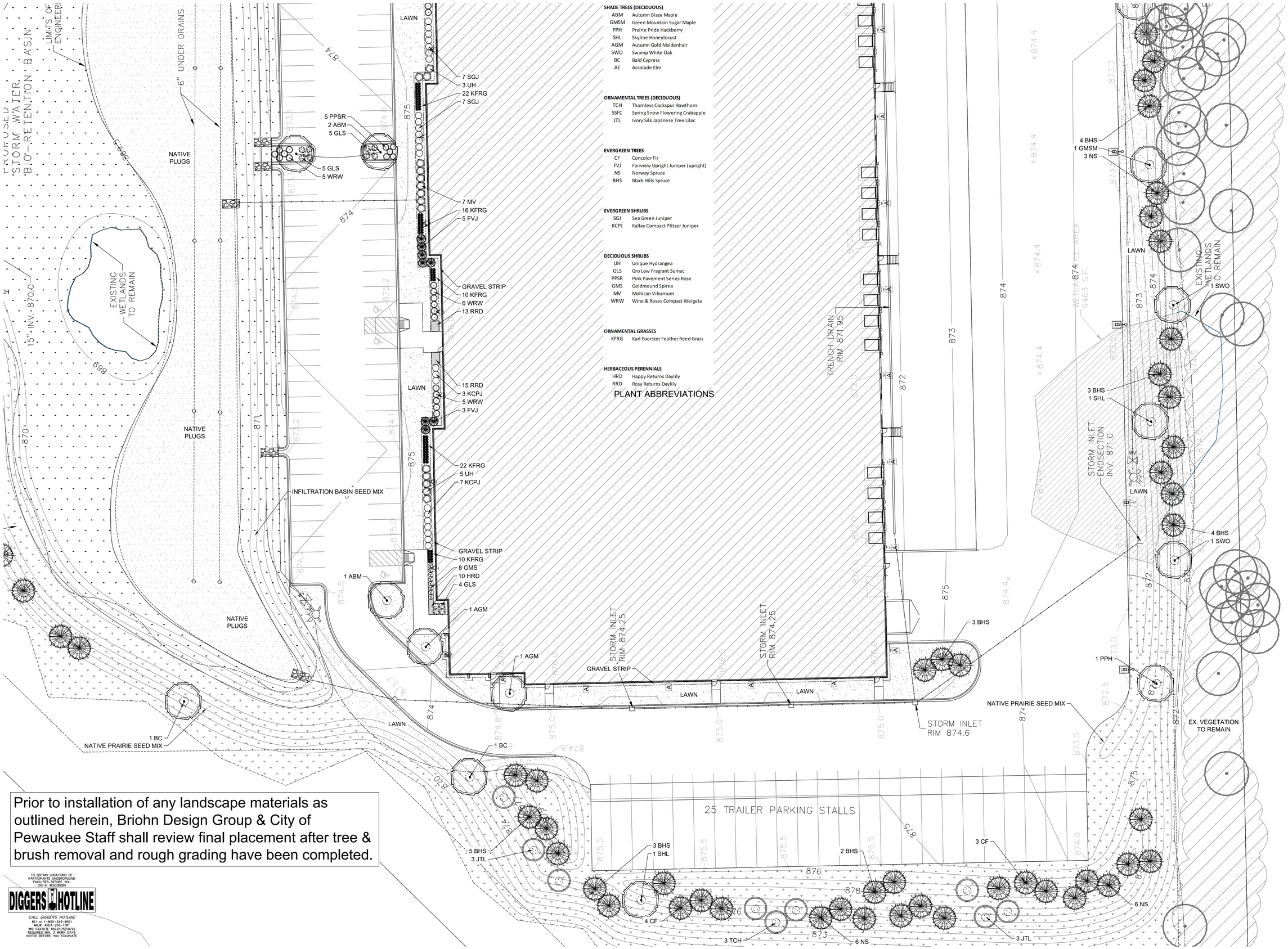
(262) 790-0505 FAX

SHEET TITLE
ENLARGED LANDSCAPE PLAN
NORTHWEST ENLARGEMENT

PROPOSED BUILDING FOR
PEWAUKEE SOUTH
INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD | HWY "J"
PEWAUKEE, WISCONSIN

JOB:	3224
DRAWN:	PCA/WDH
CHECKED:	DF
DATE:	9/03/20
SHEET:	L 1.3



SHADE TREES (DECIDUOUS)

ABM	Autumn Blaze Maple
GMSM	Green Mountain Sugar Maple
PPH	Prairie Pride Hackberry
SHL	Skyline Honeylocust
AGM	Autumn Gold Maidenhair
SWO	Swamp White Oak
BC	Bald Cypress
AE	Accolade Elm

ORNAMENTAL TREES (DECIDUOUS)

TCH	Thornless Cockspur Hawthorn
SSFC	Spring Snow Flowering Crabapple
JTL	Ivory Silk Japanese Tree Lilac

EVERGREEN TREES

CF	Concolor Fir
FVJ	Fairview Upright Juniper (upright)
NS	Norway Spruce
BHS	Black Hills Spruce

EVERGREEN SHRUBS

SGJ	Sea Green Juniper
KCPJ	Kallay Compact Pfitzer Juniper

DECIDUOUS SHRUBS

UH	Unique Hydrangea
GLS	Gro Low Fragrant Sumac
PPSR	Pink Pavement Series Rose
GMS	Goldmound Spirea
MV	Mohican Viburnum
WRW	Wine & Roses Compact Weigela

ORNAMENTAL GRASSES

KFRG	Karl Foerster Feather Reed Grass

HERBACEOUS PERENNIALS

HRD	Happy Returns Daylily
RRD	Rosy Returns Daylily

PLANT ABBREVIATIONS

Prior to installation of any landscape materials as outlined herein, Briohn Design Group & City of Pewaukee Staff shall review final placement after tree & brush removal and rough grading have been completed.

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN
DIGGERS HOTLINE
CALL DIGGERS HOTLINE
811 or 1-800-242-8511
MILW. AREA 259-1181
WIS STATUTE 182.0175(1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

HELLER & ASSOCIATES, LLC
LANDSCAPE ARCHITECTURE
P.O. Box 1359
Lake Geneva, Wisconsin 53147-1359
ph 262.639.9733
david@wdavidheller.com
www.wdavidheller.com

NORTH

ENLARGED LANDSCAPE PLAN

Scale: 1" = 20'0"

BRIOHN DESIGN GROUP
3885 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
ENLARGED LANDSCAPE PLAN
SOUTH ENLARGEMENT

PROPOSED BUILDING FOR
PEWAUKEE SOUTH
INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD | HWY "J"
PEWAUKEE, WISCONSIN

JOB:	3224
DRAWN:	PCA/WDH
CHECKED:	DF
DATE:	9/03/20
SHEET:	L 1.4

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

DIGGERS HOTLINE

CALL DIGGERS HOTLINE
811 or 1-800-242-8511
TWIN CITY AREA 651-454-0002
MS STATUTE 182.0175(1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

Prior to installation of any landscape materials as outlined herein, Briohn Design Group & City of Pewaukee Staff shall review final placement after tree & brush removal and rough grading have been completed.

1. Contractor responsible for contacting Diggers Hotline (811 or 800-242-8511) to have site marked prior to excavation or planting.

2. Contractor to verify all plant quantities shown on Plant & Material List and landscape planting symbols and report any discrepancies to Landscape Architect or General Contractor.

3. All plantings shall comply with standards as described in American Standard of Nursery Stock - Z60.1 ANSI (latest version). Landscape Architect reserves the right to inspect, and potentially reject any plants that are inferior, compromised, undersized, diseased, improperly transported, installed incorrectly or damaged. No sub-standard "B Grade" or "Park Grade" plant material shall be accepted. Plant material shall originate from nursery(ies) with a similar climate as the planting site.

4. Any potential plant substitutions must be approved by Landscape Architect or Owner. All plants must be installed as per sizes indicated on Plant & Material Schedule, unless approved by Landscape Architect. Any changes to sizes shown on plan must be submitted in writing to the Landscape Architect prior to installation.

5. Topsoil in Parking Lot Islands (if applicable): All parking lot islands to be backfilled with topsoil to a minimum depth of 18" to insure long-term plant health. Topsoil should be placed within 3" of finish grade by General Contractor / Excavation Contractor during rough grading operations/activity. The landscape contractor shall be responsible for the fine grading of all disturbed areas, planting bed areas, and lawn areas. Crown all parking lot islands a minimum of 6" to provide proper drainage, unless otherwise specified.

6. Tree Planting: Plant all trees slightly higher than finished grade at the root flare. Remove excess soil from the top of the root ball, if needed. Remove and discard non-biodegradable ball wrapping and support wire. Removed biodegradable burlap and wire cage (if present) from the top ⅓ of the rootball and carefully bend remaining wire down to the bottom of the hole. Once the tree has been placed into the hole and will no longer be moved, score the remaining ⅔ of the burlap and remove the twine. Provide three slow release fertilizer for each tree planted.

7. Tree Planting: Backfill tree planting holes 80% existing soils removed from excavation and 20% plant starter mix. Avoid air pockets and do not tamp soil down. Discard any gravel, rocks, heavy clay, or concrete pieces. When hole is ⅔ full, trees shall be watered thoroughly, and water left to soak in before proceeding to fill the remainder of the hole. Water again to full soak in the new planting. Each tree shall receive a 3" deep, 4-5' diameter (see planting details or planting plan) shredded hardwood bark mulch ring around all trees planted in lawn areas. Do not build up any mulch onto the trunk of any tree. Trees that are installed incorrectly will be replaced at the time and expense of the Landscape Contractor.

8. Shrub Planting: All shrubs to be planted in groupings as indicated on the Landscape Plan. Install with the planting of shrubs a 50/50 mix of plant starter with topsoil. Install topsoil into all plant beds as needed to achieve proper grade and displace undesirable soil (see planting detail). Remove all excessive gravel, clay and stones from plant beds prior to planting. When hole(s) are ⅔ full, shrubs shall be watered thoroughly, and water left to soak in before proceeding. Provide slow-release fertilizer packets at the rater of 1 per 24" height/diamter of shrub at planting.

9. Mulching: All tree and shrub planting beds to receive a 3" deep layer of high quality shredded hardwood bark mulch (not pigment dyed or enviro-mulch). All perennial planting areas (groupings) shall receive a 2" layer of shredded hardwood bark mulch, and groundcover areas a 1-2" layer of the same mulch. Do not mulch annual flower beds (if applicable). Do not allow mulch to contact plant stems and tree trunks.

10. Edging: All planting beds shall be edged with a 4" deep spade edge using a flat landscape spade or a mechanical edger. Bedlines are to be cut crisp, smooth as per plan. A clean definition between landscape beds and lawn is required. Pack mulch against lawn edge to hold in place.

11. Plant bed preparation/Soil Amendment composition: All perennial, groundcover and annual areas (if applicable) are required to receive a blend of organic soil (Soil Amendments) amendments prior to installation. Roto-till the following materials at the following ratio, into existing soil beds or installed topsoil beds to a depth of approximately 8"-10". Containerized and balled & burlapped plant material should be back-filled with amended soil:

Per 100 SF of bed area (Soil Amendment composition):
¾ CY Peat Moss or Mushroom Compost
¾ CY blended/pulverized Topsoil
¼ CY composted manure

In roto-tilled beds only, also include in above mixture:
2 lbs Starter Fertilizer

12. Lawn Installation for all sodded turfgrass areas: Contractor to furnish and prepare blended topsoil (2" minimum) and sod bed, removing all debris and stones ½" and larger. Apply a 10-10-10 starter lawn fertilizer uniformly throughout areas prior to laying sod. Use only premium sod blend according to TPI (revised 1995) and ASPA Standards. Install sod uniformly with staggered joints, laid tightly end to end and side to side. Roll sod with a walk behind roller and water immediately upon installation to a 3" depth. Stake any sod installed on slopes steeper than 1:3, and in all swale applications. Contractor is responsible to provide a smooth, uniform, healthy turf, and is responsible for the first two mowings of the newly installed turf, and is also responsible for watering during this period.

13. Installation preparation for all seeded areas: remove/kill off any existing unwanted vegetation prior to seeding. Prepare the topsoil (if adequate or provide as in item #6 above) and seed bed by removing all surface stones 1" or larger. Apply a starter fertilizer and specified seed uniformly at the specified rate, and provide mulch covering suitable to germinate and establish turf. Provide seed and fertilizer specifications to Landscape Architect and Owner prior to installation. Erosion control measures are to be used in swales and on slopes in excess of 1:3 and where applicable (see Civil Engineering Drawings). Methods of installation may vary are the discretion of the Landscape Contractor on his/her responsibility to establish and guarantee a smooth, uniform, quality turf. A minimum of 2" of blended, prepared and non-compacted topsoil is required for all lawn areas. If straw mulch is used as a mulch covering, a tackifier may be necessary to avoid wind dispersal of mulch covering. Marsh hay containing reed canary grass is NOT acceptable as a mulch covering.

An acceptable quality seed installation is defined as having:
No bare spots larger than one (1) square foot
No more than 10% of the total area with bare areas larger than one (1) square foot
A uniform coverage through all turf areas

14. No-Mow seed areas: "No-Mow" fine fescue seed mix with annual rye nurse crop (available at Cedar Creek Seed Farm 888-313-6807; or Prairie Nursery 608-296-3679) or approved equivalent mix from a reputable seed mix provider. Apply at 220 lbs per acre or at rate recommended by supplier. Prepare seed bed and soil as specified in item #13 above.

15. Native Prairie Seed Mix / Stormwater Seed Mix: Native seed mixes as listed on the Plant and Material List or other seeding schedules outlined on the landscape plan set. Seed mixes available from Prairie Nursery 608-296-3679 or JF New 608-848-1789 or approved equivalent mix from a reputable seed mix provider. Apply at rates specified herein, or per supplier recommendation. Prepare soil and seed bed as in item #13 above.

16. Warranty and Replacements: All plantings are to be watered thoroughly at the time of planting, through construction and upon completion of project as required. Trees, Evergreens, and Shrubs (deciduous and evergreen) shall be guaranteed (100% replacement) for a minimum of one (1) year from the date of project completion. Perennials, groundcovers, and ornamental grasses shall be guaranteed for a minimum of one (1) growing season. Perennials, groundcovers, and ornamental grasses planted after September 15th shall be guaranteed through May 31st of the following year. Only one replacement per plant will be required during the warranty period, except for losses or replacements due to failure to comply with specified requirements. Watering and general ongoing maintenance instructions are to be supplied by the Landscape Contractor to the Owner upon completion of the project.

17. The Landscape Contractor is responsible for the watering and maintenance of all landscape areas for a period of 45 days after the substantial completion of the landscape installation. This shall include all trees, shrubs, evergreens, perennials, ornamental grasses, turf grass, no-mow grass, and native prairie seed mix / stormwater seed mix. Work also includes weeding, edging, mulching (only if required), fertilizing, trimming, sweeping up grass clippings, pruning and deadheading.

18. Project Completion: Landscape Contractor is responsible to conduct a final review of the project, upon completion, with the Landscape Architect, Client or Owner / Client Representative, and the General Contractor to answer questions, provide written care instructions for new plantings and turf, and insure that all specifications have been met.

LANDSCAPE GENERAL NOTES

HELLER & ASSOCIATES, LLC
LANDSCAPE ARCHITECTURE
P.O. Box 1359
Lake Geneva, Wisconsin 53147-1359
ph 262.639.9733
david@wdavidheller.com
www.wdavidheller.com

Agrecol LLC
www.agrecol.com
10101 N. Casey Road
Evansville, Wisonsin 53536
Ph: 608-223-3571

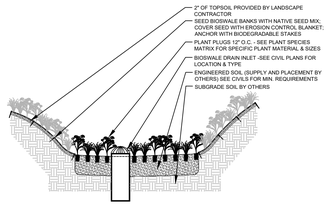
Rainwater Renewal Garden (Sunny Locations)
64 Plant Plugs per tray; Covers 75-125 SF
each planting plug to minimally measure: 2.5"x2.5"x3.5"

Botanical Name	Common Name	PLS Ounces/Acre
Agastache foeniculum	Lavendar Hyssop	4.00
Aster ericoides	Heath Aster	4.00
Blephilia hirsuta	Hairy Wood Mint	4.00
Carex comosa	Bristly Sedge	4.00
Carex hystericina	Porcupine Sedge	4.00
Carex vulpinoidea	Brown Fox Sedge	4.00
Echinacea purpurea	Purple Coneflower	4.00
Eupatorium perfoliatum	Boneset	4.00
Glyceria canadensis	Rattlesnake Grass	4.00
Iris virginica	Souther Blue Flag Iris	4.00
Liatris spicata	Marsh Blazing Star	4.00
Lobelia siphilitica	Great Blue Lobelia	4.00
Pycnanthemum virginianum	Mountain Mint	4.00
Solidago ohioensis	Ohio Goldenrod	4.00
Verbena hastata	Blue Vervain	4.00
Zizia aptera	Heart-Leaved Golden Alexanders	4.00
	Total	**64.00**

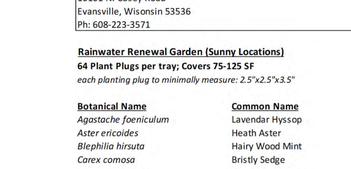
Approximate area of coverage:
Total acreage of Bio-Filtration/SMP safety shelf (SF): 32,235
Total acreage of Bio-Filtration /SMP safety shelf (acres): 0.74

Rainwater Renewal Garden (Sunny Locations)
2 trays of 32 plants per tray; (75-125 SF per kit coverage): 322
# of kits

NATIVE PLUGS



1 DETAIL BIOINFILTRATION BASIN: NATIVE SEED/PLUGS
N.T.S. SECTION



2 DETAIL STONE MAINTENANCE DRIP EDGE DETAIL
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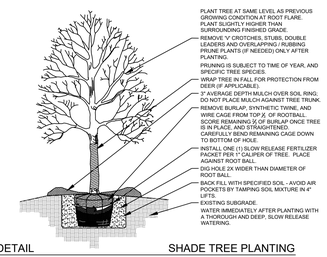

3 DETAIL SHADE TREE PLANTING
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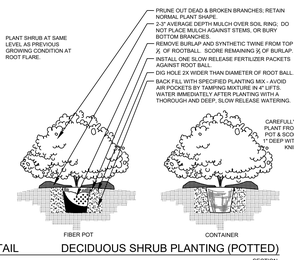

4 DETAIL DECIDUOUS SHRUB PLANTING (POTTED)
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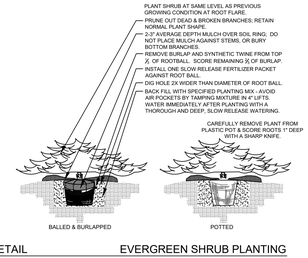

5 DETAIL EVERGREEN SHRUB PLANTING
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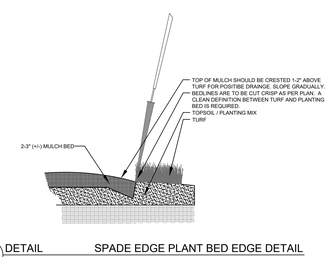

6 DETAIL SPADE EDGE PLANT BED EDGE DETAIL
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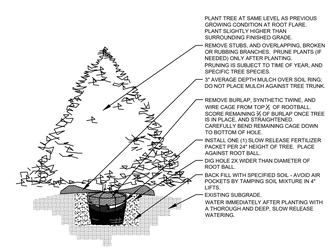
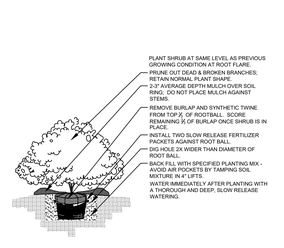
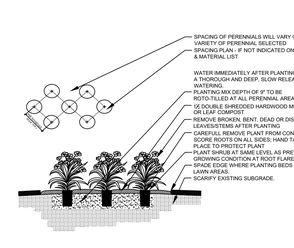


7 DETAIL EVERGREEN TREE PLANTING
N.T.S. SECTION



8 DETAIL DECIDUOUS SHRUB PLANTING (B&B)
N.T.S. SECTION



9 DETAIL GROUNDCOVER / PERENNIAL PLANTING
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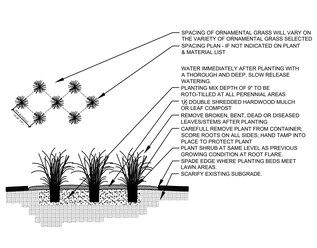


10 DETAIL ORNAMENTAL GRASS PLANTING
N.T.S. SECTION

PLANT & MATERIAL SCHEDULE

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	CALIPER or HEIGHT	ROOT	SPECIFICATION / NOTES	PLANT SPACING
Proposed Landscape Materials							
SHADE TREES (DECIDUOUS)							
ABM	8	Acer xfreemanii 'Autumn Blaze'	Autumn Blaze Maple	2.5"	B&B	Straight central leader, full and even crown. Prune only after planting	
GMSM	3	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	2.5"	B&B	Straight central leader, full and even crown. Prune only after planting	
PPH	6	Celtis occidentalis 'Prairie Pride'	Prairie Pride Hackberry	2.5"	B&B	Straight central leader, full and even crown. Prune only after planting	
SHL	6	Gleditsia triacanthos 'Skyline'	Skyline Honeylocust	2.5"	B&B	Straight central leader, full and even crown. Prune only after planting	
AGM	4	Ginkgo biloba 'Autumn Gold'	Autumn Gold Maidenhair	2.5"	B&B	Straight central leader, full and even crown. Prune only after planting	
SWO	6	Quercus bicolor	Swamp White Oak	2.5"	B&B	Straight central leader, full and even crown. Prune only after planting	
BC	6	Taxodium distichum	Bald Cypress	2.5"	B&B	Straight central leader, full and even crown. Prune only after planting	
AE	2	Ulumus 'Morton' Accolade	Accolade Elm	2.5"	B&B	Straight central leader, full and even crown. Prune only after planting	

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	CALIPER or HEIGHT	ROOT	SPECIFICATION / NOTES	PLANT SPACING
ORNAMENTAL TREES (DECIDUOUS)							
TCH	11	Crataegus crus-gali 'Inermis'	Thornless Cockspur Hawthorn	7-8' H	B&B	Well balanced multi-stemmed tree with minimum four canes, and full appearance	
SSFC	5	Malus x 'Spring Snow'	Spring Snow Flowering Crabapple	7-8' H	B&B	Well balanced multi-stemmed tree with minimum four canes, and full appearance	
JTL	9	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	7-8' H	B&B	Well balanced multi-stemmed tree with minimum four canes, and full appearance	

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	HEIGHT SIZE	ROOT	SPECIFICATION / NOTES	PLANT SPACING
EVERGREEN TREES							
CF	30	Abies concolor	Concolor Fir	7-8' H	B&B	Evenly shaped tree with branching to the ground	15'
FVJ	16	Juniperus chinensis 'Fairview'	Fairview Upright Juniper (upright)	6' H	B&B	Evenly shaped tree with branching to the ground	42"
NS	59	Picea abies	Norway Spruce	8' H	B&B	Evenly shaped tree with branching to the ground	17'
BHS	55	Picea glauca 'densata'	Black Hills Spruce	8' H	B&B	Evenly shaped tree with branching to the ground	15'

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	SHRUB SIZE (HEIGHT)	ROOT/ CONT.	SPECIFICATION / NOTES	PLANT SPACING
EVERGREEN SHRUBS							
SGJ	29	Juniperus chinensis 'Sea Green'	Sea Green Juniper	24"w	Cont.	Full rounded well branched shrub	54"
KCPJ	27	Juniperus chinensis 'Kallay'	Kallay Compact Pfitzer Juniper	24"w	Cont.	Full rounded well branched shrub	48"

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	SHRUB SIZE (HEIGHT)	ROOT/ CONT.	SPECIFICATION / NOTES	PLANT SPACING
DECIDUOUS SHRUBS							
UH	14	Hydrangea paniculata 'Unique'	Unique Hydrangea	48"	Cont.	Full, well rooted plant, evenly shaped	60"
GLS	28	Rhus aromatica 'Gro-Low'	Gro Low Fragrant Sumac	18-24"	Cont.	Full, well rooted plant, evenly shaped	42"
PPSR	10	Rosa rugosa 'Pink Pavement'	Pink Pavement Series Rose	18"	Cont.	Full, well rooted plant, evenly shaped	42"
GMS	17	Spirea xbumalda 'Goldmound'	Goldmound Spirea	24"	Cont.	Full, well rooted plant, evenly shaped	36"
MV	22	Viburnum lantana 'Mohican'	Mohican Viburnum	48"	B&B	Full, well rounded plant with moist rootball and healthy appearance	60"
WRW	40	Weigela florida 'Wine & Roses'	Wine & Roses Compact Weigela	24"	Cont.	Full, well rooted plant, evenly shaped	42"

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	CONTAINER SIZE		SPECIFICATION / NOTES	PLANT SPACING
ORNAMENTAL GRASSES							
KFRG	128	Calamagrostis acutiflora 'Karl Foerster'	Karl Foerster Feather Reed Grass	#1	Cont.	Full, well rooted plant	15-18"

PLANT KEY	QUANTITY	PLANT MATERIAL PROPOSED BOTANICAL NAME	COMMON NAME	CONTAINER SIZE		SPECIFICATION / NOTES	PLANT SPACING
HERBACEOUS PERENNIALS							
HRD	60	Hemerocallis 'Happy Returns'	Happy Returns Daylily	#1	Cont.	Full, well rooted plant, evenly shaped	18"
RRD	50	Hemerocallis 'Rosy Returns'	Rosy Returns Daylily	#1	Cont.	Full, well rooted plant, evenly shaped	18"

PLAN KEY	QUANTITY	PLANT MATERIAL PROPOSED SPECIFIED SEED MIX / SOD		CONTAINER SIZE		SPECIFICATION / NOTES	PLANT SPACING
LAWN	97930	Lawn Establishment Area / Grading Area			SF	Reinder's Deluxe 50 Seed Mix (800-785-3301)	
IBSM	71410	Infiltration Basin Seed Mix	*see plan for area delineation*		SF	Cardno Native Plant Nursery (574-586-2412)	
PRAIRIE	132675	Economy Prairie Seed Mix	*see plan for area delineation*		SF	Cardno Native Plant Nursery (574-586-2412)	
PLUGS	53730	Native Plugs	*see plan for area delineation*		SF	Cardno Native Plant Nursery (574-586-2412)	
	355745	Erosion Matting for sloped seeded areas	*see plan for area delineation*		SF	EroTex D575 Erosion Control Blanket (or approved equal)	
Hardscape Materials							
	31	Heritage River Gravel Mulch (1.0-1.5" pieces)	*Area: 2,225 SF*		TN	*2" depth*	
	1400	Aluminum Edge Restraint (gravel areas)	Permaloc ProSlide 3/16"x5.5" Black Duraflex Finish		LF		
	2225	Landscape Fabric	*SF*		SF		
	118	Shredded Hardwood Mulch (3" depth)	*Area: 12,690 SF*		CY	Bark Mulch; apply Preemergent after installation of mulch	
	78	Soil Amendments (2" depth)	*Area: 12,690 SF*		CY		
	920	Pulverized Topsoil (Lawn Area)	*Area: 298,140 SF*		CY		
	78	Pulverized Topsoil (2" over bed areas)	*Area: 12,690 SF*		CY		

*Landscape counts & quantities are provided as a service to the Landscape Contractor; Landscape Contractor is responsible for verifying these counts and quantities in order to provide a complete landscape installation as outlined on this Landscape Master Plan. In the event that a discrepancy occurs between this schedule and the Landscape Master Plan, the Landscape Master Plan- including the graphics and notations depicted therein- shall govern.

Seed Compositions:
Reinder's Deluxe 50 Seed Mix (800-785-3301): Seed at rate of 150-200# per acre
20% Kentucky Bluegrass (Sod Quality)
15% Newport Kentucky Bluegrass
15% Ken Blue Kentucky Bluegrass
25% Creeping Red Fescue
15% Quebec Perennial Ryegrass
10% Fiesta III Perennial Ryegrass

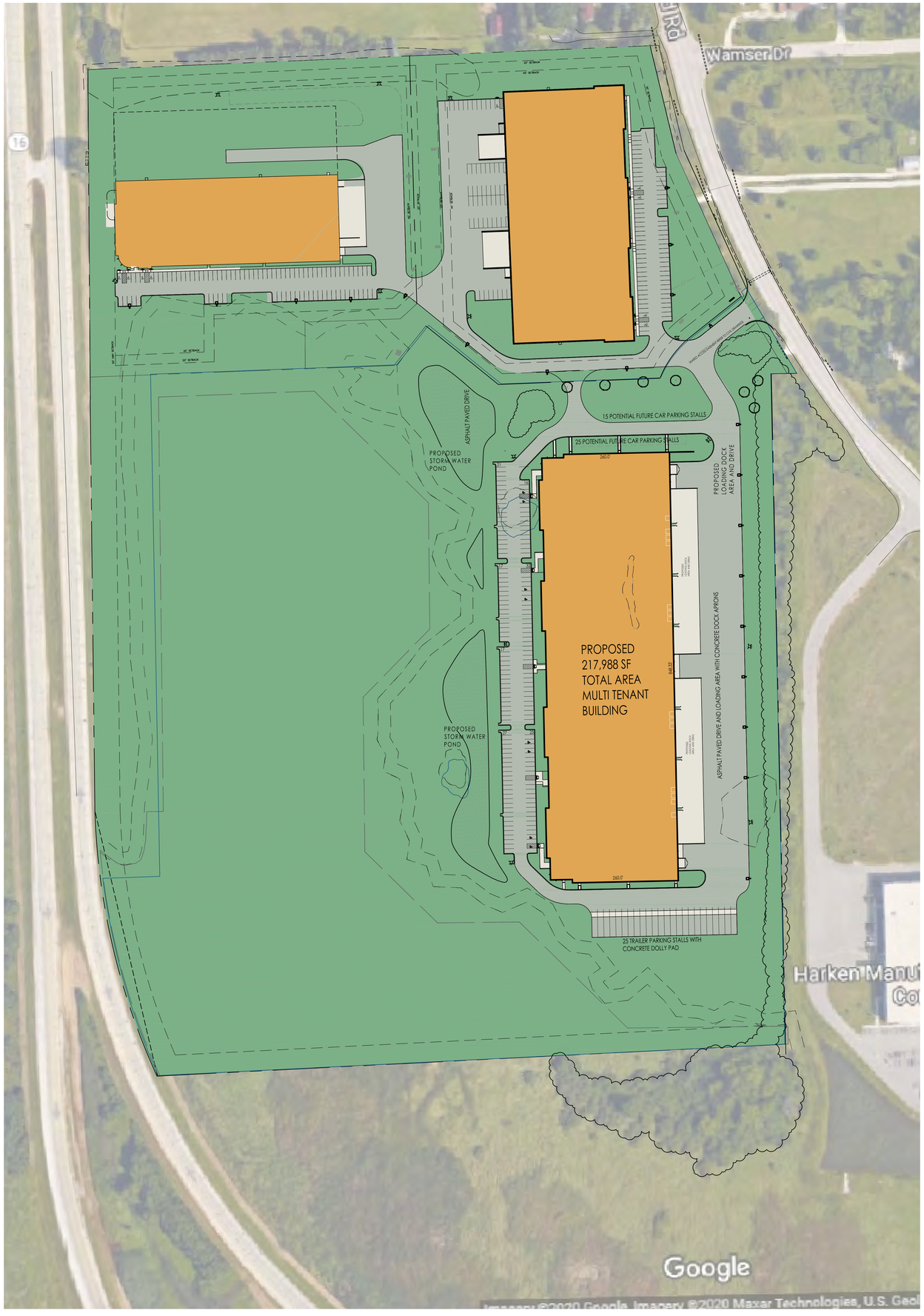
PLANTING & HARDSCAPE DETAILS

BRIOHN DESIGN GROUP
3885 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
LANDSCAPE DETAILS, NOTES & SCHEDULES

PROPOSED BUILDING FOR
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD | HWY " J"
PEWAUKEE, WISCONSIN

JOB:	3224
DRAWN:	PCA/WDH
CHECKED:	DF
DATE:	9/03/20
SHEET:	L 1.5



N

1 COLORED SITE PLAN
Scale: 1" = 80'-0"

GENERAL SITE NOTES:

1. VERIFY ALL FIELD CONDITIONS AND DISCOVERIES. BRING ANY DISCREPANCIES TO BRIOHNS ATTENTION PRIOR TO FABRICATION / CONSTRUCTION BEGINS.
2. REFER TO CIVIL ENGINEERING DRAWINGS FOR MORE DETAILED SITE DESIGN INFORMATION, SPECIFICATIONS AND SITE RELATED DIMENSIONS.
3. REFER TO LANDSCAPE AND EXTERIOR LIGHTING DRAWINGS FOR MORE DETAILED SITE DESIGN INFORMATION, PLANT AND LIGHTING SPECIFICATIONS AND OTHER RELATED DETAILS.
4. DURING CONSTRUCTION, SITE AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

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BROOKFIELD WISCONSIN 53045-1950
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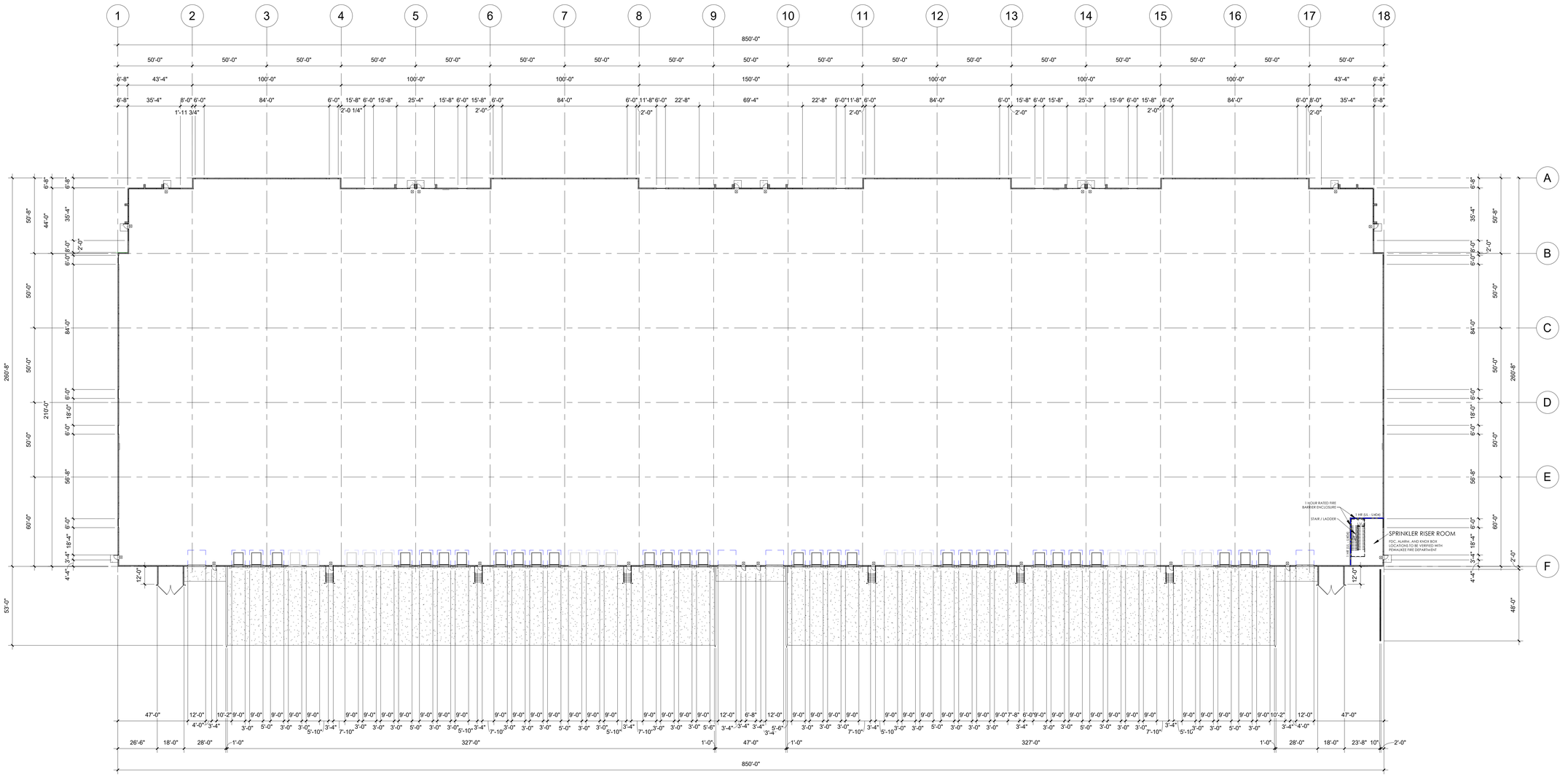
SHEET TITLE
COLORED SITE PLAN

PROPOSED NEW MULTI-TENANT BUILDING:
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD HWY J
PEWAUKEE, WISCONSIN

JOB:	3234
DRAWN:	DF
CHECKED:	DF
DATE:	09-03-2020
SHEET:	A0.1



1 OVERALL FIRST FLOOR PLAN
1" = 30'-0"

APPLICABLE TO ALL PLAN VIEWS

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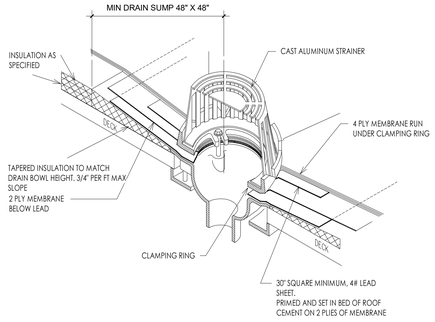
SHEET TITLE
OVERALL FIRST FLOOR PLAN

PROPOSED NEW MULTI-TENANT BUILDING:
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD HWY "J"
PEWAUKEE, WISCONSIN

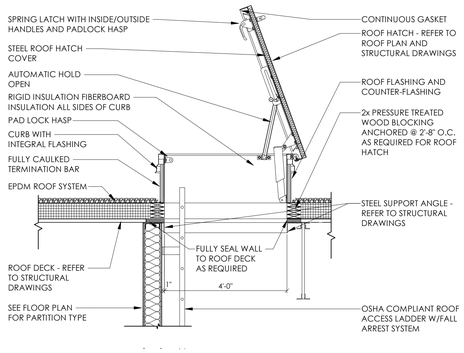
Revision

Date

JOB: 3234
DRAWN: CK
CHECKED: DF
DATE: SEPTEMBER 3, 2020
SHEET:
A1.0



2 ROOF DRAIN DETAIL
1/2" = 1'-0"



3 ROOF HATCH DETAIL
1/2" = 1'-0"

KEYNOTE LEGEND ROOF PLAN

MARK	ROOF PLAN CODED NOTES

GENERAL ROOF NOTES:

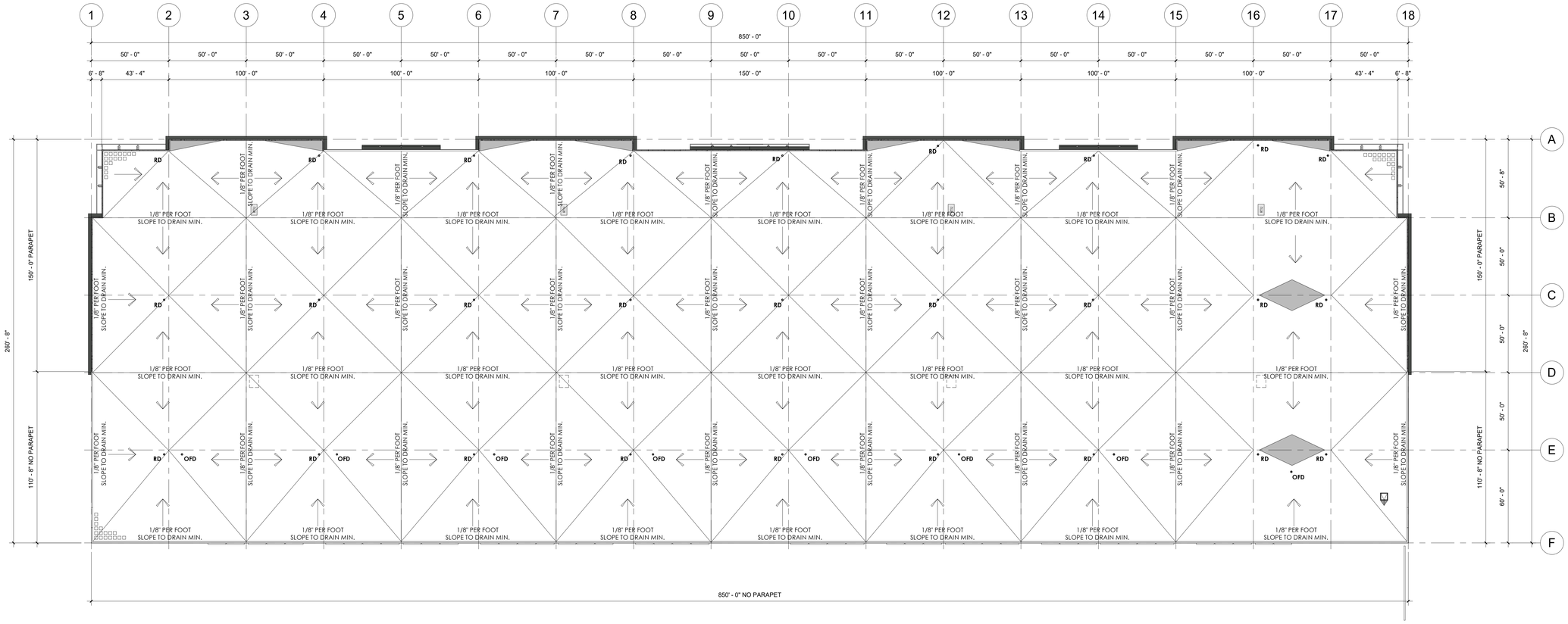
1. REFER TO STRUCTURAL DRAWINGS FOR ROOF SCREENS AND ROOF TOP UNIT LOCATIONS.
2. ROOF MEMBRANE SYSTEM - ROOF MEMBRANE SYSTEM SHALL BE DESIGNED TO MEET ALL APPLICABLE BUILDING CODES AND CONDITIONS.
3. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL ROOF SPECIFICATIONS.
4. ROOF CONTRACTOR SHALL PROVIDE NECESSARY TAPERED INSULATION AND CRICKETS AS REQUIRED TO PROVIDE POSITIVE ROOF DRAINAGE TO DRAINS.
5. VERIFY TRAFFIC AND WALKWAY PAD LOCATIONS WITH MECHANICAL CONTRACTOR.
6. PROVIDE EPDM SKIRT AT ALL RTU'S. ROOFING CONTRACTOR TO VERIFY RTU (ROOF TOP UNIT) LOCATION TO DEFINE CONSTRUCTION OF TAPERED INSULATION AT DRAIN VALLEY.
7. PIPE AND VENT PENETRATIONS THRU ROOF SHALL BE DETAILED TO MEET MINIMUM ROOF SYSTEM SPECIFICATIONS.
8. PROVIDE EPDM SLIP SHEET UNDER PAVERS, PLACED ON EPDM MEMBRANE.
9. ROOFING CONTRACTOR SHALL INSTALL ROOF SYSTEM AS PER MANUFACTURER'S SPECIFICATIONS.
10. ROOF INSULATION SHALL BE "DIRECT TO DECK" EPS ROOFING CONTRACTOR TO PROVIDE DOCUMENTATION.
11. ROOF DRAINS TO HAVE SUMP PANS WITH TAPERED INSULATION TO ALLOW DRAINAGE. PLUMBING CONTRACTOR TO PROVIDE DRAINS. OVERFLOW DRAINS TO BE OUTSIDE OF DRAIN SUMP AND PIPED SEPARATELY.

ROOFING SYSTEM NOTES:

ROOF SYSTEM #1:
BALLASTED SINGLE PLY EPDM 60 MIL ON MIN. 5" EPS TYPE II (1.35 LB/CUFT) DIRECT TO DECK ON CONTINUOUS INSULATION (TWO LAYERS STAGGERED) MIN. R-24.
ROOF SYSTEM #2:
DIRECTLY ADHERED SINGLE PLY EPDM (60 MIL.) ON TAPERED INSULATION (SEE ROOF PLAN)

PROVIDE ROOF PAVERS AT ROOF HATCH AND AT ALL ROOF TOP UNITS. REFER TO HVAC PLANS FOR EXACT LOCATION.

ROOF TOP EQUIPMENT TO BE POSITIONED BEHIND RAISED PARAPETS AS INDICATED BY HATCH PATTERN. PROVIDE SUPPLEMENTAL SCREENING FOR ROOF TOP UNITS THAT ARE NOT SCREENED BY PARAPETS.



1 ROOF PLAN
1" = 30'-0"

APPLICABLE TO ALL PLAN VIEWS

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SHEET TITLE
ROOF PLAN

PROPOSED NEW MULTI-TENANT BUILDING:
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD HWY "J"
PEWAUKEE, WISCONSIN

Revision

Date

JOB: 3234
DRAWN: CK
CHECKED: DF / KJ
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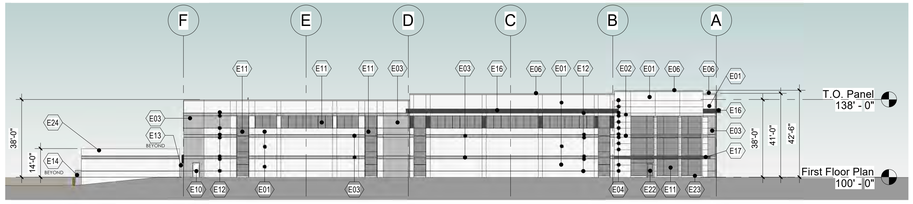
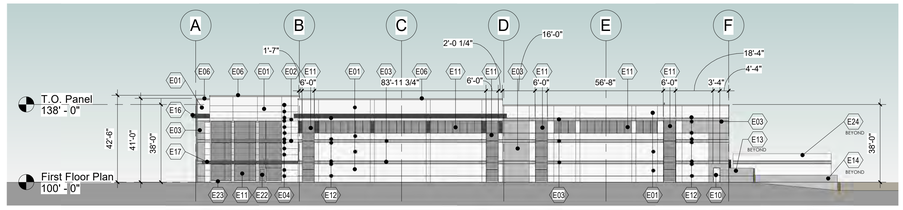
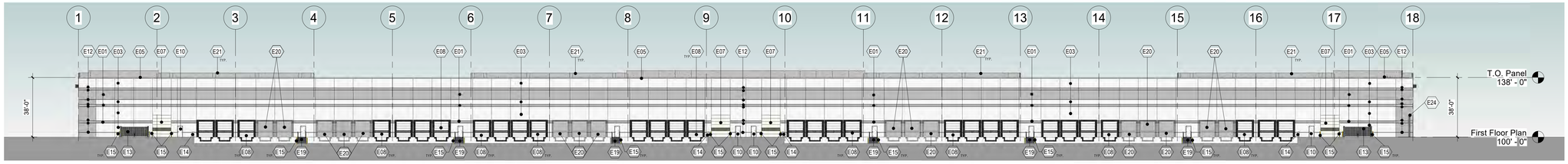
SHEET:
A4.1



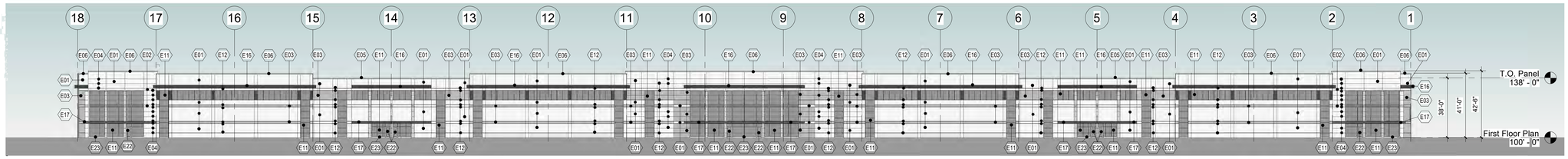
1 NORTH ELEVATION
1" = 30'-0"



2 SOUTH ELEVATION
1" = 30'-0"



3 EAST ELEVATION
1" = 30'-0"



4 WEST ELEVATION
1" = 30'-0"

KEYNOTE LEGEND ELEVATION

MARK	ELEVATION CODED NOTES
E01	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH - COLOR 'A'
E02	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH - COLOR 'B'
E03	EXTERIOR PRE CAST CONCRETE WALL PANEL SHALL BE INSULATED WITH PAINTED FINISH - COLOR 'C'
E04	1 1/2" REVEALS AS INDICATED ON ELEVATIONS.
E05	PRE FINISHED METAL 24 GA. GRAVEL STOP COLOR SHALL BE "CLEAR ANODIZED FINISH".
E06	PRE FINISHED METAL 24 GA. COPING COLOR SHALL BE "CLEAR ANODIZED FINISH".
E07	12x14 INSULATED OH DOOR, FACTORY FINISHED WHITE WITH VISION WINDOWS.
E08	9x10 INSULATED OH DOOR FACTORY FINISHED WHITE WITH VISION WINDOWS, DOCK SEALS, DOCK LEVELERS AND BUMPERS.
E10	PAINTED HOLLOW METAL SERVICE DOOR AND FRAME WITH EMERGENCY EGRESS CODE REQUIRED LIGHTING (COLOR WHITE TO MATCH ADJACENT PRE CAST COLOR).
E11	PRE FINISHED CLEAR ANODIZED ALUMINUM FRAMED (THERMALLY BROKEN) AND 1" INSULATED LOW-E GREY TINTED WINDOW UNITS.
E12	1/2" DEEP REVEALS AS INDICATED ON ELEVATIONS.
E13	TRASH ENCLOSURE GATES. SET BASE OF GATE HEIGHT BASED ON ACTUAL FIELD CONDITIONS.
E14	FREE STANDING POURED IN PLACE AND REINFORCED 12" CONCRETE WALLS EXTENDS TO 3'-6" OFF THE FINISH FLOOR FLANKING LOADING DOCK AREA WHERE SHOWN ON FLOOR PLAN.
E15	6" DIA. X 48" ABOVE GRADE CONCRETE FILLED BOLLARD - PAINTED SAFETY YELLOW.
E16	PREFINISHED METAL 'EYEBROW'. SEE DETAIL 5/A8.2
E17	PAINTED STEEL TUBE SUNSHADE - SEE STRUCTURAL & REFERENCED ARCHITECTURAL SECTIONS.
E19	PAINTED GALVANIZED STEEL GRATE STYLE EXTERIOR STAIR WAY WITH 42" HIGH GUARDRAIL AND 36" HIGH HANDRAILS WITH INTERMEDIATE RAIL PER ADA
E20	FADED OUTLINE TO INDICATE PRECASTER TO PREPARE PANEL FOR FUTURE 9X10 OH DOOR OPENING, TYPICAL.
E21	PARAPET - BEYOND.
E22	PRE FINISHED CLEAR ANODIZED ALUMINUM FRAMED (THERMALLY BROKEN) AND 1" INSULATED LOW-E GREY TINTED ENTRY UNITS.
E23	PAINTED PRECAST CONCRETE SILLS CURB WALL - REFER TO REFERENCED WALL SECTION AND DETAIL.
E24	PAINTED PRECAST WING WALL 10" X 48'-0" X 14'-0" TALL.

NOTES:

TRANSFORMER LOCATION IS NOT DONE AT THIS TIME, BUT ADDITIONAL LANDSCAPING SHALL BE INSTALLED TO SCREEN WHEN LOCATION IS DETERMINED.

NOTES:

NO GROUND MOUNTED MECHANICALS ARE PLANNED FOR.
RTU TO SERVE OFFICE AREA.

MECHANCIALS SHALL BE SCREENED BY EXTENDED PRECAST PARAPETS.

EXTERIOR SYSTEMS

ROOF ASSEMBLY: BALLASTED ROOF MEMBRANE ON 5.75" DIRECT TO DECK APPROVED EPS INSULATION (R25 - TWO LAYERS, STAGGERED) ON METAL DECK (SEE STRUCTURAL DRAWINGS)

INSULATED PRECAST WALL PANEL SYSTEM: 10" INSULATED PRECAST CONCRETE WALL PANEL (R-14)

E.I.F.S EXTERIOR WALL SYSTEM: 3" EXTERIOR INSULATION FINISHING SYSTEM WITH CONTINUOUS AIR AND MOISTURE BARRIER AND DRAINAGE SCREEN ON APPROVED 5/8" GLASS MAT GYPSUM SHEATHING ON 6" CF METAL STUD FRAMING, FILL CAVITY WITH 6" FIBERGLASS BATT INSULATION, VAPOR BARRIER ON WARM SIDE OF STUD AND 5/8" GYPSUM BOARD FINISH

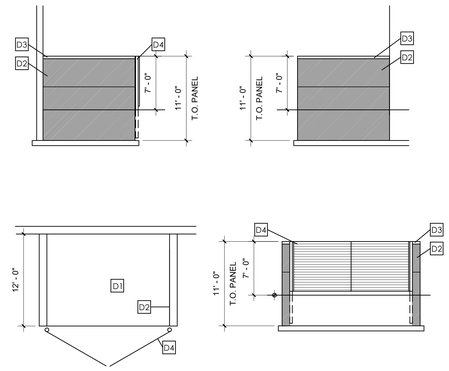
DUMPSTER ENCLOSURE CODED NOTES:

D1 6" THICK CONCRETE REINFORCED FLOOR SLAB ON COMPACTED GRAVEL BASE.

D2 PRECAST WALL PANELS DOWN TO FOOTING, FINISH AND COLOR TO MATCH BUILDING

D3 PREFINISHED METAL COPING. (24 GA.) COLOR: TO MATCH WALL COLOR

D4 HORIZONTAL COMPOSITE SLATS ON GALVANIZED STEEL GATE FRAME. SLAT COLOR: GREY TO MATCH WALL COLOR. PROVIDE GALVANIZED SUPPORT POSTS.



5 TRASH ENCLOSURE
1/8" = 1'-0"

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SHEET TITLE
EXTERIOR ELEVATIONS

PROPOSED NEW MULTI-TENANT BUILDING:
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD HWY "J"
PEWAUKEE, WISCONSIN

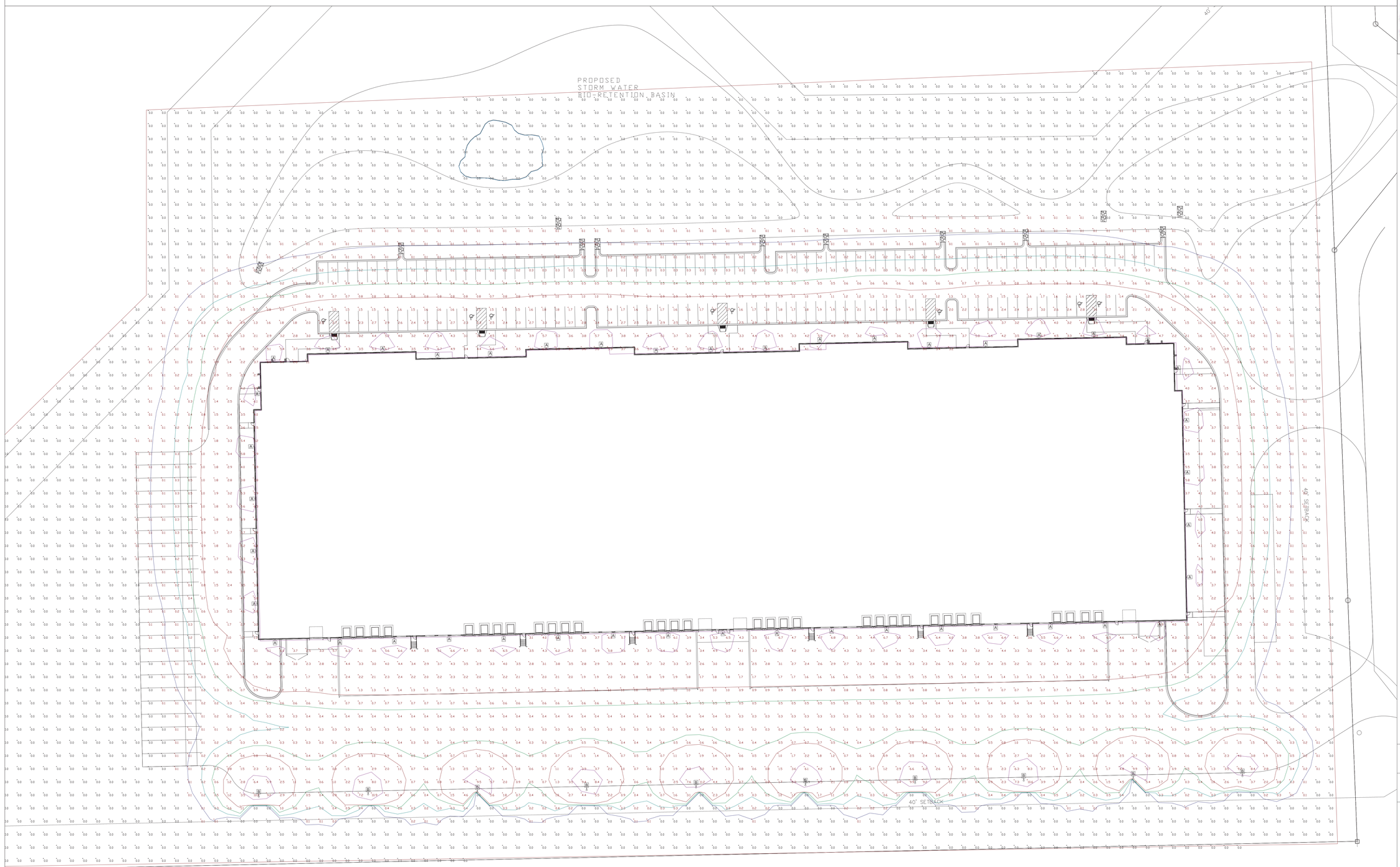
Revision

Date

JOB: 3234
DRAWN: CK
CHECKED: DF
DATE: SEPTEMBER 3, 2020
SHEET:
A5.1

Schedule							
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lumens per Lamp	Wattage
	A	44	SLG-Spring Lighting Group	ALS 130 T4 G1 5K	Wall pack mounted @ 24'	12885	104.9
	B	10	SLG-Spring Lighting Group	ALS 130 T4 G1 5K	15' pole mounted on a 2' base with a back light shield	12885	104.9

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	0.8 fc	11.9 fc	0.0 fc	N/A	N/A



HFR electric
ELECTRICAL CONTRACTOR
RESIDENTIAL·COMMERCIAL·INDUSTRIAL
262-644-6940

PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD HWY J
PEWAUKEE WI

Exterior Photometric Lighting Plan

DATE: 9-3-2020

E-1.0

Fixture Type A

PROJECT:
CATALOG #:
FIXTURE TYPE:
NOTES:

AL Area Light Generation 1 & 2

ALS Large

ALM Medium

ALS Small

Images are shown for illustrative purpose only.

The *AL Series Area Light Gen 1 and Gen 2* comes in three sizes small, medium, and large with a lumen output between 9,000 to 39,300 lumens. This versatile luminaire has different mounting options, photocell, and motion sensors for efficiency and greater energy savings.

APPLICATIONS
Auto Dealerships, Parking Lots, Walkways, Roadways, and other Public Areas, etc.

REPLACEMENT
ALS: 175W- 250W MH, **ALM:** 400W MH,
ALL: 750W-1000W MH

PERFORMANCE INFORMATION

SERIES NUMBER	WATT	LUMENS	DIST	CCT
ALS 90 T3 G1 5K	70W	9,000	Type III	5000K
ALS 130 T3 G1 5K	105W	13,400	Type III	5000K
ALM 195 T3 G2 5K	150W	19,700	Type III	5000K
ALM 195 T3 G2 HVU 5K	150W	19,700	Type III	5000K
ALM 260 T3 G2 5K	200W	26,200	Type III	5000K
ALM 260 T3 G2 HVU 5K	200W	26,380	Type III	5000K
ALL 330 T3 G2 5K	250W	33,250	Type III	5000K
ALL 330 T3 G2 HVU 5K	250W	33,000	Type III	5000K
ALL 390 T3 G2 5K	300W	39,300	Type III	5000K
ALL 390 T3 G2 HVU 5K	300W	39,300	Type III	5000K

MOUNTING & OPTIONS

AL-SPAR AL-WM AL-SFD AL-T ALG2-Y PC-1 PC-2 MS-FSP-212 L3/L7

ORDERING GUIDE

EXAMPLE: ALM 140 T3 G1 5K

Luminaire Type	Lumen Output	Dist. Type	Generation	Voltage	CCT	Finish	Mount	Options
ALS= Area Light Small	90 9,000 Lumens 130 13,400 Lumens	T3= Type III T4= Type IV	G1	BLANK= 120-277V	4K 4000K 5K 5000K	BLANK= Dark Bronze C= Custom*	AL-SPAR= Square and Round Pole Mount AL-WM= Wall Mount AL-SFD= Slipfitter Mount AL-T= Trunnion Mount ALG2-Y= Yoke Mount (ALL only)	PC-1=Twist-lock Photocell (120-277V) PC-2=Twist-lock Photocell (347-480V) PC-3=7-Pin receptacle MS-FSP-212=Motion Sensor (Choose 1) L3=40° diameter lens L7=100° diameter lens AL-BC-ML=House side shield for ALM-AL G2 Series only. ALL requires 2 shields
ALM= Area Light Medium	195 19,700 Lumens 260 26,200 Lumens	T5= Type V	G2	HVU= 347-480V				
ALL= Area Light Large	330 33,250 Lumens 390 39,300 Lumens							

*For a custom color, please call to place your order

SPECIFICATIONS

HOUSING
One piece die-cast aluminum housing with anti-corrosive paint.

AMBIENT TEMPERATURE
Suitable for use in -40°C to +45°C (-40°F to 113°F)

MOUNTING
Mounting options include Square and Round Pole Mount, Wall Mount, Adjustable Slipfitter Mount and option for photocell, Trunnion Mount for ALS and ALM, and Yoke Mount for ALL

EFFICACY
Up to 133 lumen's per watt (see individual wattage data)

CCT AND CRI
4000K and 5000K CCT available; 70CRI

OPTICS
Precision molded secondary optics produce superior uniformity, minimal light trespass and maximum pole spacing. Optics sealed to LED package for IP66 protection.

WARRANTY
10-year limited warranty. Comprehensive warranty terms can be located on www.slgus.com.

ELECTRICAL
Standard 120-277V. Optional HVU 347V/480V. 50/60Hz with open/short circuit protection. 10K Surge protector per ANSI/IEEE C62.41.2. Dimming 0-10V optional. Optional NEMA twist-lock photocell control.

ENERGY DATA
Constant current driver efficiency above 90%.

FINISH
Polyester Powder Dark Bronze Finish. Custom colors available. Multiple stage process to produce 3 mil thickness for superior corrosion resistance and maximum durability.

CERTIFICATIONS
UL Listed for wet locations; Equivalent to IP66 rating. FCC compliant. RoHs compliant. IDA dark-sky compliance. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.slgus.com/DLC to confirm which versions are qualified.

MOUNTING

AL-SPAR AL-WM AL-SFD AL-T ALG2-Y AL-BC-ML

OPTIONS

MS-FSP-212
Dimmable Motion Sensor

MS-FSP-L3/L7
Lens

The *MS-FSP-212* provides multi-level control base on motion and daylight level. Requires L3 or L7 lens depending the mounting height.

Operation Voltage	Shape	Adjustable Time Delay	Fade Down Time	Operating Temperature	Mounting Height For MS-FSP-L3	Mounting Height For MS-FSP-L7
120/277V	Cone	30 sec - 30 min	0-10 sec	-40°F to 158°F	20 ft*	40 ft**

*Covers a 40 ft diameter when mounting height is 20 ft. Coverage is equal to 2x the height.
**Covers a 100 ft diameter when mounting height is 40 ft. Coverage is equal to 2.5x the height

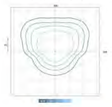
PHOTOMETRIC

Type III
Type III optics produce an asymmetrical pattern that directs the majority of the light forward and equally on both sides of the luminaire. In a back-to-back configuration, it creates a rectangular pattern which can extend pole spacings.

Type IV
Type IV is suitable for applications where light is primarily required forward with minimal back light. Typical installations include perimeter poles.

Type V
Type V optics produce a symmetrical square distribution pattern that distributes light equally on all sides of the luminaire. Type V luminaires is universal for most area lighting applications.

ALM 195 T3 G2 4K



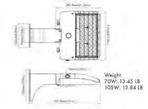
ALM 195 T4 G2 4K

ALM 195 T5 G2 4K

Mounting Height	15	20	25	30	35
Multiplier	2.8	1.6	1.0	0.7	0.5

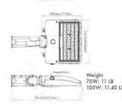
DIMENSIONS

SMALL
70W & 105W
Wall Mount



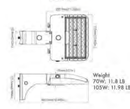
Weight
70W: 13.45 LB
105W: 13.84 LB

SMALL
70W & 105W
Slipfitter Mount



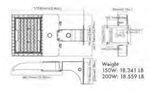
Weight
70W: 11 LB
105W: 11.40 LB

LARGE
70W & 105W
Pole Mount



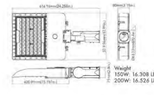
Weight
70W: 11.8 LB
105W: 11.98 LB

MEDIUM
150W & 200W
Wall Mount



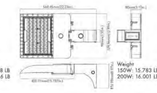
Weight
150W: 18.341 LB
200W: 18.559 LB

MEDIUM
150W & 200W
Slipfitter Mount



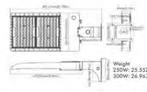
Weight
150W: 16.308 LB
200W: 16.526 LB

MEDIUM
150W & 200W
Pole Mount



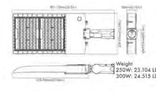
Weight
150W: 15.783 LB
200W: 16.001 LB

LARGE
250W & 300W
Wall Mount



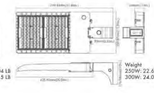
Weight
250W: 25.552 LB
300W: 26.962 LB

LARGE
250W & 300W
Slipfitter Mount



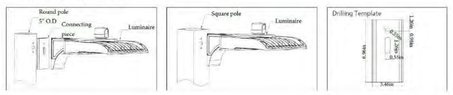
Weight
250W: 23.704 LB
300W: 24.313 LB

LARGE
250W & 300W
Pole Mount

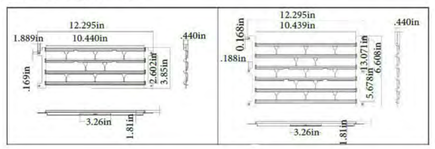


Weight
250W: 22.686 LB
300W: 24.097 LB

MOUNTING DIMENSIONS



BACKLIGHT CONTROL OPTIONS



EPA OF AREA LIGHT

S	ALS 90 ALS 130	70W 105W	0.626	0.705	0.971	0.981	0.982	0.975	0.982
M	ALM 195 ALM 260	150W 200W	0.4418	0.7145	0.8813	0.8836	1.0548	1.0135	1.0548
L	ALL 330 ALL 390	250W 300W	0.5614	0.8471	1.105	1.1228	1.294	1.2503	1.294

PERFORMANCE INFORMATION

		5000K CCT				4000K CCT			
Series Number	Wattage	Lumen	Dist Type	B	U	G	Lumen	B	U	G
ALS 90 T3 G1 5K	70W	9,000 Lm	Type III	2	0	2	9,000 Lm	2	0	2
		8,670 Lm	Type IV	2	0	2	8,750 Lm	2	0	2
		9,479 Lm	Type V	3	0	1	9,777 Lm	3	0	1
ALS 130 T3 G1 5K	105W	13,400 Lm	Type III	3	0	2	13,400 Lm	3	0	2
		13,676 Lm	Type IV	3	0	3	13,999 Lm	3	0	3
		12,787 Lm	Type V	3	0	1	12,885 Lm	3	0	1
ALM 195 T3 G2 5K	150W	19,700 Lm	Type III	3	0	2	19,497 Lm	3	0	2
		18,800 Lm	Type IV	3	0	3	18,800 Lm	3	0	3
		21,150 Lm	Type V	4	0	2	21,385 Lm	4	0	2
ALM 260 T3 G2 5K	200W	26,200 Lm	Type III	3	0	2	26,096 Lm	3	0	2
		25,000 Lm	Type IV	3	0	3	25,000 Lm	3	0	3
		27,200 Lm	Type V	4	0	2	27,086 Lm	4	0	2
ALL 330 T3 G2 5K	250W	33,250 Lm	Type III	4	0	3	32,883 Lm	4	0	3
		30,500 Lm	Type IV	4	0	3	30,000 Lm	4	0	3
		35,250 Lm	Type V	5	0	2	34,623 Lm	5	0	2
ALL 390 T3 G2 5K	300W	39,300 Lm	Type III	4	0	3	39,495 Lm	4	0	3
		37,000 Lm	Type IV	4	0	4	36,000 Lm	4	0	4
		42,300 Lm	Type V	5	0	2	42,998 Lm	5	0	2

PERFORMANCE COMPARISON

Product Series	Wattage	Lumen	Efficacy	Replaces	Voltage	Max Mounting Height	DLC
ALS 90	70W	9,000 Lm	129 Lm/W	175W	120-277V	15-20 ft	Standard
ALS 130	105W	13,400 Lm	128 Lm/W	250W	120-277V	15-20 ft	Standard
ALM 195	150W	19,700 Lm	131 Lm/W	400W	120-277V	20-30 ft	Premium
ALM 260	200W	26,200 Lm	131 Lm/W	400W	120-277V	20-30 ft	Premium
ALL 330	250W	33,250 Lm	133 Lm/W	750W	120-277V	30-50 ft	Premium
ALL 390	300W	39,300 Lm	131 Lm/W	1000W	120-277V	30-50 ft	Premium

ELECTRICAL LOAD

			Current (A)					
	Series Number	Wattage	120V	208V	240V	277V	347V	480V
ALS	ALS 90 T3 G1 5K	70W	0.58	0.34	0.30	0.25	N/A	N/A
	ALS 130 T3 G1 5K	105W	0.87	0.50	0.44	0.38	N/A	N/A
ALM	ALM 195 T3 G2 5K	150W	1.25	0.72	0.63	0.54	0.43	0.31
	ALM 195 T3 G2 HVU 5K	150W	1.25	0.72	0.63	0.54	0.43	0.31
	ALM 260 T3 G2 5K	200W	1.66	0.96	0.83	0.72	0.58	0.42
	ALM 260 T3 G2 HVU 5K	200W	1.66	0.96	0.83	0.72	0.58	0.42
ALL	ALL 330 T3 G2 5K	250W	2.08	1.20	1.04	0.90	0.72	0.52
	ALL 330 T3 G2 HVU 5K	250W	2.08	1.20	1.04	0.90	0.72	0.52
	ALL 390 T3 G2 5K	300W	2.5	1.44	1.25	1.08	0.87	0.62
	ALL 390 T3 G2 HVU 5K	300W	2.5	1.44	1.25	1.08	0.87	0.62

PROJECTED LUMINAIRE MAINTENANCE

	OPERATING HOURS				
Ambient Temperature	0	25,000	50,000	100,000	Calculated L70 (Hours)
25°C / 77°F	1	0.95	0.91	0.81	>214,973

Lumien Ambient Temperature (LAT) Multipliers

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.98
40°C	104°F	0.98

BRIOHN DESIGN GROUP
3880 N BROOKFIELD ROAD, SUITE 200
BROOKFIELD WISCONSIN 53045-1950
(262) 790-0500 PHONE
(262) 790-0505 FAX

SHEET TITLE
LIGHTING CUT SHEETS

PROPOSED NEW MULTI-TENANT BUILDING:
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD HWY "J"
PEWAUKEE, WISCONSIN

Revision

Date

JOB: 3234
DRAWN: CK
CHECKED: DF / KJ
DATE: SEPTEMBER 3, 2020
SHEET:
E2.0

Fixture Type B
15' pole on a 2' base

with back light shields

PROJECT:
CATALOG #:
FIXTURE TYPE:
NOTES:

AL Area Light Generation 1 & 2

Images are shown for illustrative purpose only.

The *AL Series Area Light Gen 1 and Gen 2* comes in three sizes small, medium, and large with a lumen output between 9,000 to 39,300 lumens. This versatile luminaire has different mounting options, photocell, and motion sensors for efficiency and greater energy savings.

APPLICATIONS
Auto Dealerships, Parking Lots, Walkways, Roadways, and other Public Areas, etc.

REPLACEMENT
ALS: 175W- 250W MH, **ALM:** 400W MH,
ALL: 750W-1000W MH

PERFORMANCE INFORMATION

SERIES NUMBER	WATT	LUMENS	DIST	CCT
ALS 90 T3 G1 .5K	70W	9,000	Type III	5000K
ALS 130 T3 G1 .5K	105W	13,400	Type III	5000K
ALM 195 T3 G2 .5K	150W	19,700	Type III	5000K
ALM 195 T3 G2 HVU .5K	150W	19,700	Type III	5000K
ALM 260 T3 G2 .5K	200W	26,200	Type III	5000K
ALM 260 T3 G2 HVU .5K	200W	26,380	Type III	5000K
ALL 330 T3 G2 .5K	250W	33,250	Type III	5000K
ALL 330 T3 G2 HVU .5K	250W	33,000	Type III	5000K
ALL 390 T3 G2 .5K	300W	39,300	Type III	5000K
ALL 390 T3 G2 HVU .5K	300W	39,300	Type III	5000K

MOUNTING & OPTIONS

ORDERING GUIDE

EXAMPLE: ALM 140 T3 G1 .5K

Luminaire Type	Lumen Output	Dist. Type	Generation	Voltage	CCT	Finish	Mount	Options
ALS= Area Light Small	**90** 9,000 Lumens **130** 13,400 Lumens	**T3=** Type III **T4=** Type IV **T5=** Type V	**G1** **G2**	**BLANK=** 120-277V **HVU=** 347-480V	**4K** 4000K **5K** 5000K	**BLANK=** Dark Bronze **C=** Custom*	**AL-SPAR=** Square and Round Pole Mount **AL-WM=** Wall Mount **AL-SFD=** Slipfitter Mount **AL-SFD-P1=** Slipfitter Mount with PC-1 (Photocell 120V-277V) **AL-T=** Trunnion Mount **ALG2-Y=** Yoke Mount (ALL only)	**PC-1=**Twist-lock Photocell (120-277V) **PC-2=**Twist-lock Photocell (347-480V) **PC-3=**7-Pin receptacle **MS-FSP-212=**Motion Sensor (Choose 1) **L3=**40' diameter lens **L7=**100' diameter lens **AL-BC-ML=**House side shield for ALM-AL G2 Series only. ALL requires 2 shields
ALM= Area Light Medium	**195** 19,700 Lumens **260** 26,200 Lumens							
ALL= Area Light Large	**330** 33,250 Lumens **390** 39,300 Lumens							

*For a custom color, please call to place your order

SPECIFICATIONS

HOUSING
One piece die-cast aluminum housing with anti-corrosive paint.

AMBIENT TEMPERATURE
Suitable for use in -40°C to +45°C (-40°F to 113°F)

MOUNTING
Mounting options include Square and Round Pole Mount, Wall Mount, Adjustable Slipfitter Mount and option for photocell, Trunnion Mount for ALS and ALM, and Yoke Mount for ALL

EFFICACY
Up to 133 lumen's per watt (see individual wattage data)

CCT AND CRI
4000K and 5000K CCT available; 70CRI

OPTICS
Precision molded secondary optics produce superior uniformity, minimal light trespass and maximum pole spacing. Optics sealed to LED package for IP66 protection.

ELECTRICAL
Standard 120-277V. Optional HVU 347V/480V. 50/60Hz with open/short circuit protection. 10K Surge protector per ANSI/IEEE C62.41.2. Dimming 0-10V optional. Optional NEMA twist-lock photocell control.

ENERGY DATA
Constant current driver efficiency above 90%.

FINISH
Polyester Powder Dark Bronze finish. Custom colors available. Multiple stage process to produce 3 mil thickness for superior corrosion resistance and maximum durability.

CERTIFICATIONS
UL Listed for wet locations. Equivalent to IP66 rating. FCC compliant. RoHs compliant. IDA dark-sky compliance. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.slgcs.com/DLC to confirm which versions are qualified.

MOUNTING

OPTIONS

The *MS-FSP-212* provides multi-level control base on motion and daylight level. Requires L3 or L7 lens depending the mounting height.

Operation Voltage	Shape	Adjustable Time Delay	Fade Down Time	Operating Temperature	Mounting Height For MS-FSP-L3	Mounting Height For MS-FSP-L7
120/277V	Cone	30 sec - 30 min	0-10 sec	-40°F to 158°F	20 ft*	40 ft**

*Covers a 40 ft diameter when mounting height is 20 ft. Coverage is equal to 2x the height.
**Covers a 100 ft diameter when mounting height is 40 ft. Coverage is equal to 2.5x the height

PHOTOMETRIC

Type III
Type III optics produce an asymmetrical pattern that directs the majority of the light forward and equally on both sides of the luminaire. In a back-to-back configuration, it creates a rectangular pattern which can extend pole spacings.

Type IV
Type IV is suitable for applications where light is primarily required forward with minimal back light. Typical installations include perimeter poles.

Type V
Type V optics produce a symmetrical square distribution pattern that distributes light equally on all sides of the luminaire. Type V luminaires is universal for most area lighting applications.

ALM 195 T3 G2 4K

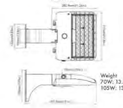
ALM 195 T4 G2 4K

ALM 195 T5 G2 4K

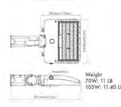
Mounting Height	15	20	25	30	35
Multiplier	2.8	1.6	1.0	0.7	0.5

DIMENSIONS

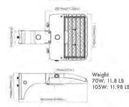
SMALL
70W & 100W
Wall Mount



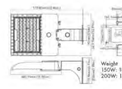
SMALL
70W & 100W
Slipfitter Mount



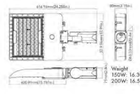
LARGE
70W & 100W
Pole Mount



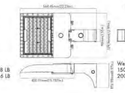
MEDIUM
150W & 200W
Wall Mount



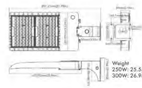
MEDIUM
150W & 200W
Slipfitter Mount



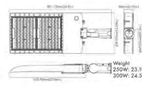
MEDIUM
150W & 200W
Pole Mount



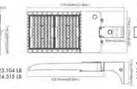
LARGE
250W & 300W
Wall Mount



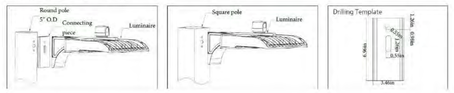
LARGE
250W & 300W
Slipfitter Mount



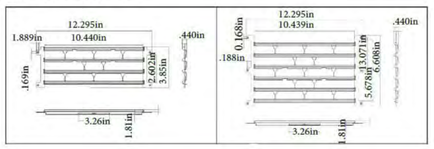
LARGE
250W & 300W
Pole Mount



MOUNTING DIMENSIONS



BACKLIGHT CONTROL OPTIONS



EPA OF AREA LIGHT

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		9,479 Lm	Type V	3	0	1	9,777 Lm	3	0	1
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		21,150 Lm	Type V	4	0	2	21,385 Lm	4	0	2
ALM 260 T3 G2 .5K	200W	26,200 Lm	Type III	3	0	2	26,096 Lm	3	0	2
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		27,200 Lm	Type V	4	0	2	27,086 Lm	4	0	2
ALL 330 T3 G2 .5K	250W	33,250 Lm	Type III	4	0	3	32,883 Lm	4	0	3
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		35,250 Lm	Type V	5	0	2	34,623 Lm	5	0	2
ALL 390 T3 G2 .5K	300W	39,300 Lm	Type III	4	0	3	39,495 Lm	4	0	3
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		42,300 Lm	Type V	5	0	2	42,998 Lm	5	0	2

PERFORMANCE COMPARISON

Product Series	Wattage	Lumen	Efficacy	Replaces	Voltage	Max Mounting Height	DLC
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PROJECTED LUMINAIRE MAINTENANCE

	OPERATING HOURS				
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Lumien Ambient Temperature (LAT) Multipliers

Ambient		Lumen Multiplier
0°C	32°F	1.02
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20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.98
40°C	104°F	0.98

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BROOKFIELD WISCONSIN 53045-1950
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SHEET TITLE
LIGHTING CUT SHEETS

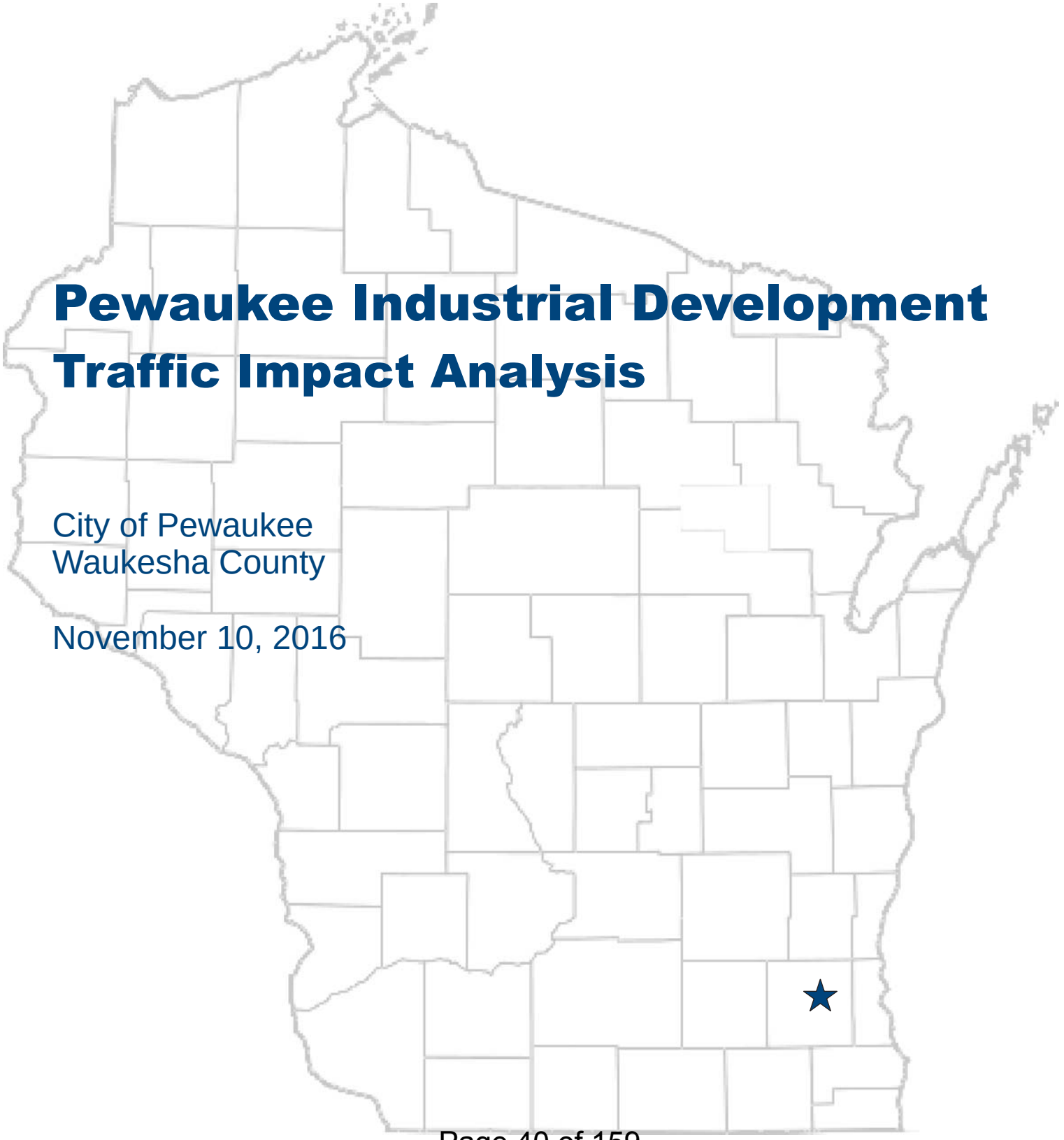
PROPOSED NEW MULTI-TENANT BUILDING:
PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT
BLUEMOUND ROAD HWY "J"
PEWAUKEE, WISCONSIN

Revision
Date

JOB: 3234
DRAWN: CK
CHECKED: DF / KJ
DATE: SEPTEMBER 3, 2020
SHEET:
E2.1

TRAFFIC ANALYSIS & DESIGN, INC.

N36 W7505 Buchanan Court
Cedarburg, WI 53012
800.605.3091
www.tadi-us.com



Pewaukee Industrial Development
Traffic Impact Analysis

City of Pewaukee
Waukesha County

November 10, 2016

TRAFFIC IMPACT ANALYSIS FOR:

PEWAUKEE INDUSTRIAL DEVELOPMENT

CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

DATE SUBMITTED: November 10, 2016

PREPARED FOR:
Briohn Design Group, LLC
3885 North Brookfield Road, Suite 200
Brookfield, WI 53045
Phone: (262) 790-0500
Contact Person: Dom Ferrante, AIA LEED AP BD+C

PREPARED BY:
TADI
N36 W7505 Buchanan Street
Cedarburg, WI 53012
Phone: (800) 605-3091
Contact Person: Michael May, P.E., PTOE (WisDOT TIA Certification # SE05-804-030)

"I certify that this Traffic Impact Analysis has been prepared by me or under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering."

Michael May, P.E., PTOE
Wisconsin Registration #37622-006
TADI

Pewaukee Industrial Development
Traffic Impact Analysis
Table of Contents

LIST OF EXHIBITS

LIST OF APPENDICES

CHAPTER I – INTRODUCTION & EXECUTIVE SUMMARY

PART A – PURPOSE OF REPORT AND STUDY OBJECTIVES

The Pewaukee Industrial Development is proposed to be located along the west side of County Trunk Highway (CTH) JJ, south of Wamser Drive, in the City of Pewaukee, Waukesha County.

This traffic impact analysis (TIA) documents the procedures, findings and conclusions of the traffic analysis. The analysis identifies recommended improvements based on existing roadway conditions, background traffic volumes, and additional traffic expected to be generated by the proposed development. The weekday morning and evening peak hour are analyzed.

PART B – EXECUTIVE SUMMARY

The executive summary includes a description of the study area, description of the development and conclusions based on the findings of the TIA.

B1. Study Area

A map illustrating the location of the proposed Pewaukee Industrial Development is shown in Exhibit 1-1. A conceptual site plan is shown in Exhibit 1-2. The site is currently zoned A-2 Agriculture. The city has recently changed the land use designation in the 2050 Land Use Plan to reflect that the development site is planned for industrial use.

The study area for analysis includes the following existing intersections:

- CTH JJ & Wamser Drive (one-way stop control); and
- CTH JJ & Harken Driveway (one-way stop control).

The proposed development driveway is also included in the study area for analysis and is discussed under *B5. Development Access*.

B2. On-Site Development Description

The proposed Pewaukee Industrial Development is to consist of two buildings with the following square footages and approximate use in each building:

- East Building – 120,000 square feet (sf)
  - 12,000-sf of office;
  - 48,000-sf of light industrial; and
  - 60,000-sf of warehousing.
- West Building – 135,000 sf

The east building and 75,000-sf of the west building were assumed for the purposes of this TIA to be completed under phase one. The remaining 60,000-sf of the west building was assumed to be completed under a phase two. Phase one plus phase two is herein identified as full build of development.

Phase one of the development was included in the Year 2017 build traffic analysis. Full build of development was included in the Year 2027 build traffic analysis.

B3. Off-Site Development Description

It is anticipated that a 215,000-sf building may be constructed in the future south of the Pewaukee Industrial Development and may accommodate approximately 20,000-sf of office and 195,000-sf of warehousing use.

The off-site development was included in the Year 2027 total traffic analysis.

B4. Site Generated Traffic

To address potential future traffic impacts at the study area intersections, it is necessary to estimate the hourly volume of traffic generated by the Pewaukee Industrial Development. The traffic volumes expected to be generated are based on the size and type of the proposed use and on trip rates and equations as published in the ITE *Trip Generation Manual, Ninth Edition, 2009*.

B4.1 On-Site Development Trip Generation

Under phase one, the proposed development is expected to generate approximately 175 new trips (140 in/35 out) during the weekday morning peak hour, 225 new trips (45 in/180 out) during the weekday evening peak hour, and 1,110 new trips (555 in/555 out) on a typical weekday.

Under full build (phase one plus two), the proposed development is expected to generate approximately 225 new trips (180 in/45 out) during the weekday morning peak hour, 270 new trips (60 in/210 out) during the weekday evening peak hour, and 1,340 new trips (670 in/670 out) on a typical weekday.

B4.2 Off-Site Development Trip Generation

The anticipated off-site development is expected to generate approximately 175 new trips (145 in/30 out) during the weekday morning peak hour, 190 new trips (40 in/150 out) during the weekday evening peak hour, and 1,270 new trips (635 in/635 out) on a typical weekday.

B5. Development Access

A driveway for the proposed development is proposed to intersect CTH JJ as a tee intersection from the west approximately 325-feet (centerline-to-centerline) south of Wamser Drive and approximately 700-feet (centerline-to-centerline) north of Harken Driveway. The proposed driveway is anticipated to also accommodate the identified off-site development. No other existing or future developable lands will be serviced by the driveway, including no service to Harken Manufacturing to the southeast.

B6. Recommended Improvements

The study area intersections were analyzed based on the procedures set forth in the *2010 Highway Capacity Manual* (HCM). Intersection operation is defined by "level of service". Level of Service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS 'A', to very poor, represented by LOS 'F'. For the purpose of this study, and as is standard for use in the WisDOT Southeast Region, LOS D or better was used to define desirable peak hour operating conditions.

The following improvements, shown in Exhibit 1-3, are recommended to accommodate traffic based on the assumptions outlined in the TIA. These improvements are in addition to conditions as they currently exist and are split into three categories:

- "Background Traffic" – These improvements are recommended to mitigate a background traffic deficiency and are *not* driven by the Pewaukee Industrial Development or identified off-site development.
- "Build Traffic" – These improvements are recommended in addition to the background traffic recommended improvements to mitigate an impact created by the Pewaukee Industrial Development.
- "Total Traffic" – These improvements are recommended in addition to the background and build traffic recommended improvements to mitigate an impact created by the identified off-site development.

Recommended improvements are for jurisdictional consideration and are not legally binding. Waukesha County and the City of Pewaukee of Sussex reserve the right to determine alternative solutions.

CTH JJ & Wasmer Drive

- *Background Traffic:* No improvements.
- *Build Traffic:* No improvements.
- *Total Traffic:* No improvements.

CTH JJ & Development Driveway

- *Background Traffic:* Intersection does not exist.
- *Build Traffic:*
    - Construct the proposed development driveway where shown on the conceptual site plan in Exhibit 1-2.
    - Provide a one left-turn lane, one right-turn lane, and a stop sign on the eastbound driveway approach to CTH JJ.
    - Construct a right-turn lane on the CTH JJ southbound approach to the driveway.
    - Construct a bypass lane on the CTH JJ northbound approach to the driveway. It is envisioned that the lane will continue north of the driveway and become the right-turn lane at Wasmer Drive. With approximately 325-feet (centerline-to-centerline) between the development driveway and Wamser Drive, and with five or fewer vehicles per hour making a right turn from CTH JJ to Wamser Drive, motorists will have sufficient distance to bypass a vehicle turning left into the development driveway and a vehicle turning right onto Wamser Drive.
- *Total Traffic:* No improvements.

CTH JJ & Harken Driveway

- *Background Traffic:* No improvements.
- *Build Traffic:* No improvements.
- *Total Traffic:* No improvements.

B7. Conclusion

All movements at the study area intersections are expected to operate desirably at LOS D or better conditions with the proposed development and the identified recommended improvements.

Pewaukee, Wisconsin

LEGEND

- Study Area Intersection
- Proposed Development Site Location
- Off-Site Development Location

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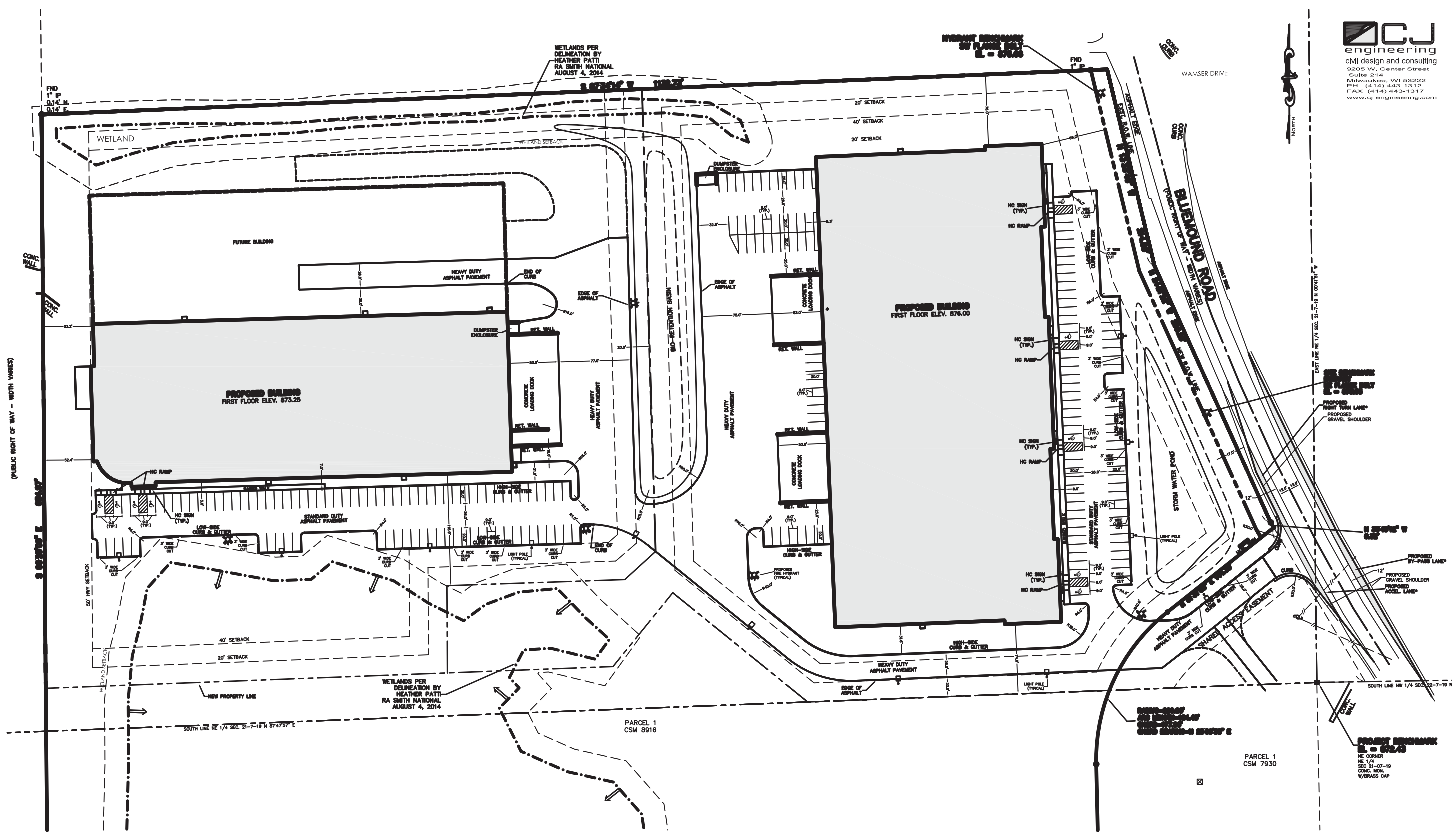
EXHIBIT 1-1
SITE LOCATION MAP

PEWAUKEE, WISCONSIN



WEST PARCEL – LOT 1			
	AREA (ACRES)	AREA (SF)	PERCENT
GREEN SPACE	3.564	155,242	41.7%
PAVEMENT	1.891	82,390	22.1%
BUILDING	3.099	135,000	36.2%
TOTAL IMPERVIOUS	4.991	217,390	58.3%
TOTAL LOT 1	8.554	372,632	

EAST PARCEL – LOT 2			
	AREA (ACRES)	AREA (SF)	PERCENT
GREEN SPACE	3.403	147,928	40.0%
PAVEMENT	2.326	101,318	27.5%
BUILDING	2.748	120,000	32.5%
TOTAL IMPERVIOUS	5.074	221,318	60.0%
TOTAL LOT 2	8.477	369,246	

NOTE:
LOT 1 AREAS ARE FOR THE ULTIMATE CONDITIONS INCLUDE THE FUTURE EXPANSION.

SURFACE PARKING – LOT 1 (WEST LOT)	
PARKING STALLS	83
H.C. STALLS	4
TOTAL PARKING STALLS	87

SURFACE PARKING – LOT 2 (EAST LOT)	
PARKING STALLS	119
H.C. STALLS	5
TOTAL PARKING STALLS	124

* NOTE:
ALL WORK IN THE BLUEMOUND ROAD SUBJECT TO WAUKESHA COUNTY REVIEW AND APPROVAL. AS A RESULT THE INFORMATION SHOWN ON THIS PLAN MAY CHANGE.

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GRAPHIC SCALE
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CJ engineering
civil design and consulting
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Milwaukee, WI 53222
PH. (414) 443-1312
FAX (414) 443-1317
www.cj-engineering.com

CJE NO.: 1625R7
OCTOBER 14, 2016

PEWAUKEE INDUSTRIAL
N17W25081 BLUEMOUND RD., PEWAUKEE, WI
SITE PLAN C1.0

TRAFFIC ANALYSIS & DESIGN, INC.
1997: 11-10-16

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NOT TO SCALE

EXHIBIT 1-2
CONCEPTUAL SITE PLAN

PEWAUKEE, WISCONSIN

LEGEND

STOP	Stop Sign
→	Lane Configuration
XX'	Storage Length (In Feet)
BLACK	Existing Conditions
ORANGE	Recommended Improvement

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EXHIBIT 1-3
RECOMMENDED IMPROVEMENTS

PEWAUKEE, WISCONSIN

CHAPTER II – PROPOSED DEVELOPMENT

PART A – ON-SITE DEVELOPMENT

A1. Development Description and Site Location

The Pewaukee Industrial Development is proposed to be located along the west side of County Trunk Highway (CTH) JJ, south of Wamser Drive, in the City of Pewaukee, Waukesha County. A map illustrating the location of the proposed development is shown in Exhibit 2-1. A conceptual site plan is shown in Exhibit 2-2.

A2. Land Use and Intensity

The Pewaukee Industrial Development site is currently zoned A-2 Agriculture. The city has recently changed the land use designation in the 2050 Land Use Plan to reflect that the development site is planned for industrial use.

The proposed Pewaukee Industrial Development is to consist of two buildings with the following square footages and approximate use in each building:

- East Building – 120,000 square feet (sf)
  - 12,000-sf of office;
  - 48,000-sf of light industrial; and
  - 60,000-sf of warehousing.
- West Building – 135,000 sf

A3. Site Plan

A driveway for the proposed development is proposed to intersect CTH JJ as a tee intersection from the west approximately 325-feet (centerline-to-centerline) south of Wamser Drive and approximately 700-feet (centerline-to-centerline) north of Harken Driveway. The proposed driveway is anticipated to also accommodate the identified off-site development. No other existing or future developable lands will be serviced by the driveway, including no service to Harken Manufacturing to the southeast.

A4. Development Phasing and Timing

The east building and 75,000-sf of the west building were assumed for the purposes of this TIA to be completed under phase one. The remaining 60,000-sf of the west building was assumed to be completed under a phase two. Phase one plus phase two is herein identified as full build of development.

Phase one of the development was included in the Year 2017 build traffic analysis. Full build of development was included in the Year 2027 build traffic analysis.

PART B – STUDY AREA

B1. Influence Area

The influence area includes the City of Pewaukee and surrounding communities. The location of the site in close proximity to the State Trunk Highway (STH) 16 & CTH JJ interchange and the Interstate Highway (IH) 94 & STH 164 interchange influences travel patterns to/from the development site.

B2. Area of Significant Traffic Impact

The study area for analysis includes the following existing intersections:

- CTH JJ & Wamser Drive (one-way stop control); and

- CTH JJ & Harken Driveway (one-way stop control).

The proposed development driveway is also included in the study area for analysis and is discussed under *A3. Site Plan*.

PART C – OFF-SITE LAND USE AND DEVELOPMENT

It is anticipated that a 215,000-sf building may be constructed in the future south of the Pewaukee Industrial Development and may accommodate approximately 20,000-sf of office and 195,000-sf of warehousing use.

The off-site development was included in the Year 2027 total traffic analysis.

PART D – SITE ACCESSIBILITY

D1. Study Area Roadways

The study area roadways are discussed below:

CTH JJ is a north/south two-lane undivided highway with a posted speed limit of 45 within the study area. The WisDOT-recorded Year 2012 annual average daily traffic (AADT) volume on CTH JJ was approximately 3,700 vehicles per day (vpd) southeast of Harken Driveway. CTH JJ is also designated as Bluemound Road.

Wamser Drive is an east/west two-lane undivided residential street without a posted speed limit. The street was assumed to operate as a 25 mph facility. No AADT volumes have been recorded for Wamser Drive.

D2. Pedestrian & Bicycle Accommodations

Paved shoulders exist along CTH JJ to accommodate bicyclists. No off-street pedestrian or bicycle accommodations were identified.

D3. Transit Accommodations

No regularly-scheduled transit was identified in the study area.

D4. Anticipated Highway Projects

No future highway construction projects were identified.

LEGEND

- Study Area Intersection
- Proposed Development Site Location
- Off-Site Development Location

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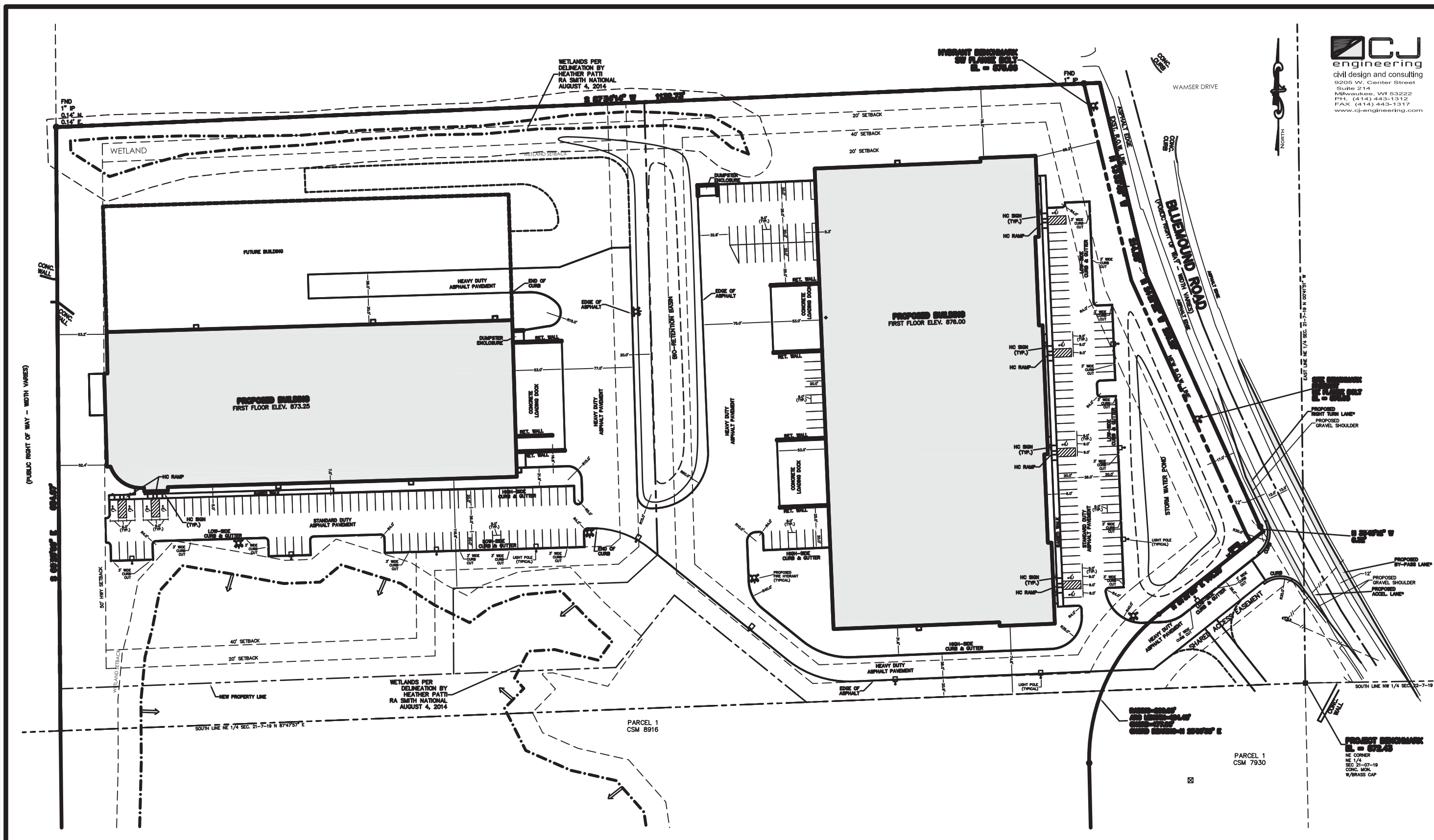
EXHIBIT 2-1
SITE LOCATION MAP

PEWAUKEE, WISCONSIN



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PAVEMENT	1.891	82,380	22.1%
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TOTAL LOT 2	8.477	369,246	

NOTE:
LOT 1 AREAS ARE FOR THE ULTIMATE CONDITIONS INCLUDE THE FUTURE EXPANSION.

SURFACE PARKING – LOT 1 (WEST LOT)	
PARKING STALLS	63
H.C. STALLS	4
TOTAL PARKING STALLS	67

SURFACE PARKING – LOT 2 (EAST LOT)	
PARKING STALLS	119
H.C. STALLS	5
TOTAL PARKING STALLS	124

* NOTE:
ALL WORK IN THE BLUEMOUND ROAD SUBJECT TO WAUKESHA COUNTY REVIEW AND APPROVAL. AS A RESULT THE INFORMATION SHOWN ON THIS PLAN MAY CHANGE.

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SITE PLAN C1.0

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EXHIBIT 2-2
CONCEPTUAL SITE PLAN

PEWAUKEE, WISCONSIN

CHAPTER III – ANALYSIS OF EXISTING CONDITIONS

PART A – PHYSICAL CHARACTERISTICS

The existing transportation detail, which illustrates existing intersection lane configurations, speed limits, and approximate intersection spacing, is shown in Exhibit 3-1.

PART B – EXISTING TRAFFIC VOLUMES

Weekday morning and evening peak hour traffic counts were collected at the existing study area intersections by TADI. The following table outlines the dates of the traffic counts.

Intersection	Wkday AM	Wkday PM
CTH JJ & Wamser Drive	*Thursday 9-22-16*	*Thursday 9-22-16*
CTH JJ & Harken Driveway	*Thursday 9-22-16*	*Thursday 9-22-16*

Based on the turning movement counts, the weekday morning and evening peak hours were identified as 7:00 to 8:00am and 4:30 to 5:30pm. The traffic counts and calculated peak hour factors and truck percentages have been included in Appendix A.

TADI reviewed historical daily traffic counts along CTH JJ and determined that the growth rate within the study area has been approximately 1.7% from Year 1982 to 2012. The Year 2017 background (without development) traffic volumes are shown in Exhibit 3-2 at the end of this chapter. Year 2027 background (without development) traffic volumes are shown in Exhibit 4-1 at the end of Chapter IV.

PART C – CAPACITY LEVEL OF SERVICE

C1. Level of Service Definitions

The study area intersections were analyzed based on the procedures set forth in the *2010 Highway Capacity Manual* (HCM). Intersection operation is defined by "level of service". Level of service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS 'A', to very poor, represented by LOS 'F'. For the purpose of this study, LOS D was used to define desirable peak hour operating conditions. Descriptions of the various levels of service are as follows:

> *LOS A* is the highest level of service that can be achieved. Under this condition, intersection approaches appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation. At signalized and unsignalized intersections, average delays are less than 10 seconds.
>
> *LOS B* represents stable operation. At signalized intersections, average vehicle delays are 10 to 20 seconds. At unsignalized intersections, average delays are 10 to 15 seconds.
>
> *LOS C* still represents stable operation, but periodic backups of a few vehicles may develop behind turning vehicles. Most drivers begin to feel restricted, but not objectionably so. At signalized intersections, average vehicle delays are 20 to 35 seconds. At unsignalized intersections, average delays are 15 to 25 seconds.
>
> *LOS D* represents increasing traffic restrictions as the intersection approaches instability. Delays to approaching vehicles may be substantial during short peaks within the peak period, but periodic clearance of long lines occurs, thus preventing excessive backups. At signalized intersections, average vehicle delays are 35 to 55 seconds. At unsignalized intersections, average delays are 25 to 35 seconds.

LOS E represents the capacity of the intersection. At signalized intersections, average vehicle delays are 55 to 80 seconds. At unsignalized intersections, average delays are 35 to 50 seconds.

LOS F represents jammed conditions where the intersection is over capacity and acceptable gaps for unsignalized intersections in the mainline traffic flow are minimal. At signalized intersections, average vehicle delays exceed 80 seconds. At unsignalized intersections, average delays exceed 50 seconds.

C2. Year 2017 Background Traffic Operations

Exhibit 3-3 shows the Year 2017 background traffic (without development) peak hour operations and queues at the study area intersections. The analysis was performed using the existing intersection geometrics (Exhibit 3-1). Analysis outputs are included in Appendix B.

As shown in Exhibit 3-3, all movements at the study area intersections currently operate desirably at LOS B or better conditions.

PART D – SOURCES OF DATA

The following sources of data were obtained for use in conducting this traffic study:

- AADT Counts – WisDOT;
- Turning movement traffic counts – TADI;
- Existing transportation detail – TADI; and
- Development information – Briohn Design Group, LLC.

LEGEND

- Stop Sign
- Existing Lane Configuration
- XX' Existing Storage Length (In Feet)
- *XX'* Distance Between Roadways (in Feet)

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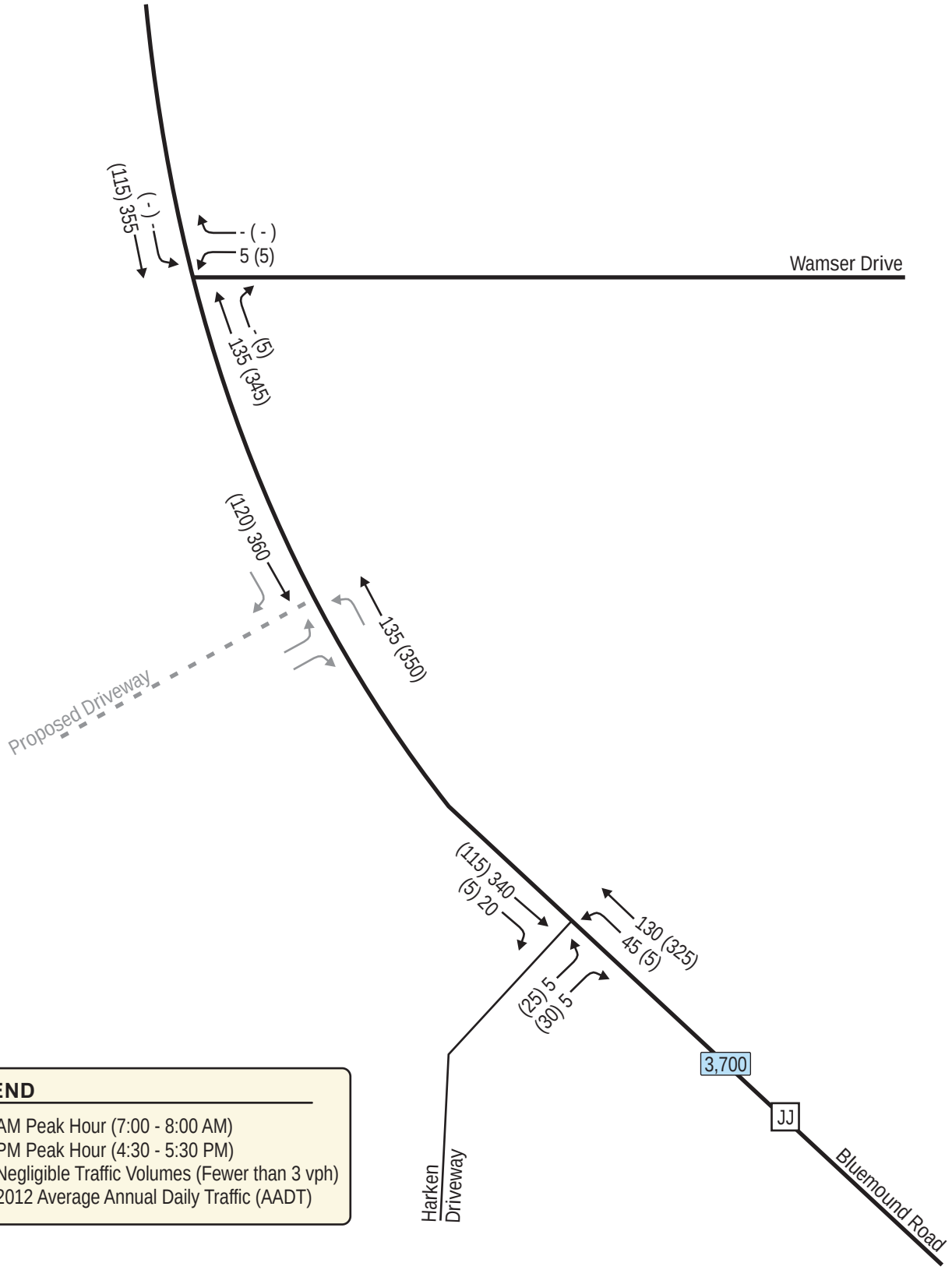
EXHIBIT 3-1
EXISTING TRANSPORTATION DETAIL

PEWAUKEE, WISCONSIN



LEGEND

XX	AM Peak Hour (7:00 - 8:00 AM)
(XX)	PM Peak Hour (4:30 - 5:30 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)
X,XXX	2012 Average Annual Daily Traffic (AADT)

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EXHIBIT 3-2
YEAR 2017 BACKGROUND TRAFFIC VOLUMES

PEWAUKEE, WISCONSIN

Year 2017 Background Traffic Operations & Queues

Intersection	Peak Hour		Level of Service per Movement by Approach											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
CTH JJ & Wamser Drive *(One-Way Stop Control)*	AM	LOS	-	-	-	B			-	*	*	A		-
		Queue	-	-	-	20'			-	*	*	20'		-
	PM	LOS	-	-	-	B			-	*	*	A		-
		Queue	-	-	-	20'			-	*	*	20'		-
CTH JJ & Harken Driveway *(One-Way Stop Control)*	AM	LOS	B			-	-	-	A	*	-	-	*	*
		Queue	20'			-	-	-	20'	*	-	-	*	*
	PM	LOS	B			-	-	-	A	*	-	-	*	*
		Queue	20'			-	-	-	20'	*	-	-	*	*

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.

CHAPTER IV – FORECASTED TRAFFIC

PART A – BACKGROUND TRAFFIC VOLUMES

TADI reviewed historical daily traffic counts along CTH JJ and determined that the growth rate within the study area has been approximately 1.7% from Year 1982 to 2012. The Year 2017 background (without development) traffic volumes are shown in Exhibit 3-2 at the end of Chapter III. Year 2027 background (without development) traffic volumes are shown in Exhibit 4-1 at the end of this chapter.

PART B – SITE TRAFFIC FORECASTING

To address potential future traffic impacts at the study area intersections, it is necessary to estimate the hourly volume of traffic generated by the Pewaukee Industrial Development. The traffic volumes expected to be generated are based on the size and type of the proposed use and on trip rates and equations as published in the ITE *Trip Generation Manual, Ninth Edition, 2009*.

B1. Trip Generation

The trip generation tables for the Pewaukee Industrial Development and the identified off-site development are included in Exhibits 4-2 and 4-3.

B1.1 On-Site Development Trip Generation

Under phase one, the proposed development is expected to generate approximately 175 new trips (140 in/35 out) during the weekday morning peak hour, 225 new trips (45 in/180 out) during the weekday evening peak hour, and 1,110 new trips (555 in/555 out) on a typical weekday.

Under full build (phase one plus two), the proposed development is expected to generate approximately 225 new trips (180 in/45 out) during the weekday morning peak hour, 270 new trips (60 in/210 out) during the weekday evening peak hour, and 1,340 new trips (670 in/670 out) on a typical weekday.

B1.2 Off-Site Development Trip Generation

The anticipated off-site development is expected to generate approximately 175 new trips (145 in/30 out) during the weekday morning peak hour, 190 new trips (40 in/150 out) during the weekday evening peak hour, and 1,270 new trips (635 in/635 out) on a typical weekday.

B2. Mode Split

Pedestrians and bicyclists may use their respective modes to access the identified development. However, these modes are expected to make up a small portion of the overall trips to/from the study area. Therefore, for the purpose of this TIA, all trips to/from the proposed development were assumed to occur via motor vehicle.

B3. Determination of Linked and Pass-By Trip Traffic

A linked trip occurs when a motorist visits more than one tenant within a development area prior to leaving the development area. Though linked trips may occur, their occurrence is expected to be negligible.

A pass-by trip occurs when a motorist already on the adjacent roadway network stops at a development prior to continuing on his/her intended route (e.g. a motorist already traveling northbound on CTH JJ decides to stop at the development prior to continuing northbound). Though pass-by trips may occur, their occurrence is expected to be negligible.

B4. Trip Distribution

The trip distribution for the proposed Pewaukee Industrial Development and identified off-site development was estimated based on the location of interchange access to the northwest (STH 16 & CTH JJ) and to the southeast (IH 94 & STH 164). The trip distribution used is summarized as follows:

- 40 percent to/from the north on CTH JJ; and
- 60 percent to/from the south on CTH JJ.

B5. Trip Assignment

The new trips expected to be generated by the proposed Pewaukee Industrial Development and identified off-site development were assigned to the study area intersections based on the trip distribution previously summarized.

The Pewaukee Industrial Development phase one new trips are shown in Exhibit 4-4a. The development full build new trips are shown in Exhibit 4-4b.

The off-site new trips are shown in Exhibit 4-5.

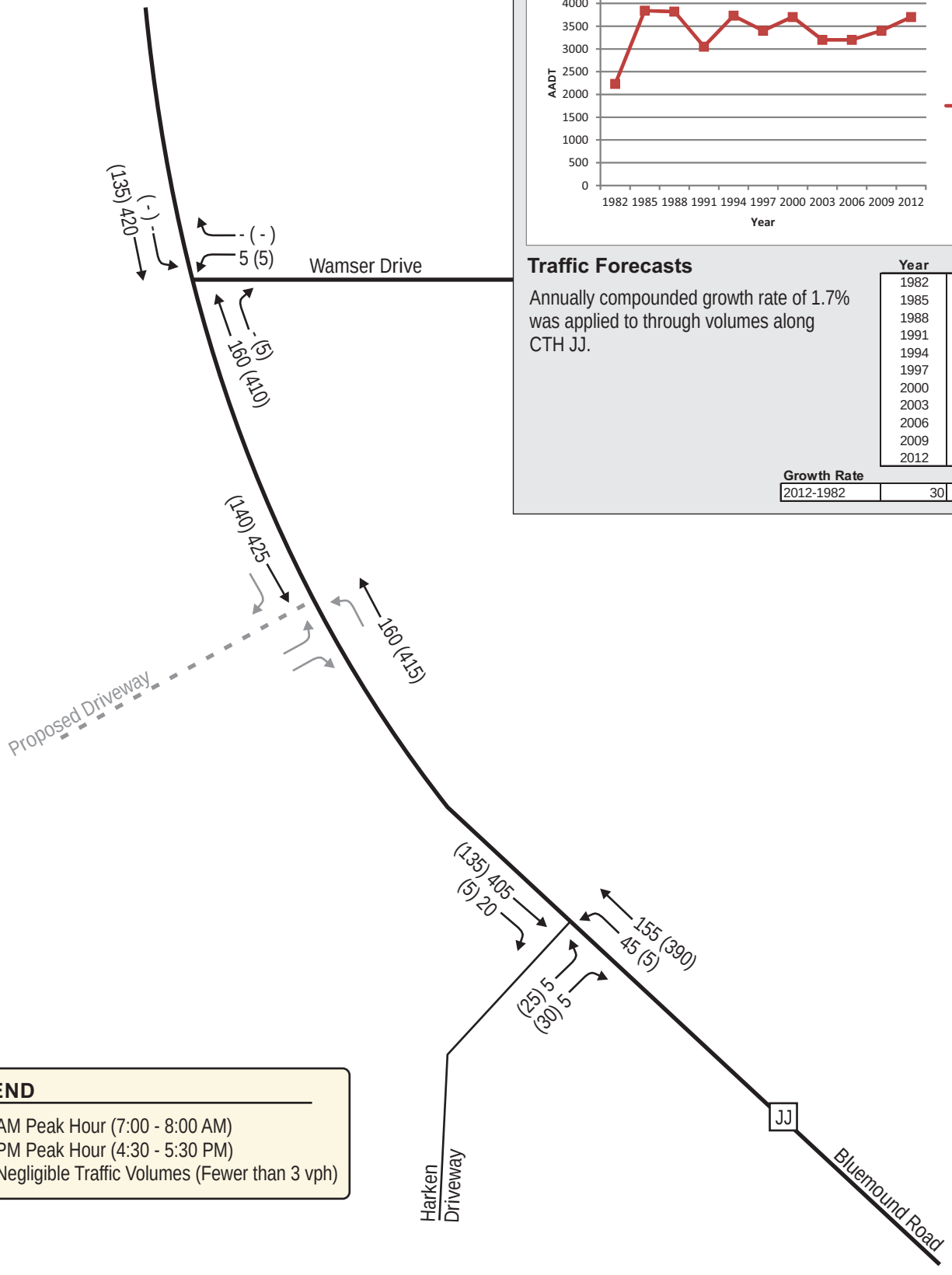
PART C – BUILD TRAFFIC

The Year 2017 build trips, shown in Exhibit 4-6, were determined by adding the Year 2017 background traffic volumes (Exhibit 3-2) to the development phase one new trips (Exhibit 4-4a).

The Year 2027 build trips, shown in Exhibit 4-7, were determined by adding the Year 2027 background traffic volumes (Exhibit 4-1) to the development full build new trips (Exhibit 4-4b).

PART D – TOTAL TRAFFIC

The Year 2027 total trips, shown in Exhibit 4-8, were determined by adding the Year 2027 build traffic volumes (Exhibit 4-7) to the off-site development new trips (Exhibit 4-8).



Traffic Forecasts

Annually compounded growth rate of 1.7% was applied to through volumes along CTH JJ.

Year	CTHJJ
1982	2230
1985	3840
1988	3820
1991	3050
1994	3730
1997	3400
2000	3700
2003	3200
2006	3200
2009	3400
2012	3700

Growth Rate		
2012-1982	30	1.7%

LEGEND

XX AM Peak Hour (7:00 - 8:00 AM)
(XX) PM Peak Hour (4:30 - 5:30 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)

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EXHIBIT 4-1
YEAR 2027 BACKGROUND TRAFFIC VOLUMES

PEWAUKEE, WISCONSIN

Pewaukee Industrial Development Phase One Trip Generation Table

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Office	710	12,000 SF	260 FCE	30 (88%)	5 (12%)	35 FCE	15 (17%)	75 (83%)	90 FCE
Light Industrial	110	48,000 SF	260 FCE	40 (88%)	5 (12%)	45 (0.92)	5 (12%)	40 (88%)	45 (0.97)
Warehousing	150	60,000 SF	320 FCE	45 (79%)	15 (21%)	60 FCE	10 (25%)	35 (75%)	45 FCE
Manufacturing	140	75,000 SF	270 FCE	25 (78%)	10 (22%)	35 FCE	15 (36%)	30 (64%)	45 FCE
Total New Trips			**1,110**	**140**	**35**	**175**	**45**	**180**	**225**

Notes

ITE Trip Generation, 9th Edition

"FCE" indicates that the Fitted Curve Equation was used instead of the average trip rate. The FCE was used when sample sizes were at least 20 and the proposed size fell within the range of data.

TRIP DISTRIBUTION (New Trips)

N. on CTH JJ	40%	440	55	15	20	70
S. on CTH JJ	60%	670	85	20	25	110
	100%	***1110***	***140***	***35***	***45***	***180***

Pewaukee Industrial Development Full Build Trip Generation Table

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Office	710	12,000 SF	260 FCE	30 (88%)	5 (12%)	35 FCE	15 (17%)	75 (83%)	90 FCE
Light Industrial	110	48,000 SF	260 FCE	40 (88%)	5 (12%)	45 (0.92)	5 (12%)	40 (88%)	45 (0.97)
Warehousing (SF)	150	60,000 SF	320 FCE	45 (79%)	15 (21%)	60 FCE	10 (25%)	35 (75%)	45 FCE
Manufacturing	140	135,000 SF	500 FCE	65 (78%)	20 (22%)	85 FCE	30 (36%)	60 (64%)	90 FCE
Total New Trips			**1,340**	**180**	**45**	**225**	**60**	**210**	**270**

Notes

ITE Trip Generation, 9th Edition

"FCE" indicates that the Fitted Curve Equation was used instead of the average trip rate. The FCE was used when sample sizes were at least 20 and the proposed size fell within the range of data.

TRIP DISTRIBUTION (New Trips)

N. on CTH JJ	40%	540	70	20	25	85
S. on CTH JJ	60%	800	110	25	35	125
	100%	***1340***	***180***	***45***	***60***	***210***

Off-Site Development Trip Generation Table

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Office	710	20,000 SF	390 FCE	50 (88%)	5 (12%)	55 FCE	15 (17%)	85 (83%)	100 FCE
Warehousing (SF)	150	195,000 SF	880 FCE	95 (79%)	25 (21%)	120 FCE	25 (25%)	65 (75%)	90 FCE
Total New Trips			**1,270**	**145**	**30**	**175**	**40**	**150**	**190**

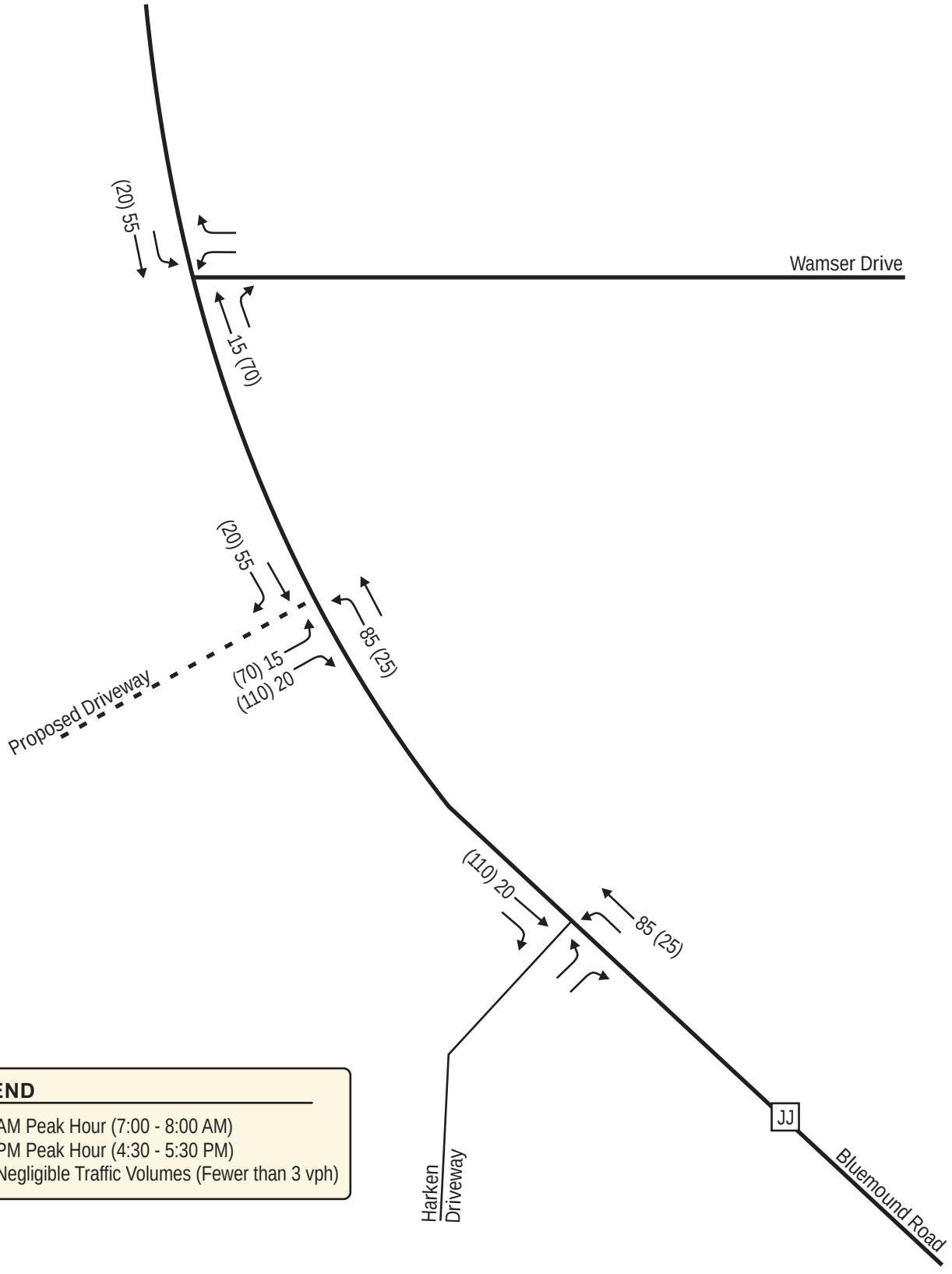
Notes

ITE Trip Generation, 9th Edition

"FCE" indicates that the Fitted Curve Equation was used instead of the average trip rate. The FCE was used when sample sizes were at least 20 and the proposed size fell within the range of data.

TRIP DISTRIBUTION (New Trips)

N. on CTH JJ	40%	510	60	10		15	60
S. on CTH JJ	60%	760	85	20		25	90
	100%	***1270***	***145***	***30***		***40***	***150***

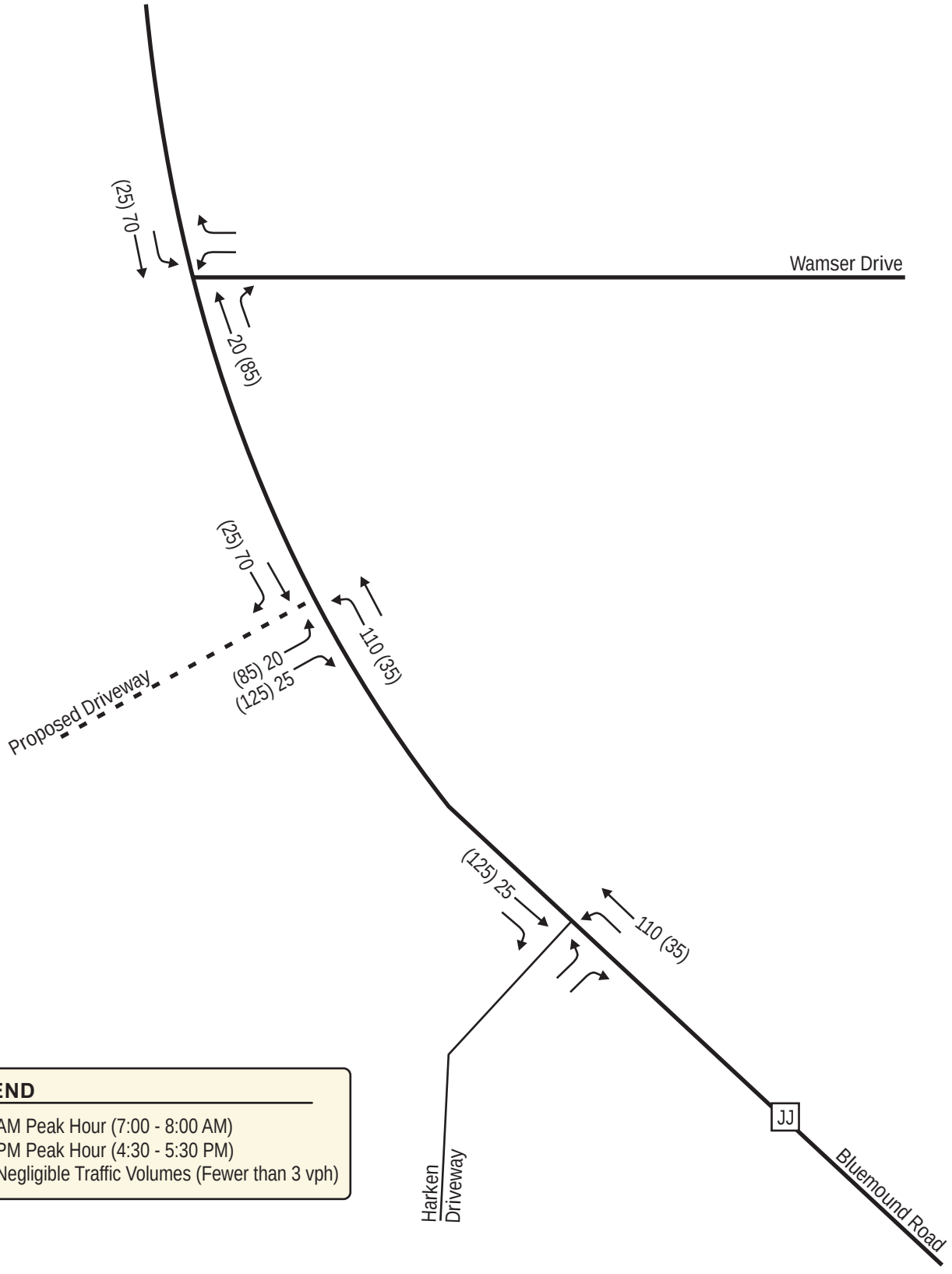


TRAFFIC ANALYSIS & DESIGN, INC.
1997: 11-10-16

N
NOT TO SCALE

EXHIBIT 4-4A
PHASE ONE NEW TRIPS

PEWAUKEE, WISCONSIN

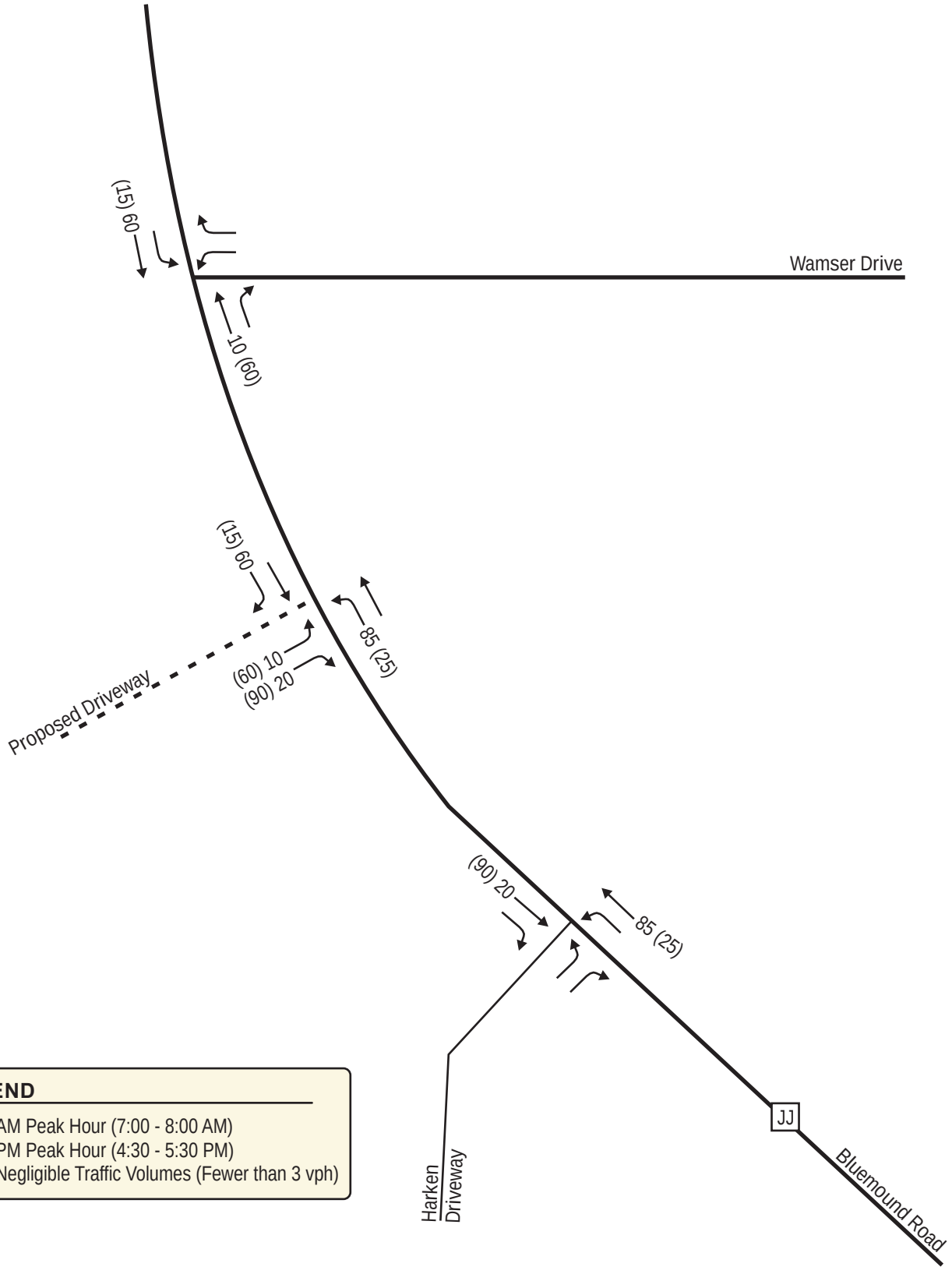


TRAFFIC ANALYSIS & DESIGN, INC.
1997: 11-10-16

N
NOT TO SCALE

EXHIBIT 4-4B
FULL BUILD NEW TRIPS

PEWAUKEE, WISCONSIN

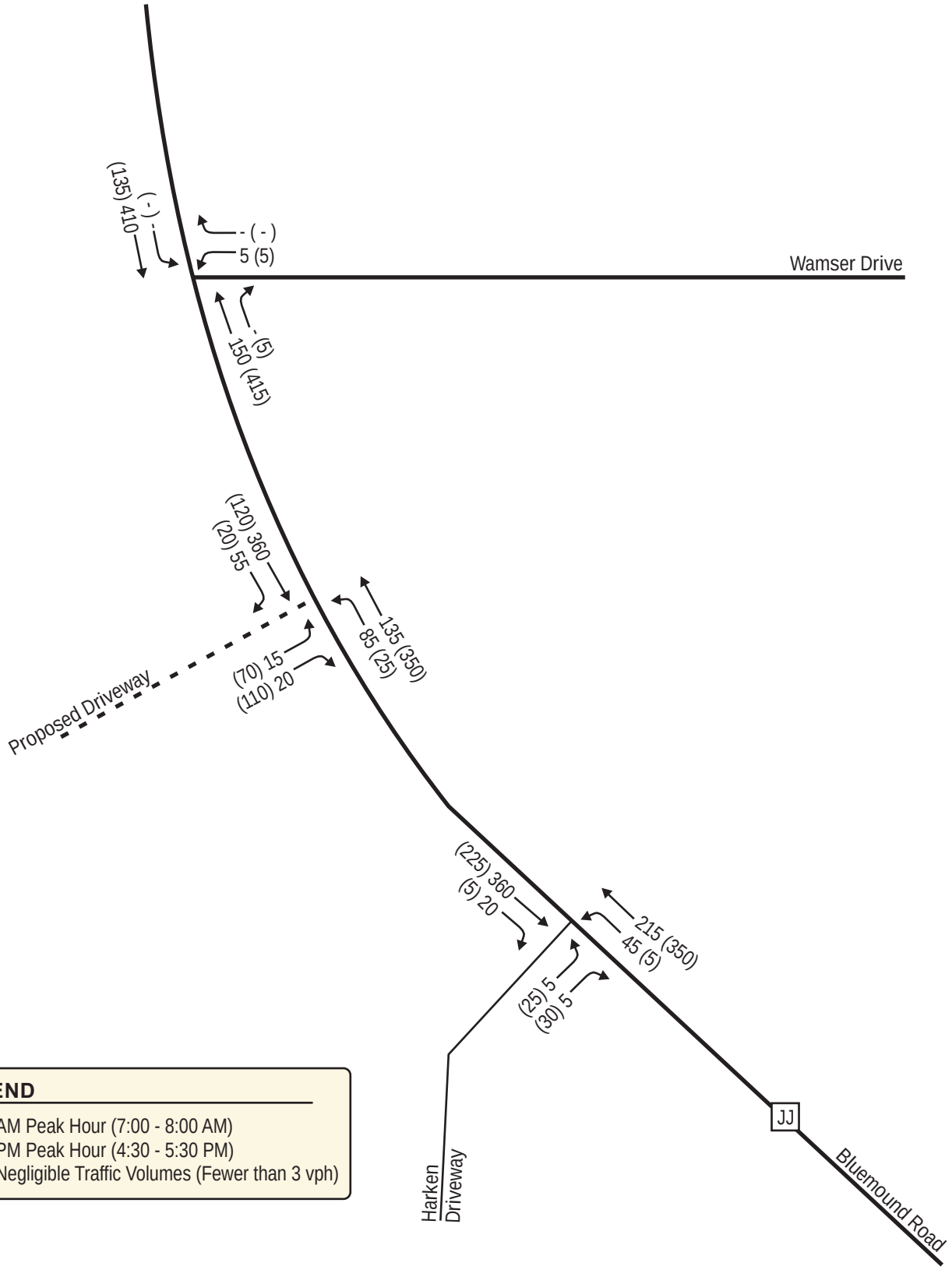


TRAFFIC ANALYSIS & DESIGN, INC.
1997: 11-10-16

N
NOT TO SCALE

EXHIBIT 4-5
OFF-SITE NEW TRIPS

PEWAUKEE, WISCONSIN



LEGEND

XX AM Peak Hour (7:00 - 8:00 AM)
(XX) PM Peak Hour (4:30 - 5:30 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
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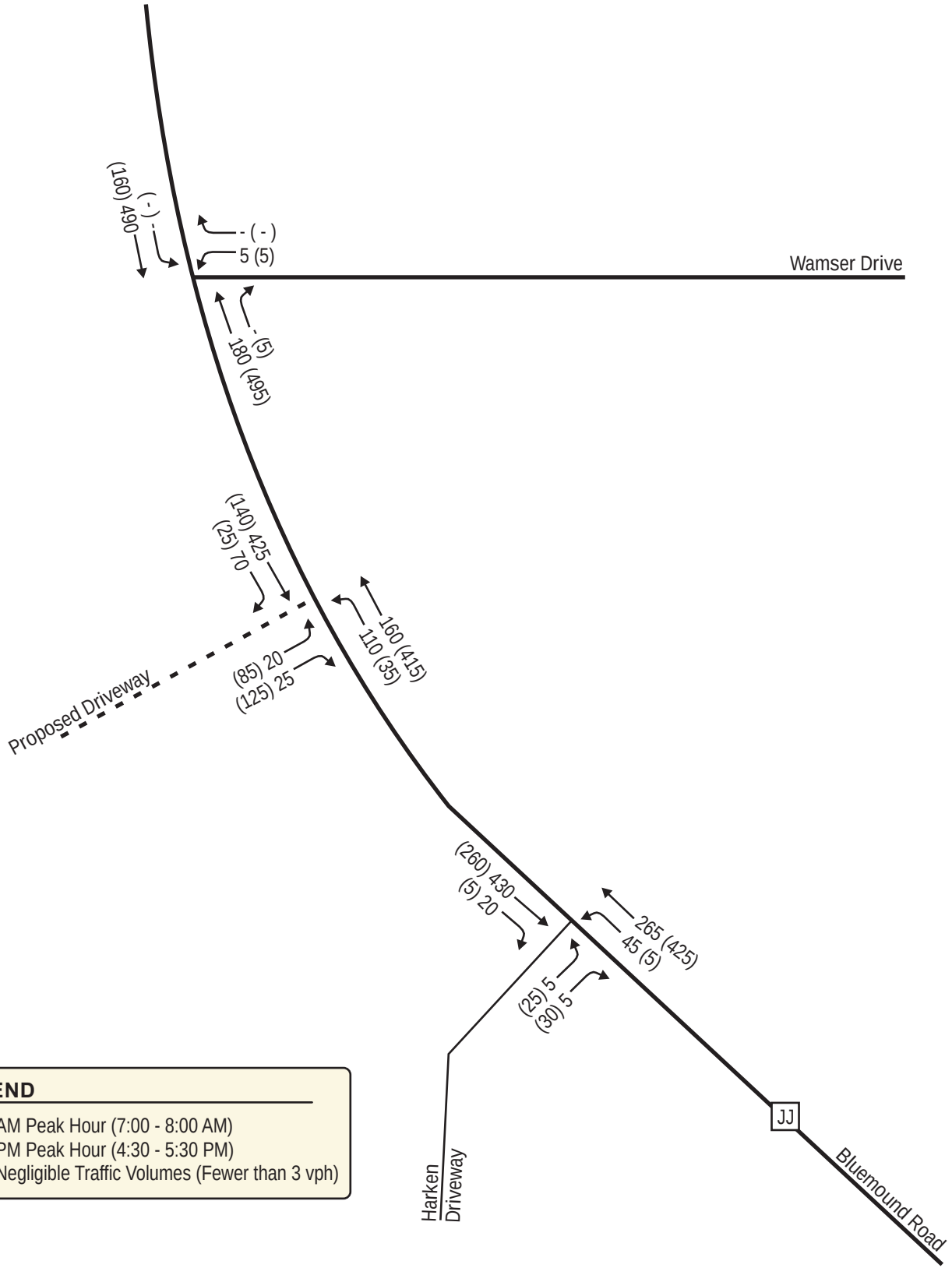
N
NOT TO SCALE

EXHIBIT 4-6
YEAR 2017 BUILD TRAFFIC VOLUMES

PEWAUKEE, WISCONSIN



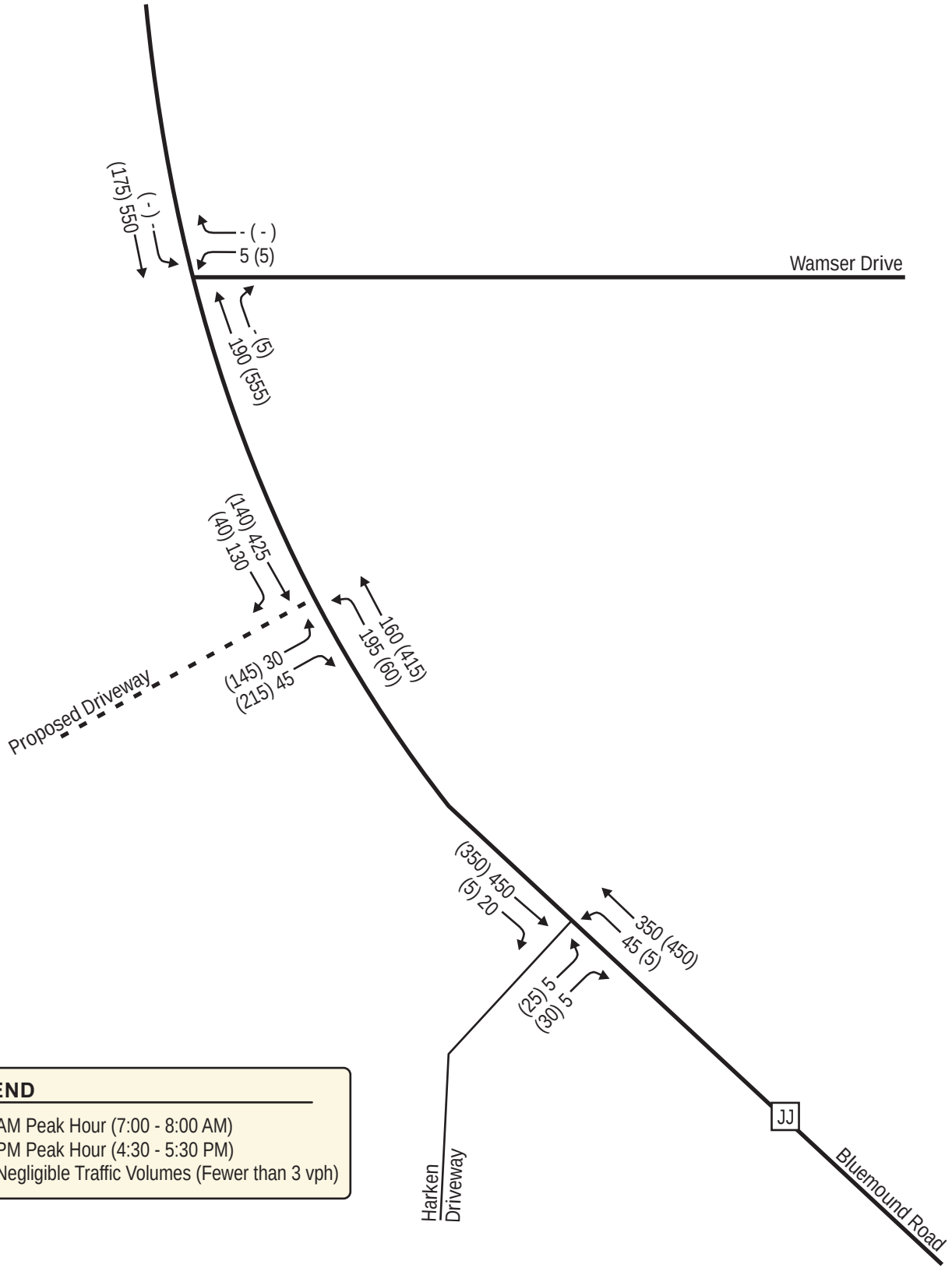
TRAFFIC ANALYSIS & DESIGN, INC.
1997: 11-10-16

N

NOT TO SCALE

EXHIBIT 4-7
YEAR 2027 BUILD TRAFFIC VOLUMES

PEWAUKEE, WISCONSIN



TRAFFIC ANALYSIS & DESIGN, INC.
1997: 11-10-16

N

NOT TO SCALE

EXHIBIT 4-8
YEAR 2027 TOTAL TRAFFIC VOLUMES

PEWAUKEE, WISCONSIN

CHAPTER V – TRAFFIC AND IMPROVEMENT ANALYSIS

PART A – SITE ACCESS

A driveway for the proposed development is proposed to intersect CTH JJ as a tee intersection from the west approximately 325-feet (centerline-to-centerline) south of Wamser Drive and approximately 700-feet (centerline-to-centerline) north of Harken Driveway. The proposed driveway is anticipated to also accommodate the identified off-site development. No other existing or future developable lands will be serviced by the driveway, including no service to Harken Manufacturing to the southeast.

PART B – CAPACITY LEVEL OF SERVICE ANALYSIS

B1. Year 2027 Background Traffic Analysis

Exhibit 5-1 shows the Year 2027 background traffic (without development) peak hour operations and queues at the study area intersections. The analysis was performed using the existing intersection geometrics shown in Exhibit 3-1. Analysis outputs are included in Appendix B.

As shown, all movements at the study area intersections are expected to operate desirably at LOS C or better conditions without development.

B2. Year 2017 & 2027 Build Traffic Analyses

Exhibits 5-2 and 5-3 show the Year 2017 and Year 2027 build traffic (with Pewaukee Industrial Development) peak hour operations and queues at the study area intersections. The analyses were performed using the existing intersection geometrics shown in Exhibit 3-1. A CTH JJ northbound bypass lane, CTH JJ southbound right-turn lane, and exclusive left-turn and right-turn lanes exiting the development driveway were assumed to be constructed due to the volumes at the driveway. Analysis outputs are included in Appendix C.

As shown, all movements at the study area intersections are expected to operate desirably at LOS C or better conditions with the Pewaukee Industrial Development.

B3. Year 2027 Total Traffic Analysis

Exhibit 5-4 shows the Year 2027 total traffic (with Pewaukee Industrial Development & off-site development) peak hour operations and queues at the study area intersections. The analysis was performed using the existing intersection geometrics shown in Exhibit 3-1. A CTH JJ northbound bypass lane, CTH JJ southbound right-turn lane, and exclusive left-turn and right-turn lanes exiting the development driveway were assumed to be constructed due to the volumes at the driveway. Analysis outputs are included in Appendix D.

As shown, all movements at the study area intersections are expected to operate desirably at LOS D or better conditions with the Pewaukee Industrial Development.

PART C – INTERSECTION SIGHT DISTANCE

The party responsible for designing the intersection will be responsible for cross-checking, verifying and designing for all applicable sight distances. Intersection sight distance must be double checked during the permit application stage of the development.

Photographs taken from the perspective of a future motorist waiting on the development driveway approach to CTH JJ are shown in Exhibit 5-5. As shown, CTH JJ vertical curvature is flat and the horizontal curvature appears sufficient for acceptable intersection sight distance. Therefore, the intersection sight distance is expected to be ample.

Year 2027 Background Traffic Operations & Queues

Intersection	Peak Hour		Level of Service per Movement by Approach											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
CTH JJ & Wamser Drive *(One-Way Stop Control)*	AM	LOS	-	-	-	B			-	*	*	A		-
		Queue	-	-	-	20'			-	*	*	20'		-
	PM	LOS	-	-	-	B			-	*	*	A		-
		Queue	-	-	-	20'			-	*	*	20'		-
CTH JJ & Harken Driveway *(One-Way Stop Control)*	AM	LOS	C			-	-	-	A	*	-	-	*	*
		Queue	20'			-	-	-	20'	*	-	-	*	*
	PM	LOS	B			-	-	-	A	*	-	-	*	*
		Queue	20'			-	-	-	20'	*	-	-	*	*

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.

Year 2017 Build Traffic Operations & Queues

Intersection	Peak Hour		Level of Service per Movement by Approach											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
CTH JJ & Wamser Drive *(One-Way Stop Control)*	AM	LOS	-	-	-	B			-	*	*	A		-
		Queue	-	-	-	20'			-	*	*	20'		-
	PM	LOS	-	-	-	B			-	*	*	A		-
		Queue	-	-	-	20'			-	*	*	20'		-
CTH JJ & Development Driveway *(One-Way Stop Control)*	AM	LOS	C	-	B	-	-	-	A	*	-	-	*	*
		Queue	20'	-	20'	-	-	-	20'	*	-	-	*	*
	PM	LOS	B	-	A	-	-	-	A	*	-	-	*	*
		Queue	20'	-	20'	-	-	-	20'	*	-	-	*	*
CTH JJ & Harken Driveway *(One-Way Stop Control)*	AM	LOS	C			-	-	-	A	*	-	-	*	*
		Queue	20'			-	-	-	20'	*	-	-	*	*
	PM	LOS	B			-	-	-	A	*	-	-	*	*
		Queue	20'			-	-	-	20'	*	-	-	*	*

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.

Year 2027 Build Traffic Operations & Queues

Intersection	Peak Hour		Level of Service per Movement by Approach											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
CTH JJ & Wamser Drive *(One-Way Stop Control)*	AM	LOS	-	-	-	C			-	*	*	A		-
		Queue	-	-	-	20'			-	*	*	20'		-
	PM	LOS	-	-	-	B			-	*	*	A		-
		Queue	-	-	-	20'			-	*	*	20'		-
CTH JJ & Development Driveway *(One-Way Stop Control)*	AM	LOS	C	-	B	-	-	-	A	*	-	-	*	*
		Queue	20'	-	20'	-	-	-	20'	*	-	-	*	*
	PM	LOS	C	-	A	-	-	-	A	*	-	-	*	*
		Queue	20'	-	20'	-	-	-	20'	*	-	-	*	*
CTH JJ & Harken Driveway *(One-Way Stop Control)*	AM	LOS	C			-	-	-	A	*	-	-	*	*
		Queue	20'			-	-	-	20'	*	-	-	*	*
	PM	LOS	B			-	-	-	A	*	-	-	*	*
		Queue	20'			-	-	-	20'	*	-	-	*	*

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.

Year 2027 Total Traffic Operations & Queues

Intersection	Peak Hour		Level of Service per Movement by Approach											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
CTH JJ & Wamser Drive *(One-Way Stop Control)*	AM	LOS	-	-	-	C			-	*	*	A		-
		Queue	-	-	-	20'			-	*	*	20'		-
	PM	LOS	-	-	-	B			-	*	*	A		-
		Queue	-	-	-	20'			-	*	*	20'		-
CTH JJ & Development Driveway *(One-Way Stop Control)*	AM	LOS	D	-	B	-	-	-	A	*	-	-	*	*
		Queue	20'	-	20'	-	-	-	20'	*	-	-	*	*
	PM	LOS	C	-	B	-	-	-	A	*	-	-	*	*
		Queue	50'	-	20'	-	-	-	20'	*	-	-	*	*
CTH JJ & Harken Driveway *(One-Way Stop Control)*	AM	LOS	C			-	-	-	A	*	-	-	*	*
		Queue	20'			-	-	-	20'	*	-	-	*	*
	PM	LOS	B			-	-	-	A	*	-	-	*	*
		Queue	20'			-	-	-	20'	*	-	-	*	*

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.

Looking North on CTH JJ from Proposed Driveway

Looking Northeast on CTH JJ from Proposed Driveway

TRAFFIC ANALYSIS & DESIGN, INC.
1997: 11-10-16

N

NOT TO SCALE

EXHIBIT 5-5
INTERSECTION SIGHT DISTANCE PHOTOS

PEWAUKEE, WISCONSIN

CHAPTER VI – RECOMMENDATIONS AND CONCLUSION

PART A – RECOMMENDATIONS

The study area intersections were analyzed based on the procedures set forth in the *2010 Highway Capacity Manual* (HCM). Intersection operation is defined by "level of service". Level of Service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS 'A', to very poor, represented by LOS 'F'. For the purpose of this study, and as is standard for use in the WisDOT Southeast Region, LOS D or better was used to define desirable peak hour operating conditions.

The following improvements, shown in Exhibit 1-3, are recommended to accommodate traffic based on the assumptions outlined in the TIA. These improvements are in addition to conditions as they currently exist and are split into three categories:

- "Background Traffic" – These improvements are recommended to mitigate a background traffic deficiency and are *not* driven by the Pewaukee Industrial Development or identified off-site development.
- "Build Traffic" – These improvements are recommended in addition to the background traffic recommended improvements to mitigate an impact created by the Pewaukee Industrial Development.
- "Total Traffic" – These improvements are recommended in addition to the background and build traffic recommended improvements to mitigate an impact created by the identified off-site development.

Recommended improvements are for jurisdictional consideration and are not legally binding. Waukesha County and the City of Pewaukee of Sussex reserve the right to determine alternative solutions.

CTH JJ & Wasmer Drive

- *Background Traffic:* No improvements.
- *Build Traffic:* No improvements.
- *Total Traffic:* No improvements.

CTH JJ & Development Driveway

- *Background Traffic:* Intersection does not exist.
- *Build Traffic:*
    - Construct the proposed development driveway where shown on the conceptual site plan in Exhibit 1-2.
    - Provide a one left-turn lane, one right-turn lane, and a stop sign on the eastbound driveway approach to CTH JJ.
    - Construct a right-turn lane on the CTH JJ southbound approach to the driveway.
    - Construct a bypass lane on the CTH JJ northbound approach to the driveway. It is envisioned that the lane will continue north of the driveway and become the right-turn lane at Wasmer Drive. With approximately 325-feet (centerline-to-centerline) between the development driveway and Wamser Drive, and with five or fewer vehicles

per hour making a right turn from CTH JJ to Wamser Drive, motorists will have sufficient distance to bypass a vehicle turning left into the development driveway and a vehicle turning right onto Wamser Drive.

- *Total Traffic:* No improvements.

CTH JJ & Harken Driveway

- *Background Traffic:* No improvements.
- *Build Traffic:* No improvements.
- *Total Traffic:* No improvements.

PART B – CONCLUSION

All movements at the study area intersections are expected to operate desirably at LOS D or better conditions with the proposed development and the identified recommended improvements.

APPENDIX A

EXISTING TRAFFIC COUNTS

APPENDIX A

Existing Traffic Counts

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1		Page 1 of 11
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Intersection of: CTH JJ and Wamser Drive

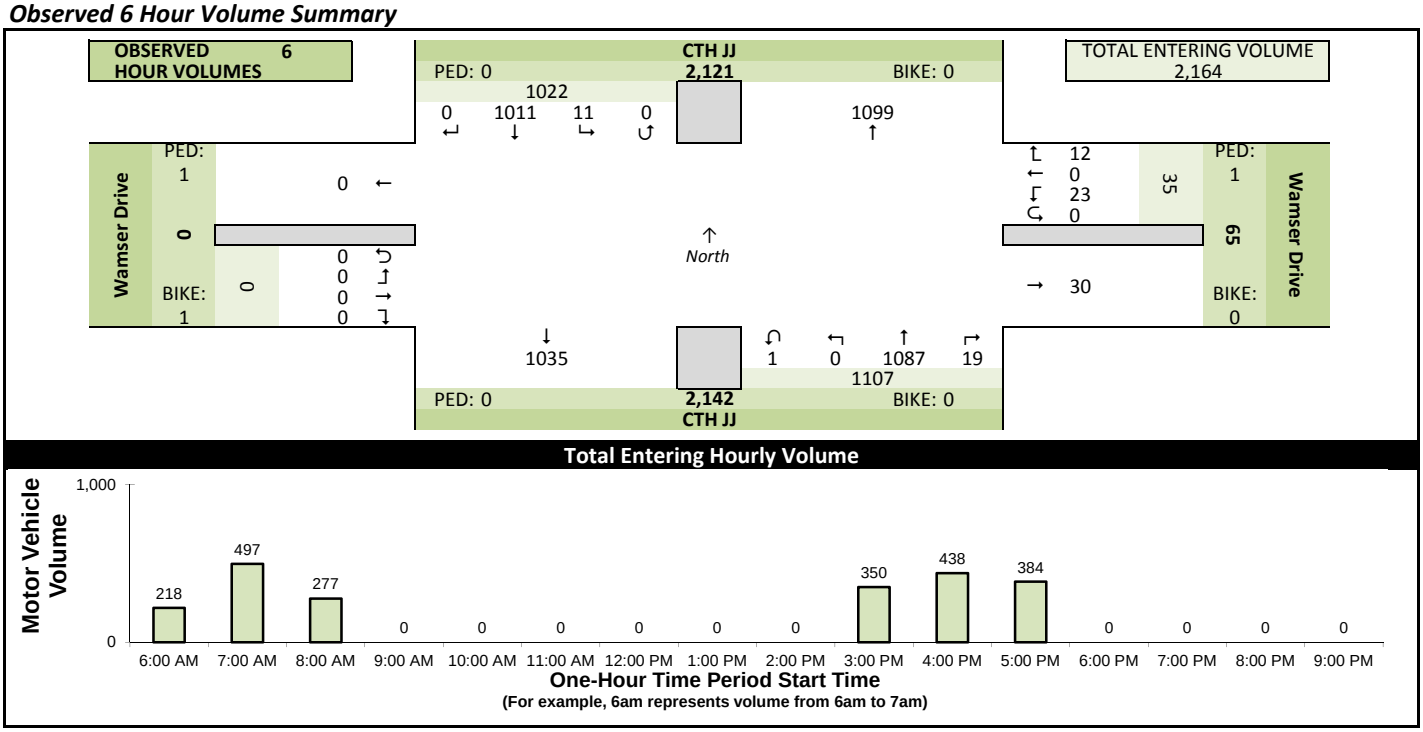
Site Information

Municipality	City of Pewaukee		
County	Waukesha	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↑
North Leg	CTH JJ		
East Leg	Wamser Drive		
South Leg	CTH JJ		
West Leg	Wamser Drive		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementry school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None	None	

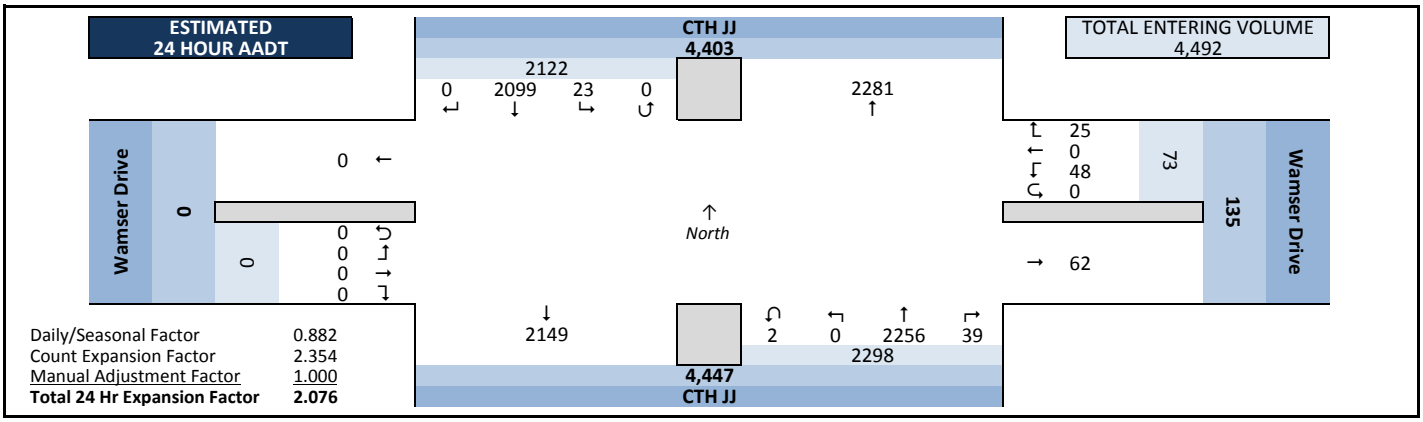
Count Information

Hrs Counted:	6:00 AM-9:00 AM and 3:00 PM-6:00 PM				
1st Day of Count	Thursday, September 22, 2016			Weather	
AM Peak Period	Thursday, September 22, 2016			Clear & Dry	
Midday Peak Period	Thursday, September 22, 2016			Clear & Dry	
PM Peak Period	Thursday, September 22, 2016			Clear & Dry	
Calculated Peak Hours					
AM	7:00-8:00am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:00-8:00am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors				
Count Expansion Group	(2) Urban Arterials & Collectors				
Daily/Seasonal Adjustment Factor	0.882	Count Expansion Factor	2.354		
Company Name	TADI, Inc.			Manual Adj.	1.000
Observers: AM Peak Period	Amy Scheuerlein				
Midday Peak Period	None				
PM Peak Period	Larry Numerich				
Comments	Version 2011.J4.1				
	2015 DOT Factors				

Observed 6 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

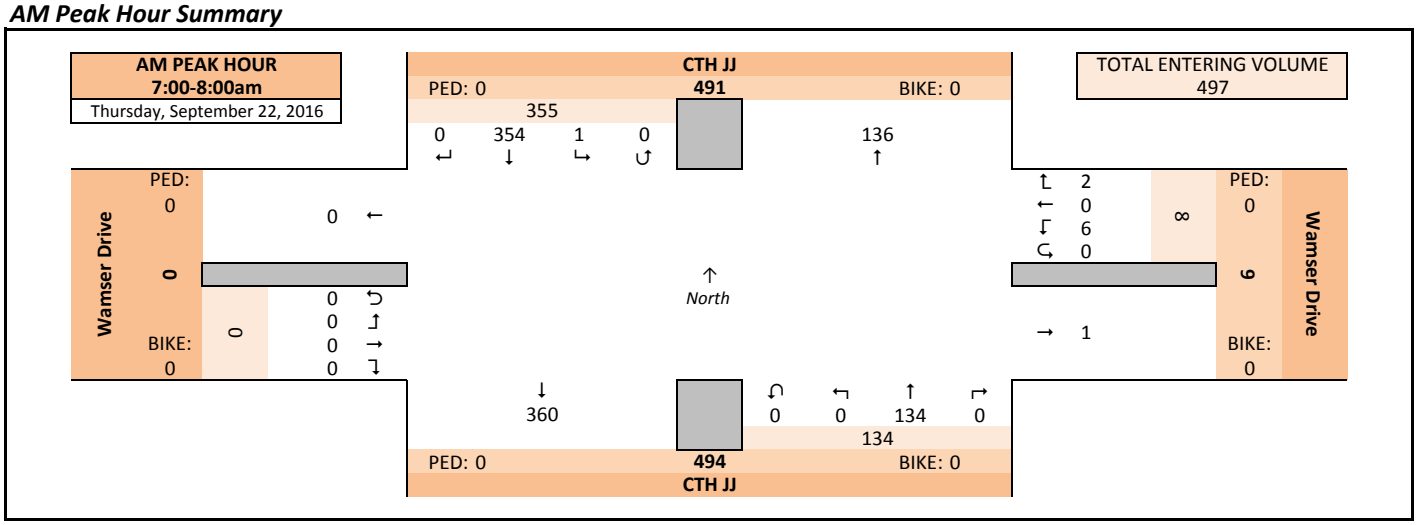
Count Basics			Page 2 of 11
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

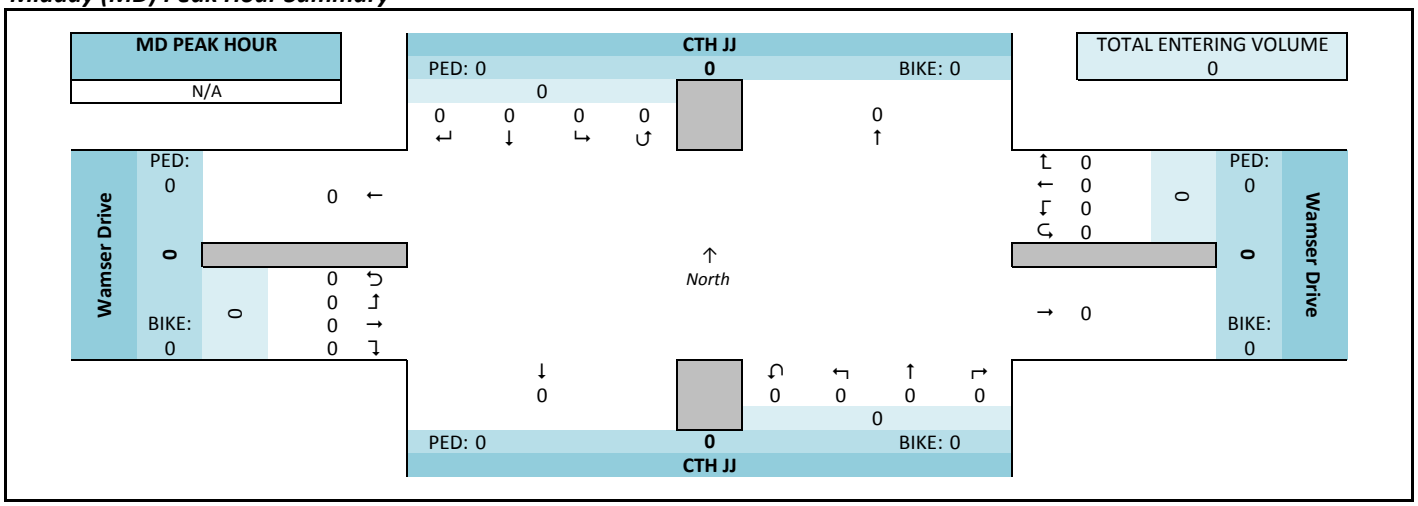
All Motor Vehicles

CTH JJ and Wamser Drive

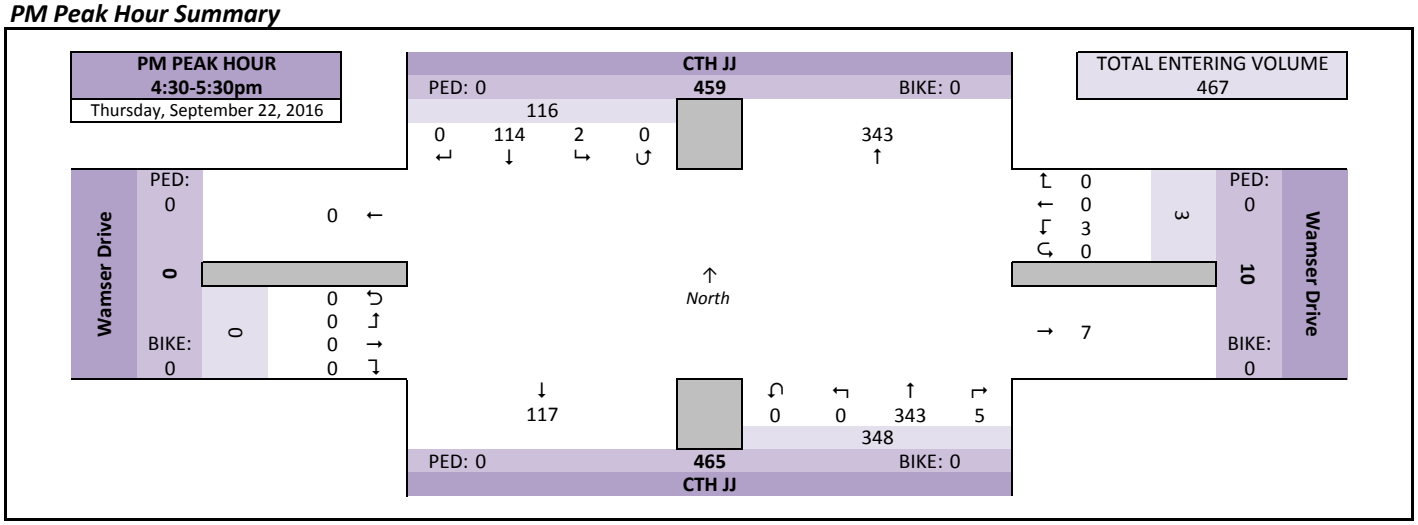
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics			*Page 3 of 11*
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Peak Hour Volume Summary

CTH JJ and Wamser Drive

All Motor Vehicles

Peak Hour Volumes, Truck Percentages, and PHFs

Thursday, September 22, 2016		From North (↓)					From East (←)					From South (↑)					From West (→)					
	AM Peak Hour	CTH JJ					Wamser Drive					CTH JJ					Wamser Drive					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
AM Peak Hour	7:00 AM	0	61	0	0	61	1	0	1	0	2	0	32	0	0	32	0	0	0	0	0	95
	7:15 AM	0	78	0	0	78	0	0	3	0	3	0	23	0	0	23	0	0	0	0	0	104
	7:30 AM	0	110	1	0	111	0	0	1	0	1	0	40	0	0	40	0	0	0	0	0	152
	7:45 AM	0	105	0	0	105	1	0	1	0	2	0	39	0	0	39	0	0	0	0	0	146
	Peak Hour Volume	0	354	1	0	355	2	0	6	0	8	0	134	0	0	134	0	0	0	0	0	497
	Rounded Hourly Volume	0	355	0	0	355	0	0	5	0	5	0	135	0	0	135	0	0	0	0	0	495
	% Single Unit Trucks	0.0	1.7	0.0	0.0	1.7	50.0	0.0	0.0	0.0	12.5	0.0	6.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	3.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.2
	% Trucks (Total)	0.0	1.7	0.0	0.0	1.7	50.0	0.0	0.0	0.0	12.5	0.0	6.7	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	3.2
	Peak Hour Factor (PHF)	0.00	0.80	0.25	0.00	0.80	0.50	0.00	0.50	0.00	0.67	0.00	0.84	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.82

N/A		From North (↓)					From East (←)					From South (↑)					From West (→)					
	MD Peak Hour	CTH JJ					Wamser Drive					CTH JJ					Wamser Drive					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Thursday, September 22, 2016		From North (↓)					From East (←)					From South (↑)					From West (→)					
	PM Peak Hour	CTH JJ					Wamser Drive					CTH JJ					Wamser Drive					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
PM Peak Hour	4:30 PM	0	27	0	0	27	0	0	0	0	0	2	92	0	0	94	0	0	0	0	0	121
	4:45 PM	0	29	1	0	30	0	0	1	0	1	1	74	0	0	75	0	0	0	0	0	106
	5:00 PM	0	34	0	0	34	0	0	1	0	1	2	88	0	0	90	0	0	0	0	0	125
	5:15 PM	0	24	1	0	25	0	0	1	0	1	0	89	0	0	89	0	0	0	0	0	115
	Peak Hour Volume	0	114	2	0	116	0	0	3	0	3	5	343	0	0	348	0	0	0	0	0	467
	Rounded Hourly Volume	0	115	0	0	115	0	0	5	0	5	5	345	0	0	350	0	0	0	0	0	470
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	1.3
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	1.3
	Peak Hour Factor (PHF)	0.00	0.84	0.50	0.00	0.85	0.00	0.00	0.75	0.00	0.75	0.62	0.93	0.00	0.00	0.93	0.00	0.00	0.00	0.00	0.00	0.93

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
		CTH JJ			Wamser Drive			CTH JJ			Wamser Drive			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

Count Basics			Page 4 of 11
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

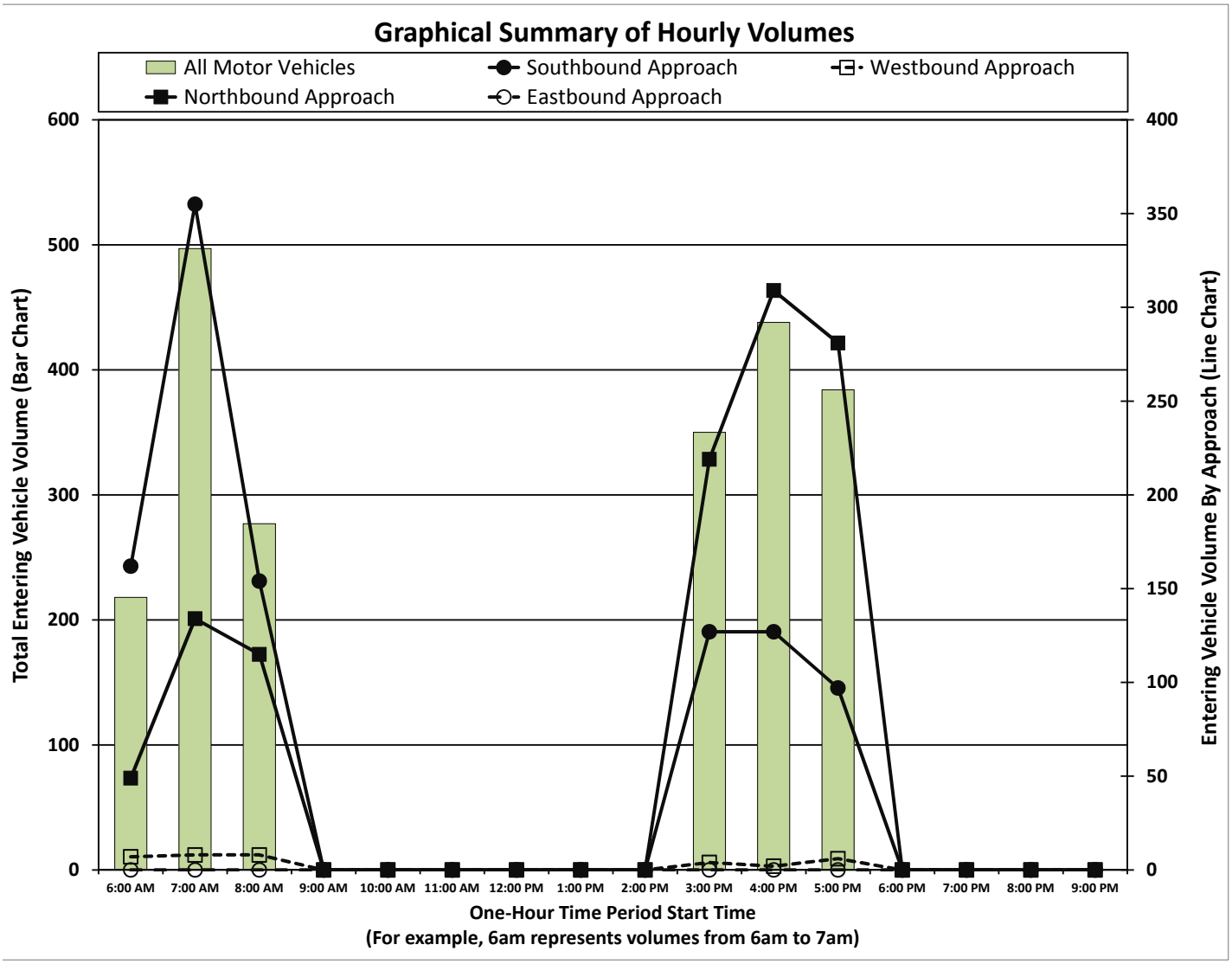
Hourly Volume Summary - Motor Vehicle Data

All Motor Vehicles

CTH JJ and Wamser Drive

One-Hour Motor Vehicle Data

	One-Hour Time Period Start Time	From North (↓) CTH JJ					From East (←) Wamser Drive					From South (↑) CTH JJ					From West (→) Wamser Drive					Total Vehicle Volume	Directional Volume Totals	
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		E/W	N/S
AM	6:00 AM	0	161	1	0	162	2	0	5	0	7	4	45	0	0	49	0	0	0	0	0	218	7	211
AM	7:00 AM	0	354	1	0	355	2	0	6	0	8	0	134	0	0	134	0	0	0	0	0	497	8	489
AM	8:00 AM	0	150	4	0	154	4	0	4	0	8	2	113	0	0	115	0	0	0	0	0	277	8	269
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:00 PM	0	126	1	0	127	2	0	2	0	4	5	213	0	1	219	0	0	0	0	0	350	4	346
PM	4:00 PM	0	124	3	0	127	0	0	2	0	2	5	304	0	0	309	0	0	0	0	0	438	2	436
PM	5:00 PM	0	96	1	0	97	2	0	4	0	6	3	278	0	0	281	0	0	0	0	0	384	6	378
PM	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals		0	1011	11	0	1022	12	0	23	0	35	19	1087	0	1	1107	0	0	0	0	0	2164	35	2129



Intersection Traffic Volume Report

Count Basics		Page 5 of 11
Start Date: Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles

CTH JJ and Wamser Drive

15-Minute Motor Vehicle Data

15-Minute Time Period Start Time		From North (↓) CTH JJ					From East (←) Wamser Drive					From South (↑) CTH JJ					From West (→) Wamser Drive					15-Min Totals	Hourly Sum	PHF
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
AM Peak Period	6:00 AM	0	28	0	0	28	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	35	218	0.65
	6:15 AM	0	27	0	0	27	1	0	1	0	2	1	9	0	0	10	0	0	0	0	0	39	278	0.73
	6:30 AM	0	42	1	0	43	1	0	3	0	4	1	12	0	0	13	0	0	0	0	0	60	343	0.82
	6:45 AM	0	64	0	0	64	0	0	1	0	1	2	17	0	0	19	0	0	0	0	0	84	435	0.72
	7:00 AM	0	61	0	0	61	1	0	1	0	2	0	32	0	0	32	0	0	0	0	0	95	497	0.82
	7:15 AM	0	78	0	0	78	0	0	3	0	3	0	23	0	0	23	0	0	0	0	0	104	497	0.82
	7:30 AM	0	110	1	0	111	0	0	1	0	1	0	40	0	0	40	0	0	0	0	0	152	471	0.77
	7:45 AM	0	105	0	0	105	1	0	1	0	2	0	39	0	0	39	0	0	0	0	0	146	383	0.66
	8:00 AM	0	61	1	0	62	2	0	3	0	5	1	27	0	0	28	0	0	0	0	0	95	277	0.73
	8:15 AM	0	38	1	0	39	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	78		
	8:30 AM	0	31	1	0	32	2	0	1	0	3	1	28	0	0	29	0	0	0	0	0	64		
	8:45 AM	0	20	1	0	21	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	40		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	30	0	0	30	0	0	2	0	2	2	57	0	0	59	0	0	0	0	0	91	350	0.86
	3:15 PM	0	28	1	0	29	0	0	0	0	0	0	43	0	0	43	0	0	0	0	0	72	377	0.80
	3:30 PM	0	33	0	0	33	2	0	0	0	2	2	65	0	0	67	0	0	0	0	0	102	398	0.84
	3:45 PM	0	35	0	0	35	0	0	0	0	0	1	48	0	1	50	0	0	0	0	0	85	417	0.86
	4:00 PM	0	42	1	0	43	0	0	0	0	0	1	74	0	0	75	0	0	0	0	0	118	438	0.90
	4:15 PM	0	26	1	0	27	0	0	1	0	1	1	64	0	0	65	0	0	0	0	0	93	445	0.89
	4:30 PM	0	27	0	0	27	0	0	0	0	0	2	92	0	0	94	0	0	0	0	0	121	467	0.93
	4:45 PM	0	29	1	0	30	0	0	1	0	1	1	74	0	0	75	0	0	0	0	0	106	415	0.83
	5:00 PM	0	34	0	0	34	0	0	1	0	1	2	88	0	0	90	0	0	0	0	0	125	384	0.77
	5:15 PM	0	24	1	0	25	0	0	1	0	1	0	89	0	0	89	0	0	0	0	0	115		
	5:30 PM	0	17	0	0	17	2	0	0	0	2	0	50	0	0	50	0	0	0	0	0	69		
	5:45 PM	0	21	0	0	21	0	0	2	0	2	1	51	0	0	52	0	0	0	0	0	75		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		0	1011	11	0	1022	12	0	23	0	35	19	1087	0	1	1107	0	0	0	0	0	2164		

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time		From North (↓) CTH JJ					From East (←) Wamser Drive					From South (↑) CTH JJ					From West (→) Wamser Drive					Total Hourly Volume	PHF
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM	7:00 AM	0	354	1	0	355	2	0	6	0	8	0	134	0	0	134	0	0	0	0	0	497	0.82
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	0	114	2	0	116	0	0	3	0	3	5	343	0	0	348	0	0	0	0	0	467	0.93

Intersection Traffic Volume Report

Count Basics			*Page 6 of 11*
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Automobile Data

Automobiles (Cars, Light Trucks, & Motorcycles)

CTH JJ and Wamser Drive

15-Minute Automobile Data

15-Minute Time Period Start Time		From North (↓) CTH JJ					From East (←) Wamser Drive					From South (↑) CTH JJ					From West (→) Wamser Drive					15-Min Totals	Hourly Sum
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0	28	0	0	28	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	35	202
	6:15 AM	0	27	0	0	27	1	0	1	0	2	0	9	0	0	9	0	0	0	0	0	38	256
	6:30 AM	0	39	1	0	40	1	0	2	0	3	0	11	0	0	11	0	0	0	0	0	54	318
	6:45 AM	0	59	0	0	59	0	0	1	0	1	0	15	0	0	15	0	0	0	0	0	75	413
	7:00 AM	0	61	0	0	61	0	0	1	0	1	0	27	0	0	27	0	0	0	0	0	89	481
	7:15 AM	0	76	0	0	76	0	0	3	0	3	0	21	0	0	21	0	0	0	0	0	100	482
	7:30 AM	0	108	1	0	109	0	0	1	0	1	0	39	0	0	39	0	0	0	0	0	149	460
	7:45 AM	0	103	0	0	103	1	0	1	0	2	0	38	0	0	38	0	0	0	0	0	143	375
	8:00 AM	0	59	1	0	60	2	0	3	0	5	1	24	0	0	25	0	0	0	0	0	90	272
	8:15 AM	0	38	1	0	39	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	78	
	8:30 AM	0	31	1	0	32	2	0	1	0	3	1	28	0	0	29	0	0	0	0	0	64	
	8:45 AM	0	20	1	0	21	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	40	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	27	0	0	27	0	0	1	0	1	0	54	0	0	54	0	0	0	0	0	82	332
	3:15 PM	0	26	1	0	27	0	0	0	0	0	0	42	0	0	42	0	0	0	0	0	69	363
	3:30 PM	0	31	0	0	31	2	0	0	0	2	2	64	0	0	66	0	0	0	0	0	99	385
	3:45 PM	0	33	0	0	33	0	0	0	0	0	1	47	0	1	49	0	0	0	0	0	82	404
	4:00 PM	0	41	1	0	42	0	0	0	0	0	1	70	0	0	71	0	0	0	0	0	113	426
	4:15 PM	0	25	1	0	26	0	0	1	0	1	1	63	0	0	64	0	0	0	0	0	91	437
	4:30 PM	0	27	0	0	27	0	0	0	0	0	2	89	0	0	91	0	0	0	0	0	118	461
	4:45 PM	0	29	1	0	30	0	0	1	0	1	1	72	0	0	73	0	0	0	0	0	104	411
	5:00 PM	0	34	0	0	34	0	0	1	0	1	2	87	0	0	89	0	0	0	0	0	124	381
	5:15 PM	0	24	1	0	25	0	0	1	0	1	0	89	0	0	89	0	0	0	0	0	115	
	5:30 PM	0	17	0	0	17	2	0	0	0	2	0	49	0	0	49	0	0	0	0	0	68	
	5:45 PM	0	20	0	0	20	0	0	2	0	2	1	51	0	0	52	0	0	0	0	0	74	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		0	983	11	0	994	11	0	21	0	32	13	1054	0	1	1068	0	0	0	0	0	2094	

Peak Hour Automobile Volume Summary

Hourly Time Period Start Time		From North (↓) CTH JJ					From East (←) Wamser Drive					From South (↑) CTH JJ					From West (→) Wamser Drive					Total Hourly Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:00 AM	0	348	1	0	349	1	0	6	0	7	0	125	0	0	125	0	0	0	0	0	481
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	114	2	0	116	0	0	3	0	3	5	337	0	0	342	0	0	0	0	0	461

Intersection Traffic Volume Report

Count Basics			*Page 7 of 11*
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Single Unit (SU) Truck & Bus Data

Single Unit (SU) Trucks & Buses

CTH JJ and Wamser Drive

15-Minute Single Unit (SU) Truck & Bus Data

15-Minute Time Period	Start Time	From North (↓) CTH JJ					From East (←) Wamser Drive					From South (↑) CTH JJ					From West (→) Wamser Drive					15-Min Totals	Hourly Sum
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
	6:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	21
	6:30 AM	0	2	0	0	2	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	5	24
	6:45 AM	0	5	0	0	5	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	9	21
	7:00 AM	0	0	0	0	0	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	6	15
	7:15 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	14
	7:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10
	7:45 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	8
	8:00 AM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5	5
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	3	0	0	3	0	0	1	0	1	2	3	0	0	5	0	0	0	0	0	9	16
	3:15 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	12
	3:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	11
	3:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12
	4:00 PM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5	12
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	8
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	6
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	4
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	3
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		0	26	0	0	26	1	0	2	0	3	6	31	0	0	37	0	0	0	0	0	66	

Peak Hour Single Unit (SU) Truck & Buses Volume Summary

Hourly Time Period	Start Time	From North (↓) CTH JJ					From East (←) Wamser Drive					From South (↑) CTH JJ					From West (→) Wamser Drive					Total Hourly Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:00 AM	0	6	0	0	6	1	0	0	0	1	0	8	0	0	8	0	0	0	0	0	15
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6

Intersection Traffic Volume Report

Count Basics			*Page 8 of 11*
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Semi-Truck Data

Semi-Trucks

CTH JJ and Wamser Drive

15-Minute Semi-Truck Data

15-Minute Time Period Start Time		From North (CTH JJ)					From East (Wamser Drive)					From South (CTH JJ)					From West (Wamser Drive)					15-Min Totals	Hourly Sum
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	3:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	

Peak Hour Semi-Truck Volume Summary

Hourly Time Period Start Time		From North (CTH JJ)					From East (Wamser Drive)					From South (CTH JJ)					From West (Wamser Drive)					Total Hourly Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1

Intersection Traffic Volume Report

Count Basics			*Page 9 of 11*
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

Heavy Vehicles (Single-Unit Trucks, Buses & Semi-Trucks)

CTH JJ and Wamser Drive

15-Minute Heavy Vehicle Data

15-Minute Time Period Start Time		From North (↓) CTH JJ					From East (←) Wamser Drive					From South (↑) CTH JJ					From West (→) Wamser Drive					15-Min Totals	Hourly Sum
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
	6:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	22
	6:30 AM	0	3	0	0	3	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	6	25
	6:45 AM	0	5	0	0	5	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	9	22
	7:00 AM	0	0	0	0	0	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	6	16
	7:15 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	15
	7:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	11
	7:45 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	8
	8:00 AM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5	5
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	3	0	0	3	0	0	1	0	1	2	3	0	0	5	0	0	0	0	0	9	18
	3:15 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	14
	3:30 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	13
	3:45 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	13
	4:00 PM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5	12
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	8
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	6
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	4
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	3
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		0	28	0	0	28	1	0	2	0	3	6	33	0	0	39	0	0	0	0	0	70	

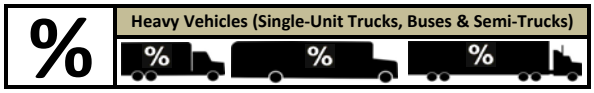
Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period Start Time		From North (↓) CTH JJ					From East (←) Wamser Drive					From South (↑) CTH JJ					From West (→) Wamser Drive					Total Hourly Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:00 AM	0	6	0	0	6	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	16
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6

Intersection Traffic Volume Report

Count Basics			*Page 10 of 11*
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Heavy Vehicle Percentages



CTH JJ and Wamser Drive

15-Minute Heavy Vehicle Percentages

15-Minute Time Period Start Time		From North (↓) CTH JJ					From East (←) Wamser Drive					From South (↑) CTH JJ					From West (→) Wamser Drive					Total Heavy Vehicle Percent	Hourly Heavy Vehicle Percent
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3
	6:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	2.6	7.9
	6:30 AM	0.0	7.1	0.0	0.0	7.0	0.0	0.0	33.3	0.0	25.0	100.0	8.3	0.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0	10.0	7.3
	6:45 AM	0.0	7.8	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0	100.0	11.8	0.0	0.0	21.1	0.0	0.0	0.0	0.0	0.0	10.7	5.1
	7:00 AM	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	50.0	0.0	15.6	0.0	0.0	15.6	0.0	0.0	0.0	0.0	0.0	6.3	3.2
	7:15 AM	0.0	2.6	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	3.8	3.0
	7:30 AM	0.0	1.8	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	2.0	2.3
	7:45 AM	0.0	1.9	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	2.1	2.1
	8:00 AM	0.0	3.3	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	0.0	10.7	0.0	0.0	0.0	0.0	0.0	5.3	1.8
	8:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Midday Peak Period	10:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	10:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	10:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	10:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PM Peak Period	2:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	2:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	2:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	2:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	3:00 PM	0.0	10.0	0.0	0.0	10.0	0.0	0.0	50.0	0.0	50.0	100.0	5.3	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0	9.9	5.1
	3:15 PM	0.0	7.1	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	4.2	3.7
	3:30 PM	0.0	6.1	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	2.9	3.3
	3:45 PM	0.0	5.7	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	3.5	3.1
	4:00 PM	0.0	2.4	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	4.2	2.7
	4:15 PM	0.0	3.8	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	2.2	1.8
	4:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	2.5	1.3
	4:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	1.9	1.0
	5:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.8	0.8
	5:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	5:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	1.4	
	5:45 PM	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	
	6:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	6:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	6:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	6:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Totals		0.0	2.8	0.0	0.0	2.7	8.3	0.0	8.7	0.0	8.6	31.6	3.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	3.2	

Peak Hour Heavy Vehicle Percentages Summary

Hourly Time Period Start Time		From North (↓) CTH JJ					From East (←) Wamser Drive					From South (↑) CTH JJ					From West (→) Wamser Drive					Hourly Heavy Vehicle Percent
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:00 AM	0.0	1.7	0.0	0.0	1.7	50.0	0.0	0.0	0.0	12.5	0.0	6.7	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	3.2
MD	12:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	4:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	1.3

Intersection Traffic Volume Report

Count Basics			Page 11 of 11
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Pedestrian and Bicyclist Data

Pedestrians and Bicyclists

CTH JJ and Wamser Drive

15-Minute Pedestrian and Bicyclist Data

	15-Minute Time Period Start Time	Crossing North Approach CTH JJ			Crossing East Approach Wamser Drive			Crossing South Approach CTH JJ			Crossing West Approach Wamser Drive			15-Min Totals	Hourly Sum
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	1	0	1	0	0	0	0	0	0	1	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	1
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		0	0	0	1	0	1	0	0	0	1	1	2	3	

Special Pedestrians

Pedestrian Type	None	1 or 2	A Few	Several	Many	Unknown
Pre-school Children	x					
Elementry School Age Children	x					
Visually Impaired (white cane/helper dog)	x					
Elderly/Disabled (except wheelchairs)	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1		Page 1 of 11
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Intersection of: CTH JJ and Harken Access Driveway

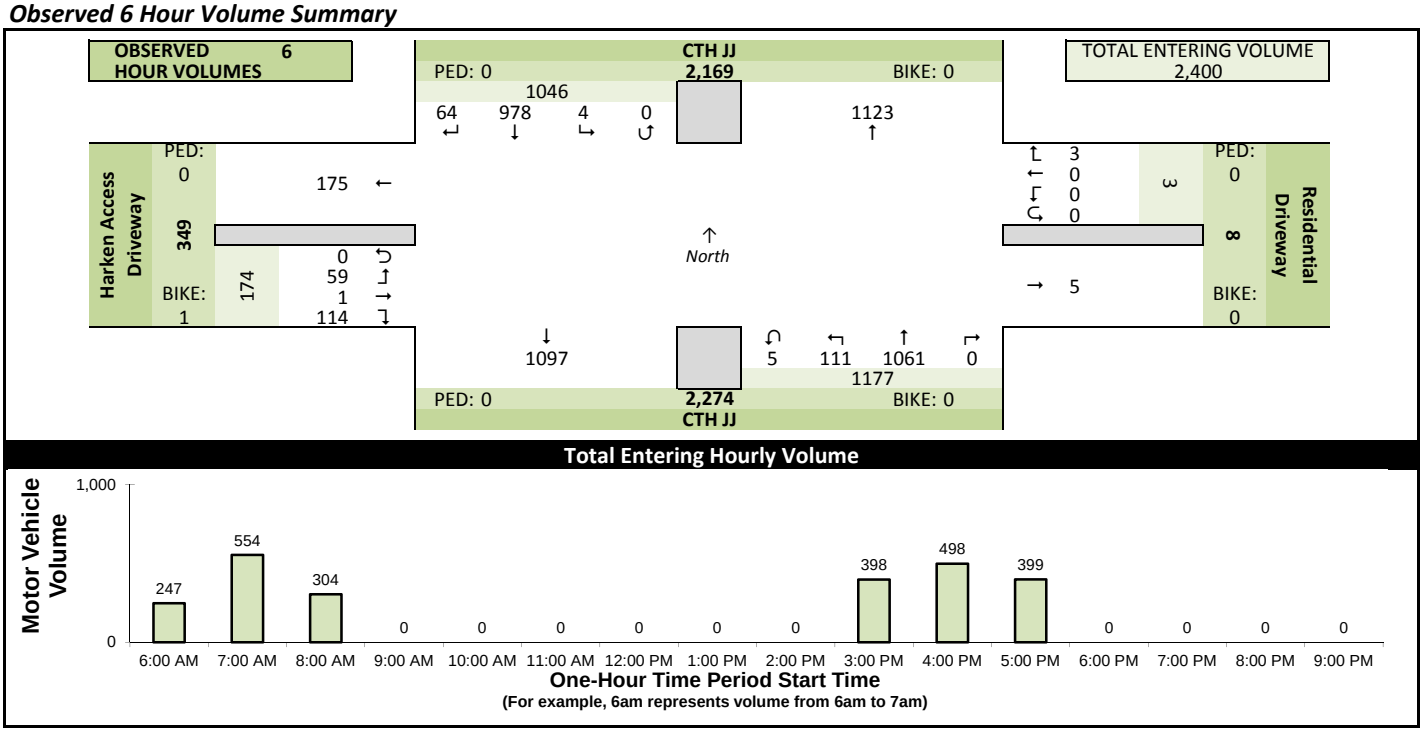
Site Information

Municipality	City of Pewaukee		
County	Waukesha	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↑
North Leg	CTH JJ		
East Leg	Residential Driveway		
South Leg	CTH JJ		
West Leg	Harken Access Driveway		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementry school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None	None	

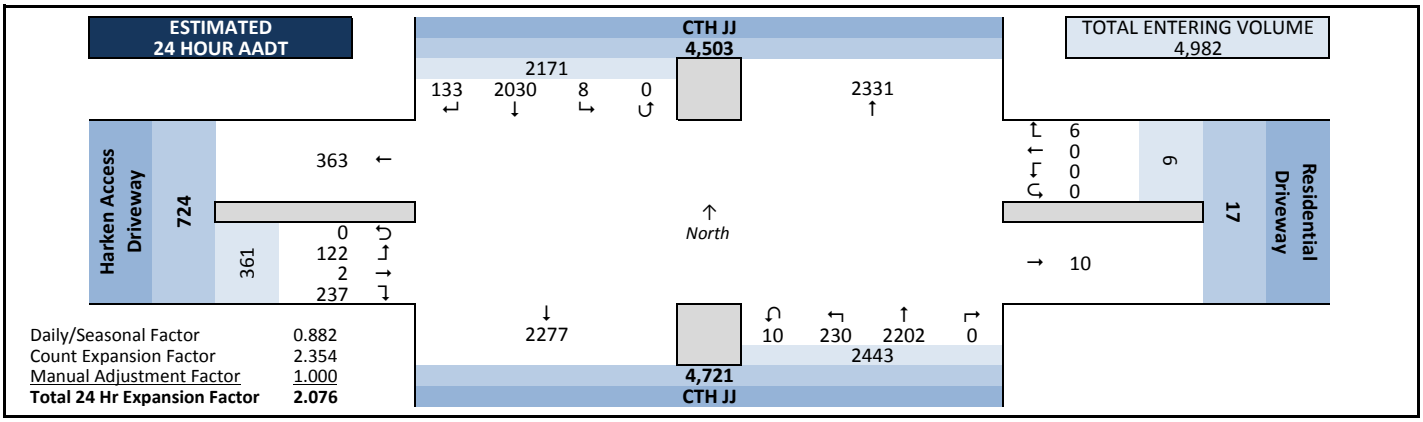
Count Information

Hrs Counted:	6:00 AM-9:00 AM and 3:00 PM-6:00 PM				
1st Day of Count	Thursday, September 22, 2016			Weather	
AM Peak Period	Thursday, September 22, 2016			Clear & Dry	
Midday Peak Period	Thursday, September 22, 2016			Clear & Dry	
PM Peak Period	Thursday, September 22, 2016			Clear & Dry	
Calculated Peak Hours					
AM	7:00-8:00am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:00-8:00am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors				
Count Expansion Group	(2) Urban Arterials & Collectors				
Daily/Seasonal Adjustment Factor	0.882	Count Expansion Factor	2.354		
Company Name	TADI, Inc.			Manual Adj.	1.000
Observers	AM Peak Period	Ted Atwell			
	Midday Peak Period	None			
	PM Peak Period	Karlyn Bieberitz			
Comments	Version 2011.J4.1				
	2015 DOT Factors				

Observed 6 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

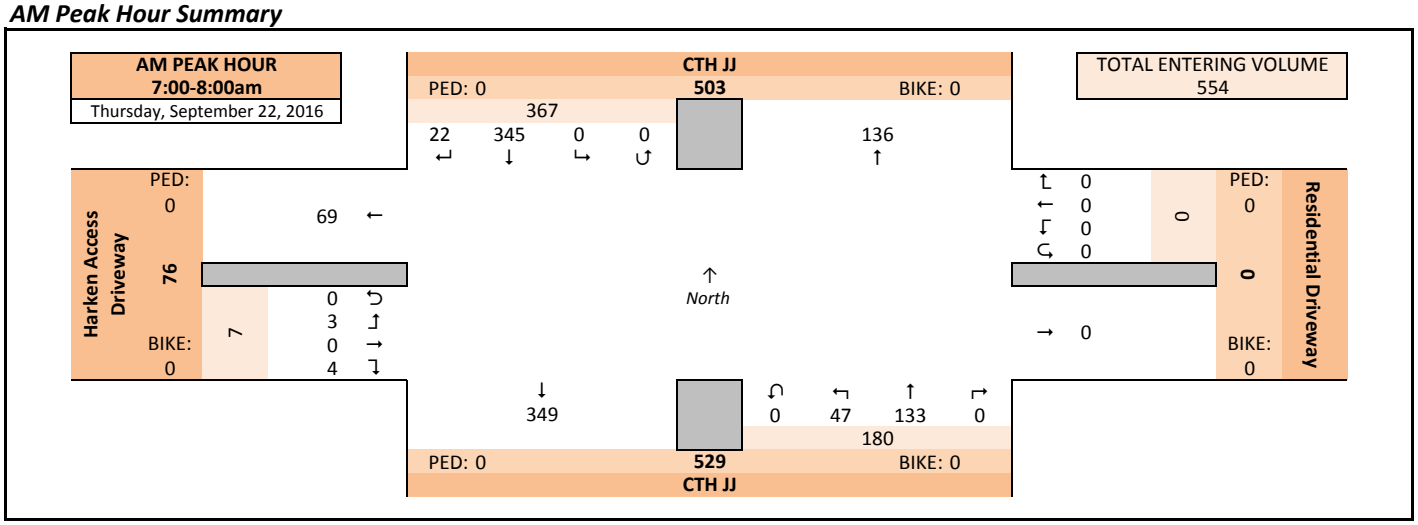
Count Basics			Page 2 of 11
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

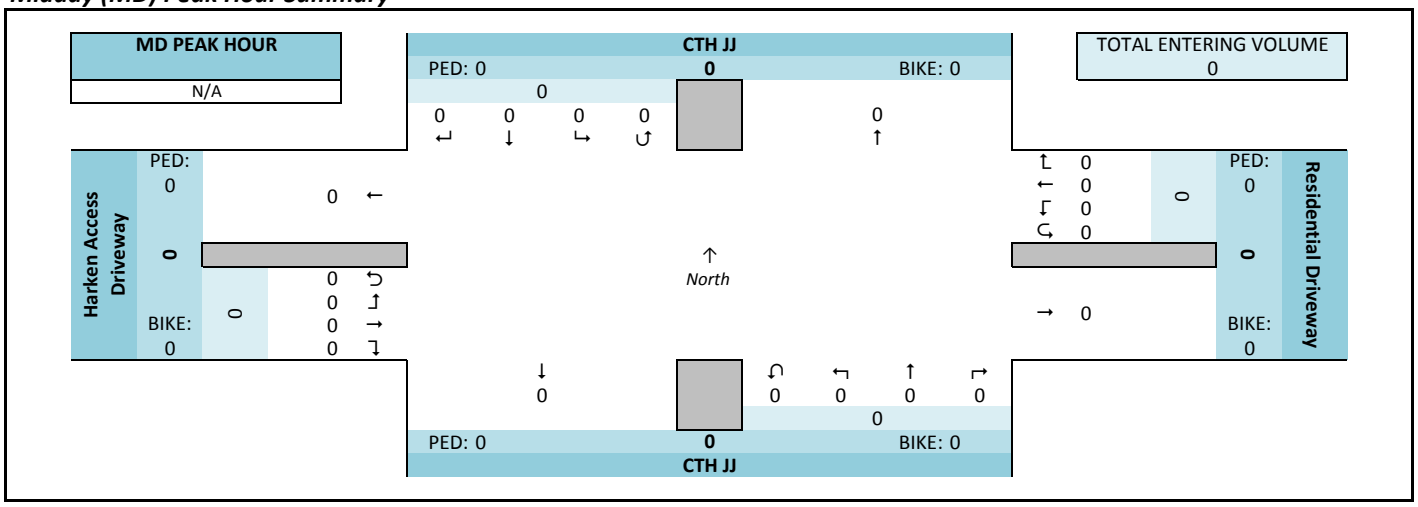
CTH JJ and Harken Access Driveway

All Motor Vehicles

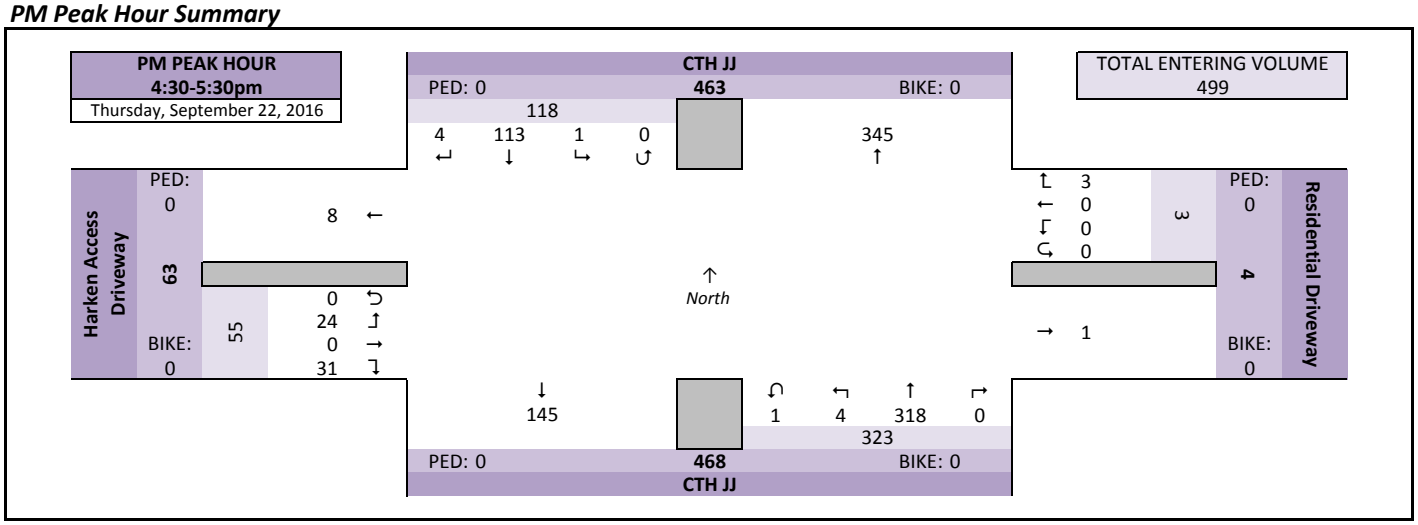
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics			Page 3 of 11
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Peak Hour Volume Summary

CTH JJ and Harken Access Driveway

All Motor Vehicles

Peak Hour Volumes, Truck Percentages, and PHFs

Thursday, September 22, 2016		From North					From East					From South					From West					
	AM Peak Hour	CTH JJ					Residential Driveway					CTH JJ					Harken Access Driveway					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
AM Peak Hour	7:00 AM	6	60	0	0	66	0	0	0	0	0	0	31	14	0	45	2	0	0	0	2	113
	7:15 AM	7	75	0	0	82	0	0	0	0	0	0	22	13	0	35	1	0	1	0	2	119
	7:30 AM	6	101	0	0	107	0	0	0	0	0	0	40	11	0	51	1	0	2	0	3	161
	7:45 AM	3	109	0	0	112	0	0	0	0	0	0	40	9	0	49	0	0	0	0	0	161
	Peak Hour Volume	22	345	0	0	367	0	0	0	0	0	0	133	47	0	180	4	0	3	0	7	554
	Rounded Hourly Volume	20	345	0	0	365	0	0	0	0	0	0	135	45	0	180	5	0	5	0	10	555
	% Single Unit Trucks	0.0	1.7	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	4.5	6.4	0.0	5.0	75.0	0.0	0.0	0.0	42.9	3.2
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	14.3	0.2
	% Trucks (Total)	0.0	1.7	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	4.5	6.4	0.0	5.0	75.0	0.0	33.3	0.0	57.1	3.4
	Peak Hour Factor (PHF)	0.79	0.79	0.00	0.00	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.84	0.00	0.88	0.50	0.00	0.37	0.00	0.58	0.86

N/A		From North					From East					From South					From West					
	MD Peak Hour	CTH JJ					Residential Driveway					CTH JJ					Harken Access Driveway					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Thursday, September 22, 2016		From North					From East					From South					From West					
	PM Peak Hour	CTH JJ					Residential Driveway					CTH JJ					Harken Access Driveway					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
PM Peak Hour	4:30 PM	0	27	0	0	27	0	0	0	0	0	0	81	3	1	85	14	0	8	0	22	134
	4:45 PM	0	30	1	0	31	0	0	0	0	0	0	69	0	0	69	9	0	6	0	15	115
	5:00 PM	3	31	0	0	34	3	0	0	0	3	0	88	0	0	88	4	0	1	0	5	130
	5:15 PM	1	25	0	0	26	0	0	0	0	0	0	80	1	0	81	4	0	9	0	13	120
	Peak Hour Volume	4	113	1	0	118	3	0	0	0	3	0	318	4	1	323	31	0	24	0	55	499
	Rounded Hourly Volume	5	115	0	0	120	5	0	0	0	5	0	320	5	0	325	30	0	25	0	55	505
	% Single Unit Trucks	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.6	25.0	0.0	1.9	3.2	0.0	0.0	0.0	1.8	1.6
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.6	25.0	0.0	1.9	3.2	0.0	0.0	0.0	1.8	1.6
	Peak Hour Factor (PHF)	0.33	0.91	0.25	0.00	0.87	0.25	0.00	0.00	0.00	0.25	0.00	0.90	0.33	0.25	0.92	0.55	0.00	0.67	0.00	0.62	0.93

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
		CTH JJ			Residential Driveway			CTH JJ			Harken Access Driveway			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

Count Basics			Page 4 of 11
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

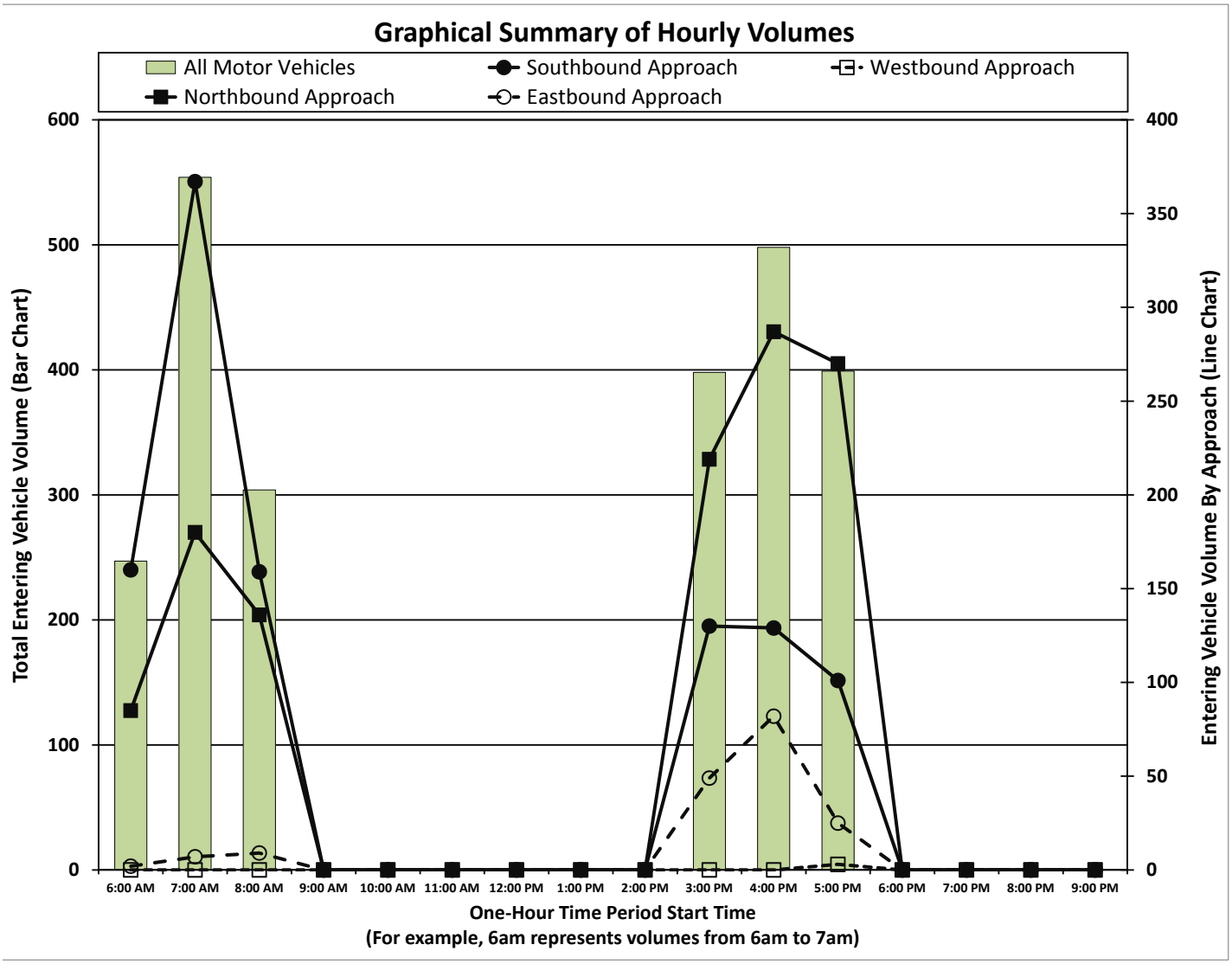
Hourly Volume Summary - Motor Vehicle Data

All Motor Vehicles

CTH JJ and Harken Access Driveway

One-Hour Motor Vehicle Data

One-Hour Time Period Start Time		From North (↓) CTH JJ					From East (←) Residential Driveway					From South (↑) CTH JJ					From West (→) Harken Access Driveway					Total Vehicle Volume	Directional Volume Totals	
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		E/W	N/S
AM	6:00 AM	19	141	0	0	160	0	0	0	0	0	0	53	32	0	85	1	0	1	0	2	247	2	245
	7:00 AM	22	345	0	0	367	0	0	0	0	0	0	133	47	0	180	4	0	3	0	7	554	7	547
	8:00 AM	15	144	0	0	159	0	0	0	0	0	0	118	15	3	136	5	0	4	0	9	304	9	295
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	3	126	1	0	130	0	0	0	0	0	0	212	7	0	219	37	0	12	0	49	398	49	349
	4:00 PM	1	127	1	0	129	0	0	0	0	0	0	279	7	1	287	56	1	25	0	82	498	82	416
	5:00 PM	4	95	2	0	101	3	0	0	0	3	0	266	3	1	270	11	0	14	0	25	399	28	371
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals		64	978	4	0	1046	3	0	0	0	3	0	1061	111	5	1177	114	1	59	0	174	2400	177	2223



Intersection Traffic Volume Report

Count Basics		Page 5 of 11
Start Date: Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles

CTH JJ and Harken Access Driveway

15-Minute Motor Vehicle Data

	15-Minute Time Period Start Time	From North (↓) CTH JJ					From East (←) Residential Driveway					From South (↑) CTH JJ					From West (→) Harken Access Driveway					15-Min Totals	Hourly Sum	PHF
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
AM Peak Period	6:00 AM	2	24	0	0	26	0	0	0	0	0	0	9	5	0	14	0	0	0	0	0	40	247	0.69
	6:15 AM	4	24	0	0	28	0	0	0	0	0	0	10	7	0	17	0	0	0	0	0	45	320	0.71
	6:30 AM	9	35	0	0	44	0	0	0	0	0	0	13	13	0	26	1	0	1	0	2	72	394	0.83
	6:45 AM	4	58	0	0	62	0	0	0	0	0	0	21	7	0	28	0	0	0	0	0	90	483	0.75
	7:00 AM	6	60	0	0	66	0	0	0	0	0	0	31	14	0	45	2	0	0	0	2	113	554	0.86
	7:15 AM	7	75	0	0	82	0	0	0	0	0	0	22	13	0	35	1	0	1	0	2	119	539	0.84
	7:30 AM	6	101	0	0	107	0	0	0	0	0	0	40	11	0	51	1	0	2	0	3	161	503	0.78
	7:45 AM	3	109	0	0	112	0	0	0	0	0	0	40	9	0	49	0	0	0	0	0	161	409	0.64
	8:00 AM	5	59	0	0	64	0	0	0	0	0	0	26	5	0	31	1	0	2	0	3	98	304	0.78
	8:15 AM	4	34	0	0	38	0	0	0	0	0	0	38	4	0	42	2	0	1	0	3	83		
	8:30 AM	4	30	0	0	34	0	0	0	0	0	0	31	2	0	33	0	0	0	0	0	67		
	8:45 AM	2	21	0	0	23	0	0	0	0	0	0	23	4	3	30	2	0	1	0	3	56		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	33	1	0	34	0	0	0	0	0	0	53	2	0	55	16	0	5	0	21	110	398	0.87
	3:15 PM	1	27	0	0	28	0	0	0	0	0	0	43	2	0	45	2	0	2	0	4	77	432	0.75
	3:30 PM	1	31	0	0	32	0	0	0	0	0	0	66	1	0	67	13	0	3	0	16	115	460	0.80
	3:45 PM	1	35	0	0	36	0	0	0	0	0	0	50	2	0	52	6	0	2	0	8	96	479	0.83
	4:00 PM	0	44	0	0	44	0	0	0	0	0	0	67	2	0	69	23	1	7	0	31	144	498	0.86
	4:15 PM	1	26	0	0	27	0	0	0	0	0	0	62	2	0	64	10	0	4	0	14	105	484	0.90
	4:30 PM	0	27	0	0	27	0	0	0	0	0	0	81	3	1	85	14	0	8	0	22	134	499	0.93
	4:45 PM	0	30	1	0	31	0	0	0	0	0	0	69	0	0	69	9	0	6	0	15	115	438	0.84
	5:00 PM	3	31	0	0	34	3	0	0	0	3	0	88	0	0	88	4	0	1	0	5	130	399	0.77
	5:15 PM	1	25	0	0	26	0	0	0	0	0	0	80	1	0	81	4	0	9	0	13	120		
	5:30 PM	0	16	1	0	17	0	0	0	0	0	0	49	2	1	52	2	0	2	0	4	73		
	5:45 PM	0	23	1	0	24	0	0	0	0	0	0	49	0	0	49	1	0	2	0	3	76		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		64	978	4	0	1046	3	0	0	0	3	0	1061	111	5	1177	114	1	59	0	174	2400		

Peak Hour All Vehicle Volume Summary

	Hourly Time Period Start Time	From North (↓) CTH JJ					From East (←) Residential Driveway					From South (↑) CTH JJ					From West (→) Harken Access Driveway					Total Hourly Volume	PHF
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM	7:00 AM	22	345	0	0	367	0	0	0	0	0	0	133	47	0	180	4	0	3	0	7	554	0.86
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	4	113	1	0	118	3	0	0	0	3	0	318	4	1	323	31	0	24	0	55	499	0.93

Intersection Traffic Volume Report

Count Basics			*Page 6 of 11*
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Automobile Data

Automobiles (Cars, Light Trucks, & Motorcycles)

CTH JJ and Harken Access Driveway

15-Minute Automobile Data

	15-Minute Time Period	From North (↓) CTH JJ					From East (←) Residential Driveway					From South (↑) CTH JJ					From West (→) Harken Access Driveway					15-Min	Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	Sum
AM Peak Period	6:00 AM	2	24	0	0	26	0	0	0	0	0	0	9	5	0	14	0	0	0	0	0	40	227
	6:15 AM	4	24	0	0	28	0	0	0	0	0	0	9	7	0	16	0	0	0	0	0	44	294
	6:30 AM	8	32	0	0	40	0	0	0	0	0	0	10	13	0	23	0	0	1	0	1	64	366
	6:45 AM	4	54	0	0	58	0	0	0	0	0	0	16	5	0	21	0	0	0	0	0	79	457
	7:00 AM	6	60	0	0	66	0	0	0	0	0	0	28	13	0	41	0	0	0	0	0	107	535
	7:15 AM	7	74	0	0	81	0	0	0	0	0	0	21	12	0	33	1	0	1	0	2	116	523
	7:30 AM	6	98	0	0	104	0	0	0	0	0	0	40	10	0	50	0	0	1	0	1	155	489
	7:45 AM	3	107	0	0	110	0	0	0	0	0	0	38	9	0	47	0	0	0	0	0	157	400
	8:00 AM	5	58	0	0	63	0	0	0	0	0	0	24	5	0	29	1	0	2	0	3	95	299
	8:15 AM	4	34	0	0	38	0	0	0	0	0	0	37	4	0	41	2	0	1	0	3	82	
	8:30 AM	3	30	0	0	33	0	0	0	0	0	0	31	2	0	33	0	0	0	0	0	66	
	8:45 AM	2	21	0	0	23	0	0	0	0	0	0	23	4	3	30	2	0	1	0	3	56	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	29	1	0	30	0	0	0	0	0	0	49	1	0	50	16	0	5	0	21	101	373
	3:15 PM	1	25	0	0	26	0	0	0	0	0	0	41	1	0	42	1	0	2	0	3	71	412
	3:30 PM	1	29	0	0	30	0	0	0	0	0	0	65	1	0	66	12	0	3	0	15	111	442
	3:45 PM	1	33	0	0	34	0	0	0	0	0	0	48	1	0	49	5	0	2	0	7	90	461
	4:00 PM	0	43	0	0	43	0	0	0	0	0	0	65	2	0	67	23	1	6	0	30	140	483
	4:15 PM	1	25	0	0	26	0	0	0	0	0	0	61	1	0	62	9	0	4	0	13	101	472
	4:30 PM	0	27	0	0	27	0	0	0	0	0	0	79	2	1	82	13	0	8	0	21	130	491
	4:45 PM	0	29	1	0	30	0	0	0	0	0	0	67	0	0	67	9	0	6	0	15	112	433
	5:00 PM	3	31	0	0	34	3	0	0	0	3	0	87	0	0	87	4	0	1	0	5	129	396
	5:15 PM	1	25	0	0	26	0	0	0	0	0	0	80	1	0	81	4	0	9	0	13	120	
	5:30 PM	0	16	1	0	17	0	0	0	0	0	0	48	2	1	51	2	0	2	0	4	72	
	5:45 PM	0	22	1	0	23	0	0	0	0	0	0	49	0	0	49	1	0	2	0	3	75	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		62	950	4	0	1016	3	0	0	0	3	0	1025	101	5	1131	105	1	57	0	163	2313	

Peak Hour Automobile Volume Summary

	Hourly Time Period	From North (↓) CTH JJ					From East (←) Residential Driveway					From South (↑) CTH JJ					From West (→) Harken Access Driveway					Total Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume
AM	7:00 AM	22	339	0	0	361	0	0	0	0	0	0	127	44	0	171	1	0	2	0	3	535
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	4	112	1	0	117	3	0	0	0	3	0	313	3	1	317	30	0	24	0	54	491

Intersection Traffic Volume Report

Count Basics			*Page 7 of 11*
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Single Unit (SU) Truck & Bus Data

Single Unit (SU) Trucks & Buses

CTH JJ and Harken Access Driveway

15-Minute Single Unit (SU) Truck & Bus Data

15-Minute Time Period	Start Time	From North (↓) CTH JJ					From East (←) Residential Driveway					From South (↑) CTH JJ					From West (→) Harken Access Driveway					15-Min Totals	Hourly Sum
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	23
	6:30 AM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6	25
	6:45 AM	0	4	0	0	4	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	10	24
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	2	0	0	0	2	6	18
	7:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	3	15
	7:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	5	13
	7:45 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	9
	8:00 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3	5
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
	8:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	4	0	0	4	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	9	22
	3:15 PM	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	5	17
	3:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	3	16
	3:45 PM	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	5	17
	4:00 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	4	15
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	4	12
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	4	8
	4:45 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3	5
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	3
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		1	27	0	0	28	0	0	0	0	0	0	35	9	0	44	7	0	1	0	8	80	

Peak Hour Single Unit (SU) Truck & Buses Volume Summary

Hourly Time Period	Start Time	From North (↓) CTH JJ					From East (←) Residential Driveway					From South (↑) CTH JJ					From West (→) Harken Access Driveway					Total Hourly Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:00 AM	0	6	0	0	6	0	0	0	0	0	0	6	3	0	9	3	0	0	0	3	18
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	1	0	0	1	0	0	0	0	0	0	5	1	0	6	1	0	0	0	1	8

Intersection Traffic Volume Report

Count Basics			*Page 8 of 11*
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Semi-Truck Data

Semi-Trucks

CTH JJ and Harken Access Driveway

15-Minute Semi-Truck Data

15-Minute Time Period Start Time		From North (CTH JJ)					From East (Residential Driveway)					From South (CTH JJ)					From West (Harken Access Driveway)					15-Min Totals	Hourly Sum
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	6:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	3
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	3
	3:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		1	1	0	0	2	0	0	0	0	0	0	1	1	0	2	2	0	1	0	3	7	

Peak Hour Semi-Truck Volume Summary

Hourly Time Period Start Time		From North (CTH JJ)					From East (Residential Driveway)					From South (CTH JJ)					From West (Harken Access Driveway)					Total Hourly Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1

Intersection Traffic Volume Report

Count Basics			*Page 9 of 11*
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

Heavy Vehicles (Single-Unit Trucks, Buses & Semi-Trucks)

CTH JJ and Harken Access Driveway

15-Minute Heavy Vehicle Data

15-Minute Time Period Start Time		From North (CTH JJ)					From East (Residential Driveway)					From South (CTH JJ)					From West (Harken Access Driveway)					15-Min Totals	Hourly Sum
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	26
	6:30 AM	1	3	0	0	4	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	8	28
	6:45 AM	0	4	0	0	4	0	0	0	0	0	0	5	2	0	7	0	0	0	0	0	11	26
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	2	0	0	0	2	6	19
	7:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	3	16
	7:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	1	0	1	0	2	6	14
	7:45 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	9
	8:00 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3	5
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
	8:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	4	0	0	4	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	9	25
	3:15 PM	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	6	20
	3:30 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	4	18
	3:45 PM	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	6	18
	4:00 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	4	15
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	4	12
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	4	8
	4:45 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3	5
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	3
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		2	28	0	0	30	0	0	0	0	0	0	36	10	0	46	9	0	2	0	11	87	

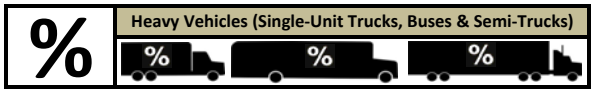
Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period Start Time		From North (CTH JJ)					From East (Residential Driveway)					From South (CTH JJ)					From West (Harken Access Driveway)					Total Hourly Volume
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:00 AM	0	6	0	0	6	0	0	0	0	0	0	6	3	0	9	3	0	1	0	4	19
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	1	0	0	1	0	0	0	0	0	0	5	1	0	6	1	0	0	0	1	8

Intersection Traffic Volume Report

Count Basics			Page 10 of 11
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Heavy Vehicle Percentages



CTH JJ and Harken Access Driveway

15-Minute Heavy Vehicle Percentages

	15-Minute Time Period Start Time	From North (CTH JJ)					From East (Residential Driveway)					From South (CTH JJ)					From West (Harken Access Driveway)					Total Heavy Vehicle Percent	Hourly Heavy Vehicle Percent
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1
	6:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	2.2	8.1
	6:30 AM	11.1	8.6	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	23.1	0.0	0.0	11.5	100.0	0.0	0.0	0.0	50.0	11.1	7.1
	6:45 AM	0.0	6.9	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	23.8	28.6	0.0	25.0	0.0	0.0	0.0	0.0	0.0	12.2	5.4
	7:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	7.1	0.0	8.9	100.0	0.0	0.0	0.0	100.0	5.3	3.4
	7:15 AM	0.0	1.3	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	4.5	7.7	0.0	5.7	0.0	0.0	0.0	0.0	0.0	2.5	3.0
	7:30 AM	0.0	3.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	2.0	100.0	0.0	50.0	0.0	66.7	3.7	2.8
	7:45 AM	0.0	1.8	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	2.5	2.2
	8:00 AM	0.0	1.7	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	3.1	1.6
	8:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	1.2	
	8:30 AM	25.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	
	8:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Midday Peak Period	10:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	10:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	10:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	10:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	11:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	12:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	1:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PM Peak Period	2:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	2:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	2:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	2:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	3:00 PM	0.0	12.1	0.0	0.0	11.8	0.0	0.0	0.0	0.0	0.0	0.0	7.5	50.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	8.2	6.3
	3:15 PM	0.0	7.4	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	4.7	50.0	0.0	6.7	50.0	0.0	0.0	0.0	25.0	7.8	4.6
	3:30 PM	0.0	6.5	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	1.5	7.7	0.0	0.0	0.0	6.2	3.5	3.9
	3:45 PM	0.0	5.7	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	4.0	50.0	0.0	5.8	16.7	0.0	0.0	0.0	12.5	6.2	3.8
	4:00 PM	0.0	2.3	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	2.9	0.0	0.0	14.3	0.0	3.2	2.8	3.0
	4:15 PM	0.0	3.8	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	1.6	50.0	0.0	3.1	10.0	0.0	0.0	0.0	7.1	3.8	2.5
	4:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	33.3	0.0	3.5	7.1	0.0	0.0	0.0	4.5	3.0	1.6
	4:45 PM	0.0	3.3	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	2.6	1.1
	5:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.8	0.8
	5:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	5:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	1.4	
	5:45 PM	0.0	4.3	0.0	0.0	4.2	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	0.0	0.0	1.3	
	6:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	6:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	6:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	6:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	7:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	8:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	9:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Totals		3.1	2.9	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	3.4	9.0	0.0	3.9	7.9	0.0	3.4	0.0	6.3	3.6	

Peak Hour Heavy Vehicle Percentages Summary

Hourly Time Period	Start Time	From North (CTH JJ)					From East (Residential Driveway)					From South (CTH JJ)					From West (Harken Access Driveway)					Hourly Heavy Vehicle Percent
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:00 AM	0.0	1.7	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	4.5	6.4	0.0	5.0	75.0	0.0	33.3	0.0	57.1	3.4
MD	12:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	4:30 PM	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.6	25.0	0.0	1.9	3.2	0.0	0.0	0.0	1.8	1.6

Intersection Traffic Volume Report

Count Basics			Page 11 of 11
Start Date:	Thursday, September 22, 2016	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

15-Minute Pedestrian and Bicyclist Data

Pedestrians and Bicyclists

CTH JJ and Harken Access Driveway

15-Minute Pedestrian and Bicyclist Data

	15-Minute Time Period	Crossing North Approach CTH JJ			Crossing East Approach Residential Driveway			Crossing South Approach CTH JJ			Crossing West Approach Harken Access Driveway			15-Min	Hourly
	Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Totals	Sum
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		0	0	0	0	0	0	0	0	0	0	1	1	1	

Special Pedestrians

Pedestrian Type	None	1 or 2	A Few	Several	Many	Unknown
Pre-school Children	x					
Elementry School Age Children	x					
Visually Impaired (white cane/helper dog)	x					
Elderly/Disabled (except wheelchairs)	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					

APPENDIX A

ITE Trip Generation Rates & Equations

General Light Industrial
(110)

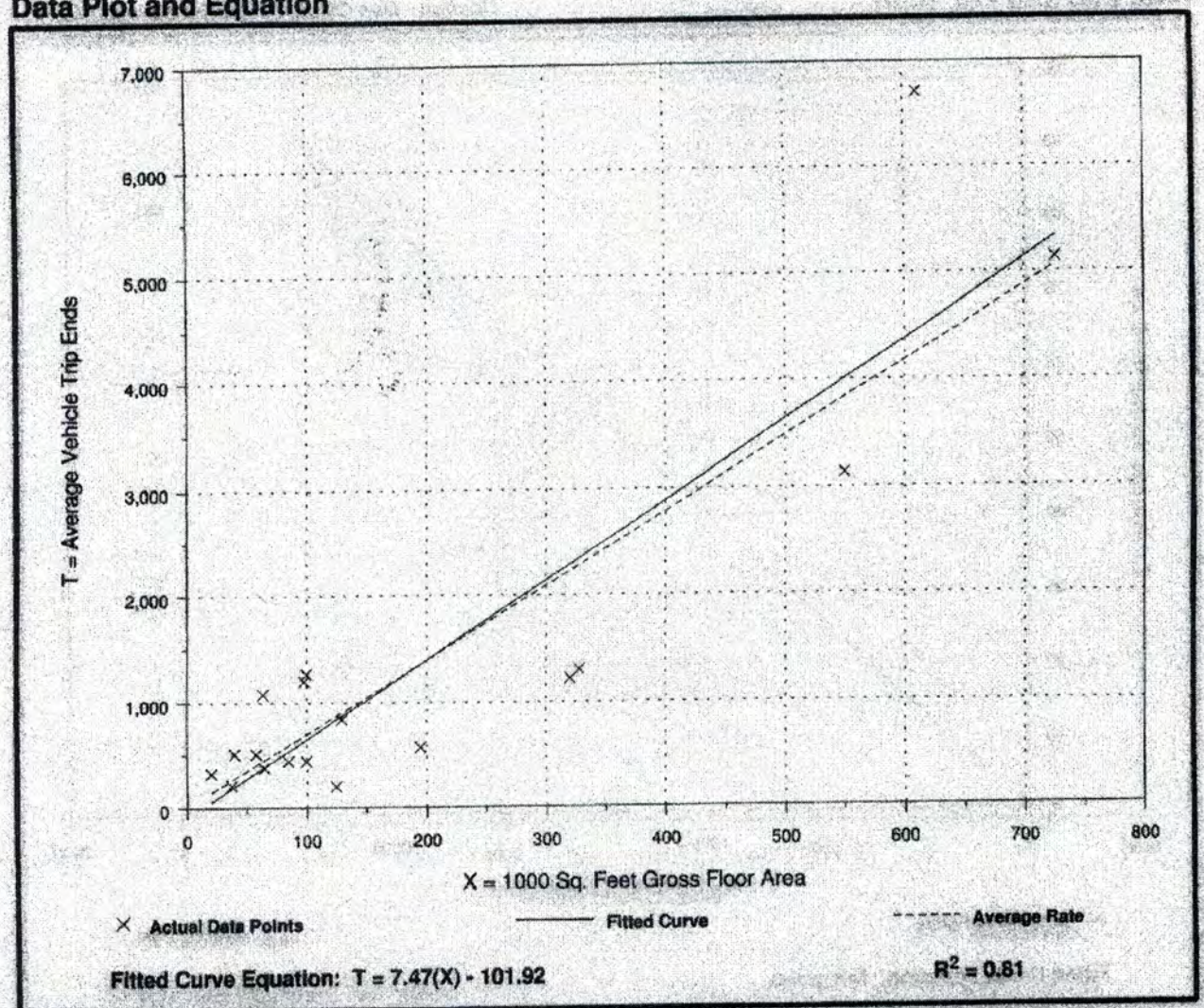
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday

Number of Studies: 18
Average 1000 Sq. Feet GFA: 203
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
6.97	1.58 - 16.88	4.24

Data Plot and Equation



Fitted Curve Equation: T = 7.47(X) - 101.92

R^2 = 0.81

General Light Industrial
(110)

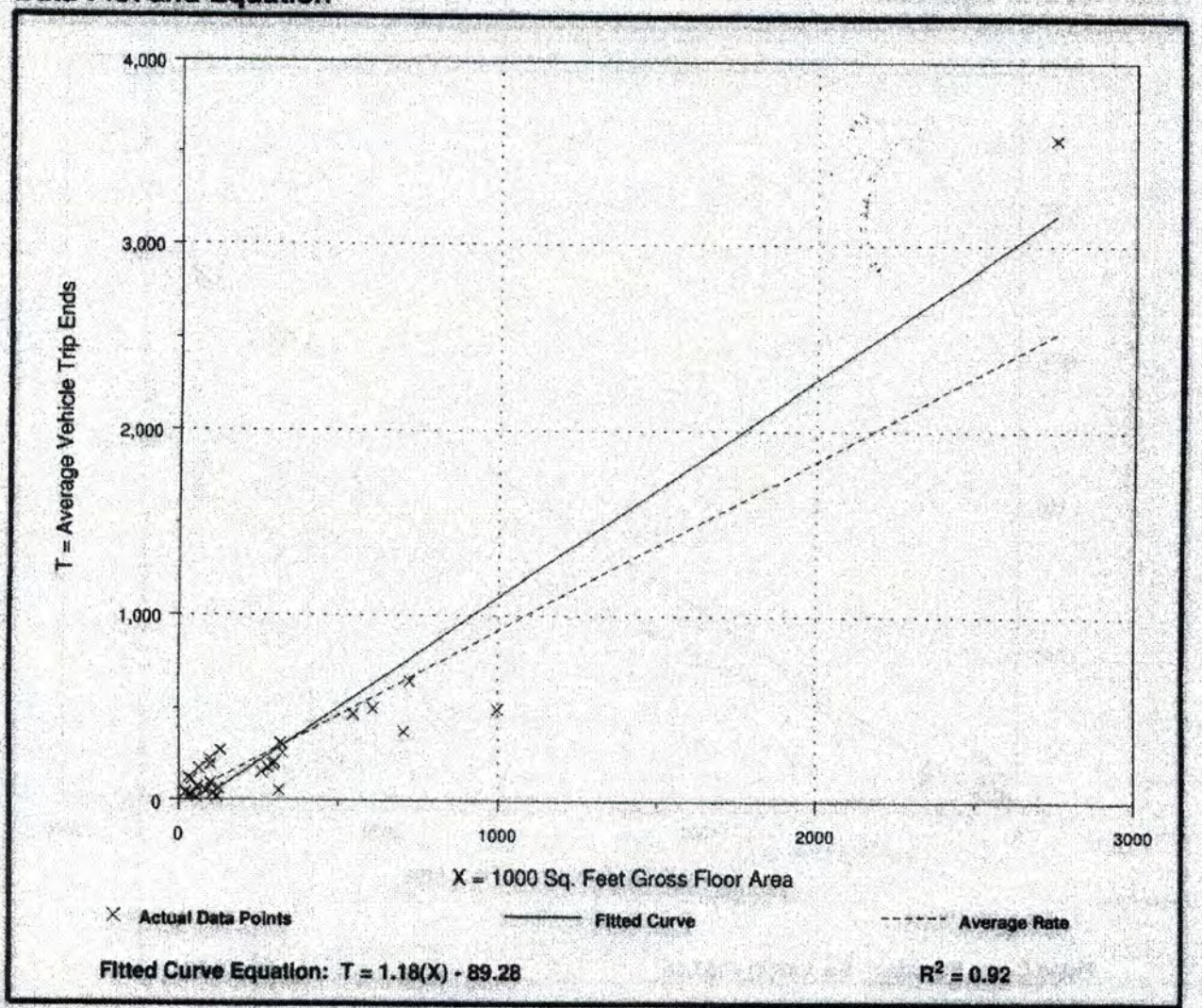
Average Vehicle Trip Ends vs: **1000 Sq. Feet Gross Floor Area**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 29
Average 1000 Sq. Feet GFA: 336
Directional Distribution: 88% entering, 12% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.92	0.17 - 4.00	1.07

Data Plot and Equation



Fitted Curve Equation: $T = 1.18(X) - 89.28$ $R^2 = 0.92$

General Light Industrial
(110)

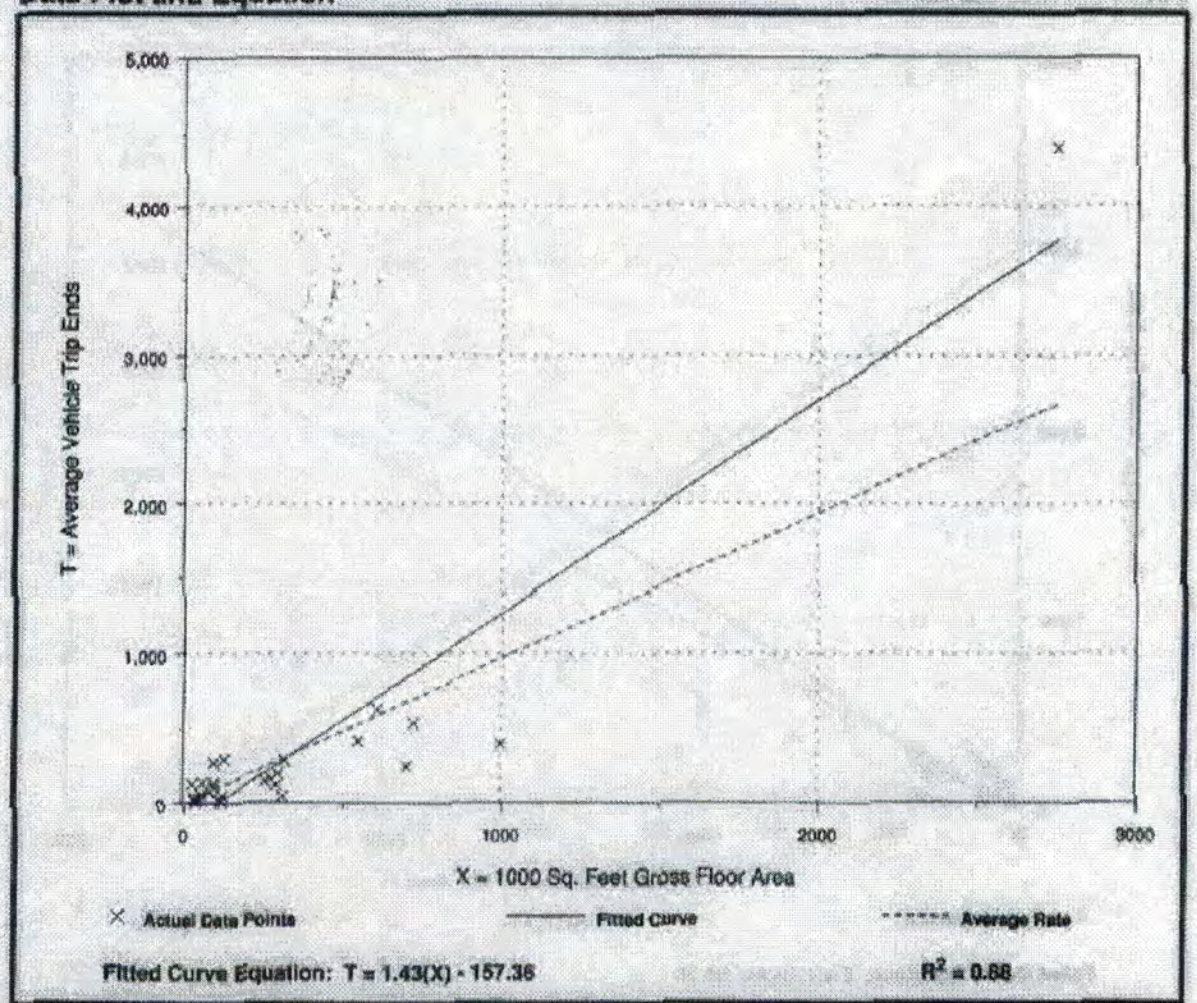
Average Vehicle Trip Ends vs: **1000 Sq. Feet Gross Floor Area**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 27
Average 1000 Sq. Feet GFA: 345
Directional Distribution: 12% entering, 88% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.97	0.08 - 4.50	1.16

Data Plot and Equation



Fitted Curve Equation: T = 1.43(X) - 157.36 $R^2 = 0.88$

Manufacturing
(140)

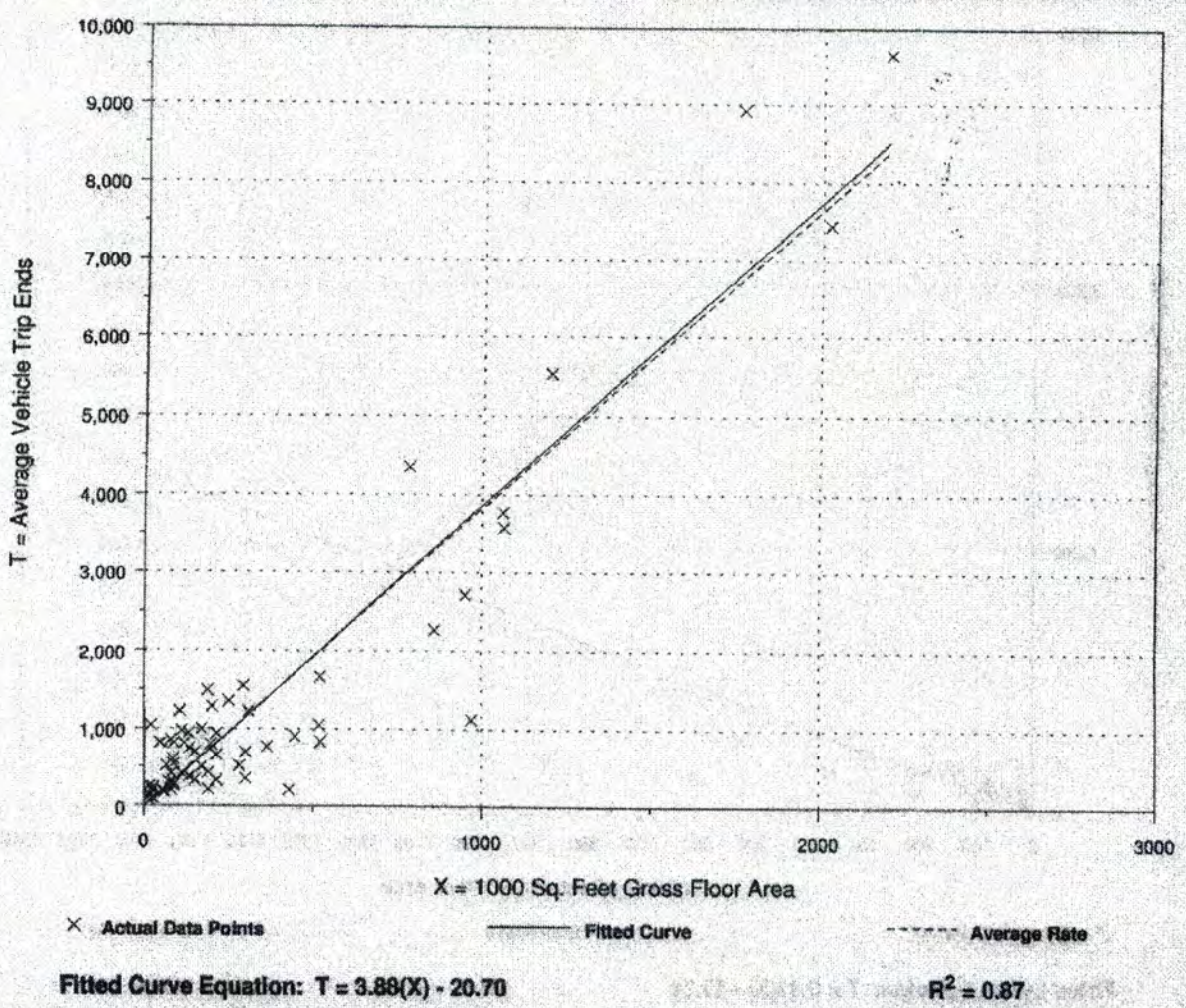
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday

Number of Studies: 62
Average 1000 Sq. Feet GFA: 349
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
3.82	0.50 - 52.05	3.07

Data Plot and Equation



Fitted Curve Equation: T = 3.88(X) - 20.70 $R^2 = 0.87$

Manufacturing
(140)

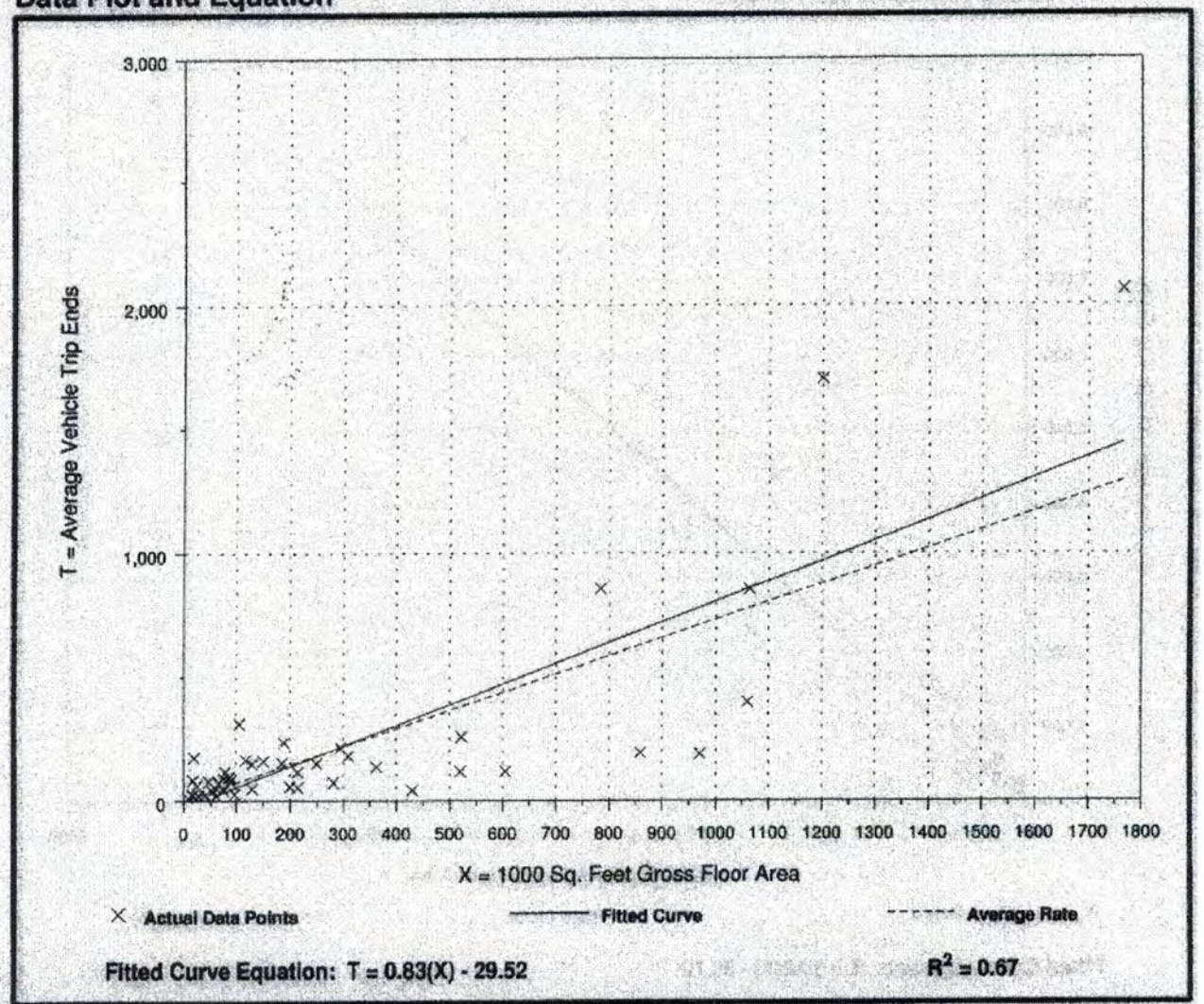
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 51
Average 1000 Sq. Feet GFA: 293
Directional Distribution: 78% entering, 22% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.73	0.10 - 8.75	1.04

Data Plot and Equation



Fitted Curve Equation: T = 0.83(X) - 29.52 **R^2 = 0.67**

Manufacturing
(140)

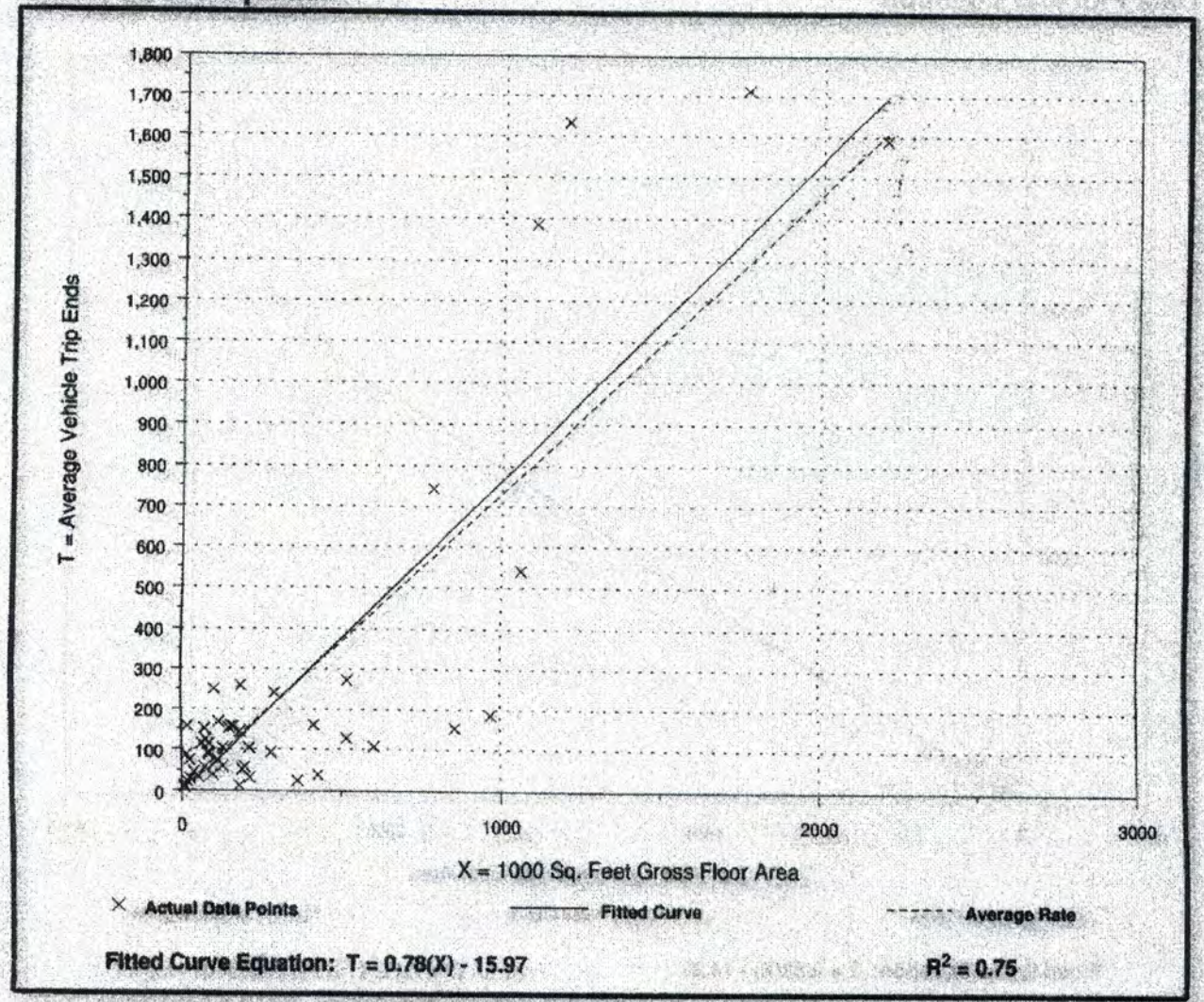
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 56
Average 1000 Sq. Feet GFA: 318
Directional Distribution: 36% entering, 64% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.73	0.07 - 7.85	1.01

Data Plot and Equation



Fitted Curve Equation: T = 0.78(X) - 15.97

R^2 = 0.75

Warehousing
(150)

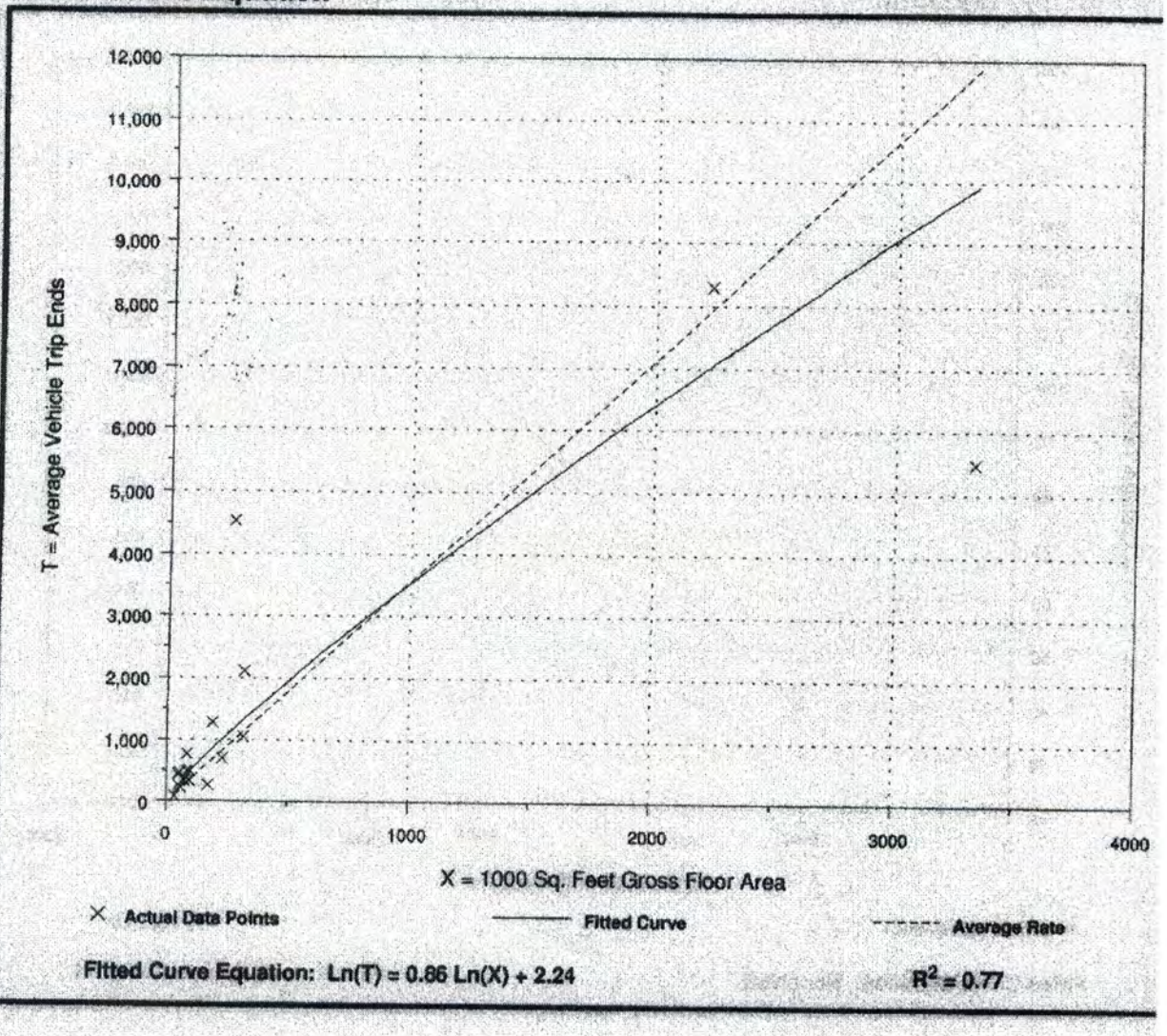
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday

Number of Studies: 18
Average 1000 Sq. Feet GFA: 431
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
3.56	1.51 - 17.00	3.58

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.86 Ln(X) + 2.24 $R^2 = 0.77$

Warehousing
(150)

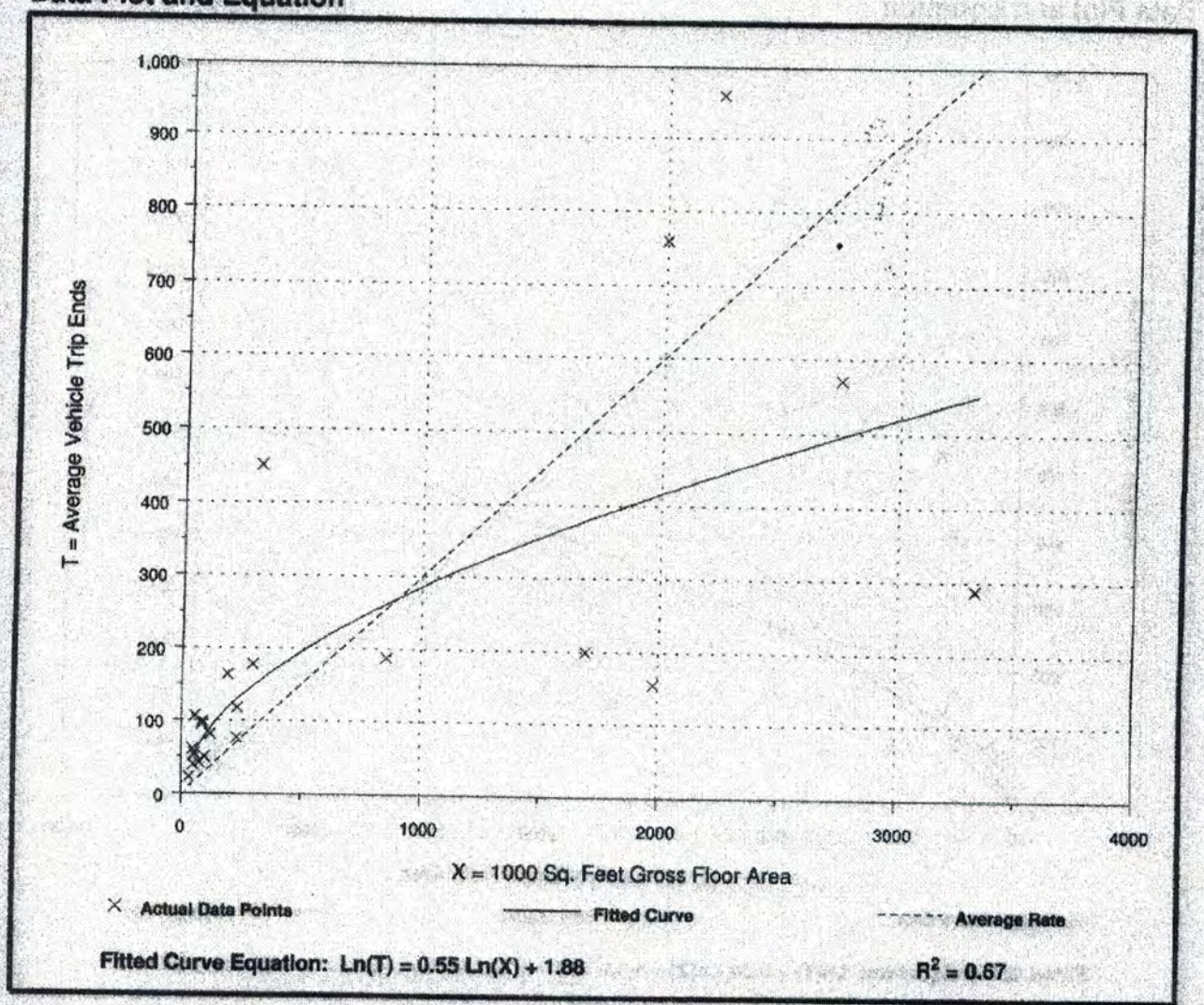
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 23
Average 1000 Sq. Feet GFA: 745
Directional Distribution: 79% entering, 21% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.30	0.08 - 1.93	0.63

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.55 Ln(X) + 1.88 $R^2 = 0.67$

Warehousing
(150)

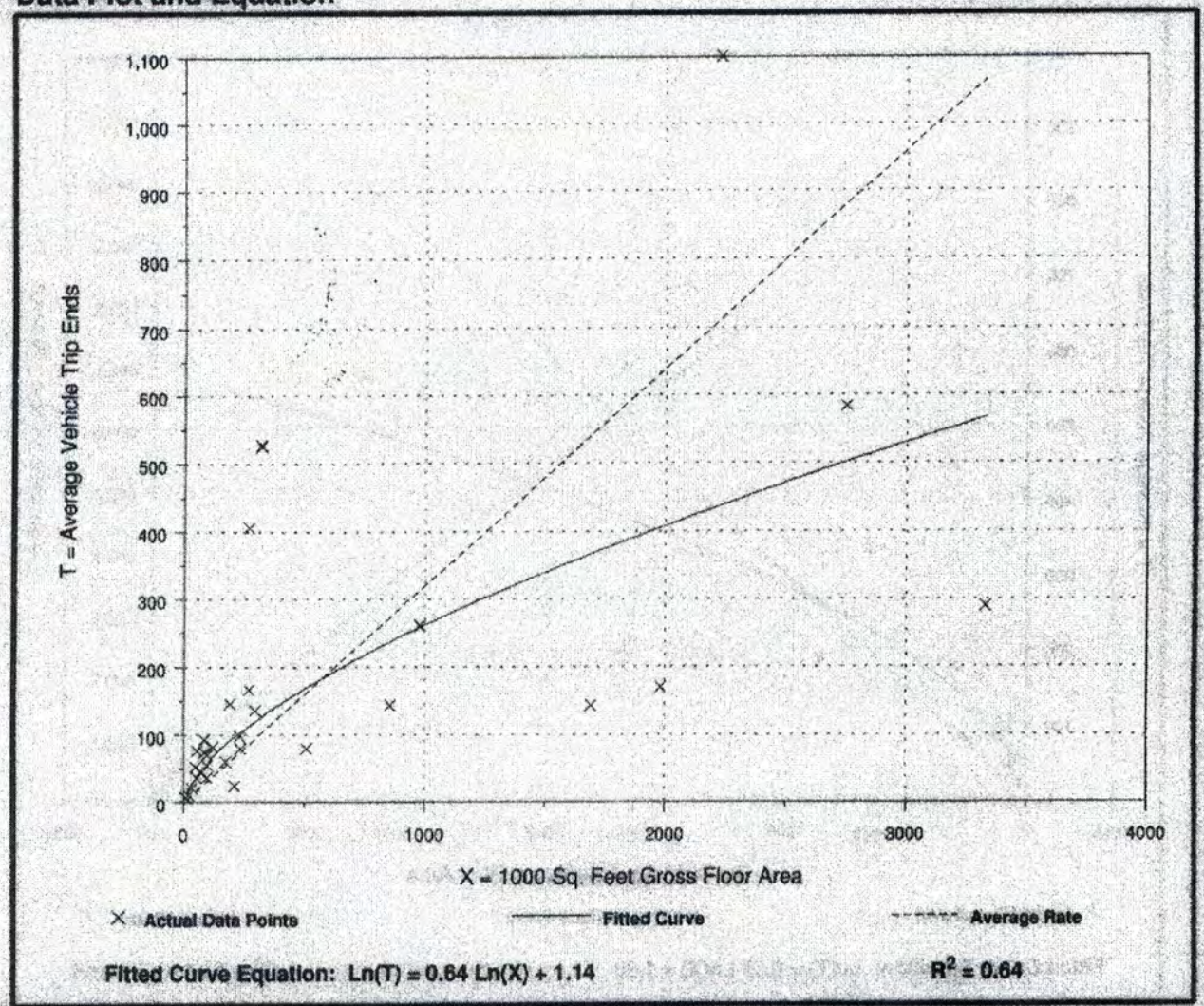
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 31
Average 1000 Sq. Feet GFA: 572
Directional Distribution: 25% entering, 75% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.32	0.09 - 1.66	0.67

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.64 Ln(X) + 1.14

R^2 = 0.64

General Office Building
(710)

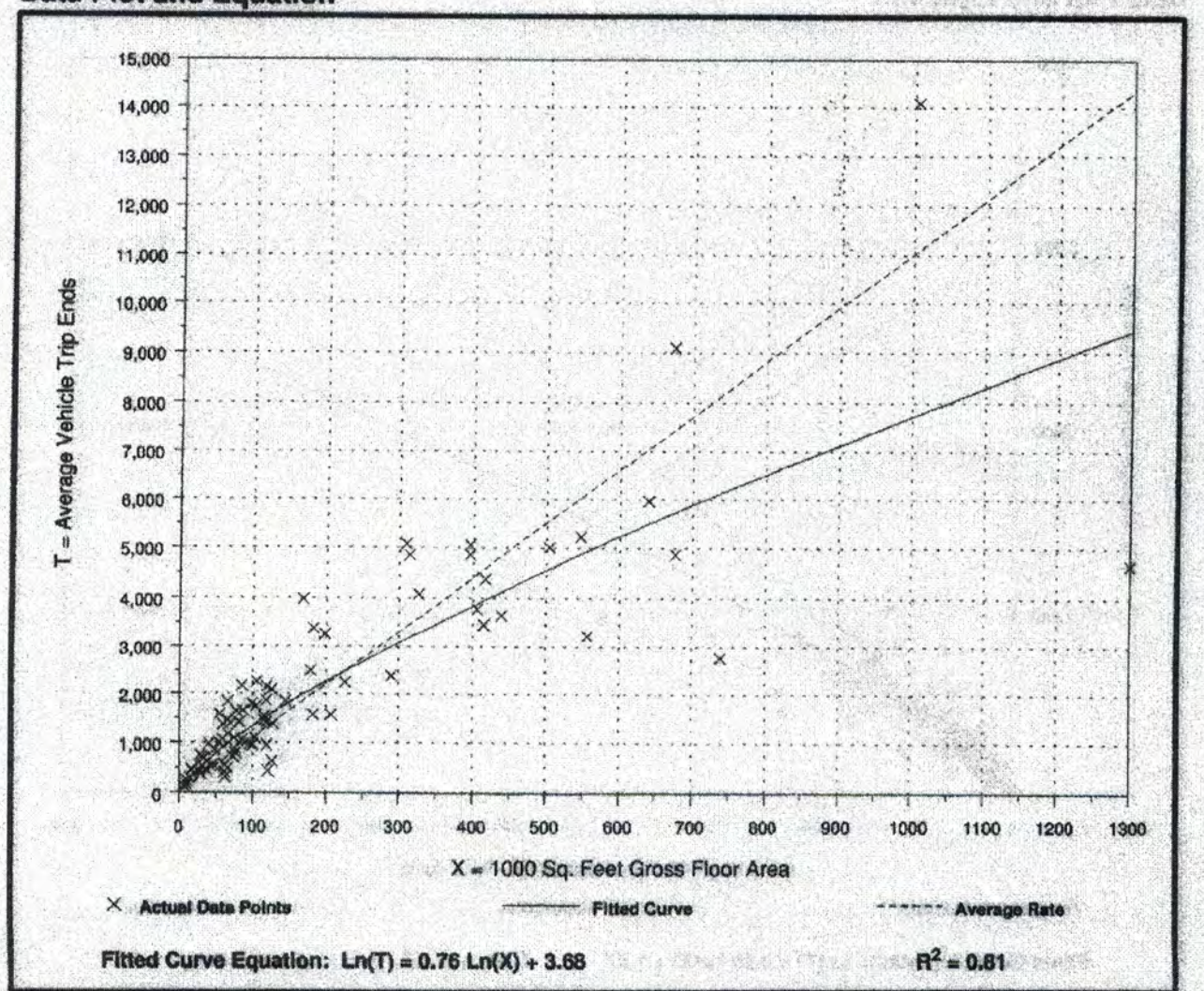
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday

Number of Studies: 79
Average 1000 Sq. Feet GFA: 197
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
11.03	3.58 - 28.80	6.15

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.76 Ln(X) + 3.68 $R^2 = 0.81$

General Office Building
(710)

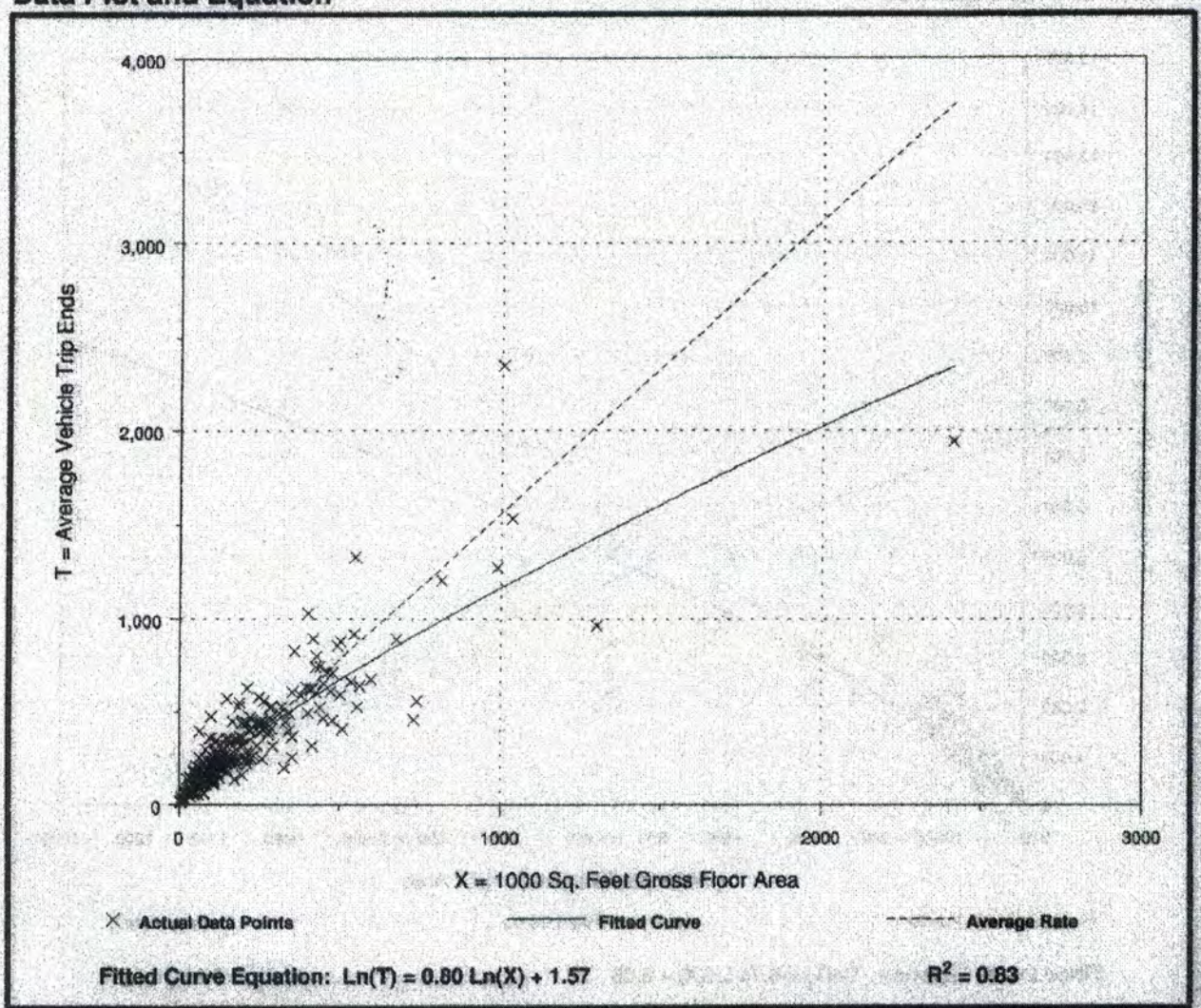
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
A.M. Peak Hour

Number of Studies: 218
Average 1000 Sq. Feet GFA: 222
Directional Distribution: 88% entering, 12% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
1.56	0.60 - 5.98	1.40

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.80 Ln(X) + 1.57 **R^2 = 0.83**

General Office Building
(710)

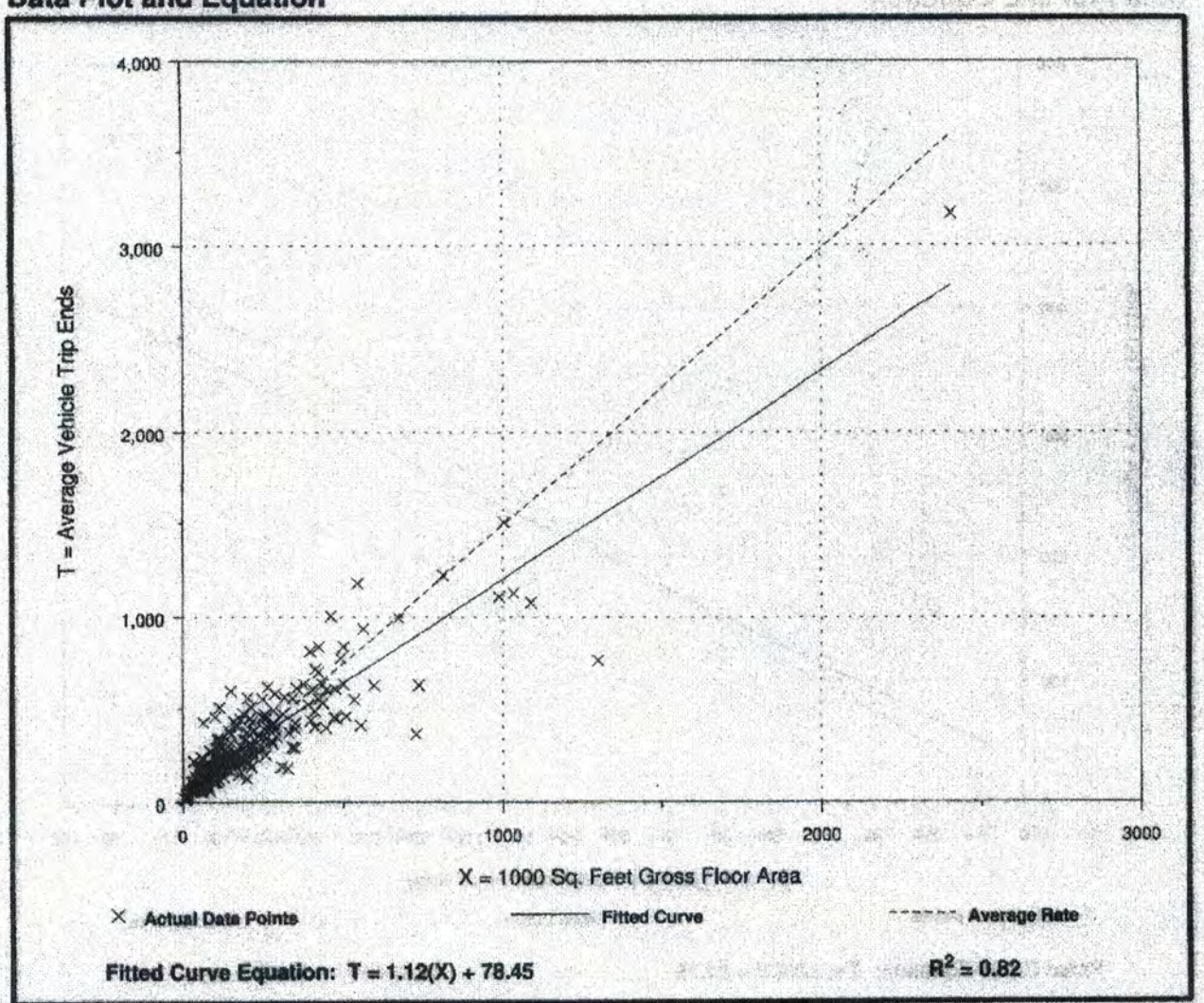
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
P.M. Peak Hour

Number of Studies: 236
Average 1000 Sq. Feet GFA: 215
Directional Distribution: 17% entering, 83% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
1.49	0.49 - 6.39	1.37

Data Plot and Equation



Fitted Curve Equation: T = 1.12(X) + 78.45

R^2 = 0.82

APPENDIX B

BACKGROUND TRAFFIC
PEAK HOUR ANALYSIS OUTPUTS

APPENDIX B

Year 2017 Background Traffic Analysis Outputs

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	135	1	1	355
Future Volume (vph)	5	1	135	1	1	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.981			0.850		
Flt Protected	0.959					
Satd. Flow (prot)	1582	0	1776	1509	0	1863
Flt Permitted	0.959					
Satd. Flow (perm)	1582	0	1776	1509	0	1863
Link Speed (mph)	25		45			45
Link Distance (ft)	926		325			972
Travel Time (s)	25.3		4.9			14.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	7%	7%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	6	1	165	1	1	433
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	165	1	0	434
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	135	1	1	355
Future Vol, veh/h	5	1	135	1	1	355
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	13	13	7	7	2	2
Mvmt Flow	6	1	165	1	1	433

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	600	165	0	0	165	0
Stage 1	165	-	-	-	-	-
Stage 2	435	-	-	-	-	-
Critical Hdwy	6.53	6.33	-	-	4.12	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.417	-	-	2.218	-
Pot Cap-1 Maneuver	446	852	-	-	1413	-
Stage 1	838	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	446	852	-	-	1413	-
Mov Cap-2 Maneuver	446	-	-	-	-	-
Stage 1	838	-	-	-	-	-
Stage 2	629	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	484	1413	-
HCM Lane V/C Ratio	-	-	0.015	0.001	-
HCM Control Delay (s)	-	-	12.6	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	5	45	130	340	20
Future Volume (vph)	5	5	45	130	340	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			75
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932					0.850
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1101	0	1687	1776	1863	1583
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1101	0	1687	1776	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	355			517	707	
Travel Time (s)	9.7			7.8	10.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	57%	57%	7%	7%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	6	6	52	151	395	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	52	151	395	23
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	45	130	340	20
Future Vol, veh/h	5	5	45	130	340	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	57	57	7	7	2	2
Mvmt Flow	6	6	52	151	395	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	651	395	395	0	-	0
Stage 1	395	-	-	-	-	-
Stage 2	256	-	-	-	-	-
Critical Hdwy	6.97	6.77	4.17	-	-	-
Critical Hdwy Stg 1	5.97	-	-	-	-	-
Critical Hdwy Stg 2	5.97	-	-	-	-	-
Follow-up Hdwy	4.013	3.813	2.263	-	-	-
Pot Cap-1 Maneuver	358	550	1137	-	-	-
Stage 1	576	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	342	550	1137	-	-	-
Mov Cap-2 Maneuver	342	-	-	-	-	-
Stage 1	576	-	-	-	-	-
Stage 2	643	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	2.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1137	-	422	-	-
HCM Lane V/C Ratio	0.046	-	0.028	-	-
HCM Control Delay (s)	8.3	-	13.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	345	5	1	115
Future Volume (vph)	5	1	345	5	1	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.977			0.850		
Flt Protected	0.960					
Satd. Flow (prot)	1764	0	1863	1583	0	1881
Flt Permitted	0.960					
Satd. Flow (perm)	1764	0	1863	1583	0	1881
Link Speed (mph)	25		45			45
Link Distance (ft)	926		325			972
Travel Time (s)	25.3		4.9			14.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	5	1	371	5	1	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	371	5	0	125
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	345	5	1	115
Future Vol, veh/h	5	1	345	5	1	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	2	2	1	1
Mvmt Flow	5	1	371	5	1	124

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	497	371	0	0	371	0
Stage 1	371	-	-	-	-	-
Stage 2	126	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	534	677	-	-	1193	-
Stage 1	700	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	533	677	-	-	1193	-
Mov Cap-2 Maneuver	533	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	553	1193	-
HCM Lane V/C Ratio	-	-	0.012	0.001	-
HCM Control Delay (s)	-	-	11.6	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	30	5	325	115	5
Future Volume (vph)	25	30	5	325	115	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			75
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.927					0.850
Flt Protected	0.978		0.950			
Satd. Flow (prot)	1689	0	1770	1863	1881	1599
Flt Permitted	0.978		0.950			
Satd. Flow (perm)	1689	0	1770	1863	1881	1599
Link Speed (mph)	25			45	45	
Link Distance (ft)	355			517	707	
Travel Time (s)	9.7			7.8	10.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	27	32	5	349	124	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	0	5	349	124	5
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	30	5	325	115	5
Future Vol, veh/h	25	30	5	325	115	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	27	32	5	349	124	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	484	124	124	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	360	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	542	927	1463	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	706	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	540	927	1463	-	-	-
Mov Cap-2 Maneuver	540	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	704	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1463	-	699	-	-
HCM Lane V/C Ratio	0.004	-	0.085	-	-
HCM Control Delay (s)	7.5	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

APPENDIX B

Year 2027 Background Traffic Analysis Outputs

Lanes, Volumes, Timings
100: CTH JJ (Bluemound) & Wamser Dr 11/09/2016

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	160	1	1	420
Future Volume (vph)	5	1	160	1	1	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.981			0.850		
Flt Protected	0.959					
Satd. Flow (prot)	1582	0	1776	1509	0	1863
Flt Permitted	0.959					
Satd. Flow (perm)	1582	0	1776	1509	0	1863
Link Speed (mph)	25		45			45
Link Distance (ft)	926		325			972
Travel Time (s)	25.3		4.9			14.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	7%	7%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	6	1	195	1	1	512
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	195	1	0	513
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

HCM 2010 TWSC
100: CTH JJ (Bluemound) & Wamser Dr 11/09/2016

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	160	1	1	420
Future Vol, veh/h	5	1	160	1	1	420
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	13	13	7	7	2	2
Mvmt Flow	6	1	195	1	1	512

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	710	195	0	0	195	0
Stage 1	195	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Critical Hdwy	6.53	6.33	-	-	4.12	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.417	-	-	2.218	-
Pot Cap-1 Maneuver	384	819	-	-	1378	-
Stage 1	812	-	-	-	-	-
Stage 2	578	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	384	819	-	-	1378	-
Mov Cap-2 Maneuver	384	-	-	-	-	-
Stage 1	812	-	-	-	-	-
Stage 2	577	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	421	1378	-
HCM Lane V/C Ratio	-	-	0.017	0.001	-
HCM Control Delay (s)	-	-	13.7	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	5	45	155	405	20
Future Volume (vph)	5	5	45	155	405	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			75
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932					0.850
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1101	0	1687	1776	1863	1583
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1101	0	1687	1776	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	355			517	707	
Travel Time (s)	9.7			7.8	10.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	57%	57%	7%	7%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	6	6	52	180	471	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	52	180	471	23
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	45	155	405	20
Future Vol, veh/h	5	5	45	155	405	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	57	57	7	7	2	2
Mvmt Flow	6	6	52	180	471	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	756	471	471	0	-	0
Stage 1	471	-	-	-	-	-
Stage 2	285	-	-	-	-	-
Critical Hdwy	6.97	6.77	4.17	-	-	-
Critical Hdwy Stg 1	5.97	-	-	-	-	-
Critical Hdwy Stg 2	5.97	-	-	-	-	-
Follow-up Hdwy	4.013	3.813	2.263	-	-	-
Pot Cap-1 Maneuver	307	495	1065	-	-	-
Stage 1	528	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	292	495	1065	-	-	-
Mov Cap-2 Maneuver	292	-	-	-	-	-
Stage 1	528	-	-	-	-	-
Stage 2	621	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.1	1.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1065	-	367	-	-
HCM Lane V/C Ratio	0.049	-	0.032	-	-
HCM Control Delay (s)	8.6	-	15.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	410	5	1	135
Future Volume (vph)	5	1	410	5	1	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.977			0.850		
Flt Protected	0.960					
Satd. Flow (prot)	1764	0	1863	1583	0	1881
Flt Permitted	0.960					
Satd. Flow (perm)	1764	0	1863	1583	0	1881
Link Speed (mph)	25		45			45
Link Distance (ft)	926		325			972
Travel Time (s)	25.3		4.9			14.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	5	1	441	5	1	145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	441	5	0	146
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	410	5	1	135
Future Vol, veh/h	5	1	410	5	1	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	2	2	1	1
Mvmt Flow	5	1	441	5	1	145

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	588	441	0	0	441	0
Stage 1	441	-	-	-	-	-
Stage 2	147	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	473	618	-	-	1124	-
Stage 1	651	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	473	618	-	-	1124	-
Mov Cap-2 Maneuver	473	-	-	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	882	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	492	1124	-
HCM Lane V/C Ratio	-	-	0.013	0.001	-
HCM Control Delay (s)	-	-	12.4	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	30	5	390	135	5
Future Volume (vph)	25	30	5	390	135	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			75
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.927					0.850
Flt Protected	0.978		0.950			
Satd. Flow (prot)	1689	0	1770	1863	1881	1599
Flt Permitted	0.978		0.950			
Satd. Flow (perm)	1689	0	1770	1863	1881	1599
Link Speed (mph)	25			45	45	
Link Distance (ft)	355			517	707	
Travel Time (s)	9.7			7.8	10.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	27	32	5	419	145	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	0	5	419	145	5
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	30	5	390	135	5
Future Vol, veh/h	25	30	5	390	135	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	27	32	5	419	145	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	575	145	145	0	-	0
Stage 1	145	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	480	902	1437	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	478	902	1437	-	-	-
Mov Cap-2 Maneuver	478	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	654	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1437	-	643	-	-
HCM Lane V/C Ratio	0.004	-	0.092	-	-
HCM Control Delay (s)	7.5	-	11.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

APPENDIX C

BUILD TRAFFIC
PEAK HOUR ANALYSIS OUTPUTS

APPENDIX C

Year 2017 Build Traffic Analysis Outputs

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	150	1	1	410
Future Volume (vph)	5	1	150	1	1	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.981			0.850		
Flt Protected	0.959					
Satd. Flow (prot)	1582	0	1776	1509	0	1863
Flt Permitted	0.959					
Satd. Flow (perm)	1582	0	1776	1509	0	1863
Link Speed (mph)	25		45			45
Link Distance (ft)	926		325			972
Travel Time (s)	25.3		4.9			14.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	7%	7%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	6	1	183	1	1	500
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	183	1	0	501
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

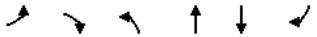
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	150	1	1	410
Future Vol, veh/h	5	1	150	1	1	410
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	13	13	7	7	2	2
Mvmt Flow	6	1	183	1	1	500

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	685	183	0	0	183	0
Stage 1	183	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Critical Hdwy	7.23	6.33	-	-	4.12	-
Critical Hdwy Stg 1	6.23	-	-	-	-	-
Critical Hdwy Stg 2	6.23	-	-	-	-	-
Follow-up Hdwy	3.617	3.417	-	-	2.218	-
Pot Cap-1 Maneuver	348	832	-	-	1392	-
Stage 1	794	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	348	832	-	-	1392	-
Mov Cap-2 Maneuver	348	-	-	-	-	-
Stage 1	794	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	385	1392	-
HCM Lane V/C Ratio	-	-	0.019	0.001	-
HCM Control Delay (s)	-	-	14.5	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	20	85	135	360	55
Future Volume (vph)	15	20	85	135	360	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			100
Storage Lanes	1	1	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1719	1810	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1719	1810	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	214			707	325	
Travel Time (s)	5.8			10.7	4.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	18	24	104	165	439	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	24	104	165	439	67
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	20	85	135	360	55
Future Vol, veh/h	15	20	85	135	360	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	5	5	5	2	2
Mvmt Flow	18	24	104	165	439	67

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	811	439	439	0	-	0
Stage 1	439	-	-	-	-	-
Stage 2	372	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	345	612	1105	-	-	-
Stage 1	644	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	313	612	1105	-	-	-
Mov Cap-2 Maneuver	313	-	-	-	-	-
Stage 1	644	-	-	-	-	-
Stage 2	626	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	3.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1105	-	313	612	-	-
HCM Lane V/C Ratio	0.094	-	0.058	0.04	-	-
HCM Control Delay (s)	8.6	-	17.2	11.1	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.2	0.1	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	5	45	215	360	20
Future Volume (vph)	5	5	45	215	360	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			75
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932					0.850
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1101	0	1687	1776	1863	1583
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1101	0	1687	1776	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	355			517	707	
Travel Time (s)	9.7			7.8	10.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	57%	57%	7%	7%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	6	6	52	250	419	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	52	250	419	23
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	45	215	360	20
Future Vol, veh/h	5	5	45	215	360	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	57	57	7	7	2	2
Mvmt Flow	6	6	52	250	419	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	774	419	419	0	-	0
Stage 1	419	-	-	-	-	-
Stage 2	355	-	-	-	-	-
Critical Hdwy	6.97	6.77	4.17	-	-	-
Critical Hdwy Stg 1	5.97	-	-	-	-	-
Critical Hdwy Stg 2	5.97	-	-	-	-	-
Follow-up Hdwy	4.013	3.813	2.263	-	-	-
Pot Cap-1 Maneuver	299	532	1114	-	-	-
Stage 1	560	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	285	532	1114	-	-	-
Mov Cap-2 Maneuver	285	-	-	-	-	-
Stage 1	560	-	-	-	-	-
Stage 2	575	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15	1.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1114	-	371	-	-
HCM Lane V/C Ratio	0.047	-	0.031	-	-
HCM Control Delay (s)	8.4	-	15	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	415	5	1	135
Future Volume (vph)	5	1	415	5	1	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.977			0.850		
Flt Protected	0.960					
Satd. Flow (prot)	1764	0	1863	1583	0	1881
Flt Permitted	0.960					
Satd. Flow (perm)	1764	0	1863	1583	0	1881
Link Speed (mph)	25		45			45
Link Distance (ft)	926		325			972
Travel Time (s)	25.3		4.9			14.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	5	1	446	5	1	145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	446	5	0	146
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

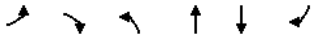
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	415	5	1	135
Future Vol, veh/h	5	1	415	5	1	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	2	2	1	1
Mvmt Flow	5	1	446	5	1	145

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	593	446	0	0	446	0
Stage 1	446	-	-	-	-	-
Stage 2	147	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	470	614	-	-	1120	-
Stage 1	647	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	470	614	-	-	1120	-
Mov Cap-2 Maneuver	470	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	882	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.5	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	489	1120	-
HCM Lane V/C Ratio	-	-	0.013	0.001	-
HCM Control Delay (s)	-	-	12.5	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	70	110	25	350	120	20
Future Volume (vph)	70	110	25	350	120	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			100
Storage Lanes	1	1	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1770	1863	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	214			707	325	
Travel Time (s)	5.8			10.7	4.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	75	118	27	376	129	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	75	118	27	376	129	22
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	70	110	25	350	120	20
Future Vol, veh/h	70	110	25	350	120	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	75	118	27	376	129	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	559	129	129	0	-	0
Stage 1	129	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.12	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.218	-	-	-
Pot Cap-1 Maneuver	485	913	1457	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	476	913	1457	-	-	-
Mov Cap-2 Maneuver	476	-	-	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	638	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1457	-	476	913	-	-
HCM Lane V/C Ratio	0.018	-	0.158	0.13	-	-
HCM Control Delay (s)	7.5	-	14	9.5	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0.4	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	30	5	350	225	5
Future Volume (vph)	25	30	5	350	225	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			75
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.927					0.850
Flt Protected	0.978		0.950			
Satd. Flow (prot)	1689	0	1770	1863	1881	1599
Flt Permitted	0.978		0.950			
Satd. Flow (perm)	1689	0	1770	1863	1881	1599
Link Speed (mph)	25			45	45	
Link Distance (ft)	355			517	707	
Travel Time (s)	9.7			7.8	10.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	27	32	5	376	242	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	0	5	376	242	5
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	30	5	350	225	5
Future Vol, veh/h	25	30	5	350	225	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	27	32	5	376	242	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	629	242	242	0	-	0
Stage 1	242	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	446	797	1324	-	-	-
Stage 1	798	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	444	797	1324	-	-	-
Mov Cap-2 Maneuver	444	-	-	-	-	-
Stage 1	798	-	-	-	-	-
Stage 2	683	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1324	-	585	-	-
HCM Lane V/C Ratio	0.004	-	0.101	-	-
HCM Control Delay (s)	7.7	-	11.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

APPENDIX C

Year 2027 Build Traffic Analysis Outputs

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	180	1	1	490
Future Volume (vph)	5	1	180	1	1	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.981			0.850		
Flt Protected	0.959					
Satd. Flow (prot)	1582	0	1776	1509	0	1863
Flt Permitted	0.959					
Satd. Flow (perm)	1582	0	1776	1509	0	1863
Link Speed (mph)	25		45			45
Link Distance (ft)	926		325			972
Travel Time (s)	25.3		4.9			14.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	7%	7%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	6	1	220	1	1	598
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	220	1	0	599
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

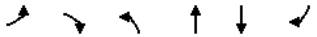
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	180	1	1	490
Future Vol, veh/h	5	1	180	1	1	490
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	13	13	7	7	2	2
Mvmt Flow	6	1	220	1	1	598

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	820	220	0	0	220	0
Stage 1	220	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Critical Hdwy	7.23	6.33	-	-	4.12	-
Critical Hdwy Stg 1	6.23	-	-	-	-	-
Critical Hdwy Stg 2	6.23	-	-	-	-	-
Follow-up Hdwy	3.617	3.417	-	-	2.218	-
Pot Cap-1 Maneuver	281	793	-	-	1349	-
Stage 1	758	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	281	793	-	-	1349	-
Mov Cap-2 Maneuver	281	-	-	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	315	1349	-
HCM Lane V/C Ratio	-	-	0.023	0.001	-
HCM Control Delay (s)	-	-	16.7	7.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	25	110	160	425	70
Future Volume (vph)	20	25	110	160	425	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			100
Storage Lanes	1	1	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1719	1810	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1719	1810	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	214			707	325	
Travel Time (s)	5.8			10.7	4.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	24	30	134	195	518	85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	30	134	195	518	85
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	25	110	160	425	70
Future Vol, veh/h	20	25	110	160	425	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	5	5	5	2	2
Mvmt Flow	24	30	134	195	518	85

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	981	518	518	0	-	0
Stage 1	518	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	273	552	1033	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	238	552	1033	-	-	-
Mov Cap-2 Maneuver	238	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	546	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	3.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1033	-	238	552	-	-
HCM Lane V/C Ratio	0.13	-	0.102	0.055	-	-
HCM Control Delay (s)	9	-	21.8	11.9	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.3	0.2	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	5	45	265	430	20
Future Volume (vph)	5	5	45	265	430	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			75
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932					0.850
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1101	0	1687	1776	1863	1583
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1101	0	1687	1776	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	355			517	707	
Travel Time (s)	9.7			7.8	10.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	57%	57%	7%	7%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	6	6	52	308	500	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	52	308	500	23
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	45	265	430	20
Future Vol, veh/h	5	5	45	265	430	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	57	57	7	7	2	2
Mvmt Flow	6	6	52	308	500	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	913	500	500	0	-	0
Stage 1	500	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Critical Hdwy	6.97	6.77	4.17	-	-	-
Critical Hdwy Stg 1	5.97	-	-	-	-	-
Critical Hdwy Stg 2	5.97	-	-	-	-	-
Follow-up Hdwy	4.013	3.813	2.263	-	-	-
Pot Cap-1 Maneuver	244	475	1039	-	-	-
Stage 1	511	-	-	-	-	-
Stage 2	564	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	232	475	1039	-	-	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	511	-	-	-	-	-
Stage 2	536	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	1.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1039	-	312	-	-
HCM Lane V/C Ratio	0.05	-	0.037	-	-
HCM Control Delay (s)	8.6	-	17	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	495	5	1	160
Future Volume (vph)	5	1	495	5	1	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.977			0.850		
Flt Protected	0.960					
Satd. Flow (prot)	1764	0	1863	1583	0	1881
Flt Permitted	0.960					
Satd. Flow (perm)	1764	0	1863	1583	0	1881
Link Speed (mph)	25		45			45
Link Distance (ft)	926		325			972
Travel Time (s)	25.3		4.9			14.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	5	1	532	5	1	172
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	532	5	0	173
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

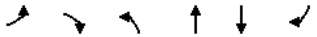
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	495	5	1	160
Future Vol, veh/h	5	1	495	5	1	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	2	2	1	1
Mvmt Flow	5	1	532	5	1	172

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	706	532	0	0	532	0
Stage 1	532	-	-	-	-	-
Stage 2	174	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	404	549	-	-	1041	-
Stage 1	591	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	404	549	-	-	1041	-
Mov Cap-2 Maneuver	404	-	-	-	-	-
Stage 1	591	-	-	-	-	-
Stage 2	858	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	423	1041	-
HCM Lane V/C Ratio	-	-	0.015	0.001	-
HCM Control Delay (s)	-	-	13.6	8.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	85	125	35	415	140	25
Future Volume (vph)	85	125	35	415	140	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			100
Storage Lanes	1	1	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1770	1863	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	214			707	325	
Travel Time (s)	5.8			10.7	4.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	91	134	38	446	151	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	134	38	446	151	27
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	85	125	35	415	140	25
Future Vol, veh/h	85	125	35	415	140	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	91	134	38	446	151	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	673	151	151	0	-	0
Stage 1	151	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.12	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.218	-	-	-
Pot Cap-1 Maneuver	416	887	1430	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	589	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	405	887	1430	-	-	-
Mov Cap-2 Maneuver	405	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	573	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1430	-	405	887	-	-
HCM Lane V/C Ratio	0.026	-	0.226	0.152	-	-
HCM Control Delay (s)	7.6	-	16.5	9.8	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	0.5	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	30	5	425	260	5
Future Volume (vph)	25	30	5	425	260	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			75
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.927					0.850
Flt Protected	0.978		0.950			
Satd. Flow (prot)	1689	0	1770	1863	1881	1599
Flt Permitted	0.978		0.950			
Satd. Flow (perm)	1689	0	1770	1863	1881	1599
Link Speed (mph)	25			45	45	
Link Distance (ft)	355			517	707	
Travel Time (s)	9.7			7.8	10.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	27	32	5	457	280	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	0	5	457	280	5
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	30	5	425	260	5
Future Vol, veh/h	25	30	5	425	260	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	27	32	5	457	280	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	748	280	280	0	-	0
Stage 1	280	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	380	759	1283	-	-	-
Stage 1	767	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	379	759	1283	-	-	-
Mov Cap-2 Maneuver	379	-	-	-	-	-
Stage 1	767	-	-	-	-	-
Stage 2	628	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1283	-	521	-	-
HCM Lane V/C Ratio	0.004	-	0.114	-	-
HCM Control Delay (s)	7.8	-	12.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

APPENDIX D

TOTAL TRAFFIC
PEAK HOUR ANALYSIS OUTPUTS

APPENDIX D

Year 2027 Total Traffic Analysis Outputs

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	190	1	1	550
Future Volume (vph)	5	1	190	1	1	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.981			0.850		
Flt Protected	0.959					
Satd. Flow (prot)	1582	0	1776	1509	0	1863
Flt Permitted	0.959					
Satd. Flow (perm)	1582	0	1776	1509	0	1863
Link Speed (mph)	25		45			45
Link Distance (ft)	926		325			972
Travel Time (s)	25.3		4.9			14.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	7%	7%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	6	1	232	1	1	671
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	232	1	0	672
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

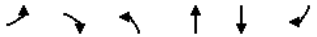
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	190	1	1	550
Future Vol, veh/h	5	1	190	1	1	550
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	13	13	7	7	2	2
Mvmt Flow	6	1	232	1	1	671

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	905	232	0	0	232	0
Stage 1	232	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Critical Hdwy	6.53	6.33	-	-	4.12	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.417	-	-	2.218	-
Pot Cap-1 Maneuver	294	781	-	-	1336	-
Stage 1	781	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	294	781	-	-	1336	-
Mov Cap-2 Maneuver	294	-	-	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	487	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	328	1336	-
HCM Lane V/C Ratio	-	-	0.022	0.001	-
HCM Control Delay (s)	-	-	16.2	7.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	30	45	195	160	425	130
Future Volume (vph)	30	45	195	160	425	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			100
Storage Lanes	1	1	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1719	1810	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1719	1810	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	214			707	325	
Travel Time (s)	5.8			10.7	4.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	37	55	238	195	518	159
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	55	238	195	518	159
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	45	195	160	425	130
Future Vol, veh/h	30	45	195	160	425	130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	5	5	5	2	2
Mvmt Flow	37	55	238	195	518	159

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1189	518	518	0	-	0
Stage 1	518	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	205	552	1033	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	158	552	1033	-	-	-
Mov Cap-2 Maneuver	158	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	386	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.1	5.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1033	-	158	552	-	-
HCM Lane V/C Ratio	0.23	-	0.232	0.099	-	-
HCM Control Delay (s)	9.5	-	34.5	12.2	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.9	-	0.9	0.3	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	5	45	350	450	20
Future Volume (vph)	5	5	45	350	450	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			75
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932					0.850
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1101	0	1687	1776	1863	1583
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1101	0	1687	1776	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	355			517	707	
Travel Time (s)	9.7			7.8	10.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	57%	57%	7%	7%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	6	6	52	407	523	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	52	407	523	23
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	45	350	450	20
Future Vol, veh/h	5	5	45	350	450	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	57	57	7	7	2	2
Mvmt Flow	6	6	52	407	523	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1035	523	523	0	-	0
Stage 1	523	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Critical Hdwy	6.97	6.77	4.17	-	-	-
Critical Hdwy Stg 1	5.97	-	-	-	-	-
Critical Hdwy Stg 2	5.97	-	-	-	-	-
Follow-up Hdwy	4.013	3.813	2.263	-	-	-
Pot Cap-1 Maneuver	204	460	1018	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	194	460	1018	-	-	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	478	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.8	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1018	-	273	-	-
HCM Lane V/C Ratio	0.051	-	0.043	-	-
HCM Control Delay (s)	8.7	-	18.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	555	5	1	175
Future Volume (vph)	5	1	555	5	1	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.977			0.850		
Flt Protected	0.960					
Satd. Flow (prot)	1764	0	1863	1583	0	1881
Flt Permitted	0.960					
Satd. Flow (perm)	1764	0	1863	1583	0	1881
Link Speed (mph)	25		45			45
Link Distance (ft)	926		325			972
Travel Time (s)	25.3		4.9			14.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	5	1	597	5	1	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	597	5	0	189
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

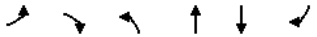
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	555	5	1	175
Future Vol, veh/h	5	1	555	5	1	175
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	2	2	1	1
Mvmt Flow	5	1	597	5	1	188

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	787	597	0	0	597	0
Stage 1	597	-	-	-	-	-
Stage 2	190	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	362	505	-	-	985	-
Stage 1	552	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	362	505	-	-	985	-
Mov Cap-2 Maneuver	362	-	-	-	-	-
Stage 1	552	-	-	-	-	-
Stage 2	844	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	380	985	-
HCM Lane V/C Ratio	-	-	0.017	0.001	-
HCM Control Delay (s)	-	-	14.6	8.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	145	215	60	415	140	40
Future Volume (vph)	145	215	60	415	140	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	100			100
Storage Lanes	1	1	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1719	1538	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1719	1538	1770	1863	1863	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	214			707	325	
Travel Time (s)	5.8			10.7	4.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	156	231	65	446	151	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	231	65	446	151	43
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	145	215	60	415	140	40
Future Vol, veh/h	145	215	60	415	140	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	156	231	65	446	151	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	726	151	151	0	-	0
Stage 1	151	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.12	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.218	-	-	-
Pot Cap-1 Maneuver	387	887	1430	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	369	887	1430	-	-	-
Mov Cap-2 Maneuver	369	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1430	-	369	887	-	-
HCM Lane V/C Ratio	0.045	-	0.423	0.261	-	-
HCM Control Delay (s)	7.6	-	21.7	10.5	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2	1	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	30	5	450	350	5
Future Volume (vph)	25	30	5	450	350	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			75
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.927					0.850
Flt Protected	0.978		0.950			
Satd. Flow (prot)	1689	0	1770	1863	1881	1599
Flt Permitted	0.978		0.950			
Satd. Flow (perm)	1689	0	1770	1863	1881	1599
Link Speed (mph)	25			45	45	
Link Distance (ft)	355			517	707	
Travel Time (s)	9.7			7.8	10.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	27	32	5	484	376	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	0	5	484	376	5
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	30	5	450	350	5
Future Vol, veh/h	25	30	5	450	350	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	27	32	5	484	376	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	871	376	376	0	-	0
Stage 1	376	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	322	670	1182	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	321	670	1182	-	-	-
Mov Cap-2 Maneuver	321	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	610	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1182	-	448	-	-
HCM Lane V/C Ratio	0.005	-	0.132	-	-
HCM Control Delay (s)	8.1	-	14.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

17.0429 M-6, MIXED INDUSTRIAL USE DISTRICT

The M-6, Mixed Industrial Use District is intended to provide for the orderly and attractive grouping of buildings, which encompass a variety of types of industrial related use activity, but are still compatible from a traffic, density and general use standpoint.

a. Permitted Principal Uses
Uses permitted in the M-2 and M-4 districts with no outside storage of equipment, materials or vehicles.

b. Permitted Accessory Uses
Accessory uses allowed in the M-2 district.

c. Conditional Uses
All other principal, accessory and conditional uses permitted in an M-1, M-2, M-4 and B-4 District.

d Lot Area and Width
(1) The principal or conditional use(s) must be located on a parcel of at least three (3) acres in net area.
(2) The lot or parcel width at the street/highway setback line shall be no less than 250 feet.

e. Building Height and Size
(1) No part of a principal structure shall exceed 30 feet in height unless it is serviced with a certified fire suppression sprinkler system, in which case the height may be extended to 50 feet if enclosed stair towers to the roof are also provided.
(2) No part of an accessory building shall exceed 18 feet in height.

f. Setback and Yards
(1) There shall be a minimum building (or street) setback of 50 feet from the right-of-way of an abutting street or highway, not less than 40 feet from the boundary of an abutting parcel or lot and no closer than 50 feet to another building.
(2) Loading and unloading docks or truck doors shall be located not less than 100 feet from the right-of-way of an abutting access street or highway and shall not be visible from abutting streets/highways.
(3) All structures and storage areas shall be set back a minimum 75 feet from the designated 100 year recurrence interval (base flood) floodplain of all navigable streams and bodies of water and 25 feet from any designated wetland. (Also see subsection 17.0435)

g. Parking and Loading Space
(1) See Subsection 17.0424g.
(2) No loading/unloading will be allowed on abutting access streets, alleys or access ways.
(3) All parking and loading areas shall be adequately screened from view as determined by the Plan Commission.
(4) There shall be no driveway, parking or loading area within 30 feet of a street right-of-way or within 20 feet of an adjacent property.

h. Minimum Utilities
Public sanitary sewerage and water supply facilities, electricity.

i. Special Regulations
   (1) The owner or developer of the industrial parcel, who shall also be the applicant for a conditional use permit, shall submit with such application a site development plan.
   (2) All streets or access ways within the site development shall meet the construction standards of the City.
   (3) Owners of individual parcels, buildings or quarters shall be required to submit a site plan and operations plan for Plan Commission review and approval prior to receipt of a building or occupancy permit.
   (4) If the parcels shown on the required development plan are to be sold, the owner/ applicant shall be required to submit a final plat or certified survey map of the parcels pursuant to the City Land Division Ordinance and prior to the sale of the parcel(s).G58

17.0423 M-1, GENERAL WHOLESALE BUSINESS/WAREHOUSE DISTRICT

The M-1, General Wholesale Business/Warehouse District is intended to provide for the orderly and attractive grouping at appropriate locations of wholesale business or warehousing activities including storage and distribution of both wholesale and retail goods, but including no retail sales on the premises except as permitted by the Plan Commission.

a. Permitted Principal Uses
   (1) Establishments for the wholesale sale of goods and materials (other than chemical, flammable liquid, gaseous, vaporous, or explosive substances) where such goods or materials are temporarily stored inside a permanent building or within an open area attractively and effectively visually screened from public streets, roads, or highways and adjacent uses and where the individual goods or materials are not reduced in size or basically changed in character.
   (2) Buildings or yards for the storage of wholesale goods and materials (other than chemicals, flammable liquids, and gaseous, vaporous, or explosive substances) where such goods or materials are temporarily stored inside a permanent building or within an open area attractively and effectively visually screened from passersby, public streets, roads, or highways and adjacent uses, and where the individual goods or materials are not reduced in size or basically changed in character.
   (3) Those uses allowed as Permitted Principal Uses within the M-2 Limited Industrial District.
   (4) Commercial Kennels. (Cr. 13-09)

b. Permitted Accessory Uses
   (1) Offices, or garages for storage of licensed vehicles used in conjunction with the operation of the business or for occupants of the premises.
   (2) Screened off-street parking and loading access, including parking ramps and garages.
   (3) (See Section 17.0700).
   (4) The storage of not more than 10,000 gallons of fuel and petroleum products for use incidental to the principal use and upon specific approval of the Plan Commission after recommendation by the Fire Chief.

c. Conditional Uses
   (1) Establishments for the temporary storage of vehicles used in the transport of goods and materials.
   (2) Establishments for the transfer of wholesale goods and materials from one transport vehicle to another.
   (3) Those uses allowed as Conditional Uses within the M-2 Limited Industrial District.
   (4) Buildings, structures, or tanks used for the storage of chemicals, flammable liquids, and gaseous or vaporous substances, other than permitted accessory uses, upon specific approval of the Plan Commission after recommendation by the Fire Chief.
   (5) Yards and structures used for the temporary storage or holding of animals not for slaughter.
   (6) Warehouses used, or designed to be used, for the storage of domestic household goods, "dead" files and other limited time and use storage.
   (7) Residential quarters for the owner or hired caretaker provided that such quarters are in the principal building, not more than 750 square feet in area, no more than two (2) bedrooms, and not for rent, lease or separate sale.

(8) Yards for the storage of bulk construction products when screened from view.

d. Lot Area and Width
(1) Lots shall have a minimum area of two (2) acres.
(2) Lots shall not be less than 200 feet in width at the building setback line.

e. Building Height and Size (See Section 17.0210)
(1) No principal building, no part of a principal building, and no goods or materials stored shall exceed 35 feet in height.
(2) No accessory building shall exceed 18 feet in height.

f. Setback and Yards
(I) There shall be a minimum building (or street) setback of 30 feet from the right-of-way of all streets, roads, or highways.
(2) There shall be a side yard on each side of all buildings not less than 25 feet in width and buildings shall be no closer than 50 feet from another building.
(3) There shall be a rear yard of not less than 25 feet.
(4) All structures and storage yards shall be set back a minimum 75 feet from the designated 100 year recurrence interval (base flood) floodplain of all navigable streams and bodies of water and 25 feet from any designated wetland. (Also see subsection 17.0435)

g. Parking and Loading Space
(1) There shall be adequate paved off-street parking space provided for the intended use of the property and no on-street parking or on-street vehicle maneuvering will be allowed in the vicinity of the property. (Also see subsection 17.0210 and section 17.0600).
(2) There shall be adequate paved off-street loading area provided to accommodate all necessary loading and unloading activities on the premises, and no loading dock or area shall be located closer than 100 feet from the right-of-way of a public access street.
(3) All parking and loading areas shall be adequately screened as determined by the Plan Commission.
(4) There shall be no driveway, parking or loading area within 25 feet of a street right-of-way or 15 feet of an adjacent property.

h. Minimum Utility Service
Electricity, and where available, public sewer and water supply.

i. Special Regulations
To encourage wholesale business use environment that is compatible with the residential character of the City, a Building and/or Zoning permits for permitted uses in the M-1 District shall not be issued without prior review by and approval of the City Plan Commission. Said review and approval shall be concerned with existing and planned adjacent uses, need for public or private water supply and sanitary sewage disposal facilities, general site layout, building and operation plans, ingress, egress, drainage, lighting, signage, parking, loading and unloading, screening and landscape plans.

17.0424 M-2, LIMITED INDUSTRIAL DISTRICT

The M-2, Limited Industrial District is intended to provide for manufacturing or fabrication operations and related offices, which, on the basis of physical and operational characteristics, would not be detrimental to the immediate surrounding area or to the City as a whole by reason of smoke, odor, noise, dust, liquid, flash, traffic, physical appearance, or other similar factors; and to establish such regulatory controls as will reasonably insure compatibility with the surrounding area in these respects. All uses in this district must meet the State of Wisconsin industrial standards. (See subsection 17.0210).

a. Permitted Principal Uses
   (1) All uses involving the manufacture of goods within the confines of a permanent building and in which any smoke, noise, dust, flash, liquid, or odor produced in the manufacturing process is either not produced or is confined within the building.
   (2) All uses involving the fabrication of materials within the confines of a permanent building and in which any smoke, dust, flash, liquid, noise, or odor produced in the fabrication process is either not produced or is confined within the building.
   (3) All uses involving the provision of an office or service which is either manufacturing or fabrication-related and not permitted in business/commercial districts, confined within a permanent building, and in which any smoke, dust, flash, heat, noise, liquid or odor produced by such service uses is either not produced or is confined within the building.
   (4) Those uses allowed as Permitted Principal Uses within the M-1 General Wholesale Business/Warehouse District.
   (5) Commercial Kennels. (Cr. 13-09)

b. Permitted Accessory Uses
   (1) Enclosed as well as screened areas for the storage of materials, other than explosive or flammable materials or substances, used in the manufacturing or fabrication process.
   (2) Offices normally auxiliary to the principal uses.
   (3) Garages for the storage of licensed vehicles used in conjunction with the operation of the industrial uses.
   (4) Auxiliary power generators.
   (5) Screened off-street parking and loading areas.
   (6) Non-flashing signs (see Section 17.0700).
   (7) The storage of not more than 10,000 gallons of fuel and petroleum products for use incidental to the principal use, and upon specific approval of the Plan Commission.
   (8) Residential quarters for the owner or hired caretaker provided that such quarters are in the principal building, not more than 750 square feet in area, no more than two (2) bedrooms, and not for rent, lease or separate sale.
   (9) Retail outlets for goods manufactured or fabricated on the premises as long as such outlet comprises no more than five (5) percent of the total floor area, and manufacturing/fabrication related training/educational classes as long as such classes comprise no more than 50 percent of the total floor space.

c. Conditional Uses
   (1) Those uses allowed as Conditional Uses within the M-1 General Wholesale Business/Warehouse District.
   (2) Storage of explosive or flammable materials, other than permitted

accessory uses, related to the permitted principal use, upon specific approval of the Plan Commission.

(3) Day care operations, wellness centers, physical fitness and training centers**.**

d. Lot Area and Width
(1) Lots shall have a minimum area of two (2) acres.
(2) Lots shall be not less than 200 feet in width at the building setback line.

e. Building Height and Size
(1) No principal building or parts of a principal building shall exceed 35 feet in height.
(2) No accessory building shall exceed 18 feet in height.

f. Setback and Yards (See Section 17.0210)
(1) There shall be a minimum building (or street) setback of 45 feet from the right-of-way of all streets.
(2) There shall be a minimum side yard equal to the required side yard in the adjacent district, but not less than 25 feet and buildings shall be no closer than 50 feet from another building.
(3) There shall be a rear yard of not less than 25 feet**.**
(4) All structures and storage yards shall be set back a minimum 75 feet from the designated 100 year recurrence interval (base flood) floodplain of all navigable streams and bodies of water and 25 feet from any designated wetland. (Also see sub-section 17.0435)

g. Parking and Loading Space
(1) There shall be adequate paved off-street parking space provided for intended use of the property and no on-street parking or on-street vehicle maneuvering will be allowed in the vicinity of the property. (see subsection 17.0210 and section 17.0600).
(2) There shall be adequate paved off-street loading areas to accommodate all necessary loading or unloading activities on the premises, and no loading dock or area shall be located closer than 100 feet from the right-of-way of a public access street.
(3) All parking and loading areas shall be adequately screened as determined by the Plan Commission.
(4) There shall be no driveway, parking or loading area within 15 feet of an adjacent property or within 25 feet of a street right-of-way.

h. Minimum Utility Service
Electricity and public sanitary sewerage and water supply facilities.

i. Special Regulations
To encourage a business use environment that is compatible with the residential character of the City, Building and/or Zoning permits for permitted uses in the M-2 Limited Industrial District shall not be issued without prior review by and approval of the Plan Commission. Said review and approval shall be concerned with adjacent existing and planned uses, general site layout, operation plans, need for public sewer and water facilities, storm water drainage, ingress, egress, parking, loading and unloading, signage, lighting, screening and landscape plans.

17.0426 M-4, INDUSTRIAL PARK DISTRICT

The M-4, Industrial Park District is Intended to provide for the orderly and attractive grouping, in appropriately landscaped grounds, of manufacturing or other industrial operations which, on the basis of actual physical and operational characteristics, would not be detrimental to the surrounding area or to the community as a whole by reason of noise, dust, flash, smoke, odor traffic, physical appearance, or other similar factors; and to establish such restrictions as will reasonably insure compatibility with the surrounding area in this respect.

a. Permitted Principal Uses
Those uses that are permitted in the B-4 and M-2 districts within the confines of a building and have no outdoor storage of materials or equipment.

b. Permitted Accessory Uses
None.

c. Conditional Uses (See subsection 17.0210 and section 17.0500)
All principal, accessory, and conditional uses permitted in the M-1, M-2, and M-3 districts as long as such uses are wholly contained within a building or buildings arranged in a compatible grouping and a visually attractive “park like” setting.

d. Lot Area and Width
(1) The area of the total "park" development shall be not less than 25 acres.
(2) Lots shall have a minimum area of three (3) acres.
(3) The width of the total “park" development parcel at the principal street or highway access shall be not less than 600 feet.
(4) Lots shall be not less than 300 feet in width at the building setback line.

e. Building Height and Size
(1) No structure or parts of a principal structure shall exceed 35 feet in height and no accessory structure shall exceed 18 feet in height.

f. Setback and Yards
All structures, employee parking, signs, storage areas, and fences shall be located not less than 45 feet from the right-of-way of a street, road, highway, or a park boundary, not less than 45 feet from any other parcel boundary, not less than 50 feet from another building and not less than 75 feet from the designated 100 year recurrence interval (base flood) floodplain of all navigable streams and bodies of water and 25 feet from any designated wetland. Loading docks or areas shall be located not less than 100 feet from the right-of-way of a public access street and shall be screened from view from the street. (Also see subsection 17.0435)

g. Parking and Loading Space
Paved off-street parking and loading space adequate to meet the initial and projected needs of the principal use shall be provided for individual lot development within the “park” (see Section 17.0600).
(1) No parking, loading, unloading or on-street vehicle maneuvering will be allowed on streets or access ways within the ‘park’ or on adjacent streets or highways.
(2) All parking and loading areas shall be adequately screened as determined by the Plan Commission.

(3) There shall be no driveway, parking or loading area within 30 feet of a street right-of-way or within 20 feet of an adjacent property.

h. Minimum Utility Services
Public sanitary sewerage and water supply systems, electricity.

i. Special Regulations

(1) The owner or developer of an industrial park, who shall also be the applicant for a zoning request, shall submit with such application a site plan and/or plat which shall be prepared in accordance with Plan Commission requirements.

(2) All streets or access ways within the “park” development shall meet the construction requirements of the City.

(3) Owners of individual parcels shall be required to submit a site and operations plan of the site and where appropriate a conditional use request for Plan Commission review and approval and Common Council approval prior to receipt of a building or occupancy permit.

(4) If the parcels shown on the required “park” development plat area are to be sold, the owner/applicant shall be required to submit a final plat or certified survey map (CSM) of the “park” development or parcel pursuant to the City Land Division Ordinance prior to the sale of the parcel(s).

17.0420 B-4, OFFICE DISTRICT

The B-4, Office District is intended to provide for Individual or limited office, professional, and special service uses where the office activity would be compatible with neighborhood residential uses and not necessarily exhibit the intense activity of other business districts.

a. Permitted Principal Uses
   (1) Administrative and public service offices.
   (2) Banks and financial or tax consultants.
   (3) Interior decorators.
   (4) Professional offices of an architect, landscape architect, lawyer, doctor, dentist, clergy, engineer, or other similarly recognized profession.
   (5) Real estate and insurance offices.
   (6) Studios for photography, painting, music, sculpture, dance, or other recognized fine art.

b. Permitted Accessory Uses
   (1) Accessory garages for storage of licensed vehicles used in conjunction with the operation of the business or for occupants of the premises.
   (2) Off-street parking areas.

c. Conditional Uses (See Section 17.0500)
   (1) Office uses similar in character to the above permitted residential compatible uses and conducted as a business on the premises and catering to the general public.
   (2) Residences when in conjunction with a principal use and not more than 50 percent of the floor area of the principal building.

d. Lot Area and Width
   (1) Lots shall have a minimum area of two (2) acres.
   (2) Lots shall have a minimum width of 140 feet at the building setback line.

e. Building Height and Size (See Section 17.0210)
   (1) No principal building or parts of a principal building shall exceed four (4) stories or 55 feet in height.
   (2) No accessory building shall exceed 18 feet in height.
   (3) The sum total of the floor area of the principal building and all accessory buildings shall not exceed 35 percent of the lot area.

f. Setback and Yards
   (1) There shall be a minimum building (or street) setback equal to the average of the required setback of the adjacent district on each side of the proposed use, but not less than 25 feet.
   (2) There shall be a minimum side yard equal to the required side yard in the adjacent district, but not less than 20 feet.
   (3) There shall be a rear yard of not less than 25 feet.
   (4) All structures shall be set back a minimum of 75 feet from the designated 100 year recurrence interval (base flood) floodplain of all navigable streams and bodies of water and 25 feet from any designated wetland. (Also see sub-section 17.0435)

g. Parking and Loading Space
   (1) There shall be adequate paved off-street parking and loading space provided for every structure/use approved by the City Plan Commission after August 1982 and such parking and loading areas shall be adequately screened as determined by the Plan Commission.
   (2) There shall be no parking or loading area within 30 feet of a street right-of-way. (See sections 17.0600 and 17.0700).

h. Minimum Utility Service
   Electricity and public sanitary sewerage and water supply facilities.

i. Special Regulations
   To encourage a business use environment that is compatible with the residential character of the City, Building and/or Zoning permits for permitted uses in the B-4 Office District shall not be issued without prior review by and approval of the City Plan Commission. Said review and approval shall be concerned with adjacent existing and planned uses, general site layout, building and operation plans, ingress, egress, parking, loading and unloading, drainage, lighting, signage, screening and landscape plans.

CITY OF PEWAUKEE
COMMON COUNCIL AGENDA ITEM 5.

DATE: October 5, 2020

DEPARTMENT: Public Works

PROVIDED BY: Magdelene Wagner

SUBJECT:

Discussion and Possible Action to Approve the First Reduction of the Swan View Farms Phase 1 Letter of Credit from $5,706,294.00 to $4,117,620.10 (Reduction of $1,588,673.90).

BACKGROUND:

The Swan View Farms Phase 1 development construction began this past Spring and to date the work has involved extensive grading, pond installation, and public utility (sewer and water) construction. We recommend the requested reduction. The remaining letter of credit value of $4,117,620.10 is sufficient to complete the project.

FINANCIAL IMPACT:

None at this time.

RECOMMENDED MOTION:

Common Council approve the first reduction of the Swan View Farms Phase 1 letter of credit from $5,706,294.00 to $4,117,620.10 ($1,588,673.90 reduction).

ATTACHMENTS:

Description

Swan View Letter of Credit

Swan View LOC First Reduction request

WINTRUST
INTERNATIONAL SERVICES

STANDBY LETTER OF CREDIT		PAGE 1
DATE OF ISSUE : JUNE 08, 2020	IRREVOCABLE STANDBY LETTER OF CREDIT	NUMBER SB 191180091
	DATE AND PLACE OF EXPIRY JUNE 08, 2021 SEE BELOW	
APPLICANT BWC INVESTMENTS, LLC N8 W22520 JOHNSON DR. SUITE L WAUKESHA, WI 53186	BENEFICIARY CITY OF PEWAUKEE W240 N3065 PEWAUKEE ROAD PEWAUKEE, WI 53072	
ADVISING BANK NONE	AMOUNT USD5,706,294.00 U.S. DOLLARS FIVE MILLION SEVEN HUNDRED SIX THOUSAND TWO HUNDRED NINETY FOUR ONLY	

WE, TOWN BANK, N.A. (THE "BANK"), HEREBY ISSUE IN YOUR FAVOR THIS IRREVOCABLE LETTER OF CREDIT NUMBER SB191180091 (THE "LETTER OF CREDIT"), IN THE AGGREGATE AMOUNT OF USD5,706,294.00 AVAILABLE WITH TOWN BANK, N.A., C/O ITS SERVICE PROVIDER, WINTRUST FINANCIAL CORPORATION, ATTN: INTERNATIONAL SERVICES GROUP, 231 S. LASALLE ST., 13TH FLOOR, CHICAGO, IL 60604 AGAINST PRESENTATION OF THE FOLLOWING DOCUMENTS:

1. BENEFICIARY'S SIGNED DRAFT AT SIGHT DRAWN ON TOWN BANK, N.A. BEARING THE CLAUSE "DRAWN UNDER TOWN BANK, N.A. LETTER OF CREDIT NO. SB191180091 DATED JUNE 8, 2020.";

2. BENEFICIARY'S SIGNED CERTIFICATE STATING EITHER:

(A) "WE ARE DRAWING IN THE AMOUNT OF THE ACCOMPANING DRAFT AS BWC INVESTMENTS, LLC HAS FAILED TO FULFILL ITS OBLIGATIONS PURSUANT TO THE DEVELOPMENT CONTRACT FOR THE DEVELOPMENT OF A 59 LOT RESIDENTIAL SUBDIVISION."

OR

(B). "WE HAVE RECEIVED NOTICE FROM TOWN BANK, N.A., THAT THE CURRENT EXPIRY DATE OF LETTER OF CREDIT NO. SB191180091 WILL NOT BE EXTENDED AND BWC INVESTMENTS, LLC HAS FAILED TO PROVIDE US WITH AN ACCEPTABLE REPLACEMENT IRREVOCABLE LETTER OF CREDIT."

THIS LETTER OF CREDIT MAY BE REDUCED FROM TIME TO TIME UPON OUR RECEIPT OF A WRITTEN NOTICE EXECUTED BY THE BENEFICIARY, DULY COMPLETED, STATING: "WE HEREBY AUTHORIZE THE REDUCTION OF LETTER OF CREDIT NUMBER SB191180091 BY

WINTRUST
INTERNATIONAL SERVICES

STANDBY LETTER OF CREDIT		PAGE 2
DATE OF ISSUE : JUNE 08, 2020	CONTINUATION OF STANDBY LETTER OF CREDIT	NUMBER SB 191180091
	DATE AND PLACE OF EXPIRY JUNE 08, 2021 SEE BELOW	
APPLICANT BWC INVESTMENTS, LLC N8 W22520 JOHNSON DR. SUITE L WAUKESHA, WI 53186	BENEFICIARY CITY OF PEWAUKEE W240 N3065 PEWAUKEE ROAD PEWAUKEE, WI 53072	

USD_____ TO USD_____ AS A PORTION OF THE WORK REQUIRED BY BWC INVESTMENTS, LLC HAS BEEN COMPLETED AND PAID FOR." YOU SHALL BE NOTIFIED OF SUCH REDUCTION BY MEANS OF OUR AMENDMENT TO THIS LETTER OF CREDIT AND YOUR WRITTEN NOTICE SHALL BE CONSIDERED AS YOUR AGREEMENT TO SUCH AMENDMENT.

IT IS A CONDITION OF THIS LETTER OF CREDIT THAT IT SHALL BE DEEMED AUTOMATICALLY EXTENDED, ON THE EXPIRY DATE, WITHOUT AMENDMENT FOR ADDITIONAL PERIOD(S) OF ONE YEAR FROM THE PRESENT OR ANY FUTURE EXPIRY DATE HEREOF, UNLESS AT LEAST SIXTY (60) DAYS PRIOR TO THE THEN CURRENT EXPIRY DATE WE SEND YOU NOTICE IN WRITING BY OVERNIGHT COURIER SERVICE AT THE ADDRESS INDICATED ABOVE, THAT WE ELECT NOT TO CONSIDER THIS LETTER OF CREDIT EXTENDED FOR ANY SUCH ADDITIONAL PERIOD.

ALL BANKING CHARGES ASSOCIATED WITH THIS LETTER OF CREDIT ARE FOR THE ACCOUNT OF THE APPLICANT.

THIS LETTER OF CREDIT SETS FORTH IN FULL THE TERMS OF OUR UNDERTAKING, AND SUCH UNDERTAKING SHALL NOT IN ANY WAY BE MODIFIED, AMPLIFIED OR LIMITED BY REFERENCE TO ANY DOCUMENT, INSTRUMENT OR AGREEMENT REFERRED TO IN THIS STANDBY LETTER OF CREDIT AND ANY SUCH REFERENCE SHALL NOT BE DEEMED TO INCORPORATE HEREIN ANY SUCH DOCUMENT, INSTRUMENT OR AGREEMENT.

WE HEREBY ENGAGE WITH YOU THAT ALL DRAFT(S) DRAWN UNDER AND IN COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS LETTER OF CREDIT WILL BE DULY HONORED IF PRESENTED TO TOWN BANK, N.A., C/O OUR SERVICE PROVIDER, WINTRUST FINANCIAL CORPORATION, ATTN: INTERNATIONAL SERVICES GROUP, 231 S. LASALLE ST., 13TH FLOOR, CHICAGO, IL 60604 BY 4:00 P.M. CENTRAL TIME ON OR BEFORE THE THEN CURRENT EXPIRY DATE.

THIS LETTER OF CREDIT WILL BE GOVERNED BY THE LAWS OF THE STATE OF WISCONSIN.

PLEASE ADDRESS ALL CORRESPONDENCE REGARDING THIS LETTER OF CREDIT TO TOWN BANK, N.A., C/O ITS SERVICE PROVIDER, WINTRUST FINANCIAL CORPORATION, ATTN: INTERNATIONAL SERVICES GROUP, 231 S. LASALLE ST., 13TH FLOOR, CHICAGO, IL

DS
LG

WINTRUST
INTERNATIONAL SERVICES

STANDBY LETTER OF CREDIT		PAGE 3
DATE OF ISSUE : JUNE 08, 2020	CONTINUATION OF STANDBY LETTER OF CREDIT	NUMBER SB 191180091
	DATE AND PLACE OF EXPIRY JUNE 08, 2021 SEE BELOW	
APPLICANT BWC INVESTMENTS, LLC N8 W22520 JOHNSON DR. SUITE L WAUKESHA, WI 53186	BENEFICIARY CITY OF PEWAUKEE W240 N3065 PEWAUKEE ROAD PEWAUKEE, WI 53072	

60604 REFERENCING THE LETTER OF CREDIT NUMBER MENTIONED ABOVE. FOR TELEPHONE ASSISTANCE, PLEASE CONTACT THE STANDBY UNIT AT 1-312-981-0767 OR BY EMAIL TO OUR INTERNATIONAL SERVICES GROUP AT INTERNATIONALSERVICES@WINTRUST.COM.

********** END OF CREDIT **********

THIS AREA INTENTIONALLY BLANK

THIS DOCUMENT CONSISTS OF 3 PAGES
YOURS FAITHFULLY,
FOR AND ON BEHALF OF
TOWN BANK, N.A.

DocuSigned by:
Laura Gonzalez
54F93B84E33C43C...
AUTHORIZED SIGNATURE(S)

DocuSigned by:
Tom Beebe
317D273F026F456...
AUTHORIZED SIGNATURE(S)

Wagner, Magdelene

From: Carl Tomich <carlt@westridgebuilders.com>
Sent: Wednesday, September 16, 2020 12:02 PM
To: Wagner, Magdelene
Subject: Swan reduction of LOC
Attachments: 0542_001.pdf

Maggie-

here are a couple bills for mostly grading work that I need the LOC reduced to get the bank to release the money to pay them. How can I expedite this?

Thanks Carl

Carl P Tomich
President/C.E.O.
P262.547.0326 F262.542.4361
carlt@westridgebuilders.com
www.westridgebuilders.com

UPI, LLC 2180 S. SPRINGDALE RD., NEW BERLIN, WI 53146

BWC INVESTMENTS, LLC
N8 W22520 L Johnson Dr.
Waukesha, WI 53186

Invoice: 2017
Date: 7/30/2020
Job: 2019

PROJECT: Swan View Farms
PAY REQUEST #1

	DESCRIPTION			UNIT PRICE	WORK COMPLETED			CUMULATIVE SALES		BALANCE TO COMPLETE	
Item No.	BID ITEM	UNIT	JOB QTY.		PREVIOUS PERIODS	THIS PERIOD	AMOUNT THIS PERIOD	UNITS	AMOUNT	UNITS	AMOUNT
	Sanitary										
1	8" pvc main - gravel bf	l.f.	5486.0	$88.00	0.00	0.00	$0.00	0.00	$0.00	5486.00	$482,768.00
2	8" pvc main - slurry bf	l.f.	35.0	$479.00	0.00	0.00	$0.00	0.00	$0.00	35.00	$16,765.00
3	6" laterals	ea	59.0	$2,800.00	0.00	0.00	$0.00	0.00	$0.00	59.00	$165,200.00
4	manhole	ea	31.0	$3,000.00	0.00	0.00	$0.00	0.00	$0.00	31.00	$93,000.00
5	Offsite laterals (4ea)	l.f.	1355.0	$38.00	0.00	0.00	$0.00	0.00	$0.00	1355.00	$51,490.00
6	4" force main - spoil	l.f.	1747.0	$33.00	0.00	0.00	$0.00	0.00	$0.00	1747.00	$57,651.00
7	4" force main - gravel	l.f.	194.0	$62.00	0.00	0.00	$0.00	0.00	$0.00	194.00	$12,028.00
8	lift station	l.s.	1.0	$372,000.00	0.00	0.00	$0.00	0.00	$0.00	1.00	$372,000.00
9	*8" c900 pvc main*	*l.f.*	*176.0*	*$204.00*	*0.00*	*0.00*	*$0.00*	*0.00*	*$0.00*	*176.00*	*$35,904.00*
10	Deep Mh #8	ea	1.0	$7,500.00	0.00	0.00	$0.00	0.00	$0.00	1.00	$7,500.00
11	rock removal	l.s.	1.0	$30,000.00	0.00	0.00	$0.00	0.00	$0.00	1.00	$30,000.00
12	air release manhole	ea	2.0	$4,000.00	0.00	0.00	$0.00	0.00	$0.00	2.00	$8,000.00
13	line interior of manholes	ea	4.0	$3,500.00	0.00	0.00	$0.00	0.00	$0.00	4.00	$14,000.00
	Water										
1	12" pvc main - gravel bf	l.f.	1386.0	$82.00	0.00	0.00	$0.00	0.00	$0.00	1386.00	$113,652.00
2	12" valve	ea	6.0	$2,580.00	0.00	0.00	$0.00	0.00	$0.00	6.00	$15,480.00
3	8" pvc main - gravel bf	l.f.	4720.0	$55.50	0.00	0.00	$0.00	0.00	$0.00	4720.00	$261,960.00
4	8" valve	ea	18.0	$1,190.00	0.00	0.00	$0.00	0.00	$0.00	18.00	$21,420.00
5	hydrant complete	ea	16.0	$5,300.00	0.00	0.00	$0.00	0.00	$0.00	16.00	$84,800.00
6	1 1/4" service	ea	59.0	$2,090.00	0.00	0.00	$0.00	0.00	$0.00	59.00	$123,310.00
	Storm										
1	12" rcp - gravel bf	l.f.	1309.0	$50.00	0.00	0.00	$0.00	0.00	$0.00	1309.00	$65,450.00
2	15" rcp - gravel bf	l.f.	878.0	$51.00	0.00	87.00	$4,437.00	87.00	$4,437.00	791.00	$40,341.00
3	18" rcp - gravel bf	l.f.	1129.0	$52.00	0.00	0.00	$0.00	0.00	$0.00	1129.00	$58,708.00
4	21" rcp - gravel bf	l.f.	1394.0	$51.00	0.00	0.00	$0.00	0.00	$0.00	1394.00	$71,094.00
5	24" rcp - gravel bf	l.f.	685.0	$67.00	0.00	48.00	$3,216.00	48.00	$3,216.00	637.00	$42,679.00
6	30" rcp - gravel bf	l.f.	611.0	$78.00	0.00	0.00	$0.00	0.00	$0.00	611.00	$47,658.00
7	36" rcp - gravel bf	l.f.	95.0	$100.00	0.00	0.00	$0.00	0.00	$0.00	95.00	$9,500.00
8	15" fes w/ rip rap	ea	3.0	$850.00	0.00	2.00	$1,700.00	2.00	$1,700.00	1.00	$850.00
9	18" fes w/ rip rap	ea	1.0	$950.00	0.00	0.00	$0.00	0.00	$0.00	1.00	$950.00
10	24" fes w/ rip rap	ea	7.0	$1,050.00	0.00	1.00	$1,050.00	1.00	$1,050.00	6.00	$6,300.00
11	30" fes w/ rip rap	ea	2.0	$1,200.00	0.00	0.00	$0.00	0.00	$0.00	2.00	$2,400.00
12	*36" fes w/ rip rap*	*ea*	*1.0*	*$1,565.00*	*0.00*	*0.00*	*$0.00*	*0.00*	*$0.00*	*1.00*	*$1,565.00*
13	inlet	ea	65.0	$2,310.00	0.00	0.00	$0.00	0.00	$0.00	65.00	$150,150.00
14	manhole	ea	31.0	$2,280.00	0.00	0.00	$0.00	0.00	$0.00	31.00	$70,680.00
15	field inlet	ea	8.0	$2,100.00	0.00	0.00	$0.00	0.00	$0.00	8.00	$16,800.00
16	outlet structures	ea	6.0	$6,400.00	0.00	3.00	$19,200.00	3.00	$19,200.00	3.00	$19,200.00
17	15" cmp w/ fes	l.f.	65.0	$48.00	0.00	0.00	$0.00	0.00	$0.00	65.00	$3,120.00
18	8" pvc w/ fes	l.f.	54.0	$39.00	0.00	0.00	$0.00	0.00	$0.00	54.00	$2,106.00
19	Ph 2 - 15" hdpe	l.f.	260.0	$45.00	0.00	0.00	$0.00	0.00	$0.00	260.00	$11,700.00
	Grading										
1	New Berlin Site Grading	l.s.	1.0	$1,240,550.00	0.00	0.15	$186,082.50	0.15	$186,082.50	1.00	$1,240,550.00
	Stark - 2020										
1	30" mountable curb	l.f.	13620.0	$13.40	0.00	0.00	$0.00	0.00	$0.00	13620.00	$182,508.00
2	30" vert face curb	l.f.	255.0	$25.60	0.00	0.00	$0.00	0.00	$0.00	255.00	$6,528.00
3	4" conc walk w/ 4" base	s.f.	2650.0	$7.25	0.00	0.00	$0.00	0.00	$0.00	2650.00	$19,212.50
4	detectable warn fields	ea	9.0	$380.00	0.00	0.00	$0.00	0.00	$0.00	9.0000	$3,420.00
5	concrete bull nose	ea	2.0	$450.00	0.00	0.00	$0.00	0.00	$0.00	2.0000	$900.00
6	Swan Rd. 10" stone & 5" a	s.y.	860.0	$35.50	0.00	0.00	$0.00	0.00	$0.00	860.00	$30,530.00
7	Swan Rd. stone shoulder	s.y.	260.0	$12.20	0.00	0.00	$0.00	0.00	$0.00	260.00	$3,172.00
8	Swan Rd. asphalt drive	s.y.	50.0	$39.80	0.00	0.00	$0.00	0.00	$0.00	50.00	$1,990.00
9	10" stone & binder on site	s.y.	18310.0	$20.20	0.00	0.00	$0.00	0.00	$0.00	18310.00	$369,862.00
10	6" asphalt path	s.y.	1840.0	$32.50	0.00	0.00	$0.00	0.00	$0.00	1840.00	$59,800.00
	Stark - 2021										
11	Interim inlets	ea	23.0	$840.00	0.00	0.00	$0.00	0.00	$0.00	23.00	$19,320.00
12	Surface asphalt	s.y.	18310.0	$7.85	0.00	0.00	$0.00	0.00	$0.00	18310.00	$143,733.50
13	*Stark credit*	*l.s.*	*1.0*	*-$10,976.00*	*0.00*	*0.00*	*$0.00*	*0.00*	*$0.00*	*1.00*	*-$10,976.00*

EARNED TO DATE:	$215,685.50
LESS PREVIOUS REQUESTS:	$0.00
CURRENT REQUEST:	$215,685.50

BALANCE TO COMPLETE:	$4,658,729.00

Please remit payment within 30 days
1.5% interest charged on all past due balances

It is the policy of UPI, LLC. to exercise Lien Rights if payment is not received within the provided terms

UPI, LLC 2180 S. SPRINGDALE RD., NEW BERLIN, WI 53146

BWC INVESTMENTS, LLC
N8 W22520 L Johnson Dr.
Waukesha, WI 53186

Invoice: 2023
Date: 9/9/2020
Job: 2019

PROJECT: Swan View Farms
PAY REQUEST #2

Item No.	DESCRIPTION BID ITEM	UNIT	JOB QTY.	UNIT PRICE	WORK COMPLETED PREVIOUS PERIODS	WORK COMPLETED THIS PERIOD	WORK COMPLETED AMOUNT THIS PERIOD	CUMULATIVE SALES UNITS	CUMULATIVE SALES AMOUNT	BALANCE TO COMPLETE UNITS	BALANCE TO COMPLETE AMOUNT
	Sanitary										
1	8" pvc main - gravel bf	l.f.	5486.0	$88.00	0.00	4692.00	$412,896.00	4692.00	$412,896.00	794.00	$69,872.00
2	8" pvc main - slurry bf	l.f.	35.0	$479.00	0.00	35.00	$16,765.00	35.00	$16,765.00	0.00	$0.00
3	6" laterals	ea	59.0	$2,800.00	0.00	45.00	$126,000.00	45.00	$126,000.00	14.00	$39,200.00
4	manhole	ea	31.0	$3,000.00	0.00	26.00	$78,000.00	26.00	$78,000.00	5.00	$15,000.00
5	Offsite laterals (4ea)	l.f.	1355.0	$38.00	0.00	1355.00	$51,490.00	1355.00	$51,490.00	0.00	$0.00
6	4" force main - spoil	l.f.	1747.0	$33.00	0.00	0.00	$0.00	0.00	$0.00	1747.00	$57,651.00
7	4" force main - gravel	l.f.	194.0	$62.00	0.00	0.00	$0.00	0.00	$0.00	194.00	$12,028.00
8	lift station	l.s.	1.0	$372,000.00	0.00	0.02	$7,812.00	0.02	$7,812.00	0.98	$364,188.00
9	8" c900 pvc main	l.f.	176.0	$204.00	0.00	0.00	$0.00	0.00	$0.00	176.00	$35,904.00
10	Deep Mh #8	ea	1.0	$7,500.00	0.00	0.00	$0.00	0.00	$0.00	1.00	$7,500.00
11	rock removal	l.s.	1.0	$30,000.00	0.00	0.00	$0.00	0.00	$0.00	1.00	$30,000.00
12	air release manhole	ea	2.0	$4,000.00	0.00	0.00	$0.00	0.00	$0.00	2.00	$8,000.00
13	line interior of manholes	ea	3.0	$2,685.00	0.00	0.00	$0.00	0.00	$0.00	3.00	$8,055.00
14	line existing MH 36 v.f.	ea	1.0	$15,310.00	0.00	0.00	$0.00	0.00	$0.00	1.00	$15,310.00
	Water										
1	12" pvc main - gravel bf	l.f.	1386.0	$82.00	0.00	440.00	$36,080.00	440.00	$36,080.00	946.00	$77,572.00
2	12" valve	ea	6.0	$2,580.00	0.00	1.00	$2,580.00	1.00	$2,580.00	5.00	$12,900.00
3	8" pvc main - gravel bf	l.f.	4720.0	$55.50	0.00	2081.00	$115,495.50	2081.00	$115,495.50	2639.00	$146,464.50
4	8" valve	ea	18.0	$1,190.00	0.00	6.00	$7,140.00	6.00	$7,140.00	12.00	$14,280.00
5	hydrant complete	ea	16.0	$5,300.00	0.00	5.00	$26,500.00	5.00	$26,500.00	11.00	$58,300.00
6	1 1/4" service	ea	59.0	$2,090.00	0.00	0.00	$0.00	0.00	$0.00	59.00	$123,310.00
	Storm										
1	12" rcp - gravel bf	l.f.	1309.0	$50.00	0.00	0.00	$0.00	0.00	$0.00	1309.00	$65,450.00
2	15" rcp - gravel bf	l.f.	878.0	$51.00	87.00	0.00	$0.00	87.00	$4,437.00	791.00	$40,341.00
3	18" rcp - gravel bf	l.f.	1129.0	$52.00	0.00	0.00	$0.00	0.00	$0.00	1129.00	$58,708.00
4	21" rcp - gravel bf	l.f.	1394.0	$51.00	0.00	0.00	$0.00	0.00	$0.00	1394.00	$71,094.00
5	24" rcp - gravel bf	l.f.	685.0	$67.00	48.00	228.00	$15,276.00	276.00	$18,492.00	409.00	$27,403.00
6	30" rcp - gravel bf	l.f.	611.0	$78.00	0.00	91.00	$7,098.00	91.00	$7,098.00	520.00	$40,560.00
7	36" rcp - gravel bf	l.f.	95.0	$100.00	0.00	0.00	$0.00	0.00	$0.00	95.00	$9,500.00
8	15" fes w/ rip rap	ea	3.0	$850.00	2.00	0.00	$0.00	2.00	$1,700.00	1.00	$850.00
9	18" fes w/ rip rap	ea	1.0	$950.00	0.00	0.00	$0.00	0.00	$0.00	1.00	$950.00
10	24" fes w/ rip rap	ea	7.0	$1,050.00	1.00	3.00	$3,150.00	4.00	$4,200.00	3.00	$3,150.00
11	30" fes w/ rip rap	ea	2.0	$1,200.00	0.00	1.00	$1,200.00	1.00	$1,200.00	1.00	$1,200.00
12	*36" fes w/ rip rap*	*ea*	*1.0*	*$1,565.00*	*0.00*	*0.00*	*$0.00*	*0.00*	*$0.00*	*1.00*	*$1,565.00*
13	inlet	ea	65.0	$2,310.00	0.00	0.00	$0.00	0.00	$0.00	65.00	$150,150.00
14	manhole	ea	31.0	$2,280.00	0.00	0.00	$0.00	0.00	$0.00	31.00	$70,680.00
15	field inlet	ea	8.0	$2,100.00	0.00	0.00	$0.00	0.00	$0.00	8.00	$16,800.00
16	outlet structures	ea	6.0	$6,400.00	3.00	2.00	$12,800.00	5.00	$32,000.00	1.00	$6,400.00
17	15" cmp w/ fes	l.f.	65.0	$48.00	0.00	0.00	$0.00	0.00	$0.00	65.00	$3,120.00
18	8" pvc w/ fes	l.f.	54.0	$39.00	0.00	0.00	$0.00	0.00	$0.00	54.00	$2,106.00
19	Ph 2 - 15" hdpe	l.f.	260.0	$45.00	0.00	0.00	$0.00	0.00	$0.00	260.00	$11,700.00
20	Rock blasting for basin 6	l.s.	1.0	$21,935.00	0.00	0.00	$0.00	0.00	$0.00	1.00	$21,935.00
	Grading										
1	New Berlin Site Grading	l.s.	1.0	$1,240,550.00	0.15	0.34	$419,305.90	0.49	$605,388.40	0.51	$635,161.60
2	Phase 2 Pond work	l.s.	1.0	$167,000.00	0.00	0.20	$33,400.00	0.20	$33,400.00	0.80	$133,600.00
	Stark - 2020										
1	30" mountable curb	l.f.	13620.0	$13.40	0.00	0.00	$0.00	0.00	$0.00	13620.00	$182,508.00
2	30" vert face curb	l.f.	255.0	$25.60	0.00	0.00	$0.00	0.00	$0.00	255.00	$6,528.00
3	4" conc walk w/ 4" base	s.f.	2650.0	$7.25	0.00	0.00	$0.00	0.00	$0.00	2650.00	$19,212.50
4	detectable warn fields	ea	9.0	$380.00	0.00	0.00	$0.00	0.00	$0.00	9.0000	$3,420.00
5	concrete bull nose	ea	2.0	$450.00	0.00	0.00	$0.00	0.00	$0.00	2.0000	$900.00
6	Swan Rd. 10" stone & 5" asph.	s.y.	860.0	$35.50	0.00	0.00	$0.00	0.00	$0.00	860.00	$30,530.00
7	Swan Rd. stone shoulder	s.y.	260.0	$12.20	0.00	0.00	$0.00	0.00	$0.00	260.00	$3,172.00
8	Swan Rd. asphalt drive	s.y.	50.0	$39.80	0.00	0.00	$0.00	0.00	$0.00	50.00	$1,990.00
9	10" stone & binder on site	s.y.	18310.0	$20.20	0.00	0.00	$0.00	0.00	$0.00	18310.00	$369,862.00
10	6" asphalt path	s.y.	1840.0	$32.50	0.00	0.00	$0.00	0.00	$0.00	1840.00	$59,800.00
	Stark - 2021										
11	Interim inlets	ea	23.0	$840.00	0.00	0.00	$0.00	0.00	$0.00	23.00	$19,320.00
12	Surface asphalt	s.y.	*18310.0*	*$7.85*	*0.00*	*0.00*	*$0.00*	*0.00*	*$0.00*	*18310.00*	*$143,733.50*
13	Stark credit	l.s.	1.0	-$10,976.00	0.00	0.00	$0.00	0.00	$0.00	1.00	-$10,976.00

EARNED TO DATE:	$1,588,673.90
LESS PREVIOUS REQUESTS:	$215,685.50
CURRENT REQUEST:	$1,372,988.40

BALANCE TO COMPLETE:	$3,297,958.10

Please remit payment within 30 days
1.5% interest charged on all past due balances

It is the policy of UPI, LLC. to exercise Lien Rights if payment is not received within the provided terms

CITY OF PEWAUKEE
COMMON COUNCIL AGENDA ITEM 6.

DATE: October 5, 2020

DEPARTMENT: Public Works

PROVIDED BY: Magdelene Wagner

SUBJECT:

Discussion and Possible Action Regarding the Pewaukee Industrial Development South

BACKGROUND:

Pewaukee Industrial Development South is an industrial development off of Bluemound (CTH JJ) Road near Harken. They are working through the development review process currently. The proposed development site will require a large amount of fill to accommodate the development.

The Developer has requested the City to allow limited work to begin, limited to the installation of erosion control devices, land filling operations, and grading of the site. On occasion the City has considered and approved limited early grading on similar developments. Should the Council approve the limited early grading agreement, the grading work could begin this fall/winter. This would allow the filling of the site to occur while the final approval of the building and plans work through the approval process.

FINANCIAL IMPACT:

Approval of the requested action facilitate the development of a large industrial parcel ultimately increasing the City tax base. All costs (Attorney, Engineering, and consulting engineering) are recovered through developer billing and financially secured by the letter of credit or cash deposit.

The Letter of Credit will guarantee the grading, erosion control, and restoration of the site which is reported to be $157,875.00. To this we add 20% yielding a letter of credit value of $189,450.00.

RECOMMENDED MOTION:

Common Council conditionally approve the limited early grading agreement, with the three conditions: 1) approval of the final form of the agreement by the City Attorney and City Engineer; 2) approval of the letter of credit (or cash escrow) by the City Engineer in the amount of $189,450.00 and approval of the form of the letter of credit (or cash escrow) by the City Attorney; and 3) approval of the early grading and erosion control plan by the City Engineer.

ATTACHMENTS:

Description

Early Grading Agreement

Early Grading Plans

GRADING AND STOCKPILING OF FILL MATERIAL AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____, 2020, by and between _____ _____ hereinafter collectively and individually called the "Developer," and the CITY OF PEWAUKEE, a Wisconsin municipal corporation of the State of Wisconsin, hereinafter called the "City."

WITNESSETH:

WHEREAS, the Developer proposes to develop certain lands located in the City of Pewaukee, Waukesha County, Wisconsin, being particularly described on Exhibit "A" attached hereto and incorporated herein by this reference (the "Property"), commonly referred to as N17W25045 Bluemound Road, Pewaukee, Wisconsin; and

WHEREAS, the City has reviewed the Developer's conceptual Grading Plan; and

WHEREAS, said development agreement has not yet been prepared and executed; and

WHEREAS, the Developer has requested the City to authorize and permit grading and stockpiling of fill material on the Property at this time; and

WHEREAS, the City recognizes that timing is a factor to be considered and is willing to allow Developer, at its risk, to perform grading and stockpiling as requested upon the condition, however, that the Developer agrees to those certain terms and conditions as more fully hereinafter set forth.

NOW THEREFORE, in consideration of the sum of one dollar ($1.00) to each in hand paid, the receipt and sufficiency whereof is hereby acknowledged, and in further consideration of the mutual premises and covenants hereinafter set forth, it is hereby agreed by and between the parties hereto as follows:

I. THE CITY AGREES:

1. To permit the Developer to perform all rough grading work on the Property, including, but not limited to, the installation of silt fencing, general grading of the site and the construction of storm water management ponds (collectively the "Grading"), upon the terms and conditions set forth below.

2. To permit the Developer to stockpile appropriate fill materials on the Property, not to exceed the total amount 90,000 cubic yards, in anticipation of using said fill materials in the development of the Property (collectively the "Stockpiling"), upon the terms and conditions set forth below.

II. THE DEVELOPER AGREES:

1. All Grading and Stockpiling shall be done at the Developer's risk.

2. All Grading and Stockpiling shall comply with site grading, drainage and soil erosion plan and related specifications as approved by the City Engineer. All plans for such Grading and Stockpiling have been or will be prepared on behalf of the Developer by a professional engineer licensed by the State of Wisconsin.

3. The City shall be reimbursed by the Developer for all costs incurred by the City in relation to the Grading and Stockpiling. These costs shall include, but not be limited to, plan review, inspection and related overhead costs. Said reimbursement shall be guaranteed by the Developer as set forth and required in Paragraph 9 below.

4. In the event the preparation and/or final review of the Master Grading Plans by the City dictate revisions to the proposed grades, either at the Developer's request or at the direction of the Engineer, such re-grading shall be performed by the Developer without any recourse to the City whatsoever, prior to the commencement of any underground installations in the Subdivision development.

5. The Grading and Stockpiling shall be performed with proper control of soil erosion and with minimum siltation of existing drainage facilities. Any damage to the existing drainage facilities, including siltation removal, shall be immediately repaired by the Developer. As appropriate, by virtue of delay in the development process, vegetative cover shall be re-established by the Developer and/or effective erosion control measures shall be installed and continually maintained by the Developer where vegetation has been removed, covered or destroyed.

6. In the event installation of improvements and/or buildings on the lots does not begin as of _____, for any reason whatsoever, all of the graded or disturbed area shall have vegetative cover re-established by the Developer to an extent as to be determined by the City. In the event vegetative cover is not established _____ the City shall arrange for such work to be done, which shall be paid by the Developer.

7. In the event installation of improvements and/or buildings on the lots does not begin as of _____, for any reason whatsoever, all of the stockpiled fill material shall be removed and all disturbed area shall have vegetative cover re-established by the Developer to an extent as to be determined by the City. In the event the Stockpiled material is not removed or vegetative cover is not established by _____, the City shall arrange for such work to be done, which shall be paid by the Developer.

8. All truck traffic to and from the Property, as part of the operation permitted herein, shall be conducted by the Developer as governed by the applicable codes and regulations of Waukesha County and of the City and as directed by the City Engineer, with respect to method, time and operations and routing, etc. Any public street used for access to the Property shall be kept free of mud, dirt and debris on a daily basis. In the event a clean-up order from the City is not complied with, such work shall be arranged and accomplished by the City and paid for out of the deposit referred to in Paragraph 9 below.

9. To assure compliance with the conditions set forth in this agreement, including, but not limited to, the establishment of positive soil erosion control measures, performance hereunder shall be guaranteed with a deposit by the Developer with the City in the amount of $_____ cash which shall be paid prior to the commencement of any activity on the Property by the Developer with respect to the Grading and Stockpiling. In the event Developer does not comply with or fully perform this agreement, the City is authorized to stabilize the site or to take other action to correct the Developer's violations hereof by using the cash deposit for such purposes. Upon completion of the performance of this agreement, the deposit, or remaining balance of the deposit, if any, shall be returned to the Developer. In the event said deposit is insufficient in amount to pay all costs related to performance of and compliance with this agreement, the Developer shall remit payment of all owed amounts to the City within ten (10) days of receipt of the City's invoice to the Developer.

10. This Agreement shall be binding upon the heirs, personal representatives, successors and assigns of the parties hereto.

11. Developer is responsible for DNR approval for required culverts in the Subdivision. Further, it is the Developer's responsibility to comply with any and all provisions of DNR approval/denial conditions.

IN WITNESS WHEREOF, the Developer and the City have caused this agreement to be signed individually by the Developer and by the appropriate officers of the City, with its seal to be hereunto affixed the day and year inserted above.

_____ _____

_____, DEVELOPER

STATE OF WISCONSIN)
) ss.
WAUKESHA COUNTY)

Personally came before me this _____ day of _____, 2020, the above-named _____, to me known to be the persons who executed the foregoing instrument and who acknowledged the same.

Notary Public, State of Wisconsin.
My Commission expires: _____

CITY OF PEWAUKEE
WAUKESHA COUNTY, WISCONSIN

Scott Klein, Mayor

Kelly Tarczewski, Municipal Clerk

STATE OF WISCONSIN)
) ss.
WAUKESHA COUNTY)

_____ Personally came before me this _____ day of _____, 2020, the above named Scott Klein, Mayor, and Kelly Tarczewski, Municipal Clerk, of the above named municipal corporation, to me known to be the persons who executed the foregoing instrument and to me known to be such individual and Municipal Clerk of said municipal corporation and acknowledged that they executed the foregoing instrument as such officers as the deed of said municipal corporation by its authority and pursuant to the authorization by the Governing Body of the City of Pewaukee from their meeting on the ___day of _____, 2020.

Notary Public, State of Wisconsin.
My Commission expires: _____

EXHIBIT A

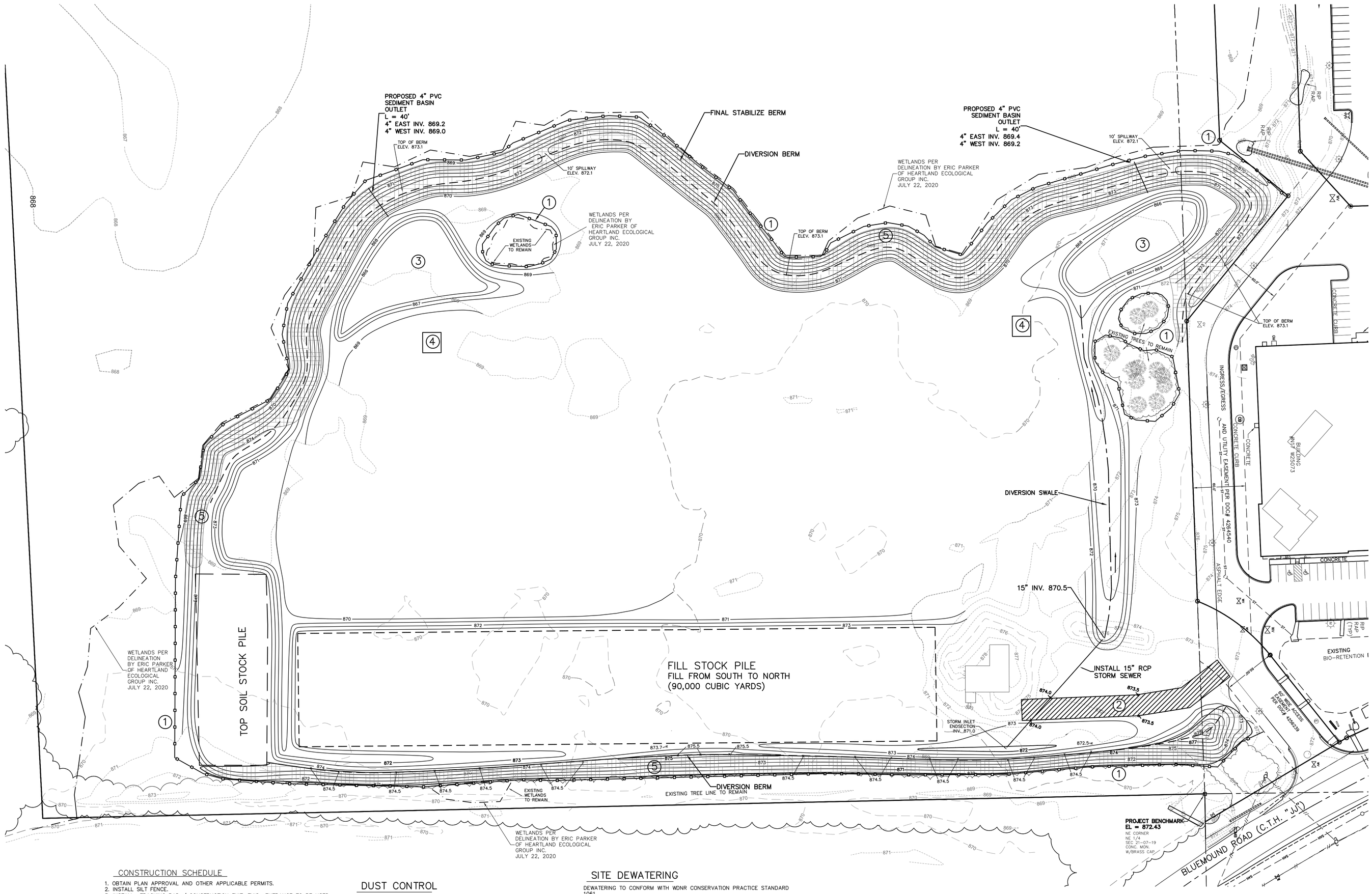
BEGINNING AT THE NORTHEAST CORNER OF THE SOUTHEAST 1/4 OF SECTION 21; THENCE S 01°12'22" E ALONG THE EAST LINE OF SAID SOUTHEAST 1/4 OF SECTION 21, 1293.46 FEET; THENCE S 87°07'44" W 1246.65 FEET; THENCE 539.67 FEET ALONG AN ARC OF A CURVE WHOSE RADIUS IS 1367.40 FEET, WHOSE CENTER LIES TO THE EAST, WHOSE CHORD BEARS S 13°16'26" E 536.17 FEET; THENCE N 00°39'37" E 817.56 FEET; THENCE N 00°25'09" W 45.62 FEET; THENCE N 87°47'57" E 602.95 FEET; THENCE N 38°59'22" E 100.82 FEET; THENCE S 51°00'38" E 184.40 FEET; THENCE N 87°47'57" E 320.59 FEET; THENCE 104.64 FEET ALONG AN ARC OF A CURVE WHOSE RADIUS IS 200.00 FEET, WHOSE CENTER LIES TO THE SOUTH, WHOSE CHORD BEARS N 36°32'20" E 103.45 FEET; THENCE N 51°31'38" E 144.33 FEET; THENCE S 30°43'12" E 190.33 FEET; S 89°04'53" W 51.47 FEET TO THE POINT OF BEGINNING.

CONTAINING 1,860,301 SQUARE FEET OR 42.707 ACRES MORE OR LESS

CJ engineering
civil design and consulting
9205 W. Center Street
Suite 214
Milwaukee, WI 53222
PH. (414) 443-1312
www.cj-engineering.com

PEWAUKEE SOUTH INDUSTRIAL DEVELOPMENT

BLUEMOUND ROAD (C.T.H. "JJ") PEWAUKEE, WISCONSIN



GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 INCH = 50 FT.

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DIGGERS HOTLINE
DIAL 811 OR (800) 242-8511

AREAS OF PERMENANT STABILIZATION

LEGEND

96	EXISTING CONTOUR
96	PROPOSED CONTOUR
x96.5	PROPOSED ELEVATION
ST	PROPOSED STORM SEWER
	SILT FENCE LOCATION

CONSTRUCTION SCHEDULE

1. OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2. INSTALL SILT FENCE.
3. INSTALL TRACKING PAD / CONSTRUCTION EXIT. THIS ENTRANCE TO BE USED FOR HAULING FILL INTO PROJECT LIMITS. INSTALL 15" STORM SEWER.
4. INSTALL SEDIMENT BASIN
   A. THE AREA OF THE BIO-RETENTION BASINS WILL BE USED FOR SEDIMENTATION BASINS DURING CONSTRUCTION.
   B. STRIP TOPSOIL FROM THESE AREAS. STOCK PILE AND SURROUND WITH SILT FENCE.
   C. ROUGH GRADE AND OVER EXCAVATE STORM WATER PONDS (BASINS).
   INSTALL TEMPORARY 4" PVC OUTLET PIPES AS DESCRIBED ON PLAN.
   D. UTILIZE DEWATERING BAG AS NECESSARY DURING EXCAVATION
5. INSTALL THE DIVERSION BERM AND SWALES (USING THE EXISTING TOPSOIL)
   A. EXTERIOR BERMS ARE TO BE BUILT TO FINAL GRADE
6. SEED AND MAT EXTERIOR BERMS FOR PERMENANT STABILIZATION – AS SHOWN ON PLAN.
7. APPLY TEMPORARY STABILIZATION METHODS FOR TEMPORARY DIVERSION SWALES
8. STOCKPILE ANY ADDITIONAL TOP SOIL AT LOCATIONS SHOWN. SURROUND WITH SILT FENCE.
9. IMPORT AND STOCK PILE FILL NEEDED TO GRADE SITE.
10. ALL EXPOSED SOIL AREAS NOT DISTURBED FOR UP TO SEVEN DAYS MUST BE IMMEDIATELY RESTORED WITH TEMPORARY SEED AND MULCH.
11. ALL EROSION CONTROL METHODS SHALL BE INSTALLED IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS AND THE CITY OF PEWAUKEE REQUIREMENTS AND STANDARDS.
12. ALL EROSION CONTROL PRACTICES WILL BE INSPECTED WEEKLY AND AFTER RAINFALL, NEEDED REPAIRS WILL BE PERFORMED IMMEDIATELY.
13. AFTER TEMPORARY FILL SITE IS STABILIZED, REFERENCE FINAL FILL PLAN (SHEET C2.2) AND FINAL EROSION CONTROL PLAN (SHEET 4.0)

MAINTENANCE PLAN

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY ½" RUNOFF-PRODUCTION RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FT. DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
3. ALL SEEDED AREAS WILL BE WATERED, FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
4. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING AT A MINIMUM BEFORE THE END OF THE DAY OR MORE FREQUENTLY AS CONDITIONS WARRENT OR AS DIRECTED BY THE CITY OF PEWAUKEE/WAUKESHA COUNTY.

DUST CONTROL

DUST CONTROL INCLUDES PRACTICES USED TO REDUCE OR PREVENT THE SURFACE AND AIR TRANSPORT OF DUST DURING CONSTRUCTION. DUST CONTROL SHALL BE USED DURING EXTENDED PERIODS OF DRY, WINDY WEATHER WHERE FUGITIVE DUST PARTICLES FROM EXPOSED SOIL WILL BECOME AIRBORNE. DUST CONTROL SHALL ALSO BE UTILIZED AS DIRECTED BY THE CITY OF PEWAUKEE OR WAUKESHA COUNTY.

DUST CONTROL MEASURES FOR CONSTRUCTION ACTIVITIES INCLUDE THE MINIMIZATION OF SOIL DISTURBANCE, APPLYING MULCH AND ESTABLISHING VEGETATION, WATER SPRAYING, SURFACE ROUGHENING, APPLYING POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES AND BARRIERS. DUST CONTROL MEASURES TO BE IN CONFORMANCE WITH WDNR CONSERVATION PRACTICE STANDARD 1068.

TEMPORARY STABILIZATION METHODS

LAND APPLICATION OF ADDITIVES:
DURING WINTER CONSTRUCTION (NOVEMBER 1 TO MAY 1), CONTRACTOR MAY PROVIDE TYPE A SOIL STABILIZER, POLYACRYLAMIDE (PAM) PER LATEST WDOT PAM (UPDATED 11/2/2017) ON ALL DISTURBED AREAS. CONTRACTOR TO INSTALL PAM PER WDNR TECHNICAL STANDARD 1050 AND THE MANUFACTURERS SPECIFICATIONS.

ALSO SEE SHEET C5.0 FOR ADDITIONAL CITY OF PEWAUKEE EROSION CONTROL WINTER STABILIZATION REQUIREMENTS.

TEMPORARY SEEDING:
DURING GROWING SEASON (MAY 2 – OCTOBER 31) TEMPORARY SEEDING (COVER CROP) MAY BE USED FOR TEMPORARY STABILIZATION DURING SITE CONSTRUCTION.

Species	Lbs/Acre	Percent Purity
Oats	131	98
Cereal Rye	131*	97
Winter Wheat	131*	95
Annual Ryegrass	80*	97

* Fall Seeding

STABILIZATION SHOULD BE COMPLETED WITHIN 7 DAYS OF ESTABLISHING FINAL GRADE OR THAT WILL OTHERWISE EXIST FOR MORE THAN 14 DAYS.

SITE DEWATERING

DEWATERING TO CONFORM WITH WDNR CONSERVATION PRACTICE STANDARD 1061.
THE SITE HAS HIGH GROUND WATER SO DEWATERING IS ANTICIPATED.
ALL PUMPED EFFLUENT FROM DEWATERING OPERATIONS (TRENCH DEWATERING OR OTHERWISE) SHALL BE DISCHARGED TO A GEOTEXTILE FILTER BAG CONFORMING TO WDNR CONSERVATION PRACTICE STANDARD 1061. THE GEOTEXTILE BAG SHALL BE PLACED ON A VEGETATED/STABILIZED GROUND AND DISCHARGE TO A SEDIMENT BASIN OR TRAP. SHOULD NO BASIN EXIST, THE GEOTEXTILE BAG SHALL BE PLACED ON FILTER FABRIC AND SURROUNDED BY A SEDIMENT BALE BARRIER CONFORMING TO CONSERVATION PRACTICE STANDARD 1055. THE FILTER FABRIC SHALL BE BROUGHT UP THE SIDES AND OVER THE TOP OF THE HAY BALES AND SECURED. DISCHARGE SHALL NOT BE ALLOWED TO FLOW OVER UNPROTECTED GROUND. IN NO CASE SHALL PUMPED WATER BE DIVERTED OUTSIDE THE PROJECT LIMITS PRIOR TO SEDIMENT REMOVAL.

EROSION MATTING

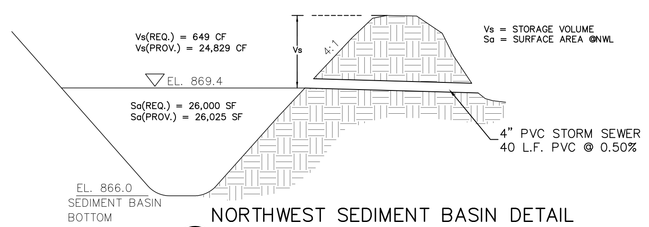
AFTER FINISH GRADING AND TOPSOILING, PROVIDE CLASS I, TYPE B EROSION MAT PER 'WISDOT EROSION CONTROL PAL' (OR EQUAL) IN ALL ROADSIDE DITCHES, DEFINED SWALES, SIDE SLOPES, BERMS AND ALL OTHER SLOPES 4:1 OR GREATER. INSTALL PER MANUFACTURERS SPECIFICATIONS.

GENERAL NOTES:
1. EROSION CONTROL MATERIALS AND INSTALLATION PER MOST CURRENT WDNR TECHNICAL STANDARDS AND THE CITY OF PEWAUKEE TECHNICAL STANDARDS SECTION 050.

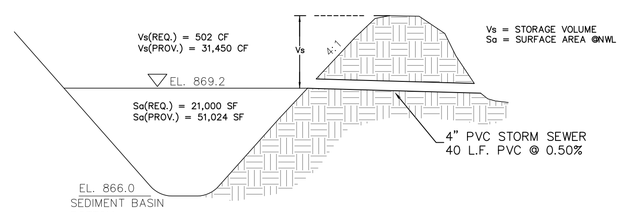
2. DRAINAGE SWALES, TEMPORARY DIVERSIONS, SEDIMENT TRAPS AND SEDIMENT BASINS ARE REQUIRED TO BE STABILIZED AND FULLY OPERATIONAL PRIOR TO RECEIVING RUNOFF. FULLY OPERATIONAL INCLUDES THE INSTALLATION OF THE PRIMARY AND EMERGENCY OUTLET STRUCTURES.

3. SEE SHEET C5.0 FOR THE CITY OF PEWAUKEE EROSION CONTROL WINTER STABILIZATION REQUIREMENTS.

4. THIS DEVELOPMENT WILL REQUIRE THE IMPORT OF 90,000 CUBIC YARDS OF STRUCTURAL FILL AND THE EXPORT OF TOP SOIL. CITY APPROVAL OF THIS IS REQUIRED PRIOR TO ANY SOIL IMPORT OR REMOVAL FROM THE SITE.



NORTHWEST SEDIMENT BASIN DETAIL
3 PER WDNR TECHNICAL STANDARD 1063
NOT TO SCALE



SOUTHWEST SEDIMENT BASIN DETAIL
3 PER WDNR TECHNICAL STANDARD 1063
NOT TO SCALE

EROSION CONTROL PRACTICES SCHEDULE

1. SILT FENCE
2. TRACKING PAD
3. SEDIMENT BASIN
4. HAY BALE SEDIMENT DEWATERING PIT
5. EROSION MATTING

CJE NO.: 1625-02R8
SEPTEMBER 17, 2020

INITIAL FILL PLAN

TEMPORARY GRADING AND EROSION CONTROL PLAN

C2.1

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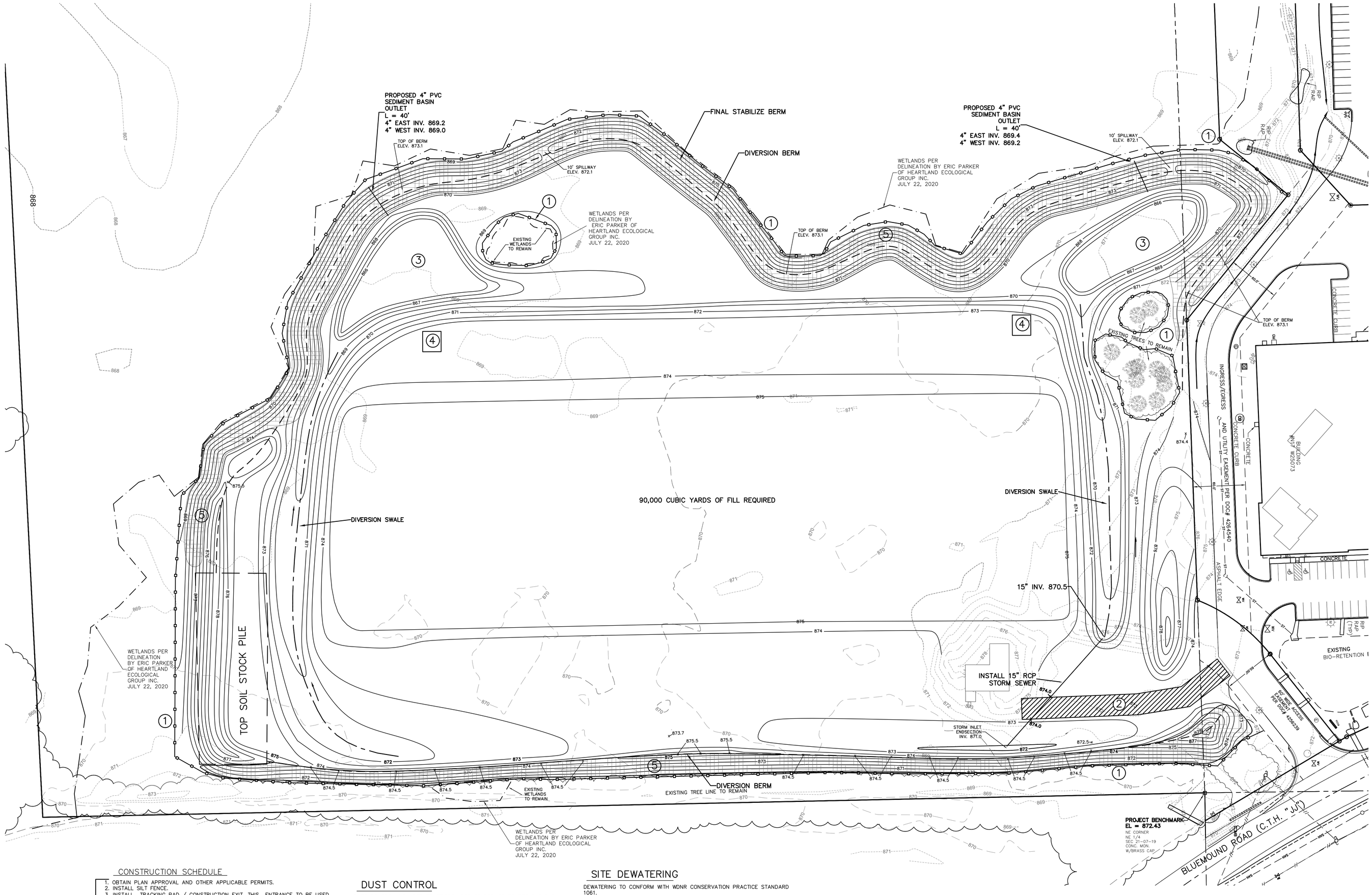

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1 INCH = 50 FT.

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AREAS OF PERMENANT STABILIZATION

LEGEND

96	EXISTING CONTOUR
96	PROPOSED CONTOUR
x96.5	PROPOSED ELEVATION
ST	PROPOSED STORM SEWER
	SILT FENCE LOCATION

CONSTRUCTION SCHEDULE

FROM C2.1

1. OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2. INSTALL SILT FENCE.
3. INSTALL TRACKING PAD / CONSTRUCTION EXIT. THIS ENTRANCE TO BE USED FOR HAULING FILL INTO PROJECT LIMITS. INSTALL 15" STORM SEWER.
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7. APPLY TEMPORARY STABILIZATION METHODS FOR TEMPORARY DIVERSION BERMS.
8. STOCKPILE ANY ADDITIONAL TOP SOIL AT LOCATIONS SHOWN. SURROUND WITH SILT FENCE.
9. IMPORT AND STOCK PILE FILL NEEDED TO GRADE SITE TO FILL PLAN ELEVATIONS.
10. DEMO EXISTING HOUSE, GRAVEL DRIVE AND PAVEMENT. PROPERLY DISPOSE OF MATERIAL OFF SITE.
11. ROUGH GRADE ENTIRE SITE.
12. ALL EXPOSED SOIL AREAS NOT DISTURBED FOR UP TO SEVEN DAYS MUST BE IMMEDIATELY RESTORED WITH TEMPORARY SEED AND MULCH.
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15. AFTER TEMPORARY FILL SITE IS STABILIZED, REFERENCE FINAL EROSION CONTROL PLAN (SHEET 4.0)
16. ESTIMATED TIME BEFORE STABILIZATION – 9 MONTHS.

MAINTENANCE PLAN

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ALSO SEE SHEET C5.0 FOR ADDITIONAL CITY OF PEWAUKEE EROSION CONTROL WINTER STABILIZATION REQUIREMENTS.

TEMPORARY SEEDING:
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Species	Lbs/Acre	Percent Purity
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Cereal Rye	131*	97
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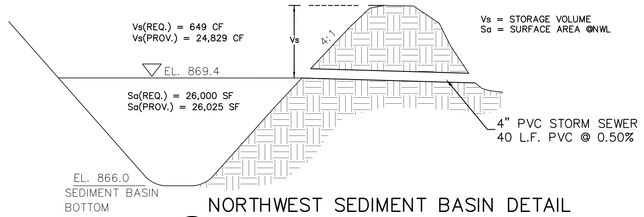
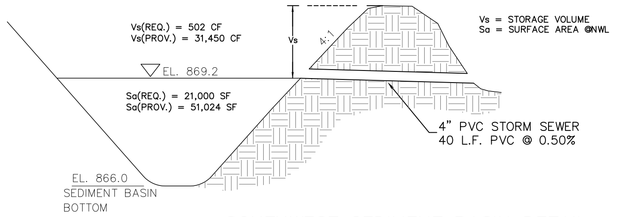
3. SEE SHEET C5.0 FOR THE CITY OF PEWAUKEE EROSION CONTROL WINTER STABILIZATION REQUIREMENTS.

4. THE DISTURBED AREA: 761,200 S.F. (17.48 ACRES)

5. THIS DEVELOPMENT WILL REQUIRE THE IMPORT OF 90,000 CUBIC YARDS OF STRUCTURAL FILL AND THE EXPORT OF TOP SOIL. CITY APPROVAL OF THIS IS REQUIRED PRIOR TO ANY SOIL IMPORT OR REMOVAL FROM THE SITE.



NORTHWEST SEDIMENT BASIN DETAIL
3 PER WDNR TECHNICAL STANDARD 1063
NOT TO SCALE



SOUTHWEST SEDIMENT BASIN DETAIL
3 PER WDNR TECHNICAL STANDARD 1063
NOT TO SCALE

EROSION CONTROL PRACTICES SCHEDULE

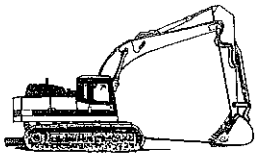
1. SILT FENCE
2. TRACKING PAD
3. SEDIMENT BASIN
4. HAY BALE SEDIMENT DEWATERING PIT
5. EROSION MATTING

CJE NO.: 1625-02R8
SEPTEMBER 17, 2020

FINAL FILL PLAN

TEMPORARY GRADING AND EROSION CONTROL PLAN

C2.2



HEITMAN, INC.

Excavating & Grading • Earth Moving & Trucking

PROPOSAL SUBMITTED TO: BRIOHN BUILDING CORP. DATE: 10-1-2020
ADDRESS: 3885 BROOKFIELD ROAD #200
BROOKFIELD, WI 53045 FAX: 262-790-0505

JOB NAME AND LOCATION: 16/94 PARK
PEWAUKEE

WE HEREBY PROPOSE TO PERFORM THE FOLLOWING WORK:

SUPPLY AND PLACE SILT FENCE
25 X 100 X 1 TRACKING PAD
STRIP TOPSOIL AS REQUIRED
CUT AND/OR FILL SITE
RESPREAD TOPSOIL
RESTORE SITE

PRICE . . . 157,875.00

ACCEPTANCE: THIS PROPOSAL IS FOR ACCEPTANCE WITHIN 45 DAYS HEREOF. QUOTATIONS ARE SUBJECT TO CORRECTION FOR ANY STENOGRAPHIC ERRORS OR OMISSIONS. THE ABOVE PRICES, SPECIFICATIONS AND CONDITIONS ARE SATISFACTORY AND ARE HEREBY ACCEPTED. YOU ARE AUTHORIZED TO DO THE WORK AS SPECIFIED.

ACCEPTED

BY_____

DATE_____

HEITMAN, INC.

BY Mal Heit

DATE 10-1-2020

"NOTICE OF LIEN RIGHTS"-MATERIAL AND/OR LABOR FEES DEPICTED ON THIS PROPOSAL ARE SUBJECT TO LIEN RIGHT CLAIMS UNDER THE WISCONSIN CONSTRUCTION LIEN LAW.