

VILLAGE OF GERMANTOWN
N112 W17001 MEQUON ROAD
GERMANTOWN, WI 53022

MEETING:	PLAN COMMISSION
DATE AND TIME:	MONDAY, FEBRUARY 11, 2019 6:30 p.m.
LOCATION:	Germantown Village Hall Board Room

- I. **CALL TO ORDER** This meeting has been given public notice in accordance with Wisconsin Statutes, Section 19.83 and 19.84 in such form that will apprise the general public and news media of subject matter that is intended for discussion and action.

- II. **ROLL CALL**

- III. **PUBLIC INPUT/PUBLIC APPEARANCE:** Please be advised per §19.84(2) that information will be received from the public, however, no action will be taken at this time.

- IV. **APPROVAL OF MINUTES** January 14, 2019

- V. **PUBLIC HEARINGS**
 - A. Kyle Fraser, Agent for the Cusatis Trust, Property Owner, W213 N11111 Appleton Avenue. Conditional Use Permit to operate a Major Home Occupation (Landscape Maintenance Operation).

Consideration of and action on a recommendation to the Village Board regarding an application by Kyle Fraser, Agent for the Cusatis Trust, Property Owner, W213 N11111 Appleton Avenue; Conditional Use Permit to operate a Major Home Occupation (Landscape Maintenance Operation).
 - B. Diversified Engineering Inc., Agent for Waste Management of Wisconsin, Property Owner, N96 W13840, W13600 & W13640 County Line Road. Conditional Use Permit to operate a Truck Maintenance Facility

- VI. **NEW BUSINESS**
 - A. Sign Effectz, Inc., Agent for DDS-Germantown Investment LLC, Property Owner, N112 W16076 Mequon Road. Sign Review Application (Verizon).
 - B. Plunkett Raysich Architects, Agent for the Germantown High School, W180 N11501 River Lane. Site Plan Revisions (Rooftop Screening).
 - C. Germantown Historical Society – Dheinsville Park N128 W18780 Holy Hill Road. Site Plan Review for an 11,200 sqft pavilion (re-approval).

VII. ANNOUNCEMENTS

VIII. ADJOURNMENT

The next Plan Commission Meeting will be on February 25, 2019 at 6:30 p.m.

UPON REASONABLE NOTICE, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service please contact the Village Clerk at (262)250-4740 at least 2 days prior to the meeting. Notice is given that a majority of the Village Board may attend this meeting to gather information about an item over which they have decision making responsibility. This may constitute a meeting of the Village Board per State ex rel. Badke v. Greendale Village Board, even though the Village Board will not take formal action at this meeting.

PLAN COMMISSION MINUTES
January 14, 2019

CALL TO ORDER: Chairman Wolter called the meeting to order at 6:31 p.m.

ROLL CALL: Chairman Dean Wolter, Trustee Rep David Baum, Commissioners Tony Laszewski, Peter Nilles, Bill Shadid and Matt Kimmler were present. Commissioner Bob Williams arrived at 6:35 p.m. Also present were Community Development Director/Village Planner Jeff Retzlaff and Planning Assistant Lori Johnson.

PUBLIC INPUT: None

APPROVAL OF MINUTES: *MOTION Baum second Laszewski to Approve the minutes from 12-10-18. MOTION carried unanimously.*

PUBLIC HEARINGS:

D. Lynn Luckow, Redline Training Center and Behavioral Consultation, LLC, Agent for Ozaukee Development Corporation, Property Owner, 188 N11786 Maple Road. Application for a Conditional Use Permit for the operation of a dog training facility. Planner Retzlaff summarized the proposal. Chairman Wolter opened the Public Hearing. Trustee Baum asked how loud it would get inside the facility. Ms. Luckow said there would be some barking, and explained her business is a training facility and not a daycare where there are multiple dogs on the premise at one time. Chairman Wolter closed the Public Hearing.

Habitat for Humanity of Washington and Dodge Counties, Wis, Inc. Property Owner, W190 N10768 Commerce Circle. Conditional Use Permit to operate a Habitat for Humanity Restore secondhand store. Planner Retzlaff summarized the proposal. Chairman Wolter opened the Public Hearing. Barbara Van Engel, N112 W21591 Mequon Road asked if the applicant would be paying property taxes. Bernard Hletko, Agent for Habitat for Humanity, stated they are tax exempt but was unsure of the current tax status of the property. Chairman Wolter closed the Public Hearing.

Kyle Fraser, agent for the Cusatis Trust, Property Owner W213 N11111 Appleton Avenue. Conditional Use Permit for a major home occupation for the operation of a landscape maintenance operation. Planner Retzlaff summarized the proposal. He asked that the Plan Commission table action on the application because he is waiting for additional information but recommended the public hearing be held because it had been advertised. Chairman Wolter opened the Public Hearing. Ken Van Engel, N112 W21591 Mequon Road, questioned if there would be filling on the property. Ray Kulenske, N112 W21498 Mequon Road, questioned if there would be a shop on the property for working on equipment and if there would be any chipping or storage of any stone or mulch. He was also concerned if equipment would leave debris on the Appleton Avenue. Brian Buchholz, N112 W21469 Mequon Road, asked if there would be customers coming to the property. He mentioned the entry onto Appleton Avenue from this property can be dangerous with trucks coming in and out. Chairman Wolter closed the Public Hearing.

NEW BUSINESS:

D. Lynne Luckow, agent for Redline Training Center and Behavioral Consultation – W188 N11786 Maple Road. The applicant is seeking a Conditional Use Permit for a dog training and education facility in the Germantown Industrial Park. Planner Retzlaff reviewed the proposal.

MOTION Baum second Laszewski to APPROVE a conditional use permit for the operation of a dog training and education facility in the existing building located at W188 N11786 Maple Road (Alpine Business Center Suite 2, 3 & 4) in the Germantown Industrial Park subject to the following conditions:

- 1. This permit authorizes limited uses and activities as set forth in the conditional use permit application dated December 5, 2018 and in the supporting documents made part of the application on file with the Village. All of the operational characteristics and services as described, as well as any commitments made by the Applicant as set forth in the application, supporting documents, and made during presentations to the Village Plan Commission, Village Board and Village staff are deemed to be conditions of approval.**
- 2. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or, where there is a change in the nature, character, intensity or extent of the activities and/or uses which cause problems or harmful effects not anticipated at the time of approval of this CUP or where conditions imposed were anticipated to ameliorate or eliminate such problems or harmful effects but are subsequently insufficient to do so, or, for similar cause based upon consideration for the public comfort, safety, and welfare, the conditional use permit may be terminated or modified by the Village Board by the amendment to or addition of conditions after public hearing thereon.**
- 3. All interior and exterior building modifications (including exterior lighting) and/or site improvements may require permits and/or other approvals from the Village. State-approved plans may be required for any proposed improvements or remodeling. Detailed plans for any interior or exterior improvements shall be submitted to the Village as part of a building permit application.**
- 4. If the proposed use constitutes the type of change in occupancy that requires interior and/or exterior remodeling or additional fire safety features to comply with current building, fire safety and other applicable codes and regulations, the operator shall coordinate the preparation and submittal of state-approved plans to and approved by the Village Fire Department and Inspection Services prior to occupancy.**
- 5. The owner/operator shall coordinate with the Fire Department to properly post the tenant space with a maximum occupancy of 49 persons. In the event that the maximum capacity of 49 persons is exceeded on a regular basis as determined by the Fire Department, the owner/operator will be required to re-classify the occupancy type from "business" to "assembly" and, as a result, install any additional, necessary fire-safety measures required by the Fire Department, or, discontinue operation.**
- 6. The owner/operator shall contact the Fire Department and Inspection Services for a pre-occupancy inspection prior to commencing operations.**
- 7. All exterior signage, including temporary signs, require a permit from the Village.**
- 8. If the Village receives any complaints regarding noise generated from barking dogs, the owner/operator shall install sound-deadening materials, e.g. sound absorbing acoustic panels, or implement other sound-proofing measures within the tenant space.**

Discussion followed. Trustee Baum said other canine developments in the Village have all come with sound issues. Planner Retzlaff said this development is unique because it is a controlled environment

and is not a dog daycare. He said Condition # 8 addresses how to deal with noise issues. Ms. Luckow stated the facility is for agility training and not intended for use as a dog daycare.

MOTION carried unanimously.

Habitat for Humanity – W190 N10768 Commerce Circle. Request for approval of a Conditional Use Permit to operate a Habitat for Humanity Restore operation from the existing 3.3 acre, 31,080 sqft commercial property. Planner Retzlaff reviewed the proposal.

MOTION Baum second Shadid to Approve a conditional use permit (CUP) for the proposed 31,080 sqft Habitat for Humanity restore operation proposed for the commercial property located at W190 N10768 Maple Commerce Circle subject to the following conditions:

- 1. This permit authorizes only the uses and activities set forth in the conditional use permit application dated December 10, 2018 and in the supporting documents made part of the application on file with the Village. All of the operational characteristics and services as described, as well as any commitments made by the Applicant as set forth in the application, supporting documents, and made during presentations to the Village Plan Commission, Village Board and Village staff are deemed to be conditions of approval.***
- 2. The Restore second-hand store shall meet and continuously comply with all applicable B-1: Neighborhood Business District requirements and all nuisance and property maintenance provisions, limitations and regulations in Section 10 (Public Nuisances) of the Municipal Code.***
- 3. If the use, activities and/or operation subject of this permit falls out of conformity with the operational characteristics stated in the application and supporting information dated December 10, 2018, or where there is a change in the nature, character, intensity or extent of the permitted conditional use which causes special problems or harmful effects otherwise associated with the use to be no longer ameliorated or eliminated, or where conditions imposed were anticipated to ameliorate or eliminate harmful effects associated with the use but are insufficient to do so, or for similar cause based upon consideration for the public comfort, safety, and welfare, the conditional use permit may be terminated or modified by the Village Board by the amendment to or addition of conditions after public hearing thereon.***
- 4. All temporary and permanent signs require a permit from the Village Community Development Department. All signs shall comply with current sign regulations under Section 17.46 of the Zoning Code.***
- 5. All site and building improvements, including but not limited to: building additions & renovations, accessory structures, increased impervious area, exterior lighting, fencing, require Zoning Permit or Site Plan approval from the Village.***
- 6. Outside storage is prohibited. Items donated during or after business hours shall be moved into the building the same day (but not later than the next business day after) said items are dropped off. Items not intended for or capable of being sold secondhand shall be removed from the property and stored inside until removed. Items that may be incapable of being stored inside due to size, condition or potentially harmful impacts resulting from said items may be kept outside in the rear yard area east of the building provided said items are secured in an approved/permitted enclosure until removal from***

the site. The operator shall take whatever reasonable actions or means necessary to prohibit the dumping or keeping of trash, debris and other junk (as defined in the Municipal Code) on the property. The outside display of items offered for sale is prohibited.

- 7. The operator shall obtain and maintain all licenses required for second-hand dealers by the State of WI, Washington County and/or Village of Germantown.***

Trustee Baum asked that Planner Retzlaff check on the tax status of the building and to have the information for the Village Board meeting.

MOTION carried unanimously.

Kyle Fraser, Agent for the Cusatis Trust, Property Owner – W213 N11111 Appleton Avenue.

Request for approval of a Conditional Use Permit to operate a major home-occupation lawn & landscape maintenance business from the 6.5-acre residential property. Planner Retzlaff reviewed the proposal and indicated he did not sufficient information to determine if the proposed operation would be compliant with the Zoning Code requirements for a major home occupation and asked that the action be tabled until the next Plan Commission meeting.

MOTION Baum second Shadid to keep the public hearing open and allow it to be further heard at the next available meeting (but will not be re-noticed).

MOTION carried unanimously.

MOTION Baum second Shadid to Table until the February 11, 2019 Plan Commission meeting.

MOTION carried unanimously.

Neumann Development, Agent for Wrenwood Subdivision – 146.5- Acres South of Freistadt Road, West of Country Aire Drive, North of Mequon Road.

The request is for approval of amendments to the Wrenwood Planned Development District General Development Plan, Conditions & Restrictions and preliminary subdivision plat affecting the single-family residential development areas. Planner Retzlaff summarized the proposal and said the staff recommendation is to Deny the proposed amendments. Bryan Lindgren, Neumann Development, said the intent of the proposal was to offer affordable new homes in the area. He said there are no changes to the number of lots that were already approved.

MOTION Baum second Shadid to Approve the redrafting of the master plan as presented.

Trustee Baum stated he will not support this motion because the residents will not support the smaller lot sizes. Steve DeCleene, Neumann Companies, explained the impact for reducing the lot sizes will have very little infrastructure change, but would allow a \$400,000 home versus a \$500,000 home.

Planner Retzlaff explained the overall proposal and number of lots is not changing and they are not proposing to build as many units as ideally could be allowed under the zoning district. Discussion continued. Chairman Wolter said we just went through a huge battle with neighborhood residents

and smaller lot sizes that were being proposed. He would like to see this development completed the way it was proposed originally and wishes they could work within the structure of the Rs-5 zoning which takes is out of the realm of the public hearing process. He agrees with the continuity of the proposal but said this will be a tough road and is fresh off the Kinderberg Development discussion. He said the outcry will be substantial because of past meetings and discussions and the battle will be with the smaller lot size. He needs to provide the opportunity for the residents to speak and discuss their concerns in an open meeting.

MOTION to Amend Baum second Shadid to find the proposed amendments collectively constitute a substantial change such that a public hearing of the proposed amendments is warranted as a prerequisite for any Village Board consideration an action on the proposed amendments.

MOTION to Amend carried unanimously.

Discussion continued.

MOTION to Approve as amended carried unanimously.

MOTION Baum second Shadid to send the proposed modifications to the Wrenwood Planned Development District and Preliminary Subdivision Plat to the Village Board with a recommendation to Deny the amendments.

Commissioner Kimmler stated he agrees that the 12,000 sqft lot size is too small for this area.

MOTION carried 6-1 (Wolter).

Douglas Cook – N120 W15170 Freistadt Road. The property owner is requesting approval of a site plan for an earth berm to be installed within the street yard of his property. Planner Retzlaff summarized the proposal.

MOTION Baum second Laszewski to Approve the site plan/berm permit for the proposed berm on the Cook property located at N120 W15170 Freistadt Road subject to the following conditions:

- 1. This approval is subject to all the conditions and requirements set forth herein and adopted by the Plan Commission. Approval is granted for the site plan, grading plan and landscaping plan submitted with the application dated October 17, 2018, unless superseded by subsequent plan sheets approved by the Village Planner pursuant to revisions required herein and/or by the Plan Commission;***
- 2. The owner is required to: (a) notify Village staff when the berm is finish graded, but prior to installation of any landscaping in order to provide for a pre-approval inspection of the berm and any changes required as a result; (b) obtain pre-approval from the Plan Commission prior to making any modifications to an approved berm after completion; and (c) maintain all road drainage systems, storm water drainage systems, and utilize best management practices during and after construction that may be identified in the berm plan, Plan Commission approval and/or erosion control permit.***

- 3. The owner shall work with the Village Engineer and County Highway Department going forward to determine if any fill already deposited on the site has encroached beyond the minimum 5' setback or into the Freistadt Road right-of-way, and if so, remove/relocate said fill to ensure that the minimum 5' setback from Freistadt Road is achieved and continuously maintained.**
- 4. Staff recommends that the grading plan be revised to include more and greater vertical and horizontal changes in topography visible from the public right-of-way.**

MOTION carried unanimously.

Ellsworth Corporation – W88 N11614 Maple Road. The property owner has offered to purchase a 3 x 270' (810 sqft) parcel currently owned by the Village of Germantown in the Germantown Industrial Park. Planner Retzlaff summarized the proposal.

MOTION Baum second Shadid to Approve the sale of the 3 x 270' (820 sqft) parcel to the Ellsworth Corporation as requested with the following recommended condition (which is not a municipal code requirement).

- 1. Ellsworth dedicate the additional 27' of right-of-way necessary to complete the full 60' wide right-of-way needed for Maple Road (currently only 33' exists across the 1.0-acre parcel).**

MOTION carried unanimously.

Village of Germantown – W204 N12333 Goldendale Road. The Germantown Public Works Department is requesting approval for site development and building plans for a 1,040 sqft water system pressure booster/reducer station on a .28-acre parcel. Planner Retzlaff summarized the proposal.

MOTION Baum second Shadid to Approve the site and building plans A (metal roof option) for the proposed water system booster/reducer station facility located at W204 N12333 Goldendale Road subject to the following conditions:

- 1. This approval is subject to all the conditions and requirements set forth herein and adopted by the Plan Commission. Approval is granted for the architectural and engineering plans dated January 2019, unless superseded by subsequent plan sheets approved by the Village Planner pursuant to revisions required herein and/or by the Plan Commission;**
- 2. The Village Public Works Department staff shall coordinate installation of the proposed landscaping trees along the north/common property line with the property owner located at W204N12377 Goldendale Road prior to installation.**

Chairman Wolter questioned if this application fell under the Building Oversight Committee. Trustee Baum said he would coordinate with the Public Works Director to schedule a meeting. He indicated he liked option B better because option A has more character and will draw more attention. Public Works Director Larry Ratayczak commented that option A blends in more with the area because it has a gabled roof. He said flat roofs require some maintenance.

MOTION carried unanimously.

ANNOUNCEMENTS: Chairman Wolter said Washington County is having a public open house to comment on the preliminary draft of the Washington County Multi-jurisdictional Comprehensive Plan on January 23rd from 4 to 6:00 p.m.

ADJOURNMENT: There being no further business, the meeting was adjourned at 8:29 p.m.

Respectfully submitted,

Lori Johnson
Planning Assistant

CONDITIONAL USE PERMIT (CUP)

2/11/19 Plan Commission Meeting

Kyle Fraser/ Cusatis Trust

Village Planner Report

Germantown, Wisconsin

Summary

Kyle Fraser, agent for the Cusatis Trust, property owner is requesting approval of a Conditional Use Permit (CUP) to operate a “major” home-occupation lawn & landscape maintenance business from the 6.5-acre residential property located at W213 N11111 Appleton Avenue.

Location: W213 N11111 Appleton Avenue

Applicant/

Property Owner: Kyle Fraser
Oak Leaf Landscape
1501 S. 55th St
Milwaukee, WI

Cusatis Trust
5974 Artist Bay Road
West Bend, WI

Zoning: Rs-1: Single-Family Residential

Adjacent Land Uses		Zoning
North	Residential	Rs-2
South	Agricultural	A-2
East	Business	B-3
West	Residential	Rs-1



Proposal

Kyle Fraser, agent for the Cusatis Trust, property owner is requesting approval of a Conditional Use Permit (CUP) to operate a “major” home-occupation lawn & landscape maintenance business from the 6.5-acre residential property located at W213 N11111 Appleton Avenue.

As stated in the application, Fraser proposes to re-locate and operate a landscape maintenance operation from the property (Oak Leaf Landscape). The business would provide landscape maintenance (e.g. mowing, tree trimming, stump removal, snow plowing and removal and other “industry standard” maintenance services), as well as landscape and hardscape construction and services (e.g. patios, walls, arbors, pergolas, plant installations). As noted in a January 15 email response from Fraser (copy attached), the primary focus and specialty of Oak Leaf Landscape is maintenance and design. Sub-contractors are used to fulfill other services (and are not based at nor will such sub-contractors operate from the subject property). As shown in the aerial photo renderings of the site, the landscaping business vehicles, equipment and associated activities will be located in the northern portion of the property.

A total of four (4) pick-up trucks, one (1) non-CDL dump truck and four (4) utility trailers for transporting equipment will be located on the property. Hours of operation would be 7:00am to 5:00pm Monday to Friday. Fraser has one (1) full-time and 2-3 part-time employees.

Staff Comments

Consistency with Village’s Land Use Plan & Rs-1 Zoning District.

The 2020 Land Use Plan map classifies this property as “Low Density Residential”. The current zoning of the property (and adjacent properties to the west) is Rs-1: Single-Family Residential; all consistent with the 2020 LUP classification.

Conformance with Home Occupation Requirements.

Section 17.61 of the Zoning Code provides for and regulates home-occupations. While “minor” home-occupations are allowed in all residential zoning districts “by right” and do not need special permits or approvals, a “major” home-occupation is allowed in the Rs-1 (5 acre minimum parcel size) single-family residential districts. Major home-occupations can be more intense in terms of their operation characteristics, have more employees (up to 5 non-resident employees), can operate from an accessory building, and have outside storage of materials and equipment provided it is screened from the public view.

Two requirements for “major” home occupations that concern staff as they relate to landscaping operations such as this are: outside storage of vehicles, equipment and materials; and # of employees.

Section 17.61(5)(b)2. requires:

The display, storage or parking of materials, goods, supplies, or equipment outside of the dwelling is permitted in an enclosed accessory building, or in the side or rear yard of the subject property provided the yard area used for such display, storage or parking is completely screened from view from all public streets and adjacent property. Screening shall be accomplished through the use of natural landscaping materials (i.e., trees, plants, berms, rocks), or, a combination of natural landscaping and other manmade or fabricated screening materials (e.g., fencing, etc.) provided that all screening shall be instantaneous and continuously maintained;

In this case, the subject property is heavily wooded on the north and south areas of the property with a significant perimeter buffer of trees lining the west property line (Appleton Ave lies to the east). As indicated in the application and supporting photos, all vehicles and equipment are intended to be kept on the north side of the property in and around an existing detached accessory garage and generally out of sight from the adjacent residential properties.

Indications are that none of the adjacent property owners nor public traveling STH 175/Appleton Avenue will see the items being kept on the property. All landscaping services will be performed off-site, so the only evidence of the business would be vehicles travelling to/from the property at the beginning and end of the work day, and, any vehicle repair and/or equipment maintenance conducted on the property.

Section 17.61(5)(b)3. Provides that:

The number of part-time or full-time nonresident employees working upon the premises for which a home occupation permit has been granted shall not exceed the following:

- a. Five nonresident employees for home occupations in the Rs-1 Zoning District;*
- b. Two nonresident employees for home occupations in the Rs-2 or Rs-3 Zoning Districts.*

In this case, while the number of non-resident employees is currently only one (1) full-time employees, the business is restricted from having more than 5 non-resident employees work from or on the premises.

Another issue that the Village has experienced as it relates to landscaping operations such as this is the snow removal component. By design, snow removal operations involve the staging and operation of plowing and/or salting vehicles and equipment at very early and very late times in the day that are not typical and customary for home-based businesses and, consequently, have the potential for causing early morning/late night disruption in a residential neighborhood.

At the January 2018 meeting, a public hearing was held before the Plan Commission. Three (3) residents from the surrounding appeared and ask questions and/or expressed concerns about:

-
- Potential filling on the property (as was done by the previous owner)
 - Operation of a shop for vehicle and equipment maintenance
 - Chipping and/or mulch production on the property
 - The existing “dangerous” driveway intersection on Appleton Ave that may be compounded by deliveries of mulch, stone and other products used for the business and retail customers coming to/from the property

As was discussed at the January meeting, the subject property has been used in the past for a “major” home-occupation that did NOT have the requisite conditional use permit. Cusatis Construction, a concrete and hardscape contractor operation, operated from the property for many years with a number of vehicles and equipment stored on and staged from the property greater than that proposed by Fraser for his landscape maintenance operation.

Finally, as has been experienced in other parts of the Village related to other, similar landscaping operations being run as home-occupations, Fraser has indicated his desire to maintain and/or improve his property in terms of the landscaping, hardscaping, and other typical and customary aspects of property maintenance. For example, Fraser indicated at the public hearing that he intends to remove dead, dying and other nuisance trees and plants from the property. All should be aware that doing so, even if done by his own landscaping employees and with his own equipment, is allowed and would not constitute a violation of the home occupation regulations in the Village’s Zoning Code nor the terms of the conditional use permit.

For these reasons and the information summarized above, staff supports the proposed “major” home-occupation subject to a series of conditions that are intended to mitigate, if not preclude, potential issues for the surrounding property owners, and, give the Village the ability to re-consider the allowance of this business in the event impacts are created that exceed those anticipated as part of the initial review of the application.

Village Planner Recommendation

APPROVE a conditional use permit (CUP) for Kyle Fraser, agent for the Cusatis Trust, property owner for the operation of a “major” home-occupation lawn & landscape maintenance business from the 6.5-acre residential property located at W213 N11111 Appleton Avenue subject to the following conditions:

1. The landscape services operation shall operate consistent as described in the application and as described by the operator operational while continuously meeting and comply with all applicable provisions, limitations and regulations in Section 17.61 (Home Occupations and Professional Home Offices) of the Zoning Code; specifically, Section 17.61(5)(b) and 17.61(4)(a) through (q) except (n)1. which shall be as set forth below.
2. Pursuant to Section 17.61(4)(n)1. of the Zoning Code, the maximum time period for which this major home occupation CUP will remain valid shall be ten (10) years from the date of issuance subject to ongoing compliance with all conditions set forth herein.
3. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or where there is a change in the nature, character, intensity or extent of the business operation and activities permitted under this conditional use permit that causes special problems or harmful effects associated with the business operation, or, where conditions imposed herein that were anticipated to ameliorate or eliminate harmful effects associated with the use but are no longer capable or insufficient to do so, or, for similar cause based upon consideration for the public comfort, safety, and welfare, the conditional use permit may be terminated or modified by the Village Board by the amendment to or addition of conditions after public hearing thereon.
4. The wholesale or retail sale of plants, stone, mulch or any other hardscape or landscape-related products shall be prohibited from the property.
5. The use and operation of business-related equipment on the property (e.g. back-up warning devices, warm-up and/or maintenance idling) shall be conducted in a manner that does not disrupt the surrounding residential properties. Operations shall be conducted in compliance with all Village Code provisions regarding noise (Section 9.07 Village Code) and other potential nuisances.
6. In the event that the Village and/or Washington County Highway Department determines that the driveway intersection serving the subject property is or has become a danger to or problem for the travelling public as a result of business-related equipment operating on or traveling to/from the property, the owner shall cooperate with said agencies to mitigate said danger or problems (i.e. debris sweeping, warning signage, sight-vision improvements, etc).



Village of

Germantown

Willkommen

Fee must accompany application

☒ \$1460 Paid 12-10-18 Date 12-10-18

CONDITIONAL USE PERMIT APPLICATION

Pursuant to Section 17.42 of the Municipal Code

Please read and complete this application carefully. All applications must be signed and dated.

1 APPLICANT OR AGENT

KYLE FRASER
1501 S. 55th St.
West Milwaukee, WI 53214

Phone (414) 745-6270

Fax ()

E-Mail Kylefraser@aol.com

PROPERTY OWNER

Cusatis - deceased
Property is up for sale

Phone ()

2 TO WHOM SHOULD THE PERMIT BE ISSUED?

KYLE + MELISSA FRASER

3 PROPERTY ADDRESS

W213 N11111 Appleton Ave., Germantown, WI

TAX KEY NUMBER

302967

4 DESCRIPTION OF EXISTING OPERATION

Briefly describe the use as it exists today, including use, size, number of employees, hours of operation, etc. If this permit involves new construction, describe the current status of the property, e.g. "vacant." Use additional pages as necessary.

Residence where a concrete construction company operated for 20 years.

5 DESCRIPTION OF PROPOSED OPERATION

Write the name of the proposed conditional use exactly as it appears in the Municipal Code.

Landscape Maintenance

Describe the proposed use, including size, number of employees, hours of operation and extent of any new construction/alterations.

Landscape Maintenance. We would like to house operations for a small landscape maintenance company. There is 1 full time employee and a few part time employees. No new construction or alterations necessary. Current facilities are sufficient.

7am-5pm hours of operation M-F. We mow, trim trees/bushes and perform general industry standard maintenance.

METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY — REQUIRED

6 Attach pages as necessary.

Location NE-NW, Sect. 30, T9N, R20E

Description PT NE NN PRCL 2 CSM 1708 Doc 881014 + 137355 + 1459700
(HWY Doc 1360421)

See attached sheets if they help

SUPPORTING DOCUMENTATION:

- 7
- ☐ Site plan and elevations for new construction (can be conceptual) *NONE*
 - ☐ Photos of existing use and/or proposed use operating elsewhere
 - ☐ _____
 - ☐ _____

READ AND INITIAL THE FOLLOWING:

- 8 KSF I understand that the Village is under no obligation to issue a Conditional Use Permit and will do so only if the applicant successfully demonstrates that the proposed use is harmonious with the neighborhood and the long range goals of the Village.
- KSF I will notify the Village if any aspect of the conditional use changes. I understand that failure to do so may result in the revocation of the CUP.
- KSF I understand that a Conditional Use Permit is valid only if the conditions and restrictions of the permit are met. I understand that failure to comply with any aspect of the permit may result in revocation.

SIGNATURES — ALL APPLICATIONS MUST BE SIGNED BY OWNER!

9 Kyle S. Fraser 12/10/18
Applicant Date

DECEASED -
Owner property up for sale Date



**Workshop - all
business occurs here**

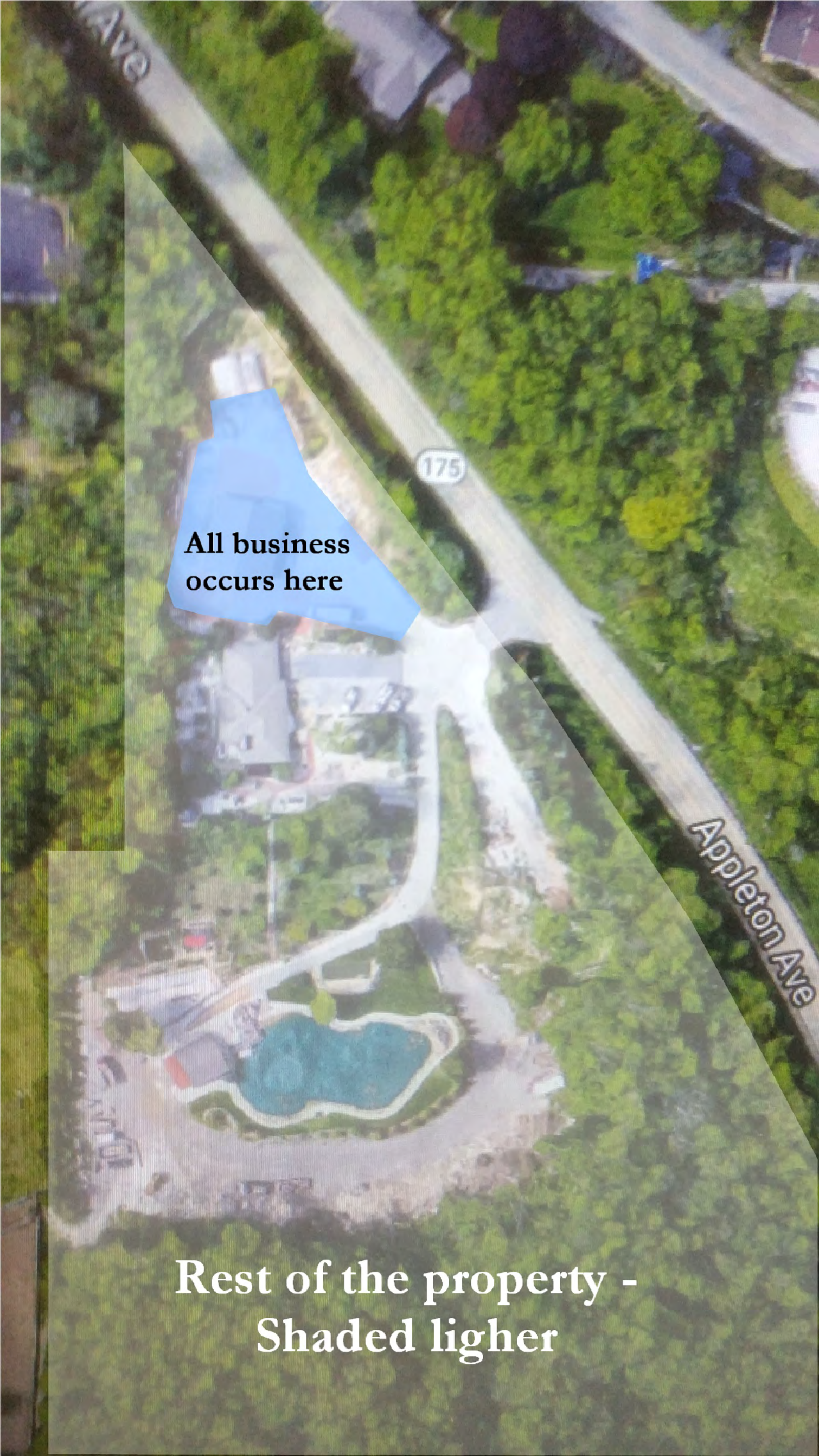
Village of Germantown
Plan Commission Meeting - Conditional Use Permit
Fraser, Kyle
W213 N11111 Appleton Ave
Germantown, WI 53022
January 14th, 2019

Rest of property - shaded lighter
6.5 acres entire property
0.6 acres business use

Workshop - all business
occurs here

← Hill blocking view of all business operations →
to Appleton Ave



An aerial photograph of a property. A blue shaded area is located in the upper left, near a road labeled '175'. A white shaded area is located in the lower left, near a road labeled 'Appleton Ave'. The rest of the property is shaded in a lighter green. The text 'All business occurs here' is overlaid on the blue shaded area. The text 'Rest of the property - Shaded lighter' is overlaid on the white shaded area.

**All business
occurs here**

**Rest of the property -
Shaded lighter**

From: Kyle Fraser <oakleafwi@gmail.com>
Sent: Tuesday, January 15, 2019 8:33 AM
To: Jeff Retzlaff <jretzlaff@village.germantown.wi.us>
Subject: Seven Questions

Good morning Jeff,

I will answer the questions in numbered order for ease.

1. Yes we are Oak Leaf Landscape
2. We do intend to offer the same services described on the website, but we have to understand that we subcontract or refer people to companies who do services we do not provide. Some of these are hardscape (patios, walls, etc.), concrete, tree removal, stump removal, among other services. We want to be able to provide everything to our clients if they ask, but we do not provide these services ourselves. Our basics are design and maintenance. Subcontractors fill in the gaps, and no subcontractor would be on the property in question on Appleton Ave.
3. I am a landscape designer and do designs for clients. I am a certified lawn applicator. I am an ASCA Certified Snow Manager. We do hire additional summer help (i.e. a few college kids), but we do currently have one full time employee and a few part time. Our entire payroll for last year was \$11,800. Payroll will increase this coming year with the addition this year of the full time employee. In landscaping there is a lot of turnover, so we frequently do have many employees working for us any given year, but only so many at a time. I hope that helps. We've never had anywhere near your 5 full time employees allowance for the conditional use permit. If we grow beyond a point, we won't be able to operate off of Appleton Avenue anyway.
4. Attached are aerials of the property with the business area shaded in BLUE. The property boundaries shaded a light white. I had these yesterday, but since you had property photos already available, I didn't think they were necessary.
5. Current vehicles which would be kept on the property:
 - a. 2016 GMC Sierra 1500
 - b. 2011 Chevrolet Silverado 1500
 - c. 2011 Chevrolet Silverado 3500
 - d. 1997 Chevrolet Silverado 2500
 - e. 1994 GMC dump truck (which we are selling once it's fixed)
 - f. 12' Enclosed trailer, 18' utility trailer, 14' utility trailer and 12' alum utility trailerSo 4 pick-ups and a non-CDL dump truck. Compare that to Cusatis' 20-some dump trucks they've told us they had. Those were heavy duty multiple axel CDL trucks.
6. The owner of Cusatis Construction is now deceased. Died in July of 2018. If you look at their website, they say they are a 2.5 to 5 million company offering decorative and normal concrete, as well as general contracting. They are still in operation, some still going on at the Appleton Ave property, some to the site they moved to in West Bend. This is what I have come to know through this sale, but we don't know a lot about them.
7. My wife, son and I would be living in the house on site and maintaining the property.

If you have any further questions please let me know.

Have a good day,
Kyle
Kyle Fraser
Oak Leaf Landscape
414-745-6270
www.OakLeafLandscape.net
OakLeafWI@gmail.com

17.61 - HOME OCCUPATIONS AND PROFESSIONAL HOME OFFICES. (Cr. Ord. #24-07)

(1) **PURPOSE AND INTENT.**

- (a) The purpose of this section is to establish the requirements and criteria for permitting the use of and/or activities from residential dwellings located in residential and agricultural zoning districts for home-based occupations, businesses, professions, or trades where such uses and activities are:
 - 1. Accessory and subordinate to the primary residential or agricultural use of the property;
 - 2. Conducted in a manner that is compatible with the residential premises and agricultural zoning districts within such residential premises are located; and
 - 3. Not detrimental to the residential character, appearance and livability of the surrounding properties and neighborhood within which such uses and activities are to be conducted.
- (b) With respect to existing nonconforming residential dwellings and properties located in commercial or industrial zoning districts, the provisions of this article apply only to the extent that such occupations or businesses are accessory and subordinate uses and are not a principal or conditional use that may be allowed in those districts through the site plan review and/or conditional use permitting procedures specified in the Zoning Code.

(2) **DEFINITIONS.** The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

- (a) Home Occupation means a business, occupation, profession or trade use or activity conducted for financial gain or profit on a reoccurring basis within or from a residential dwelling and/or accessory building by one or more occupants residing in the dwelling where the conduct of such use or activity is clearly incidental and subordinate to the primary or principal use of the dwelling and property for residential purposes, and, does not change the residential character or appearance of the dwelling or accessory building.
- (b) Professional Home Office, for purposes of this section, shall be the same as a home occupation. See definition of "home occupation".
- (c) For purposes of this section, "nonresident employee" shall mean an employee of a home occupation who does not reside on the property from which the home occupation is operated. (Cr. Ord. #18-09)

(3) **HOME OCCUPATION CLASSIFICATIONS.** A home occupation shall be classified as either a minor or major home occupation based on the specific characteristics of and activities associated with the home occupation. The determination as to whether a home occupation is to be classified as a minor or major home occupation shall be made by the Village Planner/Zoning Administrator as set forth in this section.

- (a) Minor Home Occupation. Minor home occupations are occupations that, by their nature, appearance and inherent operational activities and characteristics, are potentially less intensive and less likely to have a noticeable and negative impact on the residential or agricultural character

of the subject property and surrounding neighborhood. Minor home occupations are allowed "by right" as a permitted accessory use. Minor home occupations are allowed in the following agricultural and residential zoning districts:

1. A-1, A-2.
2. Rs-1, Rs-2, Rs-3, Rs-4, Rs-5, Rs-6, Rs-7, Rd-2, Rm-1, Rm-2, Rm-3.
3. B-3.

(b) Major Home Occupation. Major home occupations are occupations that, by their nature, appearance and inherent operational activities and characteristics, are potentially more intensive in character and activity and are, therefore, more likely to have more noticeable and potentially negative impacts on the residential or agricultural character of the subject and surrounding properties. Major home occupations are allowed as a conditional use and require the granting of a conditional use permit by the Village Board. Major home occupations are only allowed in the following agricultural and larger lot, lower density residential zoning districts:

1. A-1, A-2.
2. Rs-1, Rs-2 and Rs-3. (Am. Ord. #18-09).
3. B-3.

(4) **GENERAL REQUIREMENTS AND PERFORMANCE CRITERIA.** All home occupations, including those classified as both minor and major home occupations, shall comply with all of the following requirements prior to or as a result of compliance with any conditions of approval required for issuance of a home occupation permit:

- (a) All applicable State, Federal and local business and/or occupational licenses and any other approvals required shall be obtained as necessary and kept up-to-date throughout the duration of the home occupation. All activities associated with a home occupation and the residential dwelling, accessory building, structure, and overall property from which such home occupation is being conducted shall comply with all local, county, and state building, fire, sanitary, health and other applicable requirements and regulations including homeowner's association, subdivision and other recorded property restrictions and covenants. Noncompliance with any applicable requirement and/or regulations may be grounds for issuing a notice of zoning code violation, denial of a home occupation permit application, or revocation of a home occupation permit.
- (b) The owner/proprietor of a home occupation shall be responsible for notifying the Village Planner/Zoning Administrator of any changes in the conduct of the home occupation that are different from that included in the description provided as part of the application or from any conditions or restrictions imposed as part of the permit. Such changes may result in the need for reclassification of the home occupation.
- (c) The owner/proprietor of a home occupation shall reside in the dwelling from which the home occupation is being conducted.
- (d)

Activities associated with a home occupation shall not generate any traffic, parking, solid or liquid waste, water consumption, noise, vibrations, smoke, dust, odor, heat, glare, disturbance or interference with the provision of electrical, television or other utility services, or create any safety hazards exceeding those which are typically and customarily produced by and/or associated with a residential dwelling and residential uses in the zoning district and surrounding neighborhood within which the subject property and home occupation is located.

- (e) The total area used to conduct activities associated with a home occupation shall not exceed one-third of the total gross floor area of the residential dwelling, including basements or other similar areas.
- (f) The residential dwelling, accessory buildings and structures, and overall property shall remain residential in character and appearance that are typical and customary for residential property located in the zoning district within which the home occupation is located. Structural and other alterations and alterations in the exterior or interior appearance that will make the dwelling, buildings, and/or the site appear or function similar to a commercial operation are prohibited. Prohibited alterations may include, but not be limited to the creation of a separate or exclusive entrance for business purposes, use of signage or other advertising other than that allowed as set forth in this section and commercial-like exterior lighting.
- (g) Wholesale or retail sales from within a residential dwelling, accessory building or structure, or from a residential property on a regular or year round basis, or in a substantial volume, or as a primary activity or function of the home occupation shall be prohibited except for sales conducted entirely via the mail, telephone or internet. No goods or products intended for sale shall be displayed outside of a dwelling, accessory building or structure, or elsewhere on the property. This provision is not intended to limit or prohibit "rummage sales" as defined and regulated under section 17.70 of the Zoning Code nor the occasional and/or seasonal sale, resale or purchase of goods or products from a residential or agricultural property nor the occasional sale of items, e.g., Amway, Avon, Tupperware, Schwanns, etc., or the occasional conduct of home-based parties or gatherings where friends, family and other nonresident attendees are asked to sit through presentations or view products for purchase.
- (h) Truck deliveries or pick-up of supplies or products associated with a home occupation shall be limited to the type of vehicles and pick-up/delivery hours that are typical and customary for residential dwellings and uses located in the zoning district within which the home occupation is located.
- (i) In order to ensure that a home occupation does not become a nuisance to the surrounding properties and property owners, the Village Planner/Zoning Administrator, Plan Commission, and Village Board may impose reasonable conditions as deemed necessary and made part of a home occupation permit (if applicable) to protect the health, safety and welfare of such properties, property owners, and general public.

(j)

Multiple home occupations may be permitted from a single residence provided that the general requirements and specific performance criteria set forth in this section can be met based on an accumulation of the activities, characteristics, etc., of all home occupations conducted from such dwelling.

- (k) Except as otherwise provided in section 17.46 of the Zoning Code, the use of exterior signs shall be limited to one sign not greater than 3 square feet in area, mounted to the residential dwelling, and if illuminated, internally illuminated or illuminated with a full cut-off fixture where the light source is completely shielded from view from adjacent property and public roads. If the residential dwelling is set back more than 100 feet from the abutting public road or otherwise obstructed from view due to topography or landscaping, the area of the sign may be increased up to 6 square feet, or, not greater than 2 square feet in area but allowed to be located at the driveway access along the property line.
- (l) Owners/proprietors of a "major" home occupation shall permit a reasonable inspection of the premises by the Zoning Administrator, Village Board, or other duly authorized agent of the Village Board or other agency having jurisdiction or responsibility for enforcing applicable laws, requirements, and regulations at the time of application or after the home occupation has commenced operation in order to determine compliance with the requirements of this article and/or the conditions of the permit.
- (m) Reserved.
- (n) All major home occupation permits shall be deemed valid for a period of time not to exceed 4 years unless:
 - 1. Otherwise provided for as a condition of the approval of the permit;
 - 2. If changes occur in the activities or character of the home occupation being conducted that warrant additional review and approval by the Village Planner/Zoning Administrator, Plan Commission or Village Board;
 - 3. The provisions of subsection (4)(n) or (o) apply.
- (o) Whenever the Village Planner/Zoning Administrator or Village Board has reasonable cause to believe that any of the general or specific requirements and/or performance criteria set forth in this article, or, that conditions imposed as part of the home occupation or conditional use permit are being or have been violated, the Village Planner/Zoning Administrator or Village Board shall have the right to issue a notice of zoning code violation and pursue appropriate remedies, or, revoke or modify the home occupation permit, including but not limited to, imposing stricter conditions upon operation of the home occupation and/or owner/proprietor.
- (p) The granting of a home occupation permit shall not constitute a covenant running with the property from which such home occupation is being conducted. A home occupation permit shall not be transferable to another property and shall automatically and immediately terminate and become null and void upon the sale, lease, or transfer of the property to a party different than to whom the home occupation permit was originally granted.

- (q) Failure to comply with the provisions of this article, including failure to obtain a home occupation permit as provided for herein, shall constitute a violation of the Village Zoning Code and be subject to the penalties set forth therein.

(5) SPECIFIC REQUIREMENTS AND PERFORMANCE CRITERIA.

- (a) Minor home occupations shall comply with all of the following performance criteria:
 - 1. Activities associated with a home occupation shall be conducted entirely within a residential dwelling (including an attached garage, or one detached garage when no attached garage exists);
 - 2. The display, storage or parking of materials, goods, supplies or equipment outside of the dwelling or within an accessory building (excluding an attached garage) is prohibited; and
 - 3. The number of part-time or full-time nonresident employees working upon the residential property for which a home occupation permit has been granted shall not exceed the following:
 - a. Two nonresident employees for home occupations in the Rs-1, Rs-2 or Rs-3 Zoning Districts;
 - b. One nonresident employee for home occupations in the Rs-4, Rs-5, Rs-6 or Rs-7 Zoning District.
 - c. No nonresident employees in the Rd-2, Rm-1, Rm-2, Rm-3, or B-3.
- (b) Major home occupations shall comply with all of the following performance criteria:
 - 1. Activities associated with a home occupation shall be conducted entirely within the residential dwelling and/or in an enclosed accessory building or structure;
 - 2. The display, storage or parking of materials, goods, supplies, or equipment outside of the dwelling is permitted in an enclosed accessory building, or in the side or rear yard of the subject property provided the yard area used for such display, storage or parking is completely screened from view from all public streets and adjacent property. Screening shall be accomplished through the use of natural landscaping materials (i.e., trees, plants, berms, rocks), or, a combination of natural landscaping and other manmade or fabricated screening materials (e.g., fencing, etc.) provided that all screening shall be instantaneous and continuously maintained; and (Am. Ord. #18-09)
 - 3. The number of part-time or full-time nonresident employees working upon the premises for which a home occupation permit has been granted shall not exceed the following: (Am. Ord. #18-09)
 - a. Five nonresident employees for home occupations in the Rs-1 Zoning District;
 - b. Two nonresident employees for home occupations in the Rs-2 or Rs-3 Zoning Districts.

(6) HOME OCCUPATIONS PROHIBITED.

- (a) Any occupation involving the repetitive purchase and resale, exchange, production, refinement, packaging or handling of explosives, or hazardous materials or substances, as defined pursuant to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 USC

§960, as amended by the Superfund Amendments and Reauthorization Act (SARA), and including any judicial interpretation thereof by any person who devotes time or attention to such items as a regular or part-time course of trade or business with the objective of livelihood or principle means of profit is prohibited. (Am. Ord. #3-12)

- (b) Any home occupation involving the on-site sale, resale, repair of automobiles, trucks, boats, trailers, or other motorized vehicles is prohibited.

(7) APPLICATION PROCEDURES.

- (a) Application for a major home occupation permit shall be made to the Village Planner/Zoning Administrator on a form provided by the Administrator and shall be accompanied by all supporting information required therein and an application fee established by the Village Board for such permits.
- (b) The Village Planner/Zoning Administrator shall make a determination as to whether a home occupation qualifies as a major home occupation within 20 days after the date the application has been received. In the event that the Administrator determines that the home occupation for which an application has been received does not conform to one or more of the general requirements and performances criteria, the Administrator has the right to deny the application.
- (c) Minor home occupations are allowed as an accessory use by right and do not require the issuance of a permit.
- (d) An application for a home occupation that has been determined to be a major home occupation shall be reviewed and processed as a conditional use permit as set forth in section 17.42 of the Village Zoning Code.
- (e) Copies of all major home occupation applications shall be forwarded to the appropriate Village, County, State, and Federal agencies for review and comment concerning applicable laws, regulations, and requirements and whether or not a proposed occupation complies with such laws, regulations, or requirements, or under what conditions compliance can be met.
- (f) Variances from the provisions of this article or an appeal of any decision of the Zoning Administrator, Plan Commission or Village Board shall be processed and considered by the Board of Zoning Appeals as set forth in section 17.52 of the Village Zoning Code.
- (g) The owner/proprietor of all existing major home occupations already being conducted from residential and agricultural property on the effective date of this article shall have a period of 6 months from the effective date to apply or reapply for the necessary home occupation permit required under this section. The owner/proprietor of any such home occupation may continue to conduct such occupations pending final action by the Administrator and/or Village Board on his home occupation permit application. If the Administrator or Village Board denies a home occupation permit application for a major home occupation being conducted on the effective date of this article, the conduct of such home occupations shall cease within 3 months from the date such application is denied.

CONDITIONAL USE PERMIT (CUP)

2/11/19 Plan Commission Meeting

Waste Management of Wisconsin Inc.

Village Planner Report

Germantown, Wisconsin

Summary

Nick Berner, Diversified Engineering Inc., agent for Waste Management of WI, property owner, is requesting approval of a Conditional Use Permit (CUP) to operate a truck maintenance facility from the property located at N96 W13840 County Line Road.

Location: N96 W13840 County Line Road

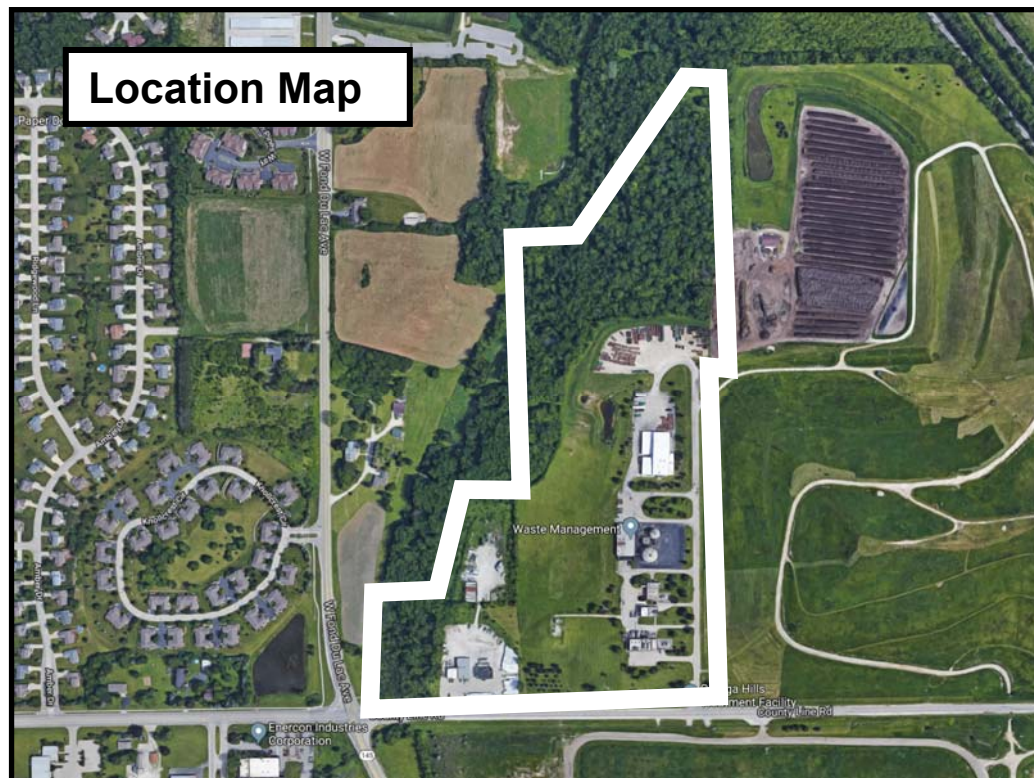
Applicant/

Property Owner: Nick Berner, PE
Diversified Engineering
New Philadelphia, OH

Don smith, PE
Waste Management of WI
Chicago, IL

Zoning: M-2: General Industrial

Adjacent Land Uses		Zoning
North	Agricultural/Industrial	A-1/M-2
South	Industrial (Menomonee Falls)	n/a
East	Industrial (retired landfill)	M-2
West	Residential/Business	Rd-2/Rs-1/B-3



Proposal

Nick Berner, Diversified Engineering Inc., agent for Waste Management of WI, property owner, is requesting approval of a Conditional Use Permit (CUP) to operate a truck maintenance facility from the property located at N96 W13840 County Line Road.

As shown in the various site development plans included in the application, development of the truck maintenance facility will result in re-development of the existing buildings and site improvements on the 8.15-acre parcel formerly occupied by Waste Management's Port-O-Let storage operation on the southwest portion of the property. The facility will extend onto portions of the adjacent 35.6-acre parcel to the east. As noted in the application, Waste Management (WM) intends to combine a total of four adjoining parcels owned by WM located north of County Line Road, east of STH 145/Fond du Lac Avenue, and west of the private internal driveway commonly referred to as "Midlands Drive" that serves other WM operations (i.e. Orchard Ridge Gas-to-Electric Power Plant, the former WM Healthcare Solutions medical waste recycling operation building, and the WM compost operation). This land combination will be accomplished with a certified survey map (CSM) submitted to the Village pending approval of the conditional use permit and site development & building plan applications.

As stated in the application and January 9 project narrative, the proposed truck maintenance facility includes a 35,035 sqft pre-engineered metal building that will serve as a new location for the existing operations and staffing at the Menomonee Falls facility located at W124 N8925 Boundary Road.

The west 9,750 sqft of the building will have office space for thirty (30) staff and a "launch" area serving 90-100 waste hauling truck drivers (office/assembly space for pre-route communications and management). The east 25,285 sqft will have space for a 14-bay truck compressed natural gas (CNG) maintenance facility. The WM vehicle fleet is powered by compressed natural gas (CNG) that results in low or no particulate emissions, greenhouse gases and less noise than comparable diesel-powered trucks.

The operation is expected to serve up to thirty (30) full and part-time office staff and up to 100 truck drivers. Hours of operation are proposed to be 3:30a.m. to 12 midnight, Monday through Friday, and, 5:00am to 12 noon on Saturday.

In addition to the building, site improvements include:

- Vehicle parking with 166 stalls (44 future stalls)
- Truck parking with 100 pull-through and back-in stalls (to address early-morning/late-night vehicle noise)
- Compressed natural gas (CNG) compound & fueling station
- (2) access driveways serving the facility

Staff CommentsConsistency with Village's Land Use Plan & M-2 Zoning District.

The 2020 Land Use Plan map classifies this property as "Industrial/Office". The current zoning of the property (and adjacent WM parcels to the east) is M-2: General Industrial. The proposed truck maintenance facility can be allowed within the M-2 District with a conditional use permit (CUP) under Section 17.35(c) of the M-2 District regulations.

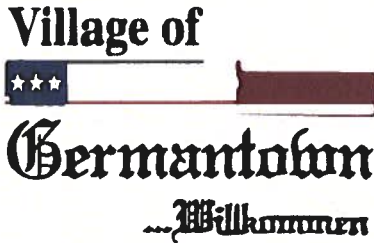
At this time, staff does not have sufficient information about the proposed operation to issue a report & recommendation. Staff questions regarding the operation have been sent to WM and responses are being prepared at this time. Additional information regarding the proposed facility operation and site & building improvements may be submitted for presentation at the public hearing.

In an effort to keep the process moving forward and to accommodate our revised public hearing process, advertising and public notice has already been published and mailed to the surrounding property owners. For that reason, we are obligated to open the public hearing on Monday, February 11 as posted. After comments are received, the plan Commission can either close the hearing or continue it to a future meeting date in order to give the applicant additional time to respond to staff's questions and provide the additional information requested so that staff has a better understanding of the proposal and render a complete review and report to the Plan Commission. However, at this time, there is not sufficient information for staff to determine if the proposed operation would/can be compliant with the M-2 Zoning District requirements and what, if any, conditions to recommend if the proposed operation is to be approved.

For this reason, staff recommends that the public hearing be opened, public comment received, and the public hearing, consideration and action be tabled/continued until the next available Plan Commission meeting (tentatively scheduled for March 11).

Village Planner Recommendation

TABLE consideration and action on the conditional use permit (CUP) application for Waste Management of WI Inc. to operate a truck maintenance facility from the property located at N96 W13840 County Line Road.



Fee must accompany application

- ☐ \$700 Minor Addition
- ☐ \$1,240 Construction <10,000 SF
- ☐ \$2,095 Construction 10,000 SF to 50,000
- ☒ \$3,460 Industrial Construction >50,000 SF
- ☐ \$3,460 Commercial Construction >50,000
- ☐ \$200 Plan Commission Consultation
- ☒ \$125 Fire Department Plan Review

PAID 1-7-19 DATE 1/7/19

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. All applications must be signed and dated.

1

APPLICANT OR AGENT

Diversified Engineering Inc.

Nick Berner, PE

175 Ray Ave NE

New Philadelphia, OH 44663

Phone (330 364-1631

E-Mail nberner@div-eng.com

PROPERTY OWNER

Waste Management of Wisconsin, Inc.

Contact: Donald Smith, PE

PO Box 1450

Chicago, IL 60690 -1450

Phone (206 806- 6039

E-Mail dasmith@wm.com

PROPERTY ADDRESS

N96W13840 COUNTY LINE RD, GERMANTOWN, WI 53022

NEIGHBORING USES - Specify name and type of use, e.g. Enviro Tech - Industrial, Smith - Residential, etc.

North	South	East	West
See attached - ADJACENT PARCEL ZONING			

4

READ AND INITIAL THE FOLLOWING:

DS I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

DS I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

DS I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5

SIGNATURES - ALL APPLICATION MUST BE SIGNED BY OWNER!

N. Berner

1/03/2019

Applicant

Date

Donald Smith

1/03/19

Owner

Date

SITE PLAN REVIEW CHECKLIST

Pursuant to Section 17.43 of the Municipal Code

This checklist provides a summary of requirements found in the Municipal Code. It is intended purely as a guide for developers and should not substitute for a full review of the Code and applicable regulations. (Revised 1/02)

GENERAL INFORMATION

- ☒ Provide Completed Checklist with submittal
- ☒ Names and addresses of owner/developer/designer
- ☒ Graphic scale, north arrow
- ☒ Location sketch
- ☒ Size of site (gross and net acreage)
- ☒ Existing zoning
- ☒ Adjacent zoning and uses
- ☒ Number of residents (subdivisions)
- ☒ Number of employees

EXISTING SITE INFORMATION

- ☒ Dimensions of site and lot lines (pipes found, pipes set, monuments)
- ☒ Existing grades (2' contours minimum)
- ☒ Adjacent property grades (within 10' minimum of property lines)
- ☒ Adjacent structures (within 20' minimum of property lines)
- ☒ Drainage systems and structures
- ☒ Natural features (woods, streams, lakes, ponds, outcroppings)
- ☒ Wetland boundaries (provide date of staking)
- ☒ Floodplain elevation and boundaries
- ☒ Environmental concerns (underground tanks, etc)
- ☒ Roads, curbs, parking lots, pavement areas
- ☒ Structures (location, size)
- ☒ Rights-of-Way (existing/ultimate)
- ☒ Easements (drainage, utility)
- ☒ Existing utilities (sanitary, water, electric, gas, telephone)
- ☒ Benchmark locations and elevations
- ☒ Location of fences, wells, borings, etc.

ARCHITECTURAL PLANS

- ☒ Existing building location
- ☒ Existing building elevations/materials
- ☒ Proposed use (use list from Section 17.45)
- ☒ Statement of design intent (narrative)
- ☒ Proposed floor plans (dimension)
- ☒ Square footage (total and individual rooms/stores)
- ☒ Proposed elevations (dimension)
- ☒ Proposed building height

- ☒ Proposed materials and colors (material sample board required for new construction)
- ☒ Proposed signage (elevations, color, square footage, height, construction material, lighting)
- ☒ Details of any special features

PROPOSED SITE PLAN

- ☒ Grading and spot elevations
- ☒ Erosion control measures (silt fencing, hay bales, rip-rap, tracking mat, stockpile locations)
- ☒ Stormwater management
 - stormwater management design report
 - general drainage pattern
 - swales w/ arrows for direction of flow
 - pond design with outfalls
 - culverts (location/size)
- ☒ Utilities (size, invert elevations, length, slope, etc.)
 - sanitary
 - water
 - stormsewer
- ☒ Building location (dimension)
- ☒ Building elevation (finished grade)
- ☒ Location of proposed signage
- ☒ Details of outside storage (including trash receptacles)
- ☒ Setbacks (clearly marked and dimensioned)
- ☒ Vehicular entrances (dimension to centerline of nearest intersection)
- ☒ Streets (dimension and direction for one-ways)
- ☒ Curve radii
- ☒ Sidewalks (dimension)
- ☒ Parking areas (show striping/spot elevations)
- ☒ Parking setback from property line
- ☒ Loading areas (dimension)
- ☒ Lot coverage
 - Square footage total
 - Impervious surfaces total (%)
 - Green space total (%)
 - Percent permitted (over/under %)
- ☒ Municipal utility connections
 - Sanitary sewer (pipe size/elevations)
 - Water (size, valve location, elevations)
 - Location of hydrants
- ☒ Easement for public water mains

LIGHTING PLAN

- ☒ Major improvements for context
- ☒ Location/nature of existing fixtures
- ☒ Location of proposed fixtures
- ☒ Photometric report (to scale on plan)
- ☒ Manufacturers cut-sheets of all fixtures
- ☒ Lighting schedule
 - key to plan
 - number/type of fixtures
 - output (wattage)
- ☒ Installation details as appropriate

LANDSCAPING PLAN

- ☒ Major improvements for context (building, drives, walks)
- ☒ Proposed outdoor amenities (benches, paths, etc.)
- ☒ Existing vegetation
 - Species
 - Size
 - Approximate canopy in plan
- ☒ Vegetation to be destroyed
 - List and show location
- ☒ Proposed method of saving existing vegetation during construction
- ☒ Proposed landscape features (berms, fountains)
- ☒ Existing/proposed lighting
- ☒ Irrigation/watering systems (locate outlets)
- ☒ Plant lists or schedules
 - Keyed to plan
 - Number of each species
 - Size when planted (caliper)
- ☒ Installation details/staking

MODEL SUBMITTAL **INCLUDES THE FOLLOWING** **PLANS:**

1. Cover / Title Page
2. Existing Conditions Survey
3. General Site Plan
4. Grading, Paving & Erosion Control Plan
5. Utility Plan
6. Site Details (curbing, catch basins, detention ponds, pavement, erosion control and sign details)
7. Landscape Plan
8. Landscape details (planting schedule, berming cross-sections, method of installation)
9. Lighting Plan
10. Floor Plan
11. Exterior Building Elevations
12. Building Material Sample Board

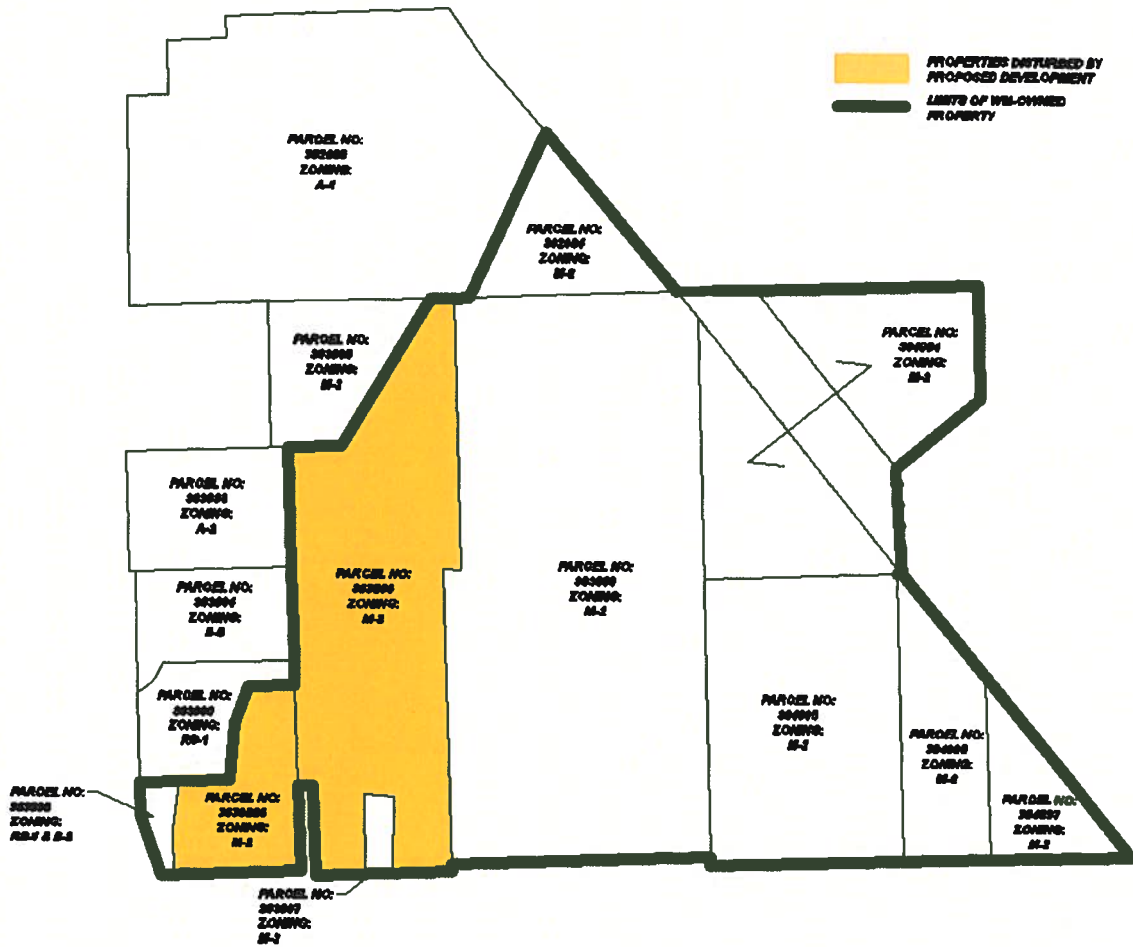
In addition to the items on this list, Village Staff and/or the Plan Commission may require additional drawings and data to be submitted for approval.

If any public improvements or work is to be done in the Public Right-of-Way, the Village will require that a Developer's Agreement be submitted and approved by the Village Board.

ADJACENT PARCEL ZONING:

GNTV_363995*	RS-1 & B-2
GNTV_363990	RS-1
GNTV_363994	B-5
GNTV_363988	A-2
GNTV_363985	M-2
GNTV_362985	A-1
GNTV_363999*	M-2
GNTV_363997*	M-2

Note: (*) Indicates parcels owned by Waste Management of WI, Inc.





Village of

Germantown
Willkommen

Fee must accompany application

☒ \$1460 Paid h Date 1-7-19

CONDITIONAL USE PERMIT APPLICATION

Pursuant to Section 17.42 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Diversified Engineering Inc.
Nick Berner, P.E.

175 Ray Ave. NE
New Philadelphia, OH 44663

Phone (330)364-1631

Fax (330)364-4031

E-Mail nberner@div-eng.com

PROPERTY OWNER

Waste Management of Wisconsin Inc.

Donald Smith, P.E.

PO Box 1450
Chicago, IL 60690-1450

Phone (262)806-6039

Email: dasmith@wm.com

2 TO WHOM SHOULD THE PERMIT BE ISSUED?

Waste Management of Wisconsin Inc.

3 PROPERTY ADDRESS

N96W13840 COUNTY LINE RD GERMANTOWN, WI 53022

TAX KEY NUMBER

363996 & 363986

4 DESCRIPTION OF EXISTING OPERATION

Briefly describe the use as it exists today, including use, size, number of employees, hours of operation, etc. If this permit involves new construction, describe the current status of the property, e.g. "vacant." Use additional pages as necessary.

Tax Key 363996: Currently occupied by WM Port-o-let division garage, office and storage area (approximately 8.15 ac.).

Tax Key 363986: Currently occupied by WM Orchard Ridge Gas to Electric Power Plant, Industrial Pretreatment Plant and WM Healthcare Solutions building (approximately 35.63 ac.).

5 DESCRIPTION OF PROPOSED OPERATION

Write the name of the proposed conditional use exactly as it appears in the Municipal Code.
Germantown, WI Municipal Code, Chapter 17.34 - M-2 General Industrial District, Section 3

Describe the proposed use, including size, number of employees, hours of operation and extent of any new construction/alterations.

Conditional use permit requested for development of parcels 363996 and 363986. Proposed development includes the construction of a Waste Management Trucking Facility (250'x100') and office space (75'x130'). Hours of operation are anticipated to be 3:30am-midnight, M-F and 5am-noon, Saturday. The facility is anticipated to serve 100 employees during first shift/day shift, and approximately 10 during second shift.

METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY — REQUIRED

6

Tax key 363996: Lot 2- CSM4247 V28 P30 PT of SWV1013 P676 SEC 36-9-20 8.15 ac.

Tax key 363986: PT NW SWV747 P264 PT SOLD SEC 36-9-20

See attached CSM 4247 and Deed and exclusion for 363986

SUPPORTING DOCUMENTATION:

7

- ☒ Site plan and elevations for new construction (can be conceptual)
- ☒ Photos of existing use and/or proposed use operating elsewhere

☐ _____

☐ _____

READ AND INITIAL THE FOLLOWING:

8

DAS I understand that the Village is under no obligation to issue a Conditional Use Permit and will do so only if the applicant successfully demonstrates that the proposed use is harmonious with the neighborhood and the long range goals of the Village.

DAS I will notify the Village if any aspect of the conditional use changes. I understand that failure to do so may result in the revocation of the CUP.

DAS I understand that a Conditional Use Permit is valid only if the conditions and restrictions of the permit are met. I understand that failure to comply with any aspect of the permit may result in revocation.

SIGNATURES — ALL APPLICATIONS MUST BE SIGNED BY OWNER!

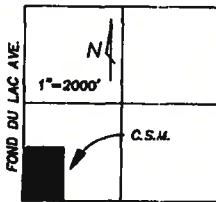
9

 1/03/2019
Applicant Date

 1/03/19
Owner Date

CERTIFIED SURVEY MAP NO. _____

BEING A REVISION OF C.S.M. NO. 3402, C.S.M. NO. 455 AND UNPLATTED LANDS, ALL IN THE SW 1/4 OF THE SW 1/4 OF SECTION 36, TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.



LEGEND

O-DENOTES 1"x24" IRON PIPE WEIGHING 1.13 LBS. PER LINEAL FOOT SET

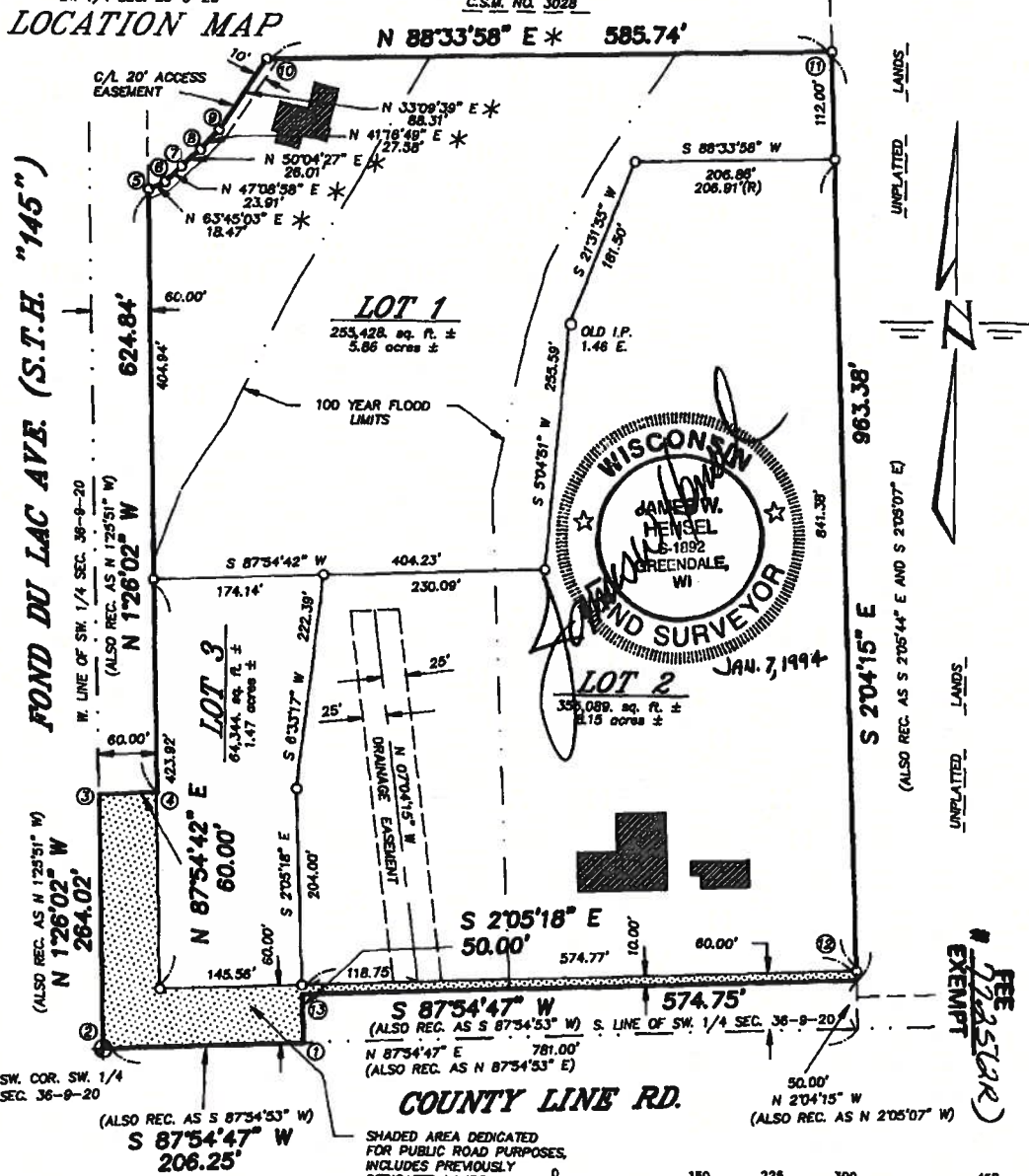
*-DENOTES BEARING ALSO REC. AT 0° 00' 11" ROTATED CLOCKWISE

ALL BEARINGS REFERENCED TO GRID NORTH OF THE WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE

INT. ANGLES

- | | | |
|--------------|--------------|--------------|
| ① 89°39'55" | ⑤ 114°48'55" | ⑨ 188°07'10" |
| ② 89°20'49" | ⑥ 196°36'05" | ⑩ 124°35'41" |
| ③ 90°39'16" | ⑦ 177°04'31" | ⑪ 80°38'13" |
| ④ 268°20'44" | ⑧ 188°47'38" | ⑫ 90°00'58" |
| | | ⑬ 270°00'05" |

LOCATION MAP



NORTH SHORE ENG. INC.
11431 N. PORT WASHINGTON RD
MEQUON WI. 53092

THIS INSTRUMENT DRAFTED BY JAMES W. HENSEL



SCALE 1"=150'

SHEET 1 OF 3 SHEETS

658232

Map No. 4247 Vol. 28 Page 30

CERTIFIED SURVEY MAP NO. _____

Being a redivision of C.S.M. No. 3402, C.S.M. No. 455 and unplatted lands, all in the S.W. 1/4 of the S.W. 1/4 of Section 36, Town 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

SURVEYOR'S CERTIFICATE

I, James W. Hensel, Registered Land Surveyor, do hereby certify:

THAT I have surveyed, divided and mapped the following parcel of land:

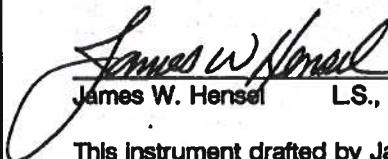
C.S.M. No. 3402, C.S.M. No. 455 and unplatted lands, all in the S.W. 1/4 of the S.W. 1/4 of Section 36, Town 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

Commencing at the S.W. corner of said 1/4 Section; thence N1°26'02"W (also recorded as N1°25'51"W) along the West line of said 1/4 Section, 264.02 feet; thence N87°54'42"E, 60.00 feet to a point in the East right-of-way line of Fond du Lac Ave. (S.T.H. "145") said point also being the southwest corner of Outlot 2 of C.S.M. No. 3402; thence N1°26'02"W (also recorded as N1°25'51"W), along said East line and the West line of Outlot 2 and Lot 1 of C.S.M. No. 3402, 624.84 feet to the northwesterly corner of Lot 1 of C.S.M. No. 3402; thence N63°45'03"E (also recorded as N63°45'14"E), along the northerly line of Lot 1 of C.S.M. No. 3402, 18.47 feet; thence N47°08'58"E (also recorded as N47°09'09"E), along said northerly line, 23.91 feet; thence N50°04'27"E (also recorded as N50°04'38"E), along said northerly line, 26.01 feet; thence N41°16'49"E (also recorded as N41°17'00"E), along said northerly line, 27.58 feet; thence N33°09'39"E (also recorded as N33°09'50"E), along said northerly line, 88.31 feet to the northwest corner of Lot 1 of C.S.M. No. 3402; thence N88°33'58"E (also recorded as N88°34'09"E), along the north line of Lot 1 of C.S.M. No. 3402, 585.74 feet to the northeast corner of Lot 1 of C.S.M. No. 3402; thence S2°04'15"E (also recorded as S2°05'44"E and S2°05'07"E), along the east lines of Lot 1 and Outlot 1 of C.S.M. No. 3402, and the east line of the parcel recorded as C.S.M. No. 455, 963.38 feet to the southeast corner of the parcel recorded as C.S.M. No. 455, said point lying in the North right-of-way line of County Line Road (C.T.H. "Q"); thence S87°54'47"W (also recorded as S87°54'53"W), along said North line, 574.75 feet to the southwest corner of the aforementioned parcel; thence S2°05'18"E, 50.00 feet to a point in the South line of said 1/4 Section; thence S87°54'47"W (also recorded as S87°54'53"W), along said South line, 206.25 feet to the point of commencement. Said lands containing 16.18 acres of land more or less. Excepting the South 10.00 feet and the Southwest 60.00 feet dedicated for public road purposes.

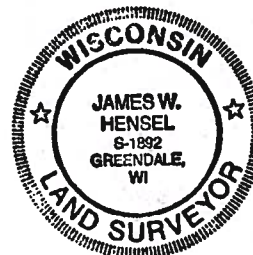
THAT I have made such survey, land division and plat at the direction of Waste Management of Wisconsin, Inc., OWNER of said lands.

THAT such map is a correct representation of all the exterior boundaries of the land surveyed and the land division thereof made.

THAT I have complied with the provisions of Chapter 236.34 of the Wisconsin statutes and the requirements of the Village of Germantown.

 J.W.H. 7/1994
James W. Hensel LS., 1892

This instrument drafted by James W. Hensel



658232

Map No. 4247 Vol. 28 Page 31



January 8, 2019

Design Narrative

Project: Waste Management – Germantown Truck Maintenance Facility

The Germantown Truck Maintenance Facility will be a 35,035 square foot pre-engineered metal building located at parcel 363986 & 3639896. The facility will serve as a new CNG compliant facility for existing operations and staffing at the Waste Management Menomonee Falls Facility.

The building will be divided into two structures of differing eaves and use groups with a dividing masonry unit fire wall. The western portion of the facility will be a single-story 9,7500 square foot office, 15' eave, consisting of thirteen office spaces and sixteen cubicles, serving a maximum daily staff of thirty. The office space also incorporates locker rooms and launch areas to serve 90-100 drivers.

The eastern portion of the building will serve as a 25,285 square foot, 28' eave, CNG compliant maintenance facility. The space is designed to operate 14 maintenance bays split by a parts/tools and vital equipment storage space with pull through wash bay at the eastern end of the building. The building will be equipped with necessary monitoring systems, automated alarms and air change units per CNG code compliance.

The structure has been designed to match the surrounding campus of various industrial buildings owned and operated by Waste Management. Most notably in design materials, color pallet and façade. Additional design considerations have been incorporated with intent of improving site safety and appearance as well as minimize operational noise.

The building has been set approximately five hundred feet north from County Line Rd, to allow the existing dilapidated structure and staging area can be removed and replaced. The proposed design incorporates additional green space, landscaped berms and tree lined employee parking area in the place of the existing structure and storage areas. The landscaping berm has been set back from County Line Rd approximately 80-90 feet to allow for additional visibility for on-coming maintenance vehicle traffic.

Maintenance vehicle parking has been located at the north end of the parcel with a dedicated drive to the northeast connecting to the existing drive along the eastern edge of the property. The parking area has been designed to incorporate pull through and back in spaces to reduce noise during morning vehicle launches, by ensuring vehicles first move is forward. The dedicated drive to the northeast allows for vehicles to access County Line Rd at an existing pronounced intersection that features added sight distance.

Sincerely,

Village of Germantown, WI

**CONDITIONAL USE PERMIT
SUBMITTAL PACKET**

For

**Waste Management
Truck Maintenance Facility**

**N96W13840 County Line Road
Germantown, WI 53022**

January 4th, 2019

Prepared For:



Prepared By:



TABLE OF CONTENTS

General Project Information and Applications:

Attachment 1	Project Contacts and Site Information
Attachment 2	Conditional Use Permit Application
Attachment 3	Site Plan and Elevations
Attachment 4	Site Photos – Existing/Proposed

Project Contacts and Site Information

PROJECT OWNER:



Waste Management of Wisconsin, Inc.
PO Box 1450
Chicago, IL 60690-1450

Contact: Donald Smith, PE
Phone: (262) 806-6039
Email: dasmith@wm.com

OWNER REPRESENTATIVE/ ENGINEER:



175 Ray Ave. NE
New Philadelphia, OH 44663

Project Manager: Nick Berner, PE
Phone: (330) 364-1631
Email: nberner@div-eng.com

SITE INFORMATION:

Parcels Disturbed
Acreage
Current Zoning

GNTV_363996
8.15 ac.
M-2

GNTV_363986
35.63 ac.
M-2

ADJACENT PARCEL ZONING:

GNTV_363995*	RS-1 & B-2
GNTV_363990	RS-1
GNTV_363994	B-5
GNTV_363988	A-2
GNTV_363985	M-2
GNTV_362985	A-1
GNTV_363999*	M-2
GNTV_363997*	M-2

Note: (*) Indicates parcels owned by Waste Management of WI, Inc.

FEMA INFORMATION:

Community Number	550472
Panel #	0379
Suffix	D
Date of FIRM	11/20/2013
FIRM Zone	A
Base Flood Elevation	769 FT.



Fee must accompany application

☐ \$1460 Paid _____ Date _____

CONDITIONAL USE PERMIT APPLICATION

Pursuant to Section 17.42 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Diversified Engineering Inc.
Nick Berner, P.E.

175 Ray Ave. NE
New Philadelphia, OH 44663

Phone (330)364-1631

Fax (330)364-4031

E-Mail nberner@div-eng.com

PROPERTY OWNER

Waste Management of Wisconsin Inc.

Donald Smith, P.E.

PO Box 1450
Chicago, IL 60690-1450

Phone (262)806-6039

Email: dasmith@wm.com

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Waste Management of Wisconsin Inc.

3 PROPERTY ADDRESS

N96W13840 COUNTY LINE RD GERMANTOWN, WI 53022

TAX KEY NUMBER

363996 & 363986

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See attached CSM 4247 and Deed and exclusion for 363986

SUPPORTING DOCUMENTATION:

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- ☒ Site plan and elevations for new construction (can be conceptual)
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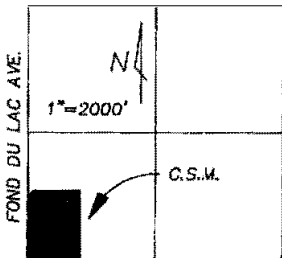
9

722 1/03/2019
Applicant Date

Dea Smith 1/03/19
Owner Date

CERTIFIED SURVEY MAP NO. _____

BEING A REVISION OF C.S.M. NO. 3402, C.S.M. NO. 455 AND UNPLATTED LANDS, ALL IN THE SW 1/4 OF THE SW 1/4 OF SECTION 36, TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.



LEGEND

○—DENOTES 1"x24" IRON PIPE WEIGHING 1.13 LBS. PER LINEAL FOOT SET

*—DENOTES BEARING ALSO REC. AT 0° 00' 11" ROTATED CLOCKWISE

ALL BEARINGS REFERENCED TO GRID NORTH OF THE WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE

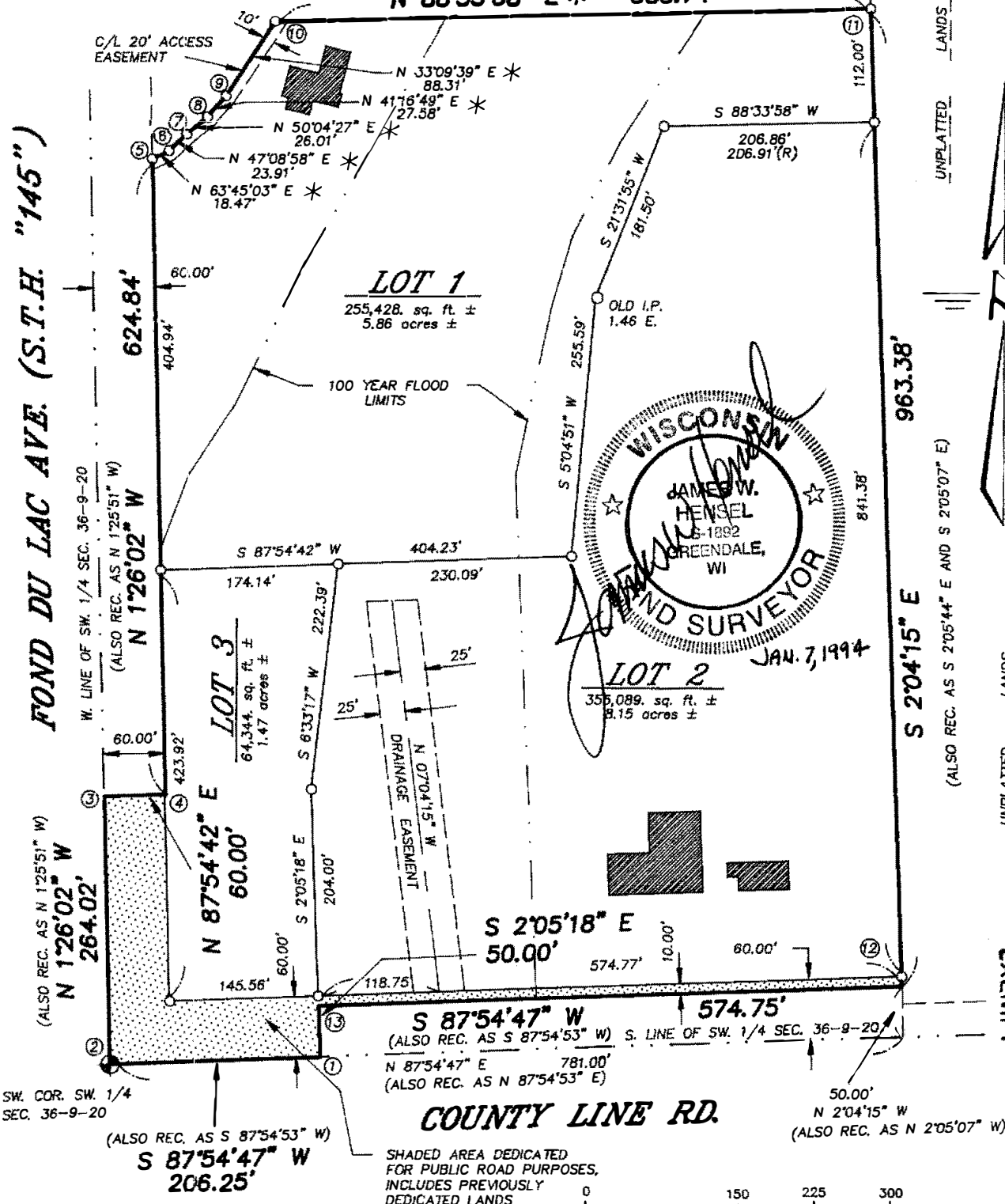
INT. ANGLES

- | | | |
|--------------|--------------|--------------|
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| ④ 269°20'44" | ⑧ 188°47'38" | ⑫ 90°00'58" |
| | | ⑬ 270°00'05" |

COUNTY LINE RD.
SW 1/4 SEC. 36-9-20

C.S.M. NO. 3028

LOCATION MAP



NORTH SHORE ENG. INC.
11431 N. PORT WASHINGTON RD
MEQUON WI. 53092

SHADED AREA DEDICATED FOR PUBLIC ROAD PURPOSES, INCLUDES PREVIOUSLY DEDICATED LANDS



SCALE 1"=150'

CERTIFIED SURVEY MAP NO. _____

Being a redivision of C.S.M. No. 3402, C.S.M. No. 455 and unplatted lands, all in the S.W. 1/4 of the S.W. 1/4 of Section 36, Town 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

SURVEYOR'S CERTIFICATE

I, James W. Hensel, Registered Land Surveyor, do hereby certify:

THAT I have surveyed, divided and mapped the following parcel of land:

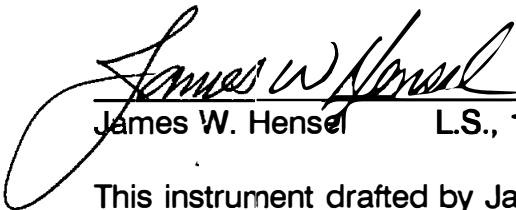
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THAT I have made such survey, land division and plat at the direction of Waste Management of Wisconsin, Inc., OWNER of said lands.

THAT such map is a correct representation of all the exterior boundaries of the land surveyed and the land division thereof made.

THAT I have complied with the provisions of Chapter 236.34 of the Wisconsin statutes and the requirements of the Village of Germantown.

 JAN. 7, 1994
James W. Hensel L.S., 1892

This instrument drafted by James W. Hensel



658232

Map No. 4247 Vol. 28 Page 31

658232

Map No. 4247 Vol. 28 Page 32

CERTIFIED SURVEY MAP NO. _____

Being a redivision of C.S.M. No. 3402, C.S.M. No. 455 and unplatted lands, all in the S.W. 1/4 of the S.W. 1/4 of Section 36, Town 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

OWNER'S CERTIFICATE

WASTE MANAGEMENT OF WISCONSIN, INC. as OWNER, hereby certifies that it caused the land described on this certified survey map to be surveyed, mapped and dedicated as represented on the certified survey map in accordance with the ordinances of the Village of Germantown.

WITNESS THE HAND AND SEAL OF SAID CORPORATION AND ITS OFFICER THIS 10th DAY OF January, 1994.

In the Presence of:

[Signature]

WASTE MANAGEMENT OF WISCONSIN, INC.
[Signature]
Robert Borkenhagen, General Manager

STATE OF WISCONSIN)
WASHINGTON COUNTY)^{ss}

PERSONALLY came before me this 10th day of January, 1994, the above named Robert Borkenhagen, General Manager, to me known to be the person who executed the foregoing instrument and acknowledged the same.

[Signature]
Notary Public

My Commission expires 9/7/99

VILLAGE OF GERMANTOWN PLAN COMMISSION APPROVAL

Approved by the Village of Germantown Plan Commission, this 10th day of January, 1994.

[Signature]
Chairman

[Signature]
Secretary

VILLAGE OF GERMANTOWN BOARD APPROVAL

APPROVED by the Village of Germantown board and highway dedication accepted on this 17th day of January, 1994.

[Signature]
Village President

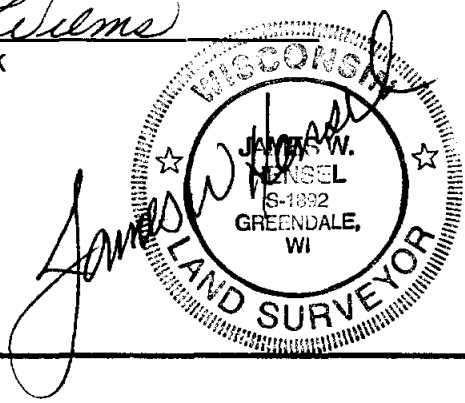
[Signature]
Clerk

This instrument drafted by James W. Hensel

JAN. 7, 1994

JAN 21 9 00 AM '94
DEPT. OF REVENUE
REGISTER OF DEEDS
OF WASHINGTON COUNTY, WI

RECORDED



434539

VOL REC 747 PAGE 264

FEB 19 9 26 AM '81

This Deed, made between Gordian Liernann by
Emma Maas Liernann, his Attorney-In-Fact and Emma Maas
Liernann, his wife

and Waste Management of Wisconsin, Inc., a Wisconsin
Corporation

Grantee,

Witnesseth, That the said Grantor, for a valuable consideration

conveys to Grantee the following described real estate in Washington
County, State of Wisconsin:

Mr. Douglas D. Smiljanic
Attorney At Law
N88 W17015 Main St.
Menomonee Falls, WI 53051
Tax Key No.

All that part of the Southwest $\frac{1}{4}$ of Section 36, Township
9 North, Range 20 East, Village of Germantown, Washington
County, Wisconsin, bounded and described as follows:
COMMENCING at the West $\frac{1}{4}$ corner of the said Section 36; thence N88° 13' 49.7" E. along
the North Line of the said SW $\frac{1}{4}$ of Section 36, 684.747 feet to the point of beginning of
this description; thence continuing along the said North line, 845.663 feet; thence
S 01° 45' 50.53" E, 1241.501 feet; thence S 87° 54' 15.49" W, 79.981 feet; thence
S 01° 45' 50.53" E, 1400.00 feet to a point on the South Line of the said SW $\frac{1}{4}$ of
Section 36; thence S87° 54' 15.77" W, along the said South Line, 263.23 feet; thence
N 2° 05' 44.2" W, 363.00 feet; thence S 87° 54' 15.77" W and parallel to the said South
Line, 120.00 feet; thence S 2° 05' 44.2" E, 363.00 feet to a point on the said South
Line; thence S 87° 54' 15.77" W, along the said South Line, 235.20 feet; thence N 2° 05'
44.2" W along a public Road right of way, 445.890 feet; thence S 87° 54' 15.77" W, and
parallel to the said South Line 66.00 feet; thence N 2° 05' 44.23" W 1540.00 feet;
thence S 88° 13' 49.66" W, 79.49 feet; thence N 01° 26' 25.02" W, 660.00 feet to the
point of beginning of this description and containing 43.667 acres.

1 KANMER
131⁰⁰
FEE

This is homestead property.
(if not)

Together with all and singular the hereditaments and appurtenances thereto belonging.
And Gordian Liernann and Emma Maas Liernann, his wife
warrants that the title is good, indefeasible in fee simple and free and clear of encumbrances except municipal and
zoning ordinances and recorded easements for public utilities located adjacent to side
and rear lot lines; recorded building and use restrictions and covenants; and general
taxes for the year of 1980 and 1981.
and will warrant and defend the same.

Dated this 11th day of February, 1981
Douglas D. Smiljanic (SEAL)
Douglas D. Smiljanic

Gordian Liernann by Emma Maas Liernann, his Attorney-in-Fact (SEAL)
Emma Maas Liernann (SEAL)

AUTHENTICATION

Signatures authenticated this 19 day of

ACKNOWLEDGMENT

STATE OF WISCONSIN

Waukesha County

Personally came before me, this 11th day of
February 1981, the above named
Gordian Liernann by Emma Maas Liernann,
his Attorney-In-Fact and Emma Maas
Liernann, his wife

TITLE: MEMBER STATE BAR OF WISCONSIN
(If not,
authorized by § 706.00, Wis. Stats.)

THE NOTARY PUBLIC

Douglas D. Smiljanic
Attorney At Law

I am known to be the person who executed this
instrument and acknowledge its contents.
Douglas D. Smiljanic
Douglas D. Smiljanic
Notary Public Waukesha County, Wis.
My Commission is permanent. (If not, state expiration
date 19)

(Signatures may be authenticated or acknowledged. Both
are not necessary.)

*Names of persons sign & in any capacity should be typed or printed below their signatures

WARRANTY DEED

STATE BAR OF WISCONSIN
FORM No 1 - 1977Wisconsin Legal Blank Book Co. Inc.
Milwaukee, Wis. (Job 33980)

State Bar of Wisconsin Form 1-2003
WARRANTY DEED

Document Number

Document Name

DOC# 1185031



Recorded

Mar. 06, 2008 AT 01:20PM
SHARON A MARTIN, REGISTER OF DEEDS
WASHINGTON COUNTY, WISCONSIN

Fee Amount: \$13.00
Transfer Fee: \$207.30

THIS DEED, made between Waste Management of Wisconsin, Inc., a Wisconsin Corporation

("Grantor," whether one or more), and FC Milwaukee Nationals, Inc., a Wisconsin Corporation

("Grantee," whether one or more).

Grantor for a valuable consideration, conveys to Grantee the following described real estate, together with the rents, profits, fixtures and other appurtenant interests, in Washington County, State of Wisconsin ("Property") (if more space is needed, please attach addendum):
SEE ATTACHED LEGAL

SUBJECT TO THE FOLLOWING DEED RESTRICTION:

"The Property conveyed herein shall not be used for any purpose related to the waste industry including, but not limited to, the hauling, processing, transferring, storage, recycling or disposal of solid waste (including demolition waste) or hazardous waste. These restrictions are perpetual and declared to be covenants running with the land and shall be fully binding upon all persons or entities acquiring title to the land whether by descent, devise, purchase or otherwise."

Grantor warrants that the title to the Property is good, indefeasible, in fee simple and free and clear of encumbrances except: Municipal and zoning ordinances, recorded easements for public utilities serving the property, recorded building and use restrictions and covenants, and taxes levied in the year of closing.

Dated February 28, 2008

(SEAL)

*

(SEAL)

*

AUTHENTICATION

Signature(s) _____

authenticated on _____

*

TITLE: MEMBER STATE BAR OF WISCONSIN

(If not, _____
authorized by Wis. Stat. § 706.06)

THIS INSTRUMENT DRAFTED BY:
David E. Stewart

State Bar No. 1013409

Waste Management of Wisconsin, Inc.

(SEAL)

*By: **BRENDAN SHEEHAN**

(SEAL)

*Title: **Authorized Representative**

ACKNOWLEDGMENT

STATE OF ILLINOIS)

) ss.

Will _____ COUNTY)

Personally came before me on January 28, 2008,
the above-named BRENDAN SHEEHAN, Authorized Representative, Waste Management of Wisconsin, Inc.
to me known to be the person(s) who executed the foregoing instrument and acknowledged the same.

Notary Public, State of Illinois

My commission (as permanent) (expires: January 24, 2010)

(Signatures may be authenticated or acknowledged. Both are not necessary.)

NOTE: THIS IS A STANDARD FORM. ANY MODIFICATION TO THIS FORM SHOULD BE CLEARLY IDENTIFIED.

WARRANTY DEED

©2003 STATE BAR OF WISCONSIN

FORM NO. 1-2003

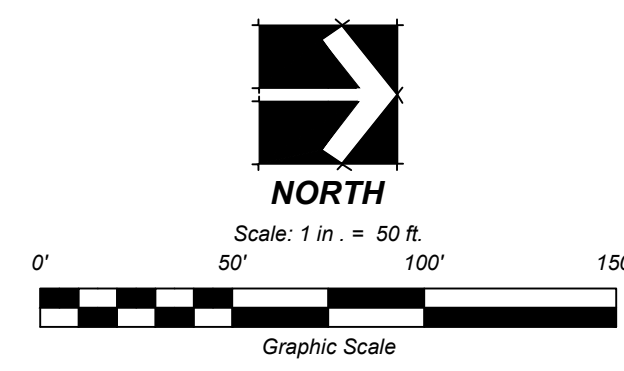
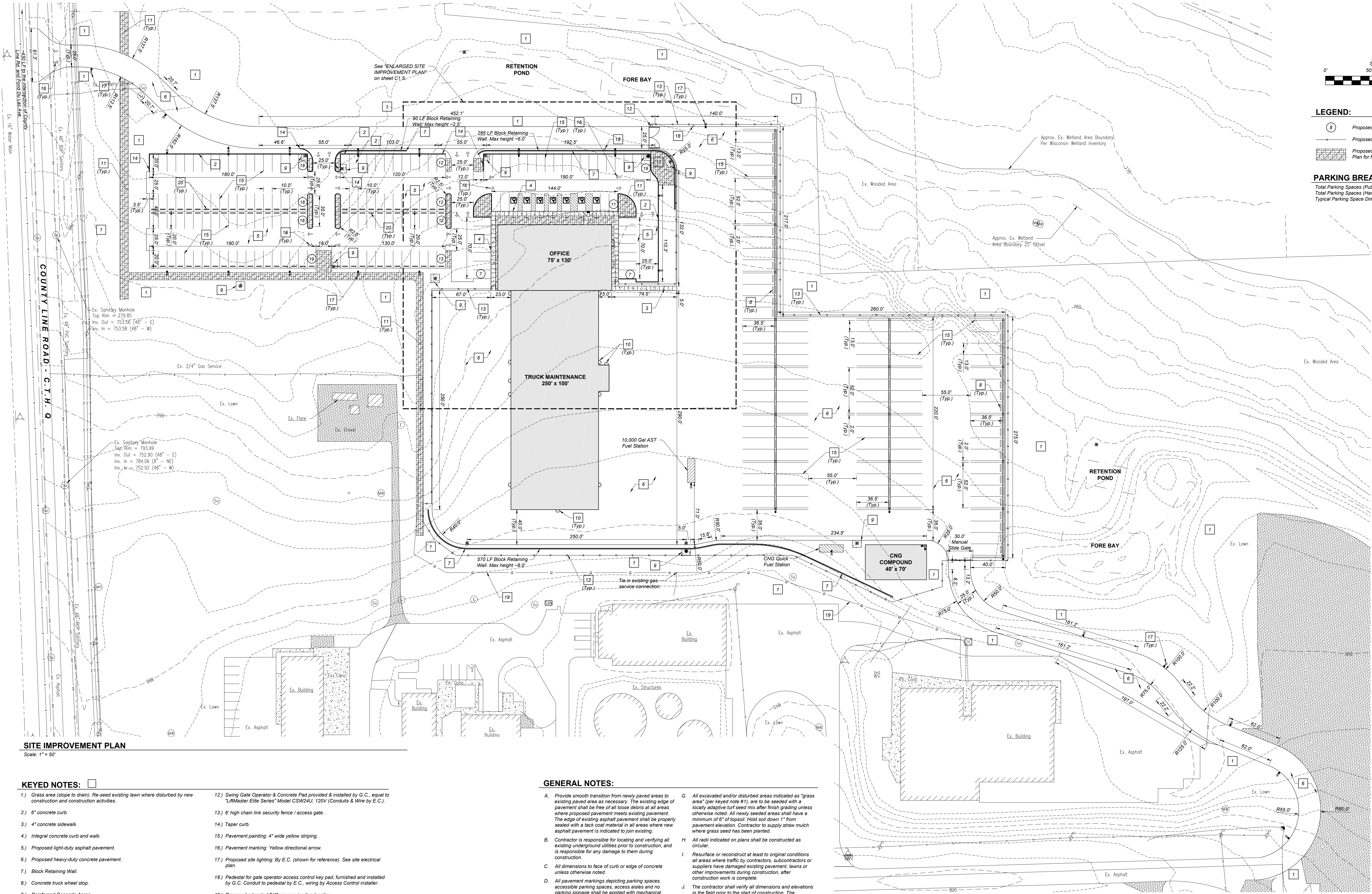
*Type name below signatures.

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LEGAL DESCRIPTION

That a part of the Northwest $\frac{1}{4}$ and the Northeast $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 36, Town 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin, bounded and described as follows:

Commencing at the Northwest corner of the Southwest $\frac{1}{4}$ of said Section; thence N88° 14' 45" E along the South line of the Northwest $\frac{1}{4}$ of said Section 684.75 feet to the point of beginning; thence continuing N88° 14' 45" E 720.75 feet to a meander line; thence S32° 13' 41" W along a meander line 795.93 feet to the end of a meander line; thence S88° 14' 45" W 279.66 feet; thence N01° 25' 30" W 660.00 feet to the point of beginning. Including all the land lying between the meander line and the property lines extended to the center line of a creek to the East. Containing 7.58 acres of land to the meander line and 7.93 acres +/- to the center line of a creek.



- LEGEND:**
- 8 Proposed Parking Space Count Indicator
 - Proposed Chain Link Fence
 - Proposed Landscaping Area. See Site Landscaping Plan for further coordination

PARKING BREAKDOWN

Total Parking Spaces (Public) = 159
Total Parking Spaces (Handicap) = 7
Typical Parking Space Dimension: 10' x 20' (Unless otherwise noted)

SITE IMPROVEMENT PLAN
Scale: 1" = 50'

- KEYED NOTES:**
- Grass area (slope to drain). Re-seed existing lawn where disturbed by new construction and construction activities.
 - 6" concrete curb.
 - 4" concrete sidewalk.
 - Integral concrete curb and walk.
 - Proposed light-duty asphalt pavement.
 - Proposed heavy-duty concrete pavement.
 - Block Retaining Wall.
 - Concrete truck wheel stop.
 - Reinforced Concrete Apron.
 - Frost footing at man doors.
 - Proposed Landscaping: (Shown for reference). See Sheet L1.0 "Site Landscaping Plan".
 - Swing Gate Operator & Concrete Pad provided & installed by G.C., equal to "LiftMaster Elite Series" Model CSW24U, 120V (Conduits & Wire by E.C.).
 - 6' high chain link security fence / access gate.
 - Taper curb.
 - Pavement painting: 4" wide yellow striping.
 - Proposed site lighting: By E.C. (shown for reference). See site electrical plan.
 - Pedestal for gate operator access control key pad, furnished and installed by G.C. Conduit to pedestal by E.C., wiring by Access Control installer.
 - Proposed relocated 3/4" gas service line location.
 - Concrete parking bumper.
- *NOTE: See "SITE PLAN REVIEW SUBMITTAL PACKET" for typical construction details.

- GENERAL NOTES:**
- Provide smooth transition from newly paved areas to existing paved area as necessary. The existing edge of pavement shall be free of all loose debris at all areas where proposed pavement meets existing pavement. The edge of existing asphalt pavement shall be properly sealed with a tack coat material in all areas where new asphalt pavement is indicated to join existing.
 - Contractor is responsible for locating and verifying all existing underground utilities prior to construction, and is responsible for any damage to them during construction.
 - All dimensions to face of curb or edge of concrete unless otherwise noted.
 - All pavement markings depicting parking spaces, accessible parking spaces, access aisles and no parking signage shall be applied with mechanical equipment and templates at the locations and lengths shown on the plans (two coats all locations). Paint shall be yellow in color (unless otherwise specified) and shall meet all applicable requirements of state department of highway specifications, unless otherwise specified.
 - Contractor shall be solely responsible for and take all precautions necessary to avoid damage to adjacent properties during the construction phases of this project.
 - All construction methods and materials must conform to current standards and specifications of the federal, state, county, city or local requirements, whichever has jurisdiction.
 - All excavated and/or disturbed areas indicated as "grass area" (per keyed note #1), are to be seeded with a locally adaptive turf seed mix after finish grading unless otherwise noted. All newly seeded areas shall have a minimum of 6" of topsoil. Hold soil down 1" from pavement elevation. Contractor to supply straw mulch where grass seed has been planted.
 - All radii indicated on plans shall be constructed as circular.
 - Resurface or reconstruct at least to original conditions all areas where traffic by contractors, subcontractors or suppliers have damaged existing pavement, lawns or other improvements during construction, after construction work is complete.
 - The contractor shall verify all dimensions and elevations in the field prior to the start of construction. The contractor shall be responsible for all field dimensions and elevations during the entire construction schedule. If any discrepancies are found in these plans from actual field dimensions, the contractor shall contact the engineer immediately.

ISSUE DATE	SCALE	1" = 50'	CTR INT.	2"
07/04/2018	COM	DSW	CHECKED BY	NJB
SURVEYED BY	DSW	APPROVED BY		
DRAWN BY				
REV	DATE	DESCRIPTION	DWN BY	DES BY
			CHK BY	APP BY

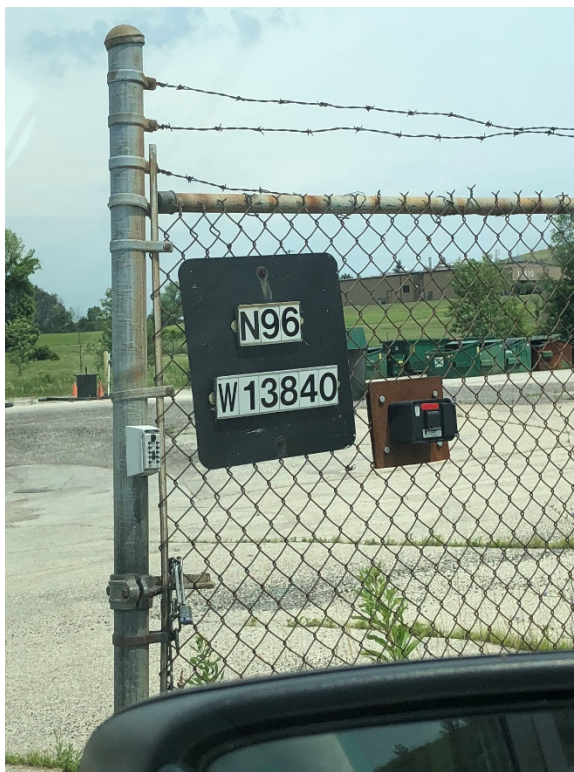
Diversified Engineering Inc.
CONSULTING ENGINEERS & SURVEYORS
150 PARKWAY
NEW PALTZ, NY 12561
TEL: (845) 255-8400
FAX: (845) 255-8401
WWW.DIVERSIFIED-ENG.COM

WASTE MANAGEMENT
PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI
SHEET TITLE: SITE IMPROVEMENT PLAN

SHEET NO:
C1.4
JOB NO:
ENG-1465



Existing Site Photos



Address sign at WM Port-o-let entrance. (July 2018)



Abandoned underground storage tank. (Dec. 2018)

Existing Site Photos



Port-o-let maintenance garage, currently abandoned. (Dec. 2018)



Port-o-let facility maintenance garage. Used for painting and welding only.

Existing Site Photos



Existing asphalt lot.



Interior of WM Port-o-let maintenance building. (July 2018)

Existing Site Photos



Interior of WM Port-o-let maintenance building. (July 2018)



Various containers and vehicle storage on back lot. (July 2018)

Existing Site Photos



Various containers being stored on back lot. (July 2018)



Various containers and vehicles being stored on back lot. (July 2018)

Existing Site Photos



View of development area facing northeast. Currently vacant. (July 2018)



View of development area facing north. (July 2018)

Existing Site Photos



Existing burn-off flare and maintenance building. (July 2018)



Existing gravel roadway to flare and maintenance building. (July 2018)

Existing Site Photos



Existing leachate management facility. (July 2018)



Leachate management facility. (July 2018)

Existing Site Photos



Existing retention pond. (Dec. 2018)



Existing retention pond. (Dec. 2018)

Existing Site Photos



View of existing conditions facing northwest. (Dec. 2018)



View of Port-o-let facility from the northeast. (Dec. 2018)

Existing Site Photos



View facing east from proposed development area. (Dec. 2018)



Storage of containers at Port-o-let facility. (Dec. 2018)

Existing Site Photos



Existing lot at Port-o-let facility. (Dec. 2018)



Port-o-let facility entrance. (Dec. 2018)

Existing Site Photos



Container storage on existing dirt lot to north of medical waste facility. (Dec. 2018)



Existing asphalt drive. View facing southwest. (Dec. 2018)

Proposed Site Photos



Exterior elevation.



Exterior elevation.

Proposed Site Photos



Proposed truck maintenance garage.



Proposed launch area.

Proposed Site Photos



CNG fueling area.

A handwritten signature in black ink, appearing to read 'N. Berner', with a stylized, flowing script.

Nicholas J. Berner, P.E.
Project Manager

Village of Germantown, WI

SITE PLAN REVIEW SUBMITTAL PACKET

For

**Waste Management
Truck Maintenance Facility**

**N96W13840 County Line Road
Germantown, WI 53022**

January 4th, 2019

Prepared For:



Prepared By:



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Attachment 2	Site Plan Review Application and Checklist
Attachment 3	Statement of Design Intent
Attachment 4	Storm Water Management Report

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Attachment 5.2	Lighting - Fixture SB
Attachment 5.3	Lighting - Fixture SC
Attachment 5.4	Lighting - Fixture SD
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Erosion and Sediment Control Typical Details

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Attachment 8.2	Erosion and Sediment Control – Inlet Protection
Attachment 8.3	Erosion and Sediment Control – Tracking Pad

Project Contacts and Site Information

PROJECT OWNER:



Waste Management of Wisconsin, Inc.
PO Box 1450
Chicago, IL 60690-1450

Contact: Donald Smith, PE
Phone: (262) 806-6039
Email: dasmith@wm.com

OWNER REPRESENTATIVE/ ENGINEER:



175 Ray Ave. NE
New Philadelphia, OH 44663

Project Manager: Nick Berner, PE
Phone: (330) 364-1631
Email: nberner@div-eng.com

SITE INFORMATION:

Parcels Disturbed
Acreage
Current Zoning

GNTV_363996
8.15 ac.
M-2

GNTV_363986
35.63 ac.
M-2

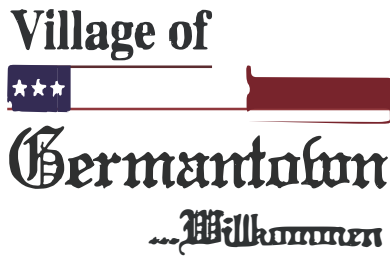
ADJACENT PARCEL ZONING:

GNTV_363995*	RS-1 & B-2
GNTV_363990	RS-1
GNTV_363994	B-5
GNTV_363988	A-2
GNTV_363985	M-2
GNTV_362985	A-1
GNTV_363999*	M-2
GNTV_363997*	M-2

Note: (*) Indicates parcels owned by Waste Management of WI, Inc.

FEMA INFORMATION:

Community Number	550472
Panel #	0379
Suffix	D
Date of FIRM	11/20/2013
FIRM Zone	A
Base Flood Elevation	769 FT.

**Fee must accompany application**

- ☐ \$700 Minor Addition
- ☐ \$1,240 Construction <10,000 SF
- ☐ \$2,095 Construction 10,000 SF to 50,000
- ☐ \$3,460 Industrial Construction >50,000 SF
- ☐ \$3,460 Commercial Construction >50,000
- ☐ \$200 Plan Commission Consultation
- ☐ \$125 Fire Department Plan Review

PAID _____ DATE _____

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. All applications must be signed and dated.

1**APPLICANT OR AGENT**

Diversified Engineering Inc.

Nick Berner, PE

175 Ray Ave NE

New Philadelphia, OH 44663

Phone (330 364-1631

E-Mail nberner@div-eng.com**PROPERTY OWNER**

Waste Management of Wisconsin, Inc.

Contact: Donald Smith, PE

PO Box 1450

Chicago, IL 60690 -1450

Phone (206 806- 6039

E-Mail dasmith@wm.com**PROPERTY ADDRESS**

N96W13840 COUNTY LINE RD, GERMANTOWN, WI 53022

NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
See attached – ADJACENT PARCEL ZONING			

4**READ AND INITIAL THE FOLLOWING:**

DS I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

DS I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

DS I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5**SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!**

1/03/2019

Applicant

Date

1/03/19

Owner

Date

SITE PLAN REVIEW CHECKLIST

Pursuant to Section 17.43 of the Municipal Code

This checklist provides a summary of requirements found in the Municipal Code. It is intended purely as a guide for developers and should not substitute for a full review of the Code and applicable regulations. (Revised 1/02)

GENERAL INFORMATION

- ☒ Provide Completed Checklist with submittal
- ☒ Names and addresses of owner/developer/designer
- ☒ Graphic scale, north arrow
- ☒ Location sketch
- ☒ Size of site (gross and net acreage)
- ☒ Existing zoning
- ☒ Adjacent zoning and uses
- ☒ Number of residents (subdivisions)
- ☒ Number of employees

EXISTING SITE INFORMATION

- ☒ Dimensions of site and lot lines (pipes found, pipes set, monuments)
- ☒ Existing grades (2' contours minimum)
- ☒ Adjacent property grades (within 10' minimum of property lines)
- ☒ Adjacent structures (within 20' minimum of property lines)
- ☒ Drainage systems and structures
- ☒ Natural features (woods, streams, lakes, ponds, outcroppings)
- ☒ Wetland boundaries (provide date of staking)
- ☒ Floodplain elevation and boundaries
- ☒ Environmental concerns (underground tanks, etc)
- ☒ Roads, curbs, parking lots, pavement areas
- ☒ Structures (location, size)
- ☒ Rights-of-Way (existing/ultimate)
- ☒ Easements (drainage, utility)
- ☒ Existing utilities (sanitary, water, electric, gas, telephone)
- ☒ Benchmark locations and elevations
- ☒ Location of fences, wells, borings, etc.

ARCHITECTURAL PLANS

- ☒ Existing building location
- ☒ Existing building elevations/materials
- ☒ Proposed use (use list from Section 17.45)
- ☒ Statement of design intent (narrative)
- ☒ Proposed floor plans (dimension)
- ☒ Square footage (total and individual rooms/stores)
- ☒ Proposed elevations (dimension)
- ☒ Proposed building height

- ☒ Proposed materials and colors (material sample board required for new construction)
- ☒ Proposed signage (elevations, color, square footage, height, construction material, lighting)
- ☒ Details of any special features

PROPOSED SITE PLAN

- ☒ Grading and spot elevations
- ☒ Erosion control measures (silt fencing, hay bales, rip-rap, tracking mat, stockpile locations)
- ☒ Stormwater management
 - stormwater management design report
 - general drainage pattern
 - swales w/ arrows for direction of flow
 - pond design with outfalls
 - culverts (location/size)
- ☒ Utilities (size, invert elevations, length, slope, etc.)
 - sanitary
 - water
 - stormsewer
- ☒ Building location (dimension)
- ☒ Building elevation (finished grade)
- ☒ Location of proposed signage
- ☒ Details of outside storage (including trash receptacles)
- ☒ Setbacks (clearly marked and dimensioned)
- ☒ Vehicular entrances (dimension to centerline of nearest intersection)
- ☒ Streets (dimension and direction for one-ways)
- ☒ Curve radii
- ☒ Sidewalks (dimension)
- ☒ Parking areas (show striping/spot elevations)
- ☒ Parking setback from property line
- ☒ Loading areas (dimension)
- ☒ Lot coverage
 - Square footage total
 - Impervious surfaces total (%)
 - Green space total (%)
 - Percent permitted (over/under %)
- ☒ Municipal utility connections
 - Sanitary sewer (pipe size/elevations)
 - Water (size, valve location, elevations)
 - Location of hydrants
- ☒ Easement for public water mains

LIGHTING PLAN

- ☒ Major improvements for context
- ☒ Location/nature of existing fixtures
- ☒ Location of proposed fixtures
- ☒ Photometric report (to scale on plan)
- ☒ Manufacturers cut-sheets of all fixtures
- ☒ Lighting schedule
 - key to plan
 - number/type of fixtures
 - output (wattage)
- ☒ Installation details as appropriate

LANDSCAPING PLAN

- ☒ Major improvements for context (building, drives, walks)
- ☒ Proposed outdoor amenities (benches, paths, etc.)
- ☒ Existing vegetation
 - Species
 - Size
 - Approximate canopy in plan
- ☒ Vegetation to be destroyed
 - List and show location
- ☒ Proposed method of saving existing vegetation during construction
- ☒ Proposed landscape features (berms, fountains)
- ☒ Existing/proposed lighting
- ☒ Irrigation/watering systems (locate outlets)
- ☒ Plant lists or schedules
 - Keyed to plan
 - Number of each species
 - Size when planted (caliper)
- ☒ Installation details/staking

MODEL SUBMITTAL INCLUDES THE FOLLOWING PLANS:

1. Cover / Title Page
2. Existing Conditions Survey
3. General Site Plan
4. Grading, Paving & Erosion Control Plan
5. Utility Plan
6. Site Details (curbing, catch basins, detention ponds, pavement, erosion control and sign details)
7. Landscape Plan
8. Landscape details (planting schedule, berming cross-sections, method of installation)
9. Lighting Plan
10. Floor Plan
11. Exterior Building Elevations
12. Building Material Sample Board

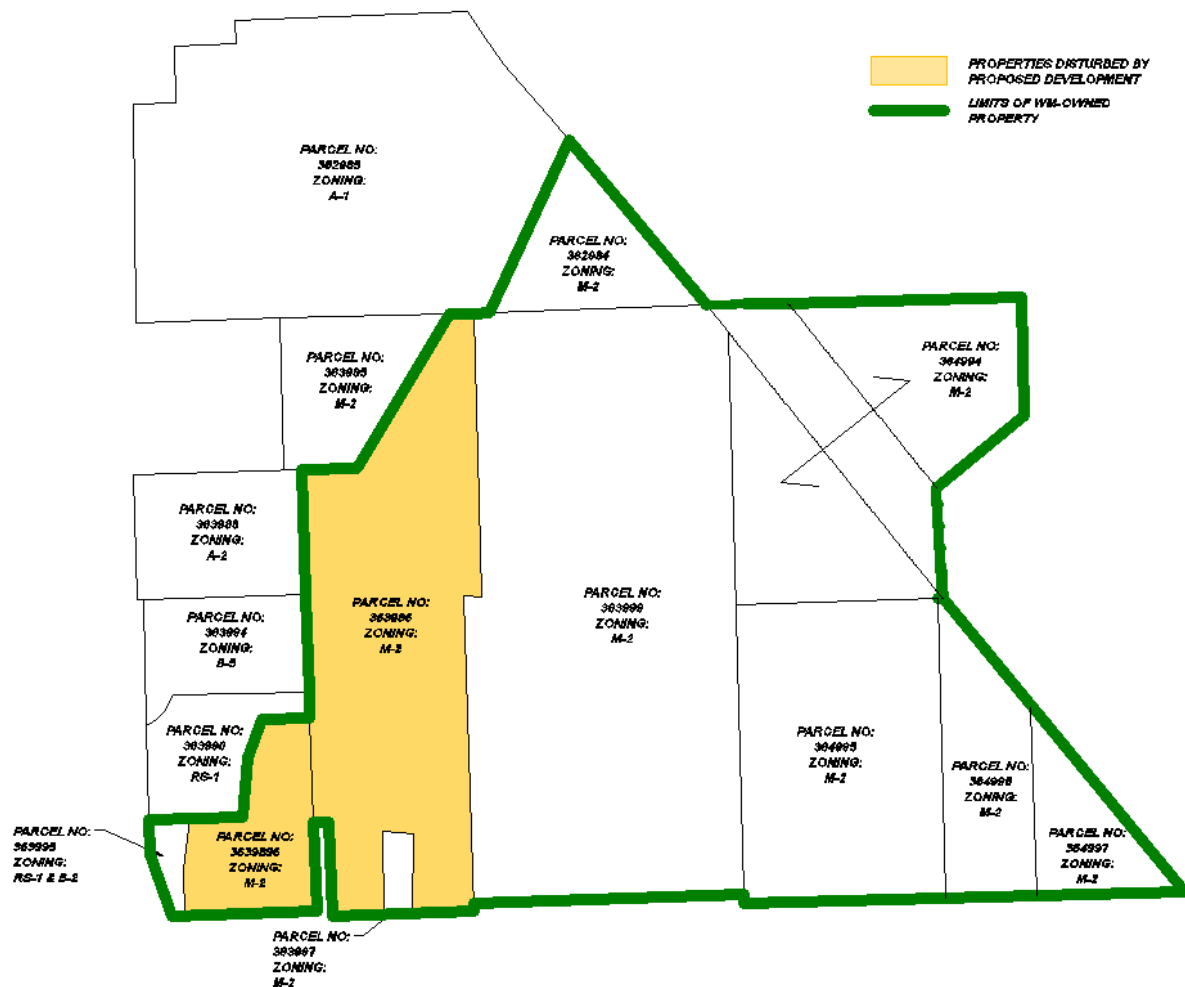
In addition to the items on this list, Village Staff and/or the Plan Commission may require additional drawings and data to be submitted for approval.

If any public improvements or work is to be done in the Public Right-of-Way, the Village will require that a Developer's Agreement be submitted and approved by the Village Board.

ADJACENT PARCEL ZONING:

GNTV_363995*	RS-1 & B-2
GNTV_363990	RS-1
GNTV_363994	B-5
GNTV_363988	A-2
GNTV_363985	M-2
GNTV_362985	A-1
GNTV_363999*	M-2
GNTV_363997*	M-2

Note: (*) Indicates parcels owned by Waste Management of WI, Inc.





January 4, 2019

Statement of Design Intent

Project: Waste Management – Germantown Truck Maintenance Facility

The Germantown Truck Maintenance Facility has been designed to match the surrounding campus of various industrial buildings owned and operated by Waste Management. Most notably in design materials, color pallet and façade. Additional design considerations have been incorporated with intent of improving site safety and appearance as well as minimize operational noise.

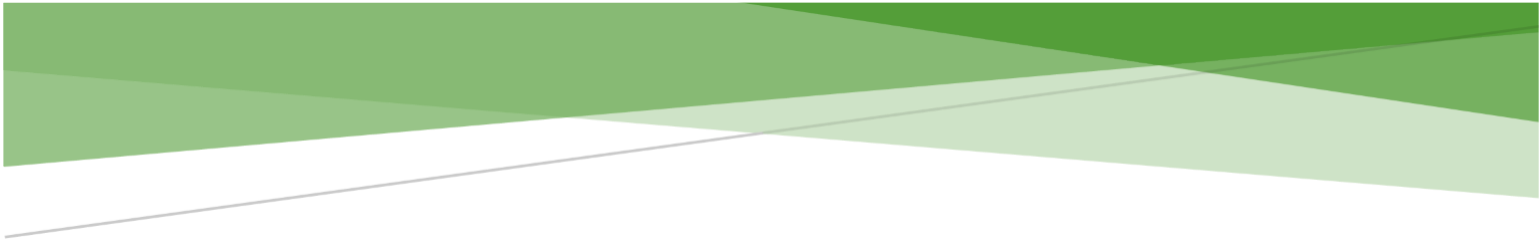
The building has been set approximately five hundred feet north from County Line Rd, to allow the existing dilapidated structure and staging area can be removed and replaced. The proposed design incorporates additional green space, landscaped berms and tree lined employee parking area in the place of the existing structure and storage areas. The landscaping berm has been set back from County Line Rd approximately 80-90 feet to allow for additional visibility for on-coming maintenance vehicle traffic.

Maintenance vehicle parking has been located at the north end of the parcel with a dedicated drive to the northeast connecting to the existing drive along the eastern edge of the property. The parking area has been designed to incorporate pull through and back in spaces to reduce noise during morning vehicle launches, by ensuring vehicles first move is forward. The dedicated drive to the northeast allows for vehicles to access County Line Rd at an existing pronounced intersection that features added sight distance.

Sincerely,

A handwritten signature in black ink, appearing to read "N. Berner", written in a cursive style.

Nicholas J. Berner, P.E.
Project Manager



STORM WATER MANAGEMENT PLAN REPORT: GERMANTOWN TRUCK MAINTENANCE FACILITY

Abstract

The following report documents the analysis performed to assess the suitability of the proposed hydraulic control mechanisms at Waste Managements' Germantown Hauling Facility.

Prepared by:



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1.0 Narrative Description

1.1 Site Location

The proposed development is located in Germantown Village in Washington County, Wisconsin. The project location is directly northwest of the intersection between County Line Rd & Fond Du Lac Ave. The approximate site coordinates are: Latitude: 43.193202° & Longitude: -88.080141°. The site is located in the Menomonee River Watershed.

1.2 Description of Existing and Proposed Conditions

The existing site is located along the north side of County Line Rd in Washington County, Wisconsin. The existing site is a combination of developed / undeveloped areas. The developed areas are currently occupied by Waste Management's Port-o-let division's garage, office, and storage area. The undeveloped area consists of meadowland and wooded areas. There is currently a detention pond located on the north end of the site that is utilized by NE neighboring parcel, upgrading and continued usage of this pond is included in the site development.

The proposed development is for the construction of a Waste Management truck maintenance facility (250' x 100') and office space (75' x 130') along with concrete parking areas for employees and operations vehicles. The existing detention pond on the north edge of the property is to be upgraded and maintained, along with the construction of an additional stormwater detention pond along the western side of the parcel.

The existing impervious area owned and operated by WM-Port-O-Let division is to be removed and replaced with a site access drive and green area. Due to the reduction of impervious surface in this section of the development, this sub-basin (labeled Sub-Basin I on the site plan - see Appendix A) is not planned to drain to a stormwater detention facility but instead will be expected to infiltrate the newly developed "green areas" or sheet flow to the existing channel located along the western edge of the parcel.

1.3 Methods used for analysis

The volumetric design procedure was utilized to achieve the required stormwater performance standards set forth by the Milwaukee Metropolitan Sewer District. The volumetric design procedure analyzes the existing and future flow conditions for both the 1% (100 year) and 50% (2 year) storm event. “The volumetric design procedure ensures the total volume of runoff from the proposed site is limited to the total volume of runoff discharging from the existing site during a prescribed critical time period” (Milwaukee Metropolitan Sewer District, Ch. 13).

Stormwater calculations used during the volumetric design procedure follow USDA’s technical release 55. The subsequent sections follow through each step of the design procedure, from peak flow determination, hydrograph development, and detention pond sizing.

2.0 Hydrology Calculations:

2.1 Drainage Area

The drainage area for the proposed development totals 21.43 acres and can be split into 3 separate sub-basin areas. The sub-basins are labelled I – III, and can be seen on the on hydraulic site plan (Appendix A). The land use for each sub-basin area is broken down in sub-sequent sections during the curve number calculations for both the existing (Appendix B) & developed site (Appendix D). Impervious areas are being added and removed across the site, the increase (or decrease) in impervious areas for each sub-basin are presented below in Table 1.

Table 1. Impervious Area		
Sub-Basin	Existing Acreage	Developed Acreage
I	1.899	1.275
II	0	2.83
III	0.731	6.42

2.2 Curve Number & Runoff

The volumetric design procedure evaluates the 2 year and 100 year storm event to ensure the proposed development does not increase the site's runoff volume. The rainfall amount for both storm events were gathered from NOAA Atlas 14 and are presented in Table 2 below.

Table 2 - Rainfall Amounts	
Recurrence Interval	Rainfall Amount (in.)
2 year, 24 Hour	2.65
100 year, 24 Hour	6.41

The proposed development can be broken up into 3 separate sub-basins. The sub-basins can be seen in Appendix A – Site Plan. The southernmost sub-basin, consists of the demolition of the existing asphalt and building spaced currently occupied by WM's Port-O-Let division. Due to the reduction in impervious area through this sub-basin and the limited flat space available; routing stormwater in this area through a stormwater detention facility was not justifiable. The breakdown of existing and proposed site conditions, curve numbers, and runoff associated with each sub-basin is summarized in tables in Appendix B & D. Curve numbers and runoff were determined using Carlson's Hydrology Software, which utilizes the SCS curve number method.

2.3 Time of Concentration

The time of concentration was determined using Carlson Hydrology software, which utilizes the watershed lag method outlined in Chapter 15 (Part 630) of the National Engineering Handbook. The required input parameters are: curve number, length of flow (ft), average land slope (%). The existing site and proposed site time of concentrations are summarized in Appendix B & D.

2.4 Peak Flows

The peak flows for the design storms (2YR & 100YR) were then calculated and developed using Carlson Hydrology. The software applies the SCS hydrograph procedure and utilizes the same methodology used in TR-20 to generate runoff

hydrograph's. The peak flows and calculated runoff volumes for the 2YR storm event and the 100YR storm event (pre & post development) can be found in Appendix B & D.

2.5 Detention Pond Sizing

Using peak flow rates and runoff volumes calculated previously a preliminary pond sizing was completed to get an approximate idea on the detention pond size needed. The 100YR storm event was evaluated for each sub-basin to determine the approximate pond size required. Carlson hydrology's detention pond sizing tool was utilized, this tool follows procedures outlined in TR-55 "Urban Hydrology for Small Watershed's Manual". The command requires the following inputs: Drainage Area (acres), Peak Inflow Discharge (cfs), desired peak outflow discharge (CFS), Runoff Q (inches), and storm type (Type II). Sub-Basin I was not evaluated due to the reduction in impervious area. The runoff volume and peak-flow rates decrease from pre-development to post-development negating the need for any additional stormwater detention structures in this area. Required detention pond storage volumes are presented in Tables 3 & 4 below.

Table 3. Sub-Basin II Required Detention Volume		
Drainage Area	3.824	acres
Peak Inflow Discharge	27.07	cfs
Desired Peak Outflow Discharge	20.24	cfs
Runoff Q (Post-Dev.)	5.68	inches
Storm Type	II	
Required Storage Volume	0.3715	ac-ft

Table 4. Sub-Basin III Required Detention Volume		
Drainage Area	11.826	acres
Peak Inflow Discharge	66.49	cfs
Desired Peak Outflow Discharge	51.04	cfs
Runoff Q (Post-Dev.)	4.3	inches
Storm Type	II	
Required Storage Volume	0.824	ac-ft

2.6 Detention Pond Elevation – Storage Curve

The preliminary detention pond sizing was utilized to ensure each pond had adequate storage capacity to pass the required design storms. The elevation storage tables for each detention pond can be seen in Appendix C. Each detention pond was design to account for 2' of sediment storage in the bottom of the pond, and to maintain a normal operating water level of at least 3' above the sediment storage elevation. Comparing the results of the elevation storage tables and the required storage tables, it can be seen that both pond sizes are adequate for the 2YR & 100YR storm events.

2.7 Outlet Structures

2'x2' Concrete outlet structures will be utilized for both detention ponds. The outlet structures sketch and typical details can be seen in Appendix C. The outlet structures both utilize a 4" drain pipe that acts as an orifice to handle flow from higher probability storm events. The top of the structure will have a grate on top of it to prevent clogging but to also allow for flow from lower probability storm events. The outlet structures are to have high performance turf reinforcement matting surrounding them to prevent erosion. A trapezoidal weir is to be utilized as an emergency overflow, in the event that the principle outlet structure clogs or is not able to function properly. The emergency spillway is situation so any flow will not be a nuisance to neighboring properties and so the resulting overflow remains on the intended water path. The emergency spillway is also to be lined with high performance turf reinforcement matting. Stage discharge curves can be seen in Appendix C.

2.8 Hydrograph Development

Hydrographs were developed for sub-basin II & sub-basin III for the following scenarios:

- 2 Year Storm Event
 - o Pre-development Hydrograph (Appendix B).
 - o Post-development Hydrograph (Appendix D).
 - o Post-development with volumetric detention hydrograph (Appendix D/E).

- 100 Year Storm Event
 - o Pre-development Hydrograph (Appendix B).
 - o Post-development Hydrograph (Appendix D)
 - o Post-development with volumetric detention hydrograph (Appendix D/E).

2.9 Critical Duration Analysis

“The volumetric design procedure determines the maximum rate of runoff that can be released from a development based on the development characteristics and the timing of the overall watershed, or the critical time period. The critical time period begins at the time of maximum rainfall intensity and ends at the time of peak flow at a critical downstream location” (Milwaukee Metropolitan Sewer District, Ch. 13). The critical time period for major watercourses within the districts planning area were provided in Table 2-6 of Milwaukee Metropolitan Sewer District’s Stormwater Guidance Manual, and can be seen below.

Basin	Length of Critical Period (hr.)
Fish Creek	1.5
Fox River	12
Kinnickinnic River	1.75
Lake Michigan Direct Drainage	1.5
Lincoln Creek	12
Menomonee River	9.5
Milwaukee River ⁽¹⁾	12
Oak Creek	15
Oak Creek ⁽²⁾	6
Root River	7.75
⁽¹⁾ Includes Brown Deer Park Creek, Indian Creek, South Branch Creek, and Beaver Creek.	
⁽²⁾ Upstream of Puetz Road in the City of Oak Creek.	

Table 2-6
Critical time periods for major watercourses within the District’s planning area.

This development is located in the Menomonee River Watershed, therefore a critical time period of 9.5 Hours was used in the evaluation of the detention facility. Evaluating the hydrograph's and using the critical time period of 11:00 – 20:30, it can be seen that the total routed post-development runoff rate for each design storm is equal to or less than the pre-development condition. This satisfies the detention requirement under the volumetric design procedure. The hydrographs and results from the volumetric design procedure can be seen in Appendix F.

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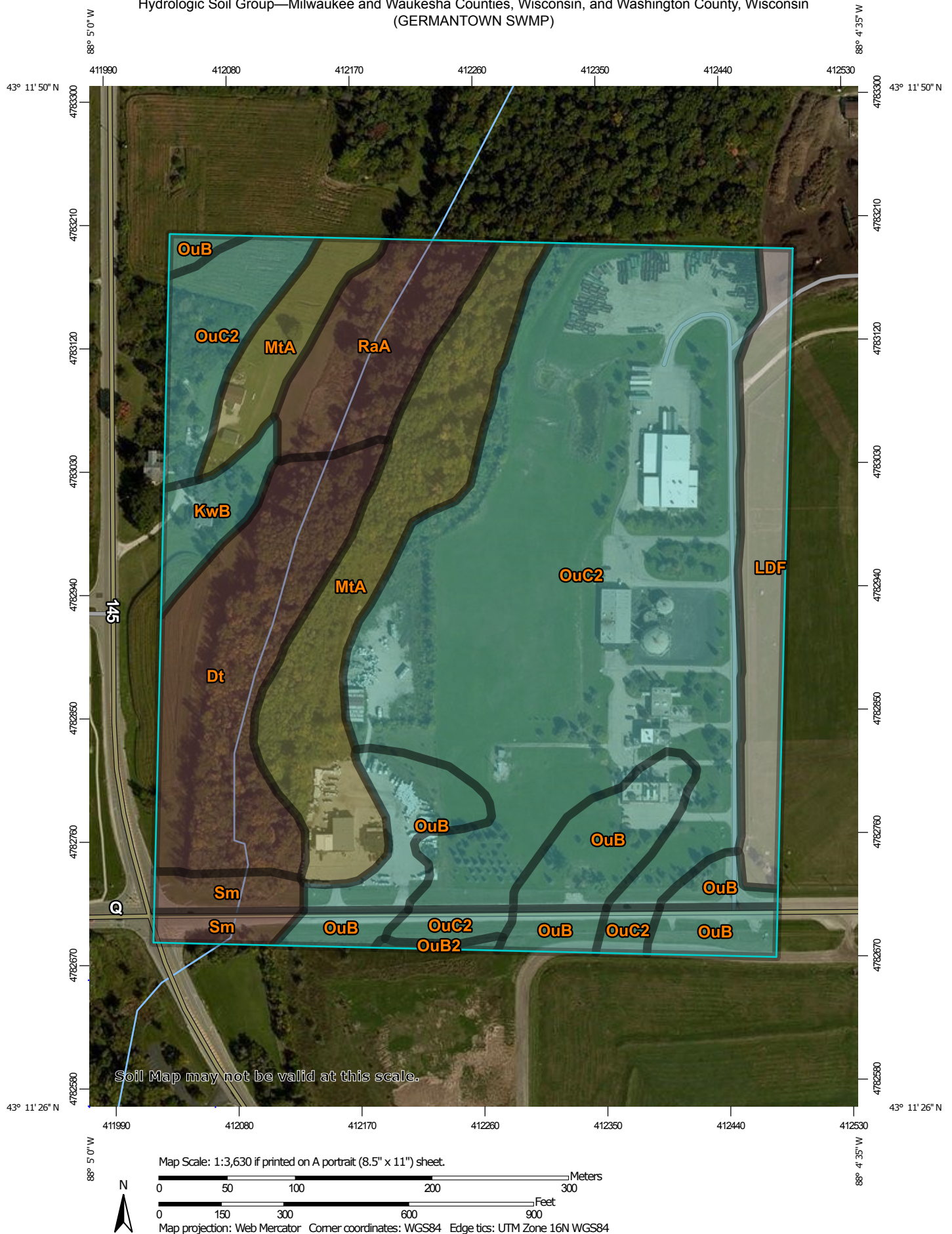
Appendix A – Site Information Exhibits:

SEE ATTACHED SIZE 'D' PLAN SHEETS

1. Existing Site Conditions
2. Proposed Site Plan

Appendix B - Site Soils Information

Hydrologic Soil Group—Milwaukee and Waukesha Counties, Wisconsin, and Washington County, Wisconsin
(GERMANTOWN SWMP)



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

1/3/2019
10

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Milwaukee and Waukesha Counties, Wisconsin
 Survey Area Data: Version 14, Sep 12, 2018

Soil Survey Area: Washington County, Wisconsin
 Survey Area Data: Version 18, Sep 12, 2018

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 7, 2014—Sep 22, 2014

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
OuB	Ozaukee silt loam, high carbonate substratum, 2 to 6 percent slopes	C	1.8	3.1%
OuB2	Ozaukee silt loam, high carbonate substratum, 2 to 6 percent slopes, eroded	C	0.1	0.2%
OuC2	Ozaukee silt loam, high carbonate substratum, 6 to 12 percent slopes, eroded	C	0.8	1.4%
Sm	Sebewa silt loam, 0 to 2 percent slopes	B/D	0.6	1.0%
Subtotals for Soil Survey Area			3.3	5.7%
Totals for Area of Interest			58.5	100.0%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Dt	Drummer silt loam, gravelly substratum	B/D	6.8	11.5%
KwB	Knowles silt loam, 1 to 6 percent slopes	C	1.2	2.1%
LDF	Landfill		3.6	6.1%
MtA	Mequon silt loam, 1 to 3 percent slopes	C/D	8.2	14.1%
OuB	Ozaukee silt loam, high carbonate substratum, 2 to 6 percent slopes	C	4.4	7.4%
OuC2	Ozaukee silt loam, high carbonate substratum, 6 to 12 percent slopes, eroded	C	26.8	45.8%
RaA	Radford silt loam, 0 to 3 percent slopes	B/D	3.4	5.9%
Sm	Sebewa silt loam, 0 to 2 percent slopes	B/D	0.8	1.3%
Subtotals for Soil Survey Area			55.2	94.3%
Totals for Area of Interest			58.5	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix C – Pre-Development Hydrology

Table C1. Existing Conditions Land Usage					
Sub-Basin	Land Use	Soil Type	Area (Acres)	CN	% Area
1	Gravel Streets / Parking Area	C	0.034	89	0.59
	Paved Lots, Roofs, Driveways	C	1.899	98	32.87
	Woods (Fair)	C	0.355	73	6.14
	Meadow	C	3.49	71	60.40
	TOTALS		5.778	80.1	100
2	Gravel Streets / Parking Area	C	1.107	89	28.95
	Woods (Fair)	C	0.76	73	19.87
	Meadow	C	1.957	71	51.18
	TOTALS		3.824	76.6	100.00
3	Pond	C	0.156	100	1.32
	Paved Lots, Roofs, Driveways	C	0.731	98	6.18
	Woods (Fair)	C	0.815	73	6.89
	Meadow	C	10.124	71	85.61
	TOTALS		11.826	73.2	100.00

Table C2. Time of Concentration	
Sub-Basin	Existing Time of Concentration (hours)
1	0.156
2	0.123
3	0.208

Table C3. Peak Flow (2YR Storm)

Sub-Basin	Existing Site Peak Flow (CFS)	Existing Site Runoff (inches)
1	7.82	1.00
2	4.52	0.82
3	9.426	0.66

Table C4. Peak Flow (100YR Storm)

Sub-Basin	Existing Site Peak Flow (CFS)	Existing Site Runoff (inches)
1	31.6	4.61
2	20.24	3.8
3	51.048	3.45

Figure C1. Sub-Basin II 2YR Storm Hydrographs

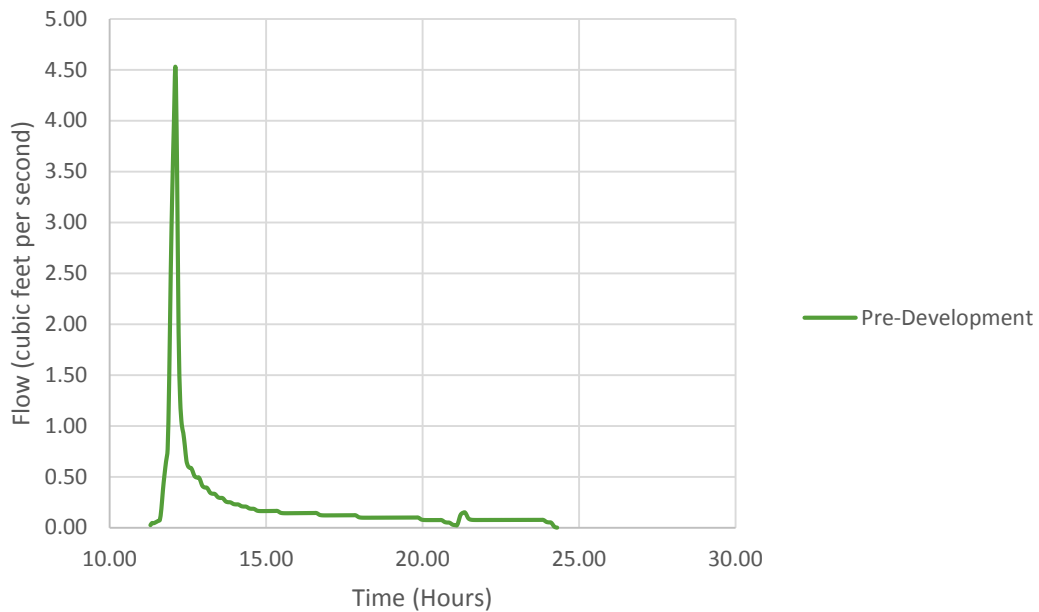


Figure C2. Sub-Basin II 100YR Storm Hydrographs

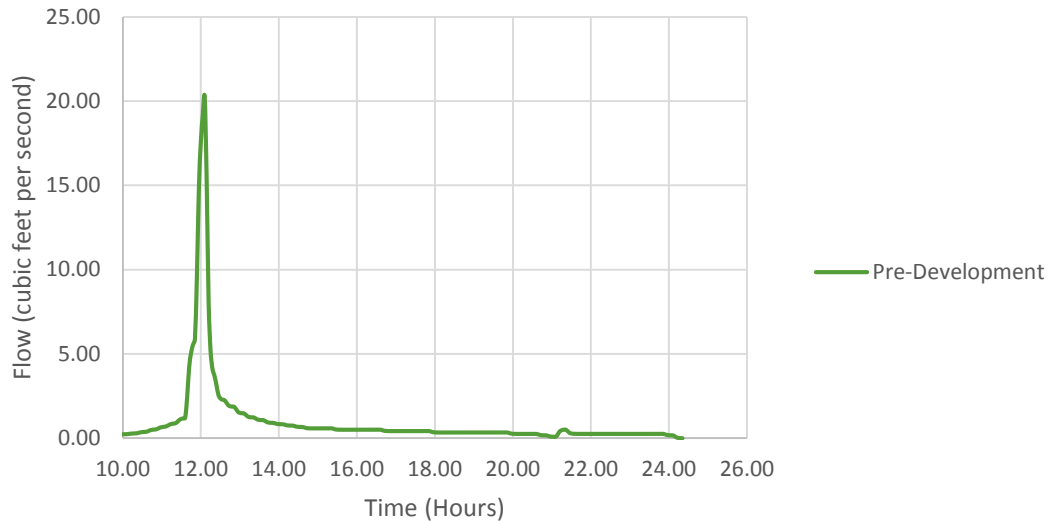


Figure C3. Sub-Basin III 2YR Storm Hydrographs

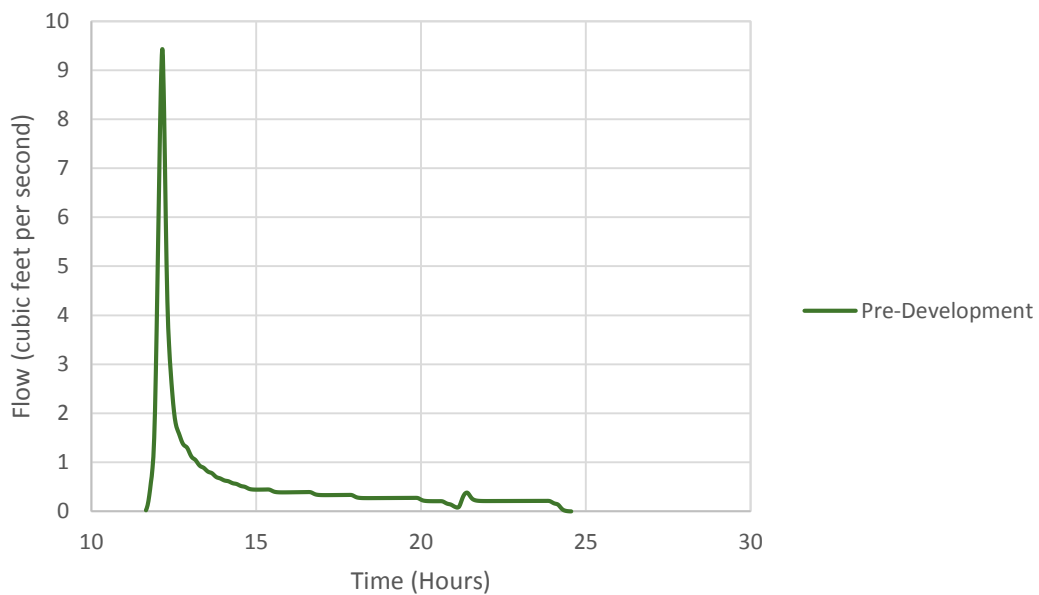
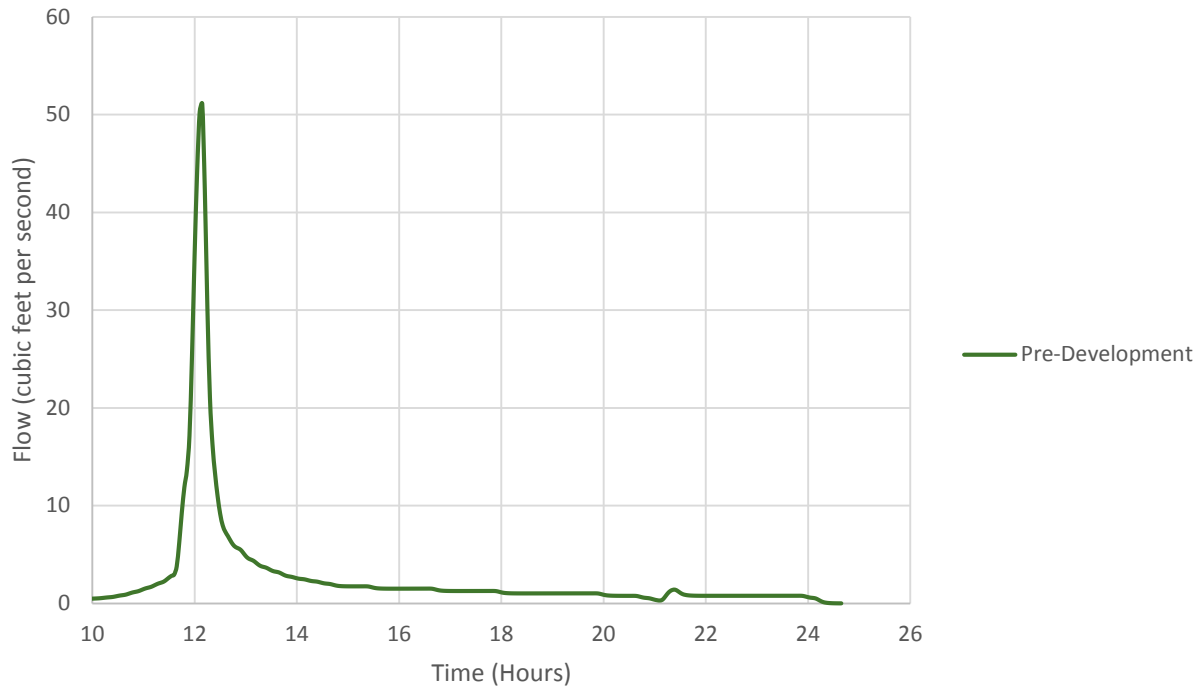


Figure C4. Sub-Basin III 100YR Storm Hydrographs



Appendix D – Pond & Outlet Structure Details

Table D1. Elevation Storage Table - Sub-Basin II Detention Pond					
Water Elev	Storage AcreFt	Storage CY	Storage CF	Area Acres	Area S.F.
771.0	0.00	0.0	0.0	0.08	3385.4
772.0	0.09	152.4	4113.5	0.11	4870.1
773.0	0.22	362.3	9781.0	0.15	6491.1
774.0	0.39	635.1	17148.3	0.19	8269.7
775.0	0.61	976.4	26362.6	0.23	10183.7
776.0	0.87	1402.7	37871.9	0.29	12519.2
777.0	1.18	1905.9	51460.3	0.34	14693.1
Pond Bottom		769	Sediment Storage Depth		2'
Avg. Pool Elev.		774.0	Avg. Water Depth		3'
Top Elev.		777.0	Total Avg. Depth		5'

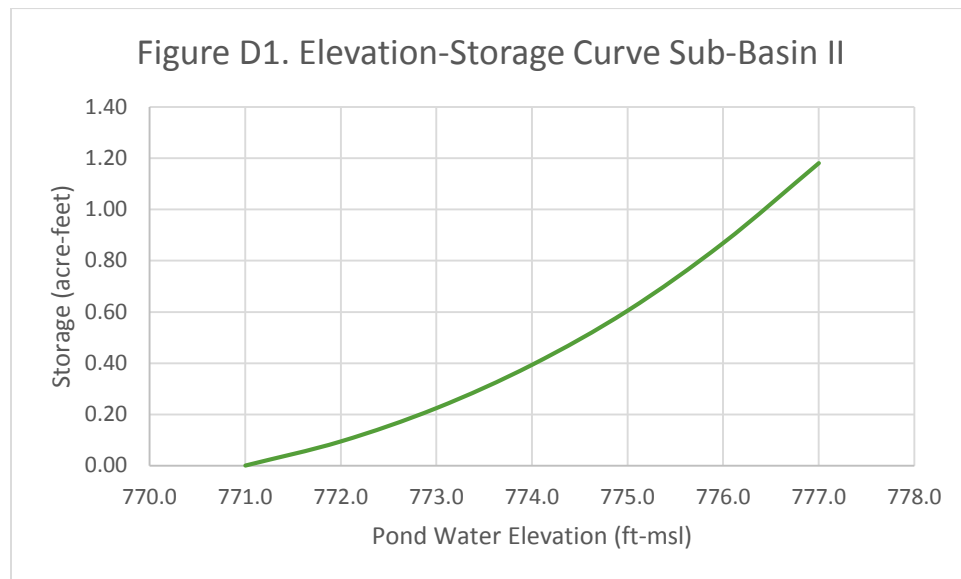


Table D2. Elevation Storage Table - Sub-Basin III Detention Pond					
Water Elev	Storage Acre-Ft	Storage CY	Storage CF	Area Acres	Area S.F.
783.0	0.00	0.0	0.0	0.37	16199.1
784.0	0.41	660.7	17839.0	0.45	19523.9
785.0	0.91	1468.7	39653.7	0.55	23857.3
786.0	1.54	2478.0	66905.6	0.65	28501.9
787.0	2.21	3572.2	96450.7	0.70	30580.1
788.0	2.94	4742.8	128055.1	0.75	32625.4
789.0	3.71	5989.5	161715.2	0.80	34695.3
790.0	4.53	7312.8	197446.6	0.84	36768.0
Pond Bottom		781	Sediment Storage Depth		2'
Avg. Pool Elev.		786.0	Avg. Water Depth		3'
Top Elev.		790.0	Total Avg. Depth		5'

Figure D2. Elevation-Storage Curve Sub-Basin III

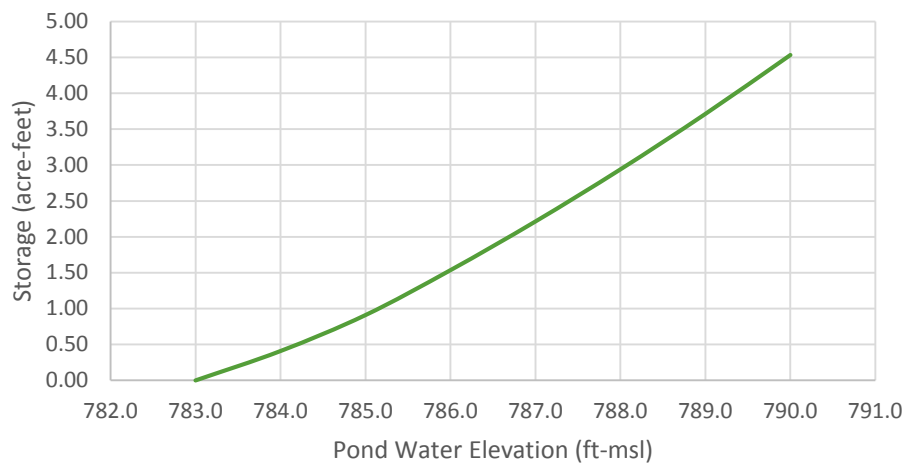


Table D3. Elevation Storage Curve Sub-Basin II Detention Pond		
Water Elev	Stage	Discharge (CFS)
773.0	0.00	0.00
773.5	0.50	0.24
774.0	1.00	0.38
775.0	1.50	0.57
775.5	2.00	6.27
776.0	2.50	6.95
776.5	3.00	7.56
777.0	3.50	8.13

Figure D3. Sub-Basin II Elevation-Discharge Curve

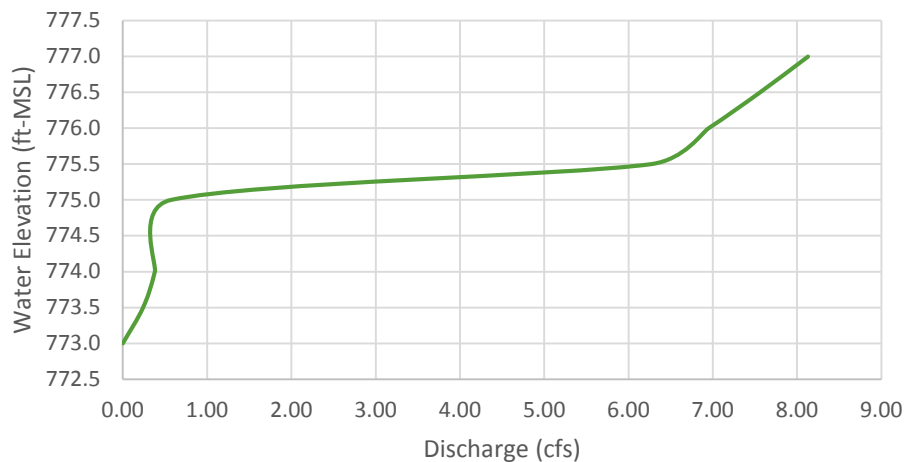
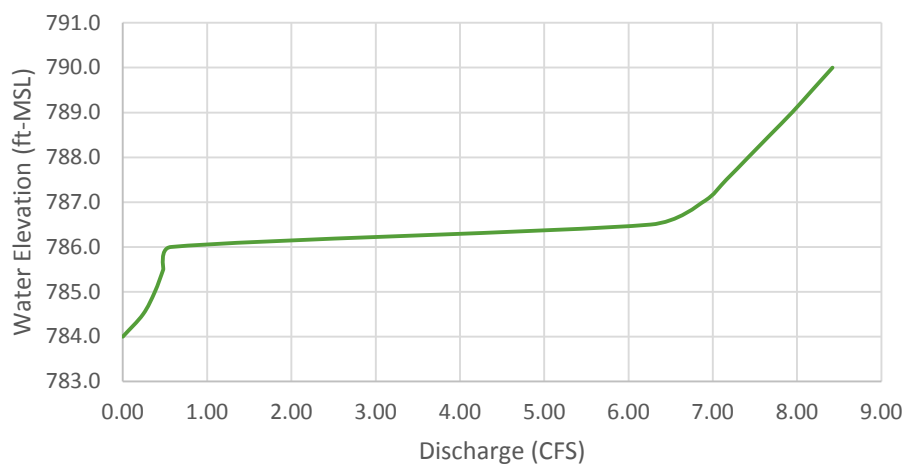
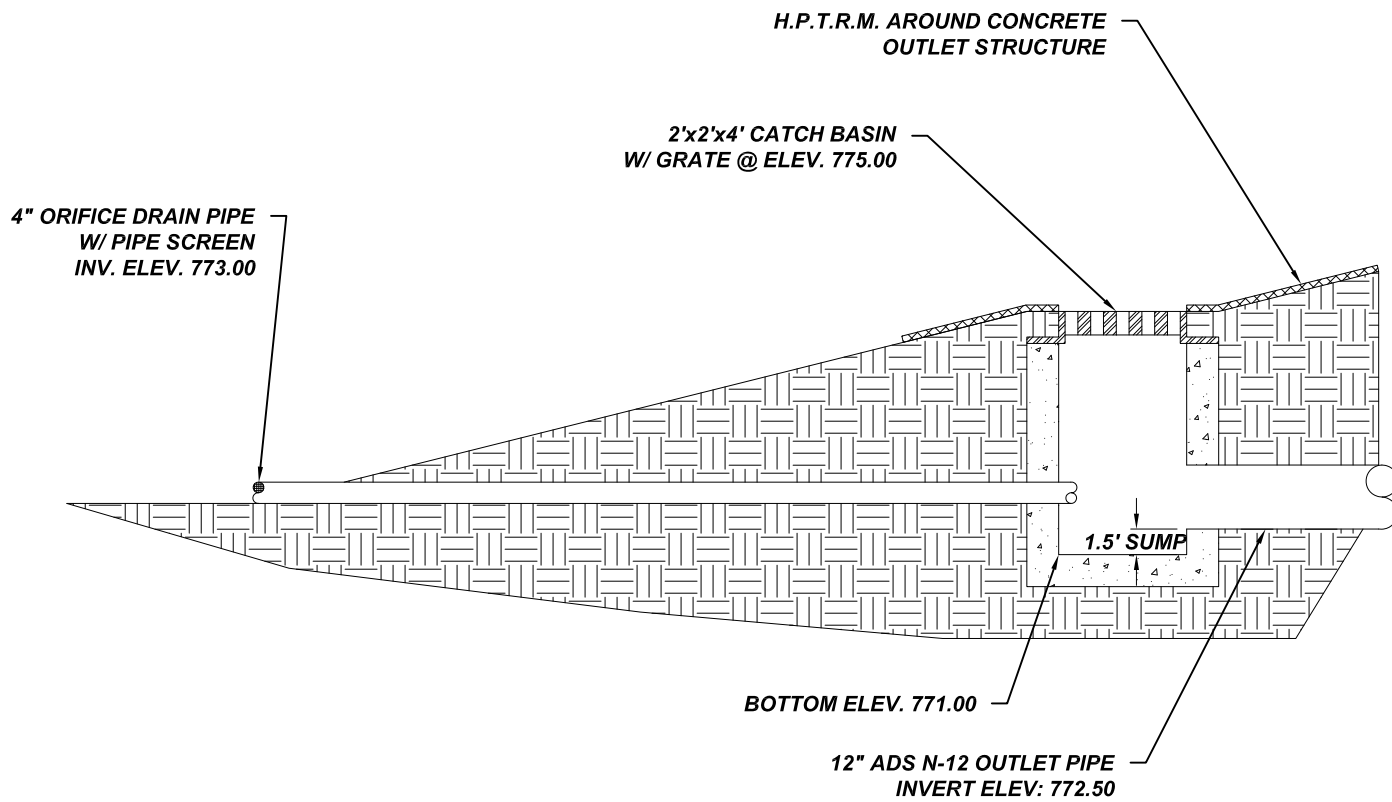


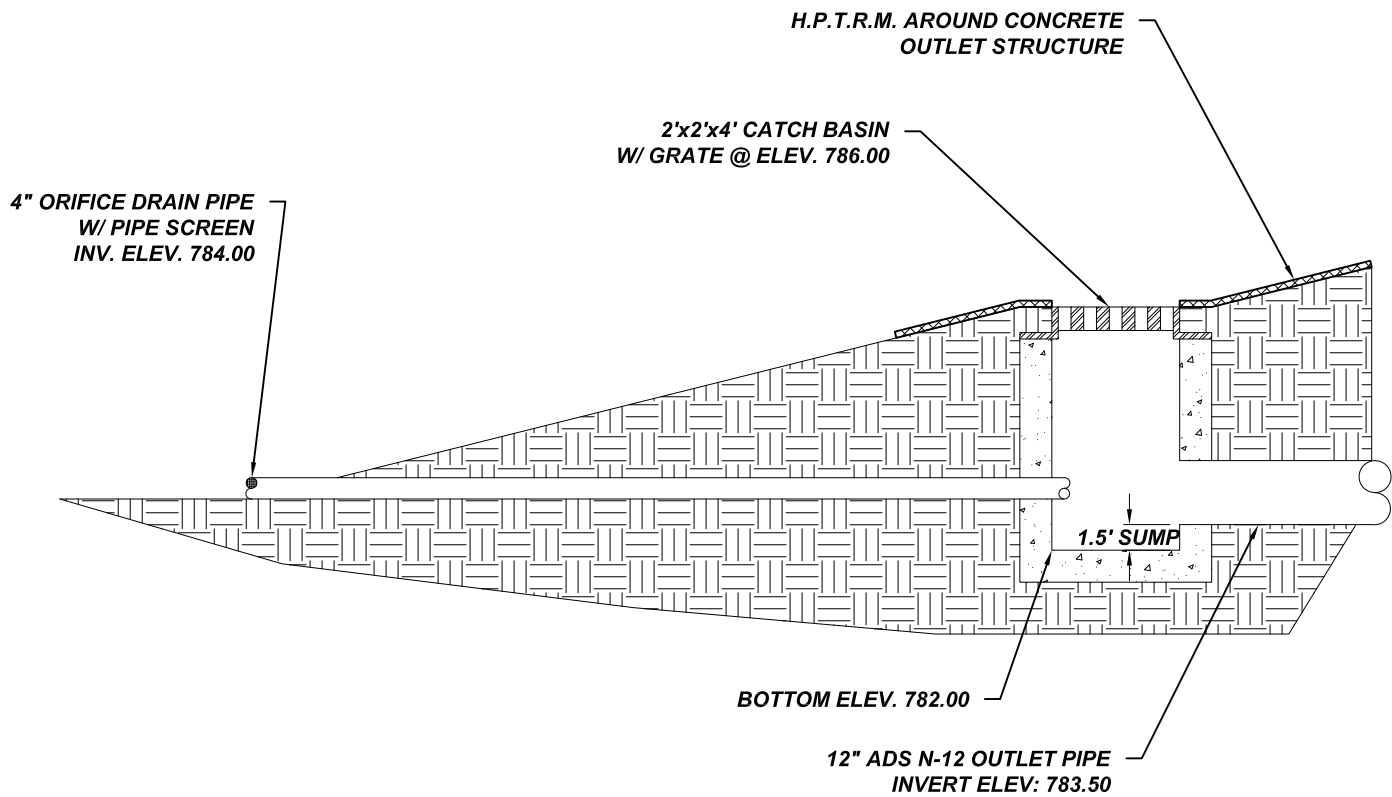
Table D4. Elevation Storage Curve Sub-Basin II Detention Pond		
Water Elev	Stage	Discharge (CFS)
784.0	0.00	0.00
784.5	0.50	0.24
785.0	1.00	0.38
785.5	1.50	0.48
786.0	2.00	0.57
786.5	2.50	6.26
787.0	3.00	6.88
787.5	3.50	7.16
788.0	4.00	7.42
788.5	4.50	7.68
789.0	5.00	7.94
789.5	5.50	8.18
790.0	6.00	8.42

Figure D4. Sub-Basin III Elevation-Discharge Curve





TYPICAL DETAIL
POND OUTLET STRUCTURE I



TYPICAL DETAIL
POND OUTLET STRUCTURE II

Appendix E –Post–Development Hydrology

Table E1. Developed Conditions					
Sub-Basin	Land Use	Soil Type	Area (Acres)	CN	% Area
1	Herbaceous Mixture (fair)	C	0.202	81	3.50
	Paved Lots, Roofs, Driveways	C	1.275	98	22.07
	Meadow	C	4.301	73	74.44
	TOTALS		5.778	77.3	100
2	Herbaceous Mixture (fair)	C	0.083	81	1.99
	Paved Lots, Roofs, Driveways	C	2.83	98	68.01
	Pond	C	0.337	100	8.10
	Meadow	C	0.911	71	21.89
	TOTALS		4.161	93.8	100.00
3	Pond	C	0.558	100	4.72
	Paved Lots, Roofs, Driveways	C	6.42	98	54.29
	Meadow	C	4.848	71	40.99
	TOTALS		11.826	87	100.00

Table E2. Time of Concentration	
Sub-Basin	Proposed Conditions Time of Concentration (Hours)
1	0.214
2	0.095
3	0.155

Table E3. Peak Flow (2YR Storm)		
Sub-Basin	Proposed Site Peak Flow (CFS)	Proposed Site Runoff (inches)
1	6.091	0.85
2	10.33	1.99
3	17.269	1.08

Table E4. Peak Flow (100YR Storm)		
Sub-Basin	Proposed Site Peak Flow (CFS)	Proposed Site Runoff (inches)
1	27.48	3.87
2	27.07	5.68
3	66.49	4.30

Figure E1 - Sub-Basin II 2YR Storm Hydrographs

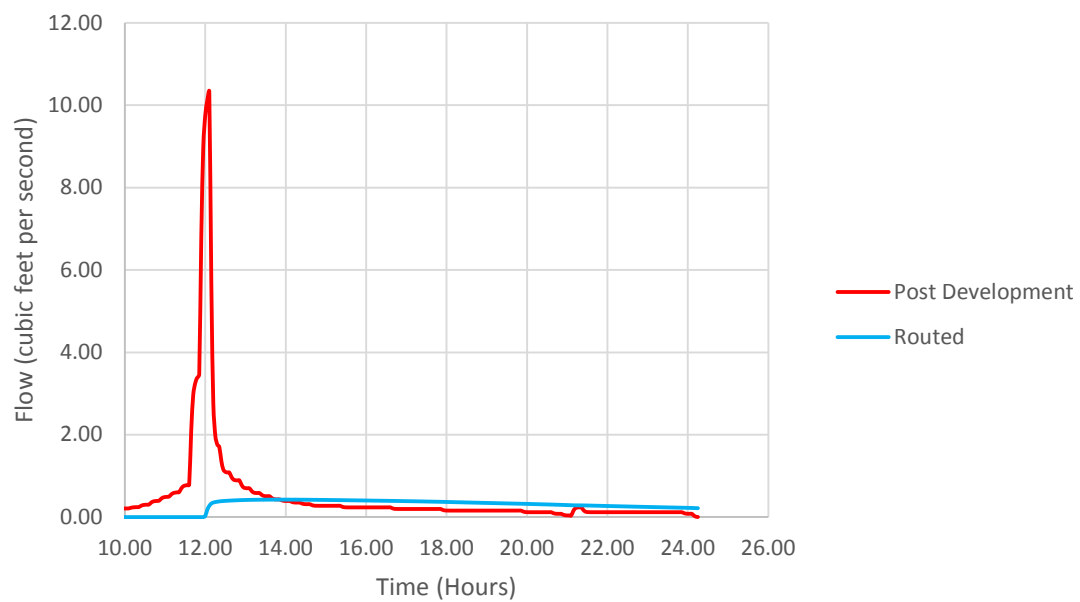


Figure E2 . Sub-Basin II 100YR Storm Hydrographs

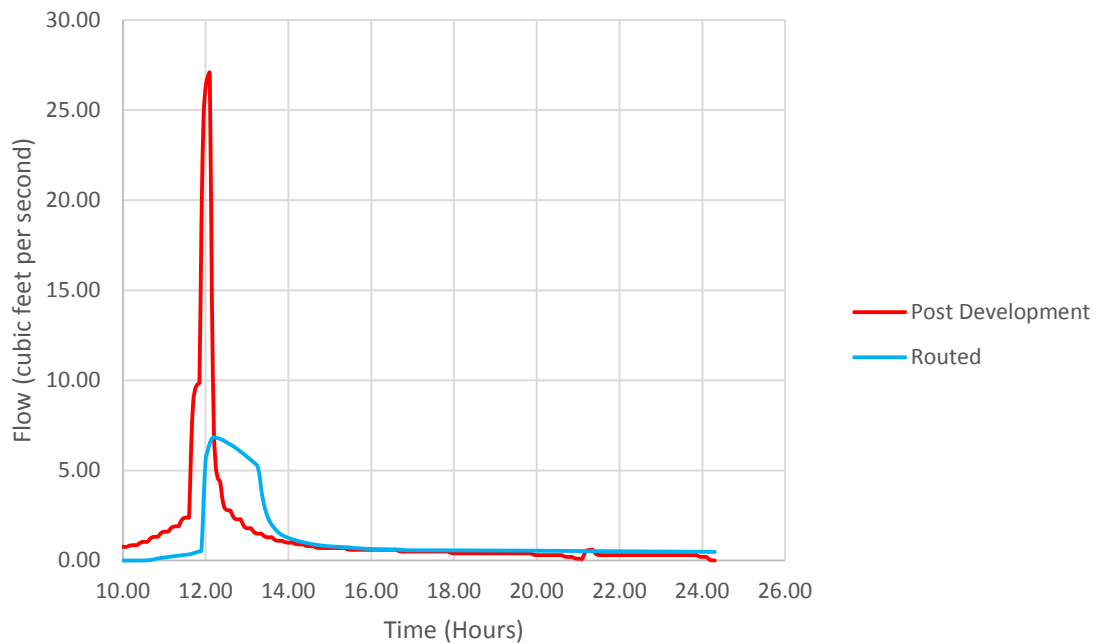


Figure E3 - Sub-Basin III 2YR Storm Hydrographs

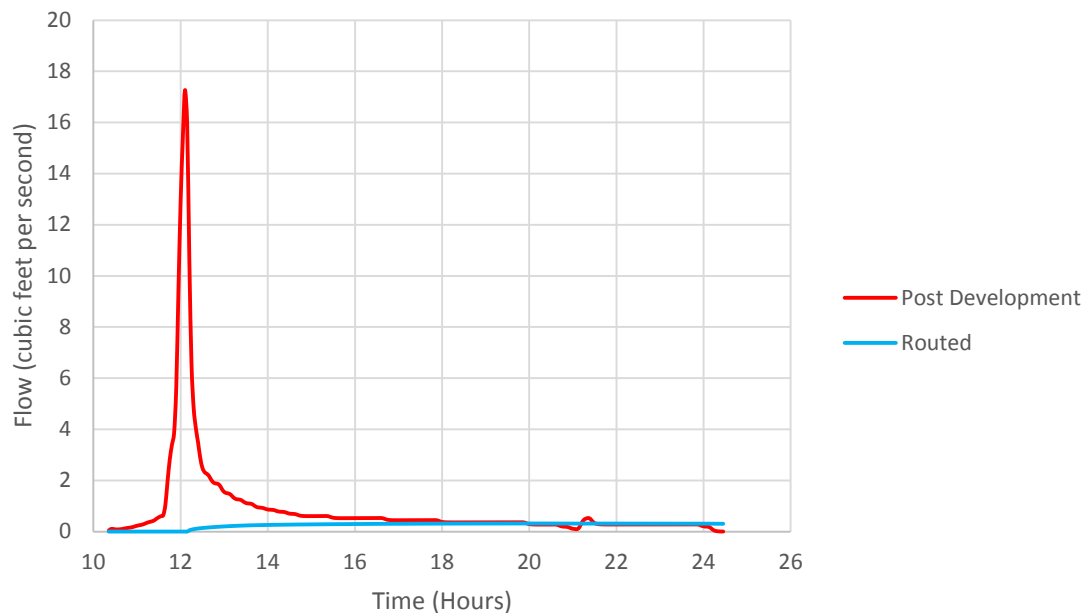
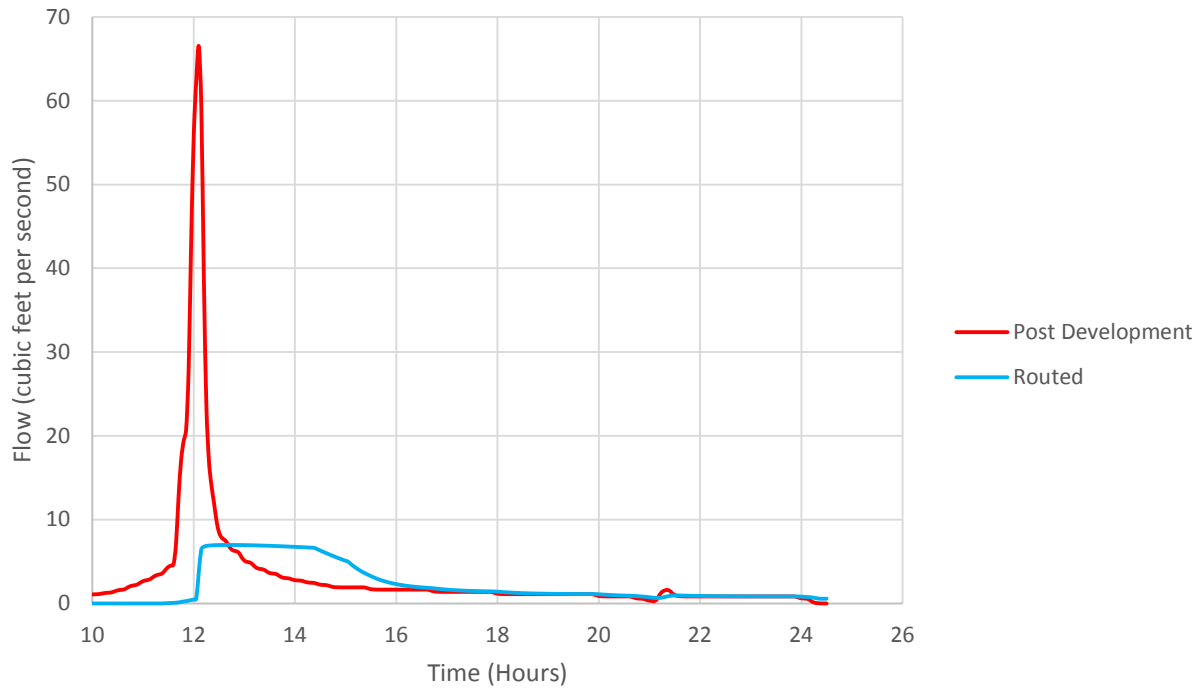


Figure E4. Sub-Basin III 100YR Storm Hydrographs



Appendix F –Post-Development Detention & WQ Results

Figure F1. Sub-Basin II - 2YR Storm Hydrographs

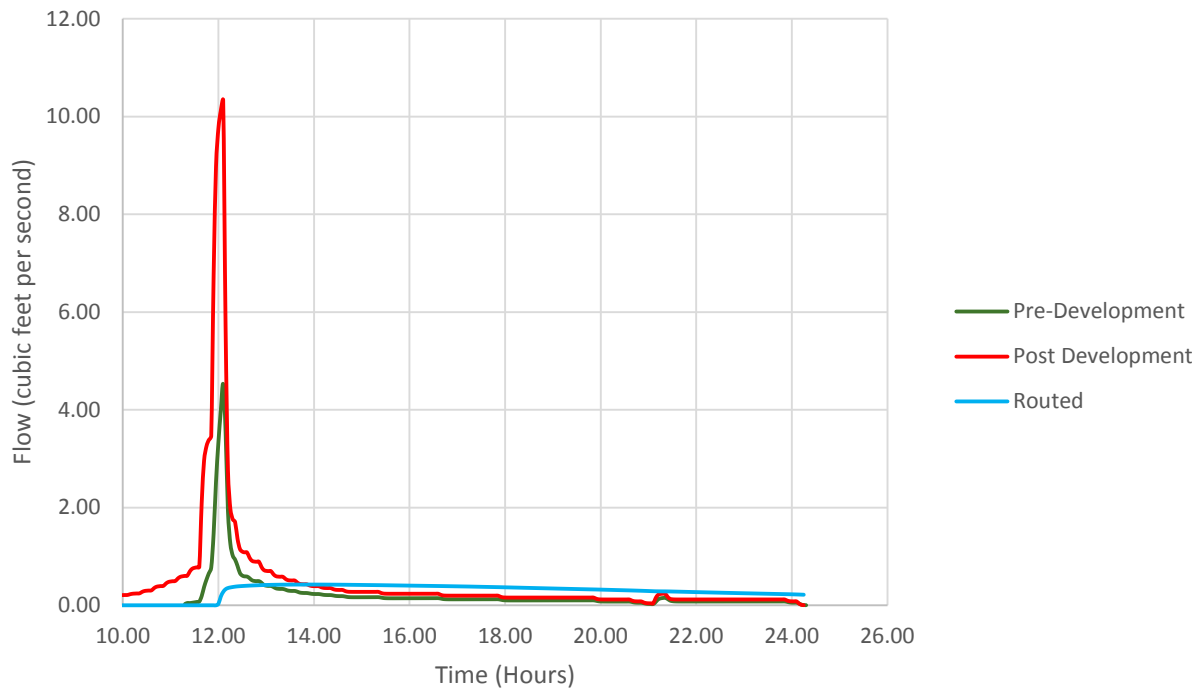


Table F1. Sub-Basin II 2YR Storm Results

Description	Quantity	Units
Existing Peak Flow Rate	4.52	cfs
Developed Peak Flow Rate	10.33	cfs
Routed Peak Flow Rate	0.42	cfs
Max Pond Water Elevation	774.19	ft-msl
Existing Volumetric Runoff	0.27	ac-ft
Routed Volumetric Runoff	0.24	ac-ft
Critical Time Duration	9.5	hrs

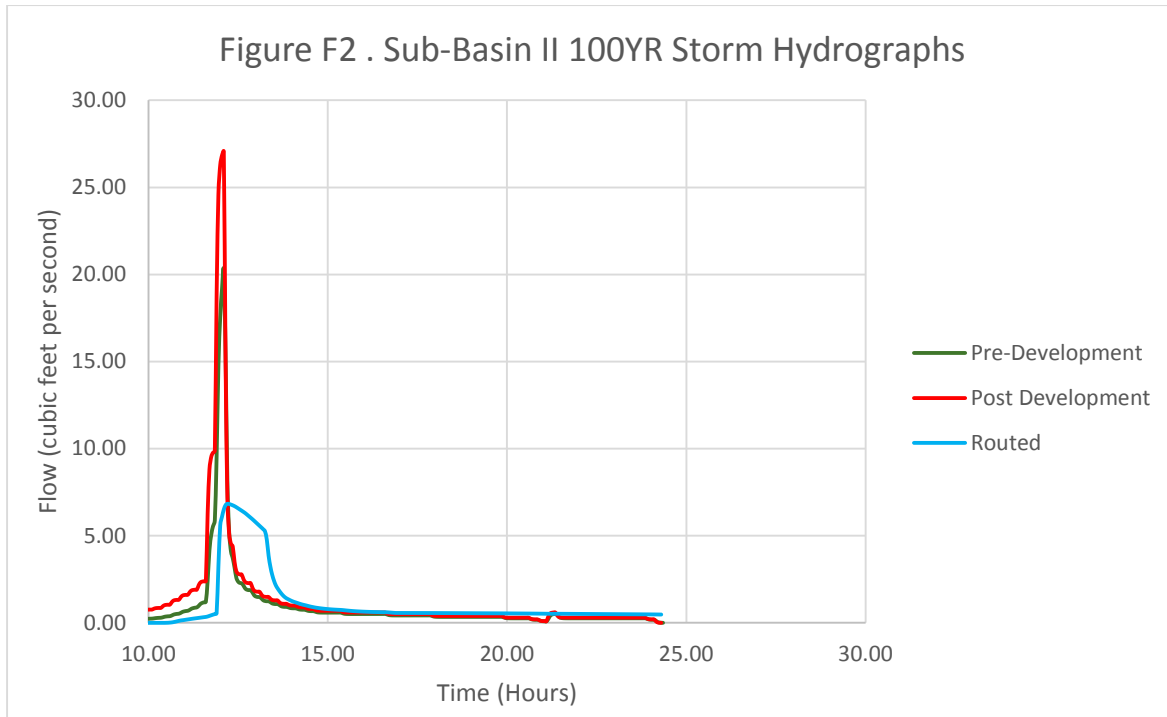


Table F2. Sub-Basin II 100YR Storm Results		
Description	Quantity	Units
Existing Peak Flow Rate	20.24	cfs
Developed Peak Flow Rate	27.07	cfs
Routed Peak Flow Rate	6.83	cfs
Max Pond Water Elevation	776.41	ft-msl
Existing Volumetric Runoff	1.19	ac-ft
Routed Volumetric Runoff	1.08	ac-ft
Critical Time Duration	9.5	hrs

Figure F3. Sub-Basin III - 2YR Storm Hydrographs

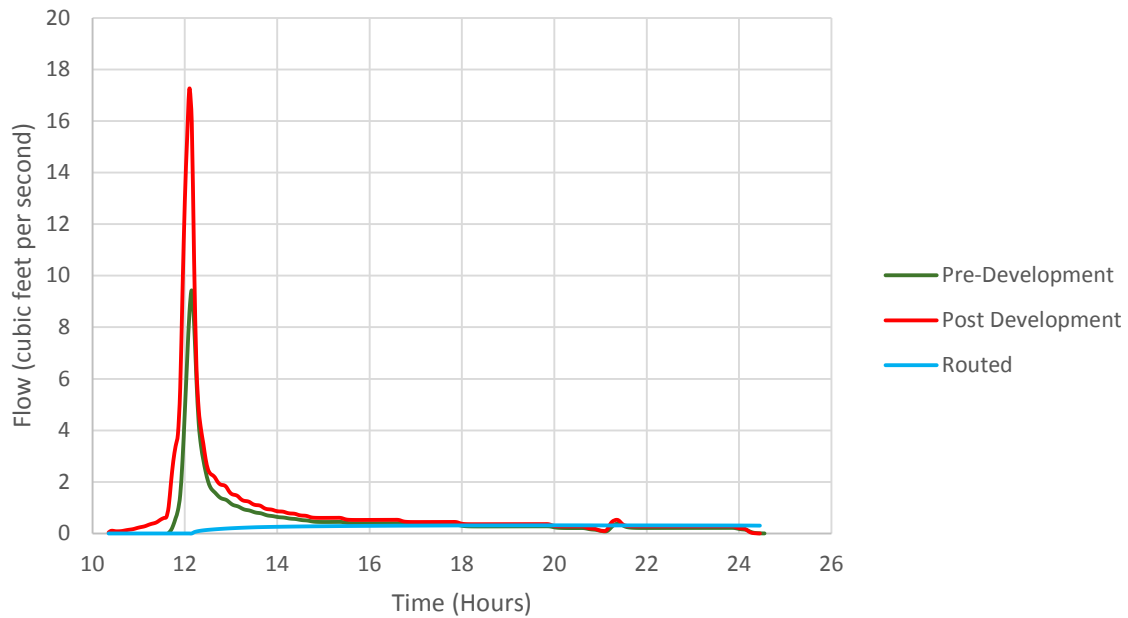


Table F3. Sub-Basin III 2YR Storm Results

Description	Quantity	Units
Existing Peak Flow Rate	9.43	cfs
Developed Peak Flow Rate	17.27	cfs
Routed Peak Flow Rate	0.32	cfs
Max Pond Water Elevation	784.74	ft-msl
Existing Volumetric Runoff	0.58	ac-ft
Routed Volumetric Runoff	0.19	ac-ft
Critical Time Duration	9.5	hrs

Figure F4. Sub-Basin III - 100YR Storm Hydrographs

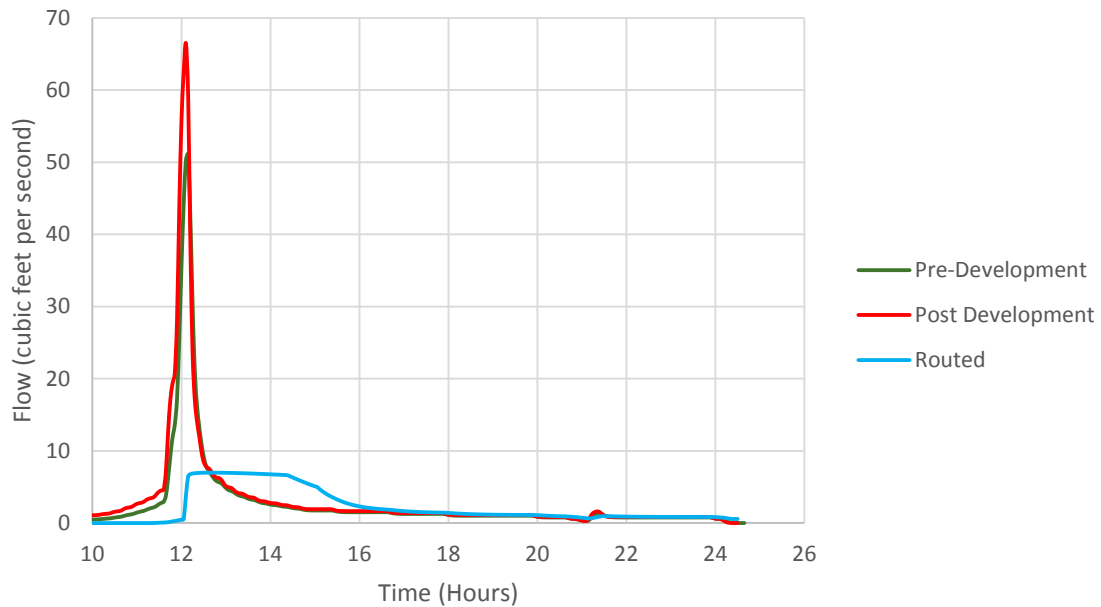


Table F4. Sub-Basin III 100YR Storm Results

Description	Quantity	Units
Existing Peak Flow Rate	51.05	cfs
Developed Peak Flow Rate	66.49	cfs
Routed Peak Flow Rate	6.98	cfs
Max Pond Water Elevation	787.19	ft-msl
Existing Volumetric Runoff	3.08	ac-ft
Routed Volumetric Runoff	2.41	ac-ft
Critical Time Duration	9.5	hrs

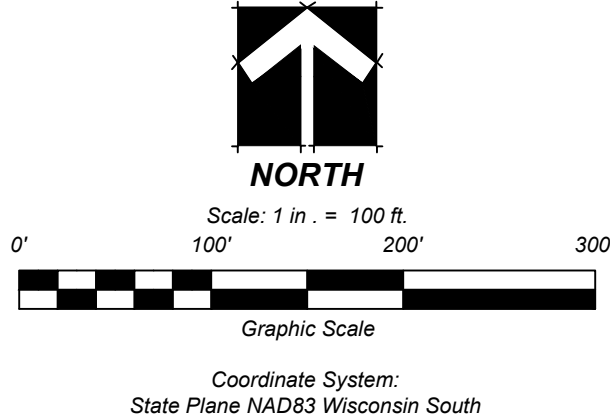
Appendix A. Existing Site Conditions



EXISTING CONDITIONS PLAN
Scale: 1" = 100'

GENERAL NOTES:

- A. All existing utilities are shown herein as reference only and are based on record of the various utility companies and a field survey. Contractor is responsible for determining the exact locations of all utilities prior to any construction activities.
- B. All existing conditions, topography, utilities, and property information are taken from a survey of land situated in the City of Sterling, county of Loudoun, State of Virginia, by surveyors: Construction Quality Management, Inc., 2679 Continental Drive, Green Bay, WI, 54311, ph: (920) 465-3911, fx: (920) 465-3913 and Diversified Engineering, Inc., 175 Ray Avenue, NE, New Philadelphia, OH, 44663, ph: (330) 364-1631, fx: (330) 364-4031.



ISSUE DATE	07/04/2018	SCALE	1" = 100'	CTR INT.	2"
SURVEYED BY	COM	CHECKED BY	NJB		
DRAWN BY	DSW	APPROVED BY			
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY
					APP BY

Diversified Engineering Inc.
CONSULTING ENGINEERS & SURVEYORS
175 RAY AVENUE, NEW PHILADELPHIA, OH 44663
PH: (330) 364-1631 FAX: (330) 364-4031
WWW.DIVERSIFIED-ENG.COM

WASTE MANAGEMENT
PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI
SHEET TITLE: EXISTING CONDITIONS PLAN

SHEET NO:
1/1
JOB NO:
ENG-1465





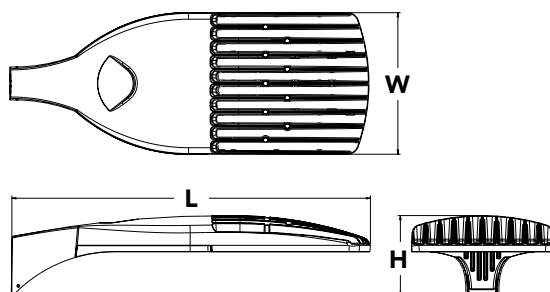
D-Series Size 1 LED Area Luminaire

d#series



Specifications

EPA:	1.01 ft ² (0.09 m ²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height:	7-1/2" (19.0 cm)
Weight (max):	27 lbs (12.2 kg)



A+ Capable options indicated by this color background.

Catalog

Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a **shaded background**. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability¹
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a **shaded background**¹

To learn more about A+, visit www.acuitybrands.com/aplus.

- See ordering tree for details.
- A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: [Link to Roam](#); [Link to DTL DLL](#)

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA DDBXD

DSX1LED					
Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	Forward optics	30K 3000 K	T1S Type I short	MVOLT ^{4,5}	Shipped included SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor ⁸ RPUMBA Round pole universal mounting adaptor ⁸ Shipped separately KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁹
	P1 P4 P7	40K 4000 K	T2S Type II short	120 ⁶	
	P2 P5 P8	50K 5000 K	T2M Type II medium	208 ^{5,6}	
	P3 P6 P9	AMBPC Amber phosphor converted ²	T3S Type III short	240 ^{5,6}	
	Rotated optics		T3M Type III medium	277 ⁶	
	P10 ¹ P12 ¹		T4M Type IV medium	347 ^{5,6,7}	
	P11 ¹ P13 ¹		TFTM Forward throw medium	480 ^{5,6,7}	
			T5S Type V short		
			T5M Type V medium		
			T5W Type V wide		
			BLC Backlight control ^{2,3}		
			LCCO Left corner cutoff ^{2,3}		
			RCCO Right corner cutoff ^{2,3}		
			T5VS Type V very short		
Control options				Other options	Finish (required)
Shipped installed NLTAIR2 nLight AIR generation 2 enabled ¹⁰ PER NEMA twist-lock receptacle only (controls ordered separate) ¹¹ PER5 Five-wire receptacle only (controls ordered separate) ^{11,12} PER7 Seven-wire receptacle only (controls ordered separate) ^{11,12} DMG 0-10V dimming extend out back of housing for external control (leads exit fixture) DS Dual switching ^{13,14} PIR Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc ^{5,15,16} PIRH Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc ^{5,15,16} PIRHN Network, Bi-Level motion/ambient sensor ¹⁷ PIR1FC3V Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc ^{5,15,16}				Shipped installed HS House-side shield ²¹ SF Single fuse (120, 277, 347V) ⁶ DF Double fuse (208, 240, 480V) ⁶ L90 Left rotated optics ¹ R90 Right rotated optics ¹ Shipped separately BS Bird spikes ²² EGS External glare shield ²²	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DBTDXD Textured dark bronze DBLBDX Textured black DNATXD Textured natural aluminum DWHGXD Textured white
PIRH1FC3V Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc ^{5,15,16} BL30 Bi-level switched dimming, 30% ^{5,14,18} BL50 Bi-level switched dimming, 50% ^{5,14,18} PNMTDD3 Part night, dim till dawn ^{5,19} PNMT5D3 Part night, dim 5 hrs ^{5,19} PNMT6D3 Part night, dim 6 hrs ^{5,19} PNMT7D3 Part night, dim 7 hrs ^{5,19} FAO Field adjustable output ²⁰					



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Ordering Information

Accessories

Ordered and shipped separately.

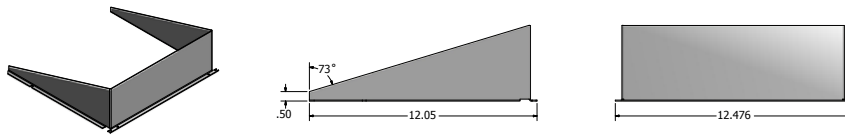
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ²³
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ²³
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ²³
DSHORT SBK U	Shorting cap ²³
DSX1HS 30C U	House-side shield for 30 LED unit ²¹
DSX1HS 40C U	House-side shield for 40 LED unit ²¹
DSX1HS 60C U	House-side shield for 60 LED unit ²¹
PUMBA DDBXD U*	Square and round pole universal mounting bracket (specify finish) ²⁴
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ⁴

For more control options, visit [DTL](#) and [ROAM](#) online.

NOTES

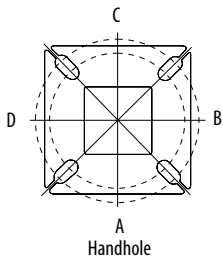
- 1 P10, P11, P12 or P13 and rotated optics (L90, R90) only available together.
- 2 AMBPC is not available with BLC, LCCO, RCCO or P4, P7, P8, P9 or P13.
- 3 Not available with HS.
- 4 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- 5 Any PIRx with BL30, BL50 or PNMT, is not available with 208V, 240V, 347V, 480V or MVOLT. It is only available in 120V or 277V specified.
- 6 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- 7 Not available in P1 or P10. Not available with BL30, BL50 or PNMT options.
- 8 Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
- 9 Must order fixture with SPA option. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- 10 Must be ordered with PIRHN.
- 11 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Not available with DS option. Shorting cap included.
- 12 If ROAM[®] node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Not available with DCR. Node with integral dimming. Shorting cap included.
- 13 Provides 50/50 fixture operation via (2) independent drivers. Not available with PER, PER5, PER7, PIR or PIRH. Not available P1, P2, P3, P4 or P5.
- 14 Requires (2) separately switched circuits.
- 15 Reference Motion Sensor table on page 3.
- 16 Reference PER table on page 3 to see functionality.
- 17 Must be ordered with NLTAIR2. For more information on nLight Air 2 visit [this link](#).
- 18 Not available with 347V, 480V, PNMT, DS. For PER5 or PER7, see PER Table on page 3. Requires isolated neutral.
- 19 Not available with 347V, 480V, DS, BL30, BL50. For PER5 or PER7, see PER Table on page 3. Separate Dusk to Dawn required.
- 20 Not available with other dimming controls options.
- 21 Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- 22 Must be ordered with fixture for factory pre-drilling.
- 23 Requires luminaire to be specified with PER, PER5 or PER7 option. See PER Table on page 3.
- 24 For retrofit use only.

External Glare Shield



Drilling

HANDHOLE ORIENTATION



Tenon Mounting Slipfitter**

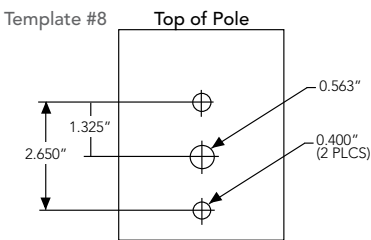
Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Pole drilling nomenclature: # of heads at degree from handhole (default side A)					
DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, D

Note: Review luminaire spec sheet for specific nomenclature

Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N

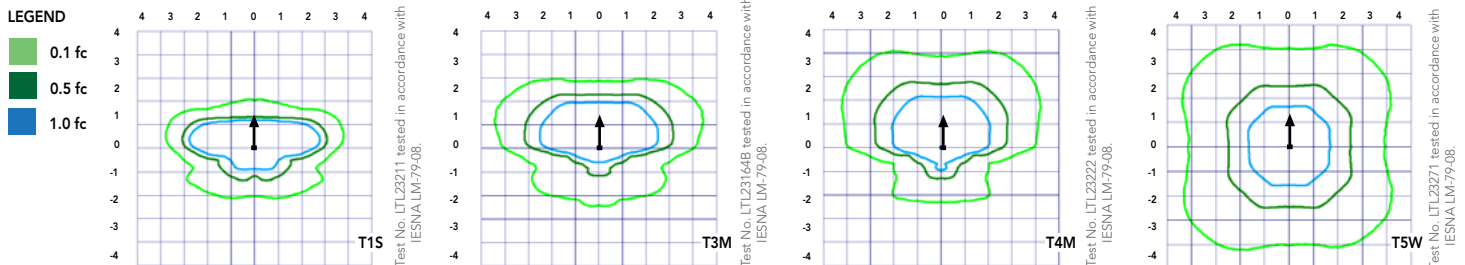
*3 fixtures @120 require round pole top/tenon.



Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [D-Series Area Size 1 homepage](#).

Isofootcandle plots for the DSX1 LED 60C 1000 40K. Distances are in units of mounting height (25').



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Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25000	50000	100000
Lumen Maintenance Factor	1.00	0.96	0.92	0.85

Electrical Load

	Performance Package	LED Count	Drive Current	Wattage	Current (A)					
					120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	30	530	54	0.45	0.26	0.23	0.19	0.10	0.12
	P2	30	700	70	0.59	0.34	0.30	0.25	0.20	0.16
	P3	30	1050	102	0.86	0.50	0.44	0.38	0.30	0.22
	P4	30	1250	125	1.06	0.60	0.52	0.46	0.37	0.27
	P5	30	1400	138	1.16	0.67	0.58	0.51	0.40	0.29
	P6	40	1250	163	1.36	0.78	0.68	0.59	0.47	0.34
	P7	40	1400	183	1.53	0.88	0.76	0.66	0.53	0.38
	P8	60	1050	207	1.74	0.98	0.87	0.76	0.64	0.49
	P9	60	1250	241	2.01	1.16	1.01	0.89	0.70	0.51
Rotated Optics (Requires L90 or R90)	P10	60	530	106	0.90	0.52	0.47	0.43	0.33	0.27
	P11	60	700	137	1.15	0.67	0.60	0.53	0.42	0.32
	P12	60	1050	207	1.74	0.99	0.87	0.76	0.60	0.46
	P13	60	1250	231	1.93	1.12	0.97	0.86	0.67	0.49

Motion Sensor Default Settings

Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with Inline Dusk to Dawn or timer.

PER Table

Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)		
			Wire 4/Wire5		Wire 4/Wire5	Wire 6/Wire7
Photocontrol Only (On/Off)	✓	⚠	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM	⊘	✓	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	⊘	⚠	Wires Capped inside fixture	⚠	Wires Capped inside fixture	Wires Capped inside fixture
Future-proof*	⊘	⚠	Wired to dimming leads on driver	✓	Wired to dimming leads on driver	Wires Capped inside fixture
Future-proof* with Motion	⊘	⚠	Wires Capped inside fixture	✓	Wires Capped inside fixture	Wires Capped inside fixture

✓ Recommended

⊘ Will not work

⚠ Alternate

*Future-proof means: Ability to change controls in the future.



Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics																								
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30	530	P1	54W	T1S	6,457	2	0	2	120	6,956	2	0	2	129	7,044	2	0	2	130	3,640	1	0	1	70
				T2S	6,450	2	0	2	119	6,949	2	0	2	129	7,037	2	0	2	130	3,813	1	0	1	73
				T2M	6,483	1	0	1	120	6,984	2	0	2	129	7,073	2	0	2	131	3,689	1	0	1	71
				T3S	6,279	2	0	2	116	6,764	2	0	2	125	6,850	2	0	2	127	3,770	1	0	1	73
				T3M	6,468	1	0	2	120	6,967	1	0	2	129	7,056	1	0	2	131	3,752	1	0	1	72
				T4M	6,327	1	0	2	117	6,816	1	0	2	126	6,902	1	0	2	128	3,758	1	0	1	72
				TFTM	6,464	1	0	2	120	6,963	1	0	2	129	7,051	1	0	2	131	3,701	1	0	1	71
				T5VS	6,722	2	0	0	124	7,242	3	0	0	134	7,334	3	0	0	136	3,928	2	0	0	76
				T5S	6,728	2	0	1	125	7,248	2	0	1	134	7,340	2	0	1	136	3,881	2	0	0	75
				T5M	6,711	3	0	1	124	7,229	3	0	1	134	7,321	3	0	2	136	3,930	2	0	1	76
				T5W	6,667	3	0	2	123	7,182	3	0	2	133	7,273	3	0	2	135	3,820	3	0	1	73
				BLC	5,299	1	0	1	98	5,709	1	0	2	106	5,781	1	0	2	107					
				LCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80					
				RCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80					
30	700	P2	70W	T1S	8,249	2	0	2	118	8,886	2	0	2	127	8,999	2	0	2	129	4,561	1	0	1	67
				T2S	8,240	2	0	2	118	8,877	2	0	2	127	8,989	2	0	2	128	4,777	1	0	1	70
				T2M	8,283	2	0	2	118	8,923	2	0	2	127	9,036	2	0	2	129	4,622	1	0	2	68
				T3S	8,021	2	0	2	115	8,641	2	0	2	123	8,751	2	0	2	125	4,724	1	0	1	69
				T3M	8,263	2	0	2	118	8,901	2	0	2	127	9,014	2	0	2	129	4,701	1	0	2	69
				T4M	8,083	2	0	2	115	8,708	2	0	2	124	8,818	2	0	2	126	4,709	1	0	2	69
				TFTM	8,257	2	0	2	118	8,896	2	0	2	127	9,008	2	0	2	129	4,638	1	0	2	68
				T5VS	8,588	3	0	0	123	9,252	3	0	0	132	9,369	3	0	0	134	4,922	2	0	0	72
				T5S	8,595	3	0	1	123	9,259	3	0	1	132	9,376	3	0	1	134	4,863	2	0	0	72
				T5M	8,573	3	0	2	122	9,236	3	0	2	132	9,353	3	0	2	134	4,924	3	0	1	72
				T5W	8,517	3	0	2	122	9,175	4	0	2	131	9,291	4	0	2	133	4,787	3	0	1	70
				BLC	6,770	1	0	2	97	7,293	1	0	2	104	7,386	1	0	2	106					
				LCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79					
				RCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79					
30	1050	P3	102W	T1S	11,661	2	0	2	114	12,562	3	0	3	123	12,721	3	0	3	125					
				T2S	11,648	2	0	2	114	12,548	3	0	3	123	12,707	3	0	3	125					
				T2M	11,708	2	0	2	115	12,613	2	0	2	124	12,773	2	0	2	125					
				T3S	11,339	2	0	2	111	12,215	3	0	3	120	12,370	3	0	3	121					
				T3M	11,680	2	0	2	115	12,582	2	0	2	123	12,742	2	0	2	125					
				T4M	11,426	2	0	3	112	12,309	2	0	3	121	12,465	2	0	3	122					
				TFTM	11,673	2	0	2	114	12,575	2	0	3	123	12,734	2	0	3	125					
				T5VS	12,140	3	0	1	119	13,078	3	0	1	128	13,244	3	0	1	130					
				T5S	12,150	3	0	1	119	13,089	3	0	1	128	13,254	3	0	1	130					
				T5M	12,119	4	0	2	119	13,056	4	0	2	128	13,221	4	0	2	130					
				T5W	12,040	4	0	3	118	12,970	4	0	3	127	13,134	4	0	3	129					
				BLC	9,570	1	0	2	94	10,310	1	0	2	101	10,440	1	0	2	102					
				LCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76					
				RCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76					
30	1250	P4	125W	T1S	13,435	3	0	3	107	14,473	3	0	3	116	14,657	3	0	3	117					
				T2S	13,421	3	0	3	107	14,458	3	0	3	116	14,641	3	0	3	117					
				T2M	13,490	2	0	2	108	14,532	3	0	3	116	14,716	3	0	3	118					
				T3S	13,064	3	0	3	105	14,074	3	0	3	113	14,252	3	0	3	114					
				T3M	13,457	2	0	2	108	14,497	2	0	2	116	14,681	2	0	2	117					
				T4M	13,165	2	0	3	105	14,182	2	0	3	113	14,362	2	0	3	115					
				TFTM	13,449	2	0	3	108	14,488	2	0	3	116	14,672	2	0	3	117					
				T5VS	13,987	4	0	1	112	15,068	4	0	1	121	15,259	4	0	1	122					
				T5S	13,999	3	0	1	112	15,080	3	0	1	121	15,271	3	0	1	122					
				T5M	13,963	4	0	2	112	15,042	4	0	2	120	15,233	4	0	2	122					
				T5W	13,872	4	0	3	111	14,944	4	0	3	120	15,133	4	0	3	121					
				BLC	11,027	1	0	2	88	11,879	1	0	2	95	12,029	1	0	2	96					
				LCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72					
				RCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72					
30	1400	P5	138W	T1S	14,679	3	0	3	106	15,814	3	0	3	115	16,014	3	0	3	116					
				T2S	14,664	3	0	3	106	15,797	3	0	3	114	15,997	3	0	3	116					
				T2M	14,739	3	0	3	107	15,878	3	0	3	115	16,079	3	0	3	117					
				T3S	14,274	3	0	3	103	15,377	3	0	3	111	15,572	3	0	3	113					
				T3M	14,704	2	0	3	107	15,840	3	0	3	115	16,040	3	0	3	116					
				T4M	14,384	2	0	3	104	15,496	3	0	3	112	15,692	3	0	3	114					
				TFTM	14,695	2	0	3	106	15,830	3	0	3	115	16,030	3	0	3	116					
				T5VS	15,283	4	0	1	111	16,464	4	0	1	119	16,672	4	0	1	121					
				T5S	15,295	3	0	1	111	16,477	4	0	1	119	16,686	4	0	1	121					
				T5M	15,257	4	0	2	111	16,435	4	0	2	119	16,644	4	0	2	121					
				T5W	15,157	4	0	3	110	16,328	4	0	3	118	16,534	4	0	3	120					
				BLC	12,048	1	0	2	87	12,979	1	0	2	94	13,143	1	0	2	95					
				LCCO	8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71					
					8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71					

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics																								
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lu- mens	B	U	G	LPW
40	1250	P6	163W	T1S	17,654	3	0	3	108	19,018	3	0	3	117	19,259	3	0	3	118					
				T2S	17,635	3	0	3	108	18,998	3	0	3	117	19,238	3	0	3	118					
				T2M	17,726	3	0	3	109	19,096	3	0	3	117	19,337	3	0	3	119					
				T3S	17,167	3	0	3	105	18,493	3	0	3	113	18,727	3	0	3	115					
				T3M	17,683	3	0	3	108	19,049	3	0	3	117	19,290	3	0	3	118					
				T4M	17,299	3	0	3	106	18,635	3	0	4	114	18,871	3	0	4	116					
				TFTM	17,672	3	0	3	108	19,038	3	0	4	117	19,279	3	0	4	118					
				TSVS	18,379	4	0	1	113	19,800	4	0	1	121	20,050	4	0	1	123					
				TSS	18,394	4	0	2	113	19,816	4	0	2	122	20,066	4	0	2	123					
				T5M	18,348	4	0	2	113	19,766	4	0	2	121	20,016	4	0	2	123					
				T5W	18,228	5	0	3	112	19,636	5	0	3	120	19,885	5	0	3	122					
				BLC	14,489	2	0	2	89	15,609	2	0	3	96	15,806	2	0	3	97					
				LCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72					
				RCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72					
40	1400	P7	183W	T1S	19,227	3	0	3	105	20,712	3	0	3	113	20,975	3	0	3	115					
				T2S	19,206	3	0	3	105	20,690	3	0	3	113	20,952	3	0	3	114					
				T2M	19,305	3	0	3	105	20,797	3	0	3	114	21,060	3	0	3	115					
				T3S	18,696	3	0	3	102	20,141	3	0	3	110	20,396	3	0	4	111					
				T3M	19,258	3	0	3	105	20,746	3	0	3	113	21,009	3	0	3	115					
				T4M	18,840	3	0	4	103	20,296	3	0	4	111	20,553	3	0	4	112					
				TFTM	19,246	3	0	4	105	20,734	3	0	4	113	20,996	3	0	4	115					
				TSVS	20,017	4	0	1	109	21,564	4	0	1	118	21,837	4	0	1	119					
				TSS	20,033	4	0	2	109	21,581	4	0	2	118	21,854	4	0	2	119					
				T5M	19,983	4	0	2	109	21,527	5	0	3	118	21,799	5	0	3	119					
				T5W	19,852	5	0	3	108	21,386	5	0	3	117	21,656	5	0	3	118					
				BLC	15,780	2	0	3	86	16,999	2	0	3	93	17,214	2	0	3	94					
				LCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70					
				RCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70					
60	1050	P8	207W	T1S	22,490	3	0	3	109	24,228	3	0	3	117	24,535	3	0	3	119					
				T2S	22,466	3	0	4	109	24,202	3	0	4	117	24,509	3	0	4	118					
				T2M	22,582	3	0	3	109	24,327	3	0	3	118	24,635	3	0	3	119					
				T3S	21,870	3	0	4	106	23,560	3	0	4	114	23,858	3	0	4	115					
				T3M	22,527	3	0	4	109	24,268	3	0	4	117	24,575	3	0	4	119					
				T4M	22,038	3	0	4	106	23,741	3	0	4	115	24,041	3	0	4	116					
				TFTM	22,513	3	0	4	109	24,253	3	0	4	117	24,560	3	0	4	119					
				TSVS	23,415	5	0	1	113	25,224	5	0	1	122	25,543	5	0	1	123					
				TSS	23,434	4	0	2	113	25,244	4	0	2	122	25,564	4	0	2	123					
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123					
				T5W	23,221	5	0	4	112	25,016	5	0	4	121	25,332	5	0	4	122					
				BLC	18,458	2	0	3	89	19,885	2	0	3	96	20,136	2	0	3	97					
				LCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72					
				RCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72					
60	1250	P9	241W	T1S	25,575	3	0	3	106	27,551	3	0	3	114	27,900	3	0	3	116					
				T2S	25,548	3	0	4	106	27,522	3	0	4	114	27,871	3	0	4	116					
				T2M	25,680	3	0	3	107	27,664	3	0	3	115	28,014	3	0	3	116					
				T3S	24,870	3	0	4	103	26,791	3	0	4	111	27,130	3	0	4	113					
				T3M	25,617	3	0	4	106	27,597	3	0	4	115	27,946	3	0	4	116					
				T4M	25,061	3	0	4	104	26,997	3	0	4	112	27,339	3	0	4	113					
				TFTM	25,602	3	0	4	106	27,580	3	0	4	114	27,929	3	0	4	116					
				TSVS	26,626	5	0	1	110	28,684	5	0	1	119	29,047	5	0	1	121					
				TSS	26,648	4	0	2	111	28,707	5	0	2	119	29,070	5	0	2	121					
				T5M	26,581	5	0	3	110	28,635	5	0	3	119	28,997	5	0	3	120					
				T5W	26,406	5	0	4	110	28,447	5	0	4	118	28,807	5	0	4	120					
				BLC	20,990	2	0	3	87	22,612	2	0	3	94	22,898	2	0	3	95					
				LCCO	15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71					
					15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71					

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics																								
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
60	530	P10	106W	T1S	13,042	3	0	3	123	14,050	3	0	3	133	14,228	3	0	3	134	7,167	2	0	2	72
				T2S	12,967	4	0	4	122	13,969	4	0	4	132	14,146	4	0	4	133	7,507	2	0	2	76
				T2M	13,201	3	0	3	125	14,221	3	0	3	134	14,401	3	0	3	136	7,263	2	0	2	73
				T3S	12,766	4	0	4	120	13,752	4	0	4	130	13,926	4	0	4	131	7,424	2	0	2	75
				T3M	13,193	4	0	4	124	14,213	4	0	4	134	14,393	4	0	4	136	7,387	2	0	2	75
				T4M	12,944	4	0	4	122	13,945	4	0	4	132	14,121	4	0	4	133	7,400	2	0	2	75
				TFTM	13,279	4	0	4	125	14,305	4	0	4	135	14,486	4	0	4	137	7,288	1	0	2	74
				T5VS	13,372	3	0	1	126	14,405	4	0	1	136	14,588	4	0	1	138	7,734	3	0	1	78
				T5S	13,260	3	0	1	125	14,284	3	0	1	135	14,465	3	0	1	136	7,641	3	0	0	77
				T5M	13,256	4	0	2	125	14,281	4	0	2	135	14,462	4	0	2	136	7,737	3	0	2	78
				T5W	13,137	4	0	3	124	14,153	4	0	3	134	14,332	4	0	3	135	7,522	3	0	2	76
				BLC	10,906	3	0	3	103	11,749	3	0	3	111	11,898	3	0	3	112					
				LCCO	7,789	1	0	3	73	8,391	1	0	3	79	8,497	1	0	3	80					
				RCCO	7,779	4	0	4	73	8,380	4	0	4	79	8,486	4	0	4	80					
60	700	P11	137W	T1S	16,556	3	0	3	121	17,835	3	0	3	130	18,061	4	0	4	132	8,952	2	0	2	68
				T2S	16,461	4	0	4	120	17,733	4	0	4	129	17,957	4	0	4	131	9,377	2	0	2	72
				T2M	16,758	4	0	4	122	18,053	4	0	4	132	18,281	4	0	4	133	9,072	2	0	2	69
				T3S	16,205	4	0	4	118	17,457	4	0	4	127	17,678	4	0	4	129	9,273	2	0	2	71
				T3M	16,748	4	0	4	122	18,042	4	0	4	132	18,271	4	0	4	133	9,227	2	0	2	70
				T4M	16,432	4	0	4	120	17,702	4	0	4	129	17,926	4	0	4	131	9,243	2	0	2	71
				TFTM	16,857	4	0	4	123	18,159	4	0	4	133	18,389	4	0	4	134	9,103	2	0	2	69
				T5VS	16,975	4	0	1	124	18,287	4	0	1	133	18,518	4	0	1	135	9,661	3	0	1	74
				T5S	16,832	4	0	1	123	18,133	4	0	2	132	18,362	4	0	2	134	9,544	3	0	1	73
				T5M	16,828	4	0	2	123	18,128	4	0	2	132	18,358	4	0	2	134	9,665	3	0	2	74
				T5W	16,677	4	0	3	122	17,966	5	0	3	131	18,193	5	0	3	133	9,395	4	0	2	72
				BLC	13,845	3	0	3	101	14,915	3	0	3	109	15,103	3	0	3	110					
				LCCO	9,888	1	0	3	72	10,652	2	0	3	78	10,787	2	0	3	79					
				RCCO	9,875	4	0	4	72	10,638	4	0	4	78	10,773	4	0	4	79					
60	1050	P12	207W	T1S	22,996	4	0	4	111	24,773	4	0	4	120	25,087	4	0	4	121					
				T2S	22,864	4	0	4	110	24,631	5	0	5	119	24,943	5	0	5	120					
				T2M	23,277	4	0	4	112	25,075	4	0	4	121	25,393	4	0	4	123					
				T3S	22,509	4	0	4	109	24,248	5	0	5	117	24,555	5	0	5	119					
				T3M	23,263	4	0	4	112	25,061	4	0	4	121	25,378	4	0	4	123					
				T4M	22,824	5	0	5	110	24,588	5	0	5	119	24,899	5	0	5	120					
				TFTM	23,414	5	0	5	113	25,223	5	0	5	122	25,543	5	0	5	123					
				T5VS	23,579	5	0	1	114	25,401	5	0	1	123	25,722	5	0	1	124					
				T5S	23,380	4	0	2	113	25,187	4	0	2	122	25,506	4	0	2	123					
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123					
				T5W	23,165	5	0	4	112	24,955	5	0	4	121	25,271	5	0	4	122					
				BLC	19,231	4	0	4	93	20,717	4	0	4	100	20,979	4	0	4	101					
				LCCO	13,734	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72					
				RCCO	13,716	4	0	4	66	14,776	4	0	4	71	14,963	4	0	4	72					
60	1250	P13	231W	T1S	25,400	4	0	4	110	27,363	4	0	4	118	27,709	4	0	4	120					
				T2S	25,254	5	0	5	109	27,205	5	0	5	118	27,550	5	0	5	119					
				T2M	25,710	4	0	4	111	27,696	4	0	4	120	28,047	4	0	4	121					
				T3S	24,862	5	0	5	108	26,783	5	0	5	116	27,122	5	0	5	117					
				T3M	25,695	5	0	5	111	27,680	5	0	5	120	28,031	5	0	5	121					
				T4M	25,210	5	0	5	109	27,158	5	0	5	118	27,502	5	0	5	119					
				TFTM	25,861	5	0	5	112	27,860	5	0	5	121	28,212	5	0	5	122					
				T5VS	26,043	5	0	1	113	28,056	5	0	1	121	28,411	5	0	1	123					
				T5S	25,824	4	0	2	112	27,819	5	0	2	120	28,172	5	0	2	122					
				T5M	25,818	5	0	3	112	27,813	5	0	3	120	28,165	5	0	3	122					
				T5W	25,586	5	0	4	111	27,563	5	0	4	119	27,912	5	0	4	121					
				BLC	21,241	4	0	4	92	22,882	4	0	4	99	23,172	4	0	4	100					
				LCCO	15,170	2	0	4	66	16,342	2	0	4	71	16,549	2	0	4	72					
					15,150	5	0	5	66	16,321	5	0	5	71	16,527	5	0	5	72					

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 1 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and streetscapes.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (1.01 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 3000 K, 4000 K and 5000 K (70 CRI) configurations. The D-Series Size 1 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1

electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 1 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 1 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS

UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

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.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

WARRANTY

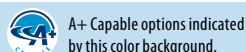
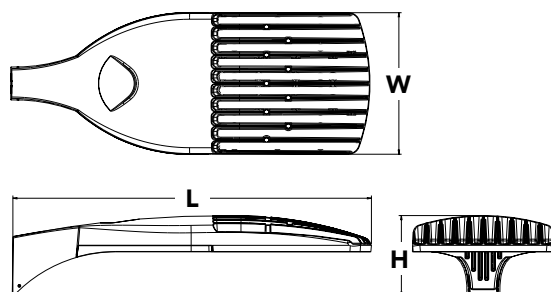
5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.





EPA:	1.01 ft ² (0.09 m ²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height:	7-1/2" (19.0 cm)
Weight (max):	27 lbs (12.2 kg)



EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA DDBXD

DSX1LED											
Series	LEDs			Color temperature		Distribution		Voltage	Mounting		
DSX1 LED	Forward optics			30K	3000 K	T1S	Type I short	T5S	Type V short	MVOLT ^{4,5} 120 ⁶ 208 ^{5,6} 240 ^{5,6} 277 ⁶ 347 ^{5,6,7} 480 ^{5,6,7}	Shipped included SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor ⁸ RPUMBA Round pole universal mounting adaptor ⁸ Shipped separately KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁹
	P1	P4	P7	40K	4000 K	T2S	Type II short	T5M	Type V medium		
	P2	P5	P8	50K	5000 K	T2M	Type II medium	T5W	Type V wide		
	P3	P6	P9	AMBPC	Amber phosphor converted ²	T3S	Type III short	BLC	Backlight control ^{2,3}		
	Rotated optics					T3M	Type III medium	LCCO	Left corner cutoff ^{2,3}		
	P10 ¹	P12 ¹				T4M	Type IV medium	RCCO	Right corner cutoff ^{2,3}		
	P11 ¹	P13 ¹				TFTM	Forward throw medium				
					T5VS	Type V very short					
Control options								Other options	Finish (required)		
Shipped installed						PIR1F1C3V		Shipped installed		DDBXD	Dark bronze
NLTAIR2	nLight AIR generation 2 enabled ¹⁰					Bi-level, motion/ambient sensor, 15–30' mounting height, ambient sensor enabled at 1fc ^{5,15,16}		HS	House-side shield ²¹	DBLXD	Black
PER	NEMA twist-lock receptacle only (controls ordered separate) ¹¹					BL30		SF	Single fuse (120, 277, 347V) ⁶	DNAXD	Natural aluminum
PER5	Five-wire receptacle only (controls ordered separate) ^{11,12}					BL50		DF	Double fuse (208, 240, 480V) ⁶	DWHXD	White
PER7	Seven-wire receptacle only (controls ordered separate) ^{11,12}					PNMTDD3		L90	Left rotated optics ¹	DBBXTD	Textured dark bronze
DMG	0–10V dimming extend out back of housing for external control (leads exit fixture)					PNMT5D3		R90	Right rotated optics ¹	DBLBXD	Textured black
DS	Dual switching ^{13,14}					PNMT6D3		Shipped separately		DNATXD	Textured natural aluminum
PIR	Bi-level, motion/ambient sensor, 8–15' mounting height, ambient sensor enabled at 5fc ^{5,15,16}					PNMT7D3		BS	Bird spikes ²²	DWHGXD	Textured white
PIRH	Bi-level, motion/ambient sensor, 15–30' mounting height, ambient sensor enabled at 5fc ^{5,15,16}					FAO		EGS	External glare shield ²²		
PIRHN	Network, Bi-Level motion/ambient sensor ¹⁷										
PIR1F1C3V	Bi-level, motion/ambient sensor, 8–15' mounting height, ambient sensor enabled at 1fc ^{5,15,16}										



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DSX1-LED
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Hit the Tab key or mouse over the page to see all interactive elements

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background1

To learn more about A+,
visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: [Link to Roam](#); [Link to DTL DLL](#)

Ordering Information

Accessories

Ordered and shipped separately.

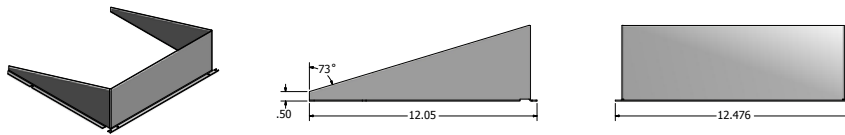
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ²³
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ²³
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ²³
DSHORT SBK U	Shorting cap ²³
DSX1HS 30C U	House-side shield for 30 LED unit ²¹
DSX1HS 40C U	House-side shield for 40 LED unit ²¹
DSX1HS 60C U	House-side shield for 60 LED unit ²¹
PUMBA DDBXD U*	Square and round pole universal mounting bracket (specify finish) ²⁴
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ⁴

For more control options, visit [DTL](#) and [ROAM](#) online.

NOTES

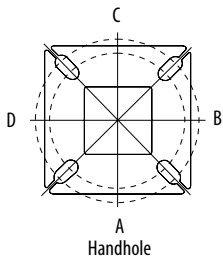
- 1 P10, P11, P12 or P13 and rotated optics (L90, R90) only available together.
- 2 AMBPC is not available with BLC, LCCO, RCCO or P4, P7, P8, P9 or P13.
- 3 Not available with HS.
- 4 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- 5 Any PIRx with BL30, BL50 or PNMT, is not available with 208V, 240V, 347V, 480V or MVOLT. It is only available in 120V or 277V specified.
- 6 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- 7 Not available in P1 or P10. Not available with BL30, BL50 or PNMT options.
- 8 Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
- 9 Must order fixture with SPA option. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- 10 Must be ordered with PIRHN.
- 11 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Not available with DS option. Shorting cap included.
- 12 If ROAM[®] node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Not available with DCR. Node with integral dimming. Shorting cap included.
- 13 Provides 50/50 fixture operation via (2) independent drivers. Not available with PER, PER5, PER7, PIR or PIRH. Not available P1, P2, P3, P4 or P5.
- 14 Requires (2) separately switched circuits.
- 15 Reference Motion Sensor table on page 3.
- 16 Reference PER table on page 3 to see functionality.
- 17 Must be ordered with NLTAIR2. For more information on nLight Air 2 visit [this link](#).
- 18 Not available with 347V, 480V, PNMT, DS. For PER5 or PER7, see PER Table on page 3. Requires isolated neutral.
- 19 Not available with 347V, 480V, DS, BL30, BL50. For PER5 or PER7, see PER Table on page 3. Separate Dusk to Dawn required.
- 20 Not available with other dimming controls options.
- 21 Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- 22 Must be ordered with fixture for factory pre-drilling.
- 23 Requires luminaire to be specified with PER, PER5 or PER7 option. See PER Table on page 3.
- 24 For retrofit use only.

External Glare Shield



Drilling

HANDHOLE ORIENTATION



Tenon Mounting Slipfitter**

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

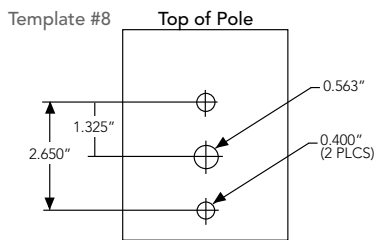
Pole drilling nomenclature: # of heads at degree from handhole (default side A)

DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, D

Note: Review luminaire spec sheet for specific nomenclature

Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N

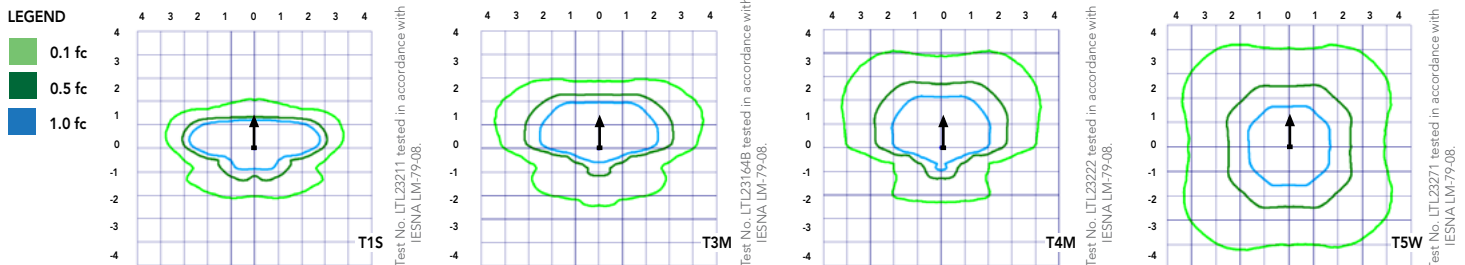
*3 fixtures @120 require round pole top/tenon.



Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [D-Series Area Size 1 homepage](#).

Isofootcandle plots for the DSX1 LED 60C 1000 40K. Distances are in units of mounting height (25').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25000	50000	100000
Lumen Maintenance Factor	1.00	0.96	0.92	0.85

Electrical Load

	Performance Package	LED Count	Drive Current	Wattage	Current (A)					
					120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	30	530	54	0.45	0.26	0.23	0.19	0.10	0.12
	P2	30	700	70	0.59	0.34	0.30	0.25	0.20	0.16
	P3	30	1050	102	0.86	0.50	0.44	0.38	0.30	0.22
	P4	30	1250	125	1.06	0.60	0.52	0.46	0.37	0.27
	P5	30	1400	138	1.16	0.67	0.58	0.51	0.40	0.29
	P6	40	1250	163	1.36	0.78	0.68	0.59	0.47	0.34
	P7	40	1400	183	1.53	0.88	0.76	0.66	0.53	0.38
	P8	60	1050	207	1.74	0.98	0.87	0.76	0.64	0.49
	P9	60	1250	241	2.01	1.16	1.01	0.89	0.70	0.51
Rotated Optics (Requires L90 or R90)	P10	60	530	106	0.90	0.52	0.47	0.43	0.33	0.27
	P11	60	700	137	1.15	0.67	0.60	0.53	0.42	0.32
	P12	60	1050	207	1.74	0.99	0.87	0.76	0.60	0.46
	P13	60	1250	231	1.93	1.12	0.97	0.86	0.67	0.49

Motion Sensor Default Settings

Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with Inline Dusk to Dawn or timer.

PER Table

Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)		
			Wire 4/Wire5		Wire 4/Wire5	Wire 6/Wire7
Photocontrol Only (On/Off)	✓	⚠	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM	⊘	✓	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	⊘	⚠	Wires Capped inside fixture	⚠	Wires Capped inside fixture	Wires Capped inside fixture
Future-proof*	⊘	⚠	Wired to dimming leads on driver	✓	Wired to dimming leads on driver	Wires Capped inside fixture
Future-proof* with Motion	⊘	⚠	Wires Capped inside fixture	✓	Wires Capped inside fixture	Wires Capped inside fixture

✓ Recommended

⊘ Will not work

⚠ Alternate

*Future-proof means: Ability to change controls in the future.



Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics																								
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30	530	P1	54W	T1S	6,457	2	0	2	120	6,956	2	0	2	129	7,044	2	0	2	130	3,640	1	0	1	70
				T2S	6,450	2	0	2	119	6,949	2	0	2	129	7,037	2	0	2	130	3,813	1	0	1	73
				T2M	6,483	1	0	1	120	6,984	2	0	2	129	7,073	2	0	2	131	3,689	1	0	1	71
				T3S	6,279	2	0	2	116	6,764	2	0	2	125	6,850	2	0	2	127	3,770	1	0	1	73
				T3M	6,468	1	0	2	120	6,967	1	0	2	129	7,056	1	0	2	131	3,752	1	0	1	72
				T4M	6,327	1	0	2	117	6,816	1	0	2	126	6,902	1	0	2	128	3,758	1	0	1	72
				TFTM	6,464	1	0	2	120	6,963	1	0	2	129	7,051	1	0	2	131	3,701	1	0	1	71
				T5VS	6,722	2	0	0	124	7,242	3	0	0	134	7,334	3	0	0	136	3,928	2	0	0	76
				T5S	6,728	2	0	1	125	7,248	2	0	1	134	7,340	2	0	1	136	3,881	2	0	0	75
				T5M	6,711	3	0	1	124	7,229	3	0	1	134	7,321	3	0	2	136	3,930	2	0	1	76
				T5W	6,667	3	0	2	123	7,182	3	0	2	133	7,273	3	0	2	135	3,820	3	0	1	73
				BLC	5,299	1	0	1	98	5,709	1	0	2	106	5,781	1	0	2	107					
				LCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80					
				RCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80					
30	700	P2	70W	T1S	8,249	2	0	2	118	8,886	2	0	2	127	8,999	2	0	2	129	4,561	1	0	1	67
				T2S	8,240	2	0	2	118	8,877	2	0	2	127	8,989	2	0	2	128	4,777	1	0	1	70
				T2M	8,283	2	0	2	118	8,923	2	0	2	127	9,036	2	0	2	129	4,622	1	0	2	68
				T3S	8,021	2	0	2	115	8,641	2	0	2	123	8,751	2	0	2	125	4,724	1	0	1	69
				T3M	8,263	2	0	2	118	8,901	2	0	2	127	9,014	2	0	2	129	4,701	1	0	2	69
				T4M	8,083	2	0	2	115	8,708	2	0	2	124	8,818	2	0	2	126	4,709	1	0	2	69
				TFTM	8,257	2	0	2	118	8,896	2	0	2	127	9,008	2	0	2	129	4,638	1	0	2	68
				T5VS	8,588	3	0	0	123	9,252	3	0	0	132	9,369	3	0	0	134	4,922	2	0	0	72
				T5S	8,595	3	0	1	123	9,259	3	0	1	132	9,376	3	0	1	134	4,863	2	0	0	72
				T5M	8,573	3	0	2	122	9,236	3	0	2	132	9,353	3	0	2	134	4,924	3	0	1	72
				T5W	8,517	3	0	2	122	9,175	4	0	2	131	9,291	4	0	2	133	4,787	3	0	1	70
				BLC	6,770	1	0	2	97	7,293	1	0	2	104	7,386	1	0	2	106					
				LCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79					
				RCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79					
30	1050	P3	102W	T1S	11,661	2	0	2	114	12,562	3	0	3	123	12,721	3	0	3	125					
				T2S	11,648	2	0	2	114	12,548	3	0	3	123	12,707	3	0	3	125					
				T2M	11,708	2	0	2	115	12,613	2	0	2	124	12,773	2	0	2	125					
				T3S	11,339	2	0	2	111	12,215	3	0	3	120	12,370	3	0	3	121					
				T3M	11,680	2	0	2	115	12,582	2	0	2	123	12,742	2	0	2	125					
				T4M	11,426	2	0	3	112	12,309	2	0	3	121	12,465	2	0	3	122					
				TFTM	11,673	2	0	2	114	12,575	2	0	3	123	12,734	2	0	3	125					
				T5VS	12,140	3	0	1	119	13,078	3	0	1	128	13,244	3	0	1	130					
				T5S	12,150	3	0	1	119	13,089	3	0	1	128	13,254	3	0	1	130					
				T5M	12,119	4	0	2	119	13,056	4	0	2	128	13,221	4	0	2	130					
				T5W	12,040	4	0	3	118	12,970	4	0	3	127	13,134	4	0	3	129					
				BLC	9,570	1	0	2	94	10,310	1	0	2	101	10,440	1	0	2	102					
				LCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76					
				RCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76					
30	1250	P4	125W	T1S	13,435	3	0	3	107	14,473	3	0	3	116	14,657	3	0	3	117					
				T2S	13,421	3	0	3	107	14,458	3	0	3	116	14,641	3	0	3	117					
				T2M	13,490	2	0	2	108	14,532	3	0	3	116	14,716	3	0	3	118					
				T3S	13,064	3	0	3	105	14,074	3	0	3	113	14,252	3	0	3	114					
				T3M	13,457	2	0	2	108	14,497	2	0	2	116	14,681	2	0	2	117					
				T4M	13,165	2	0	3	105	14,182	2	0	3	113	14,362	2	0	3	115					
				TFTM	13,449	2	0	3	108	14,488	2	0	3	116	14,672	2	0	3	117					
				T5VS	13,987	4	0	1	112	15,068	4	0	1	121	15,259	4	0	1	122					
				T5S	13,999	3	0	1	112	15,080	3	0	1	121	15,271	3	0	1	122					
				T5M	13,963	4	0	2	112	15,042	4	0	2	120	15,233	4	0	2	122					
				T5W	13,872	4	0	3	111	14,944	4	0	3	120	15,133	4	0	3	121					
				BLC	11,027	1	0	2	88	11,879	1	0	2	95	12,029	1	0	2	96					
				LCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72					
				RCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72					
30	1400	P5	138W	T1S	14,679	3	0	3	106	15,814	3	0	3	115	16,014	3	0	3	116					
				T2S	14,664	3	0	3	106	15,797	3	0	3	114	15,997	3	0	3	116					
				T2M	14,739	3	0	3	107	15,878	3	0	3	115	16,079	3	0	3	117					
				T3S	14,274	3	0	3	103	15,377	3	0	3	111	15,572	3	0	3	113					
				T3M	14,704	2	0	3	107	15,840	3	0	3	115	16,040	3	0	3	116					
				T4M	14,384	2	0	3	104	15,496	3	0	3	112	15,692	3	0	3	114					
				TFTM	14,695	2	0	3	106	15,830	3	0	3	115	16,030	3	0	3	116					
				T5VS	15,283	4	0	1	111	16,464	4	0	1	119	16,672	4	0	1	121					
				T5S	15,295	3	0	1	111	16,477	4	0	1	119	16,686	4	0	1	121					
				T5M	15,257	4	0	2	111	16,435	4	0	2	119	16,644	4	0	2	121					
				T5W	15,157	4	0	3	110	16,328	4	0	3	118	16,534	4	0	3	120					
				BLC	12,048	1	0	2	87	12,979	1	0	2	94	13,143	1	0	2	95					
				LCCO	8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71					
					8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71					

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics																								
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lu-mens	B	U	G	LPW
40	1250	P6	163W	T1S	17,654	3	0	3	108	19,018	3	0	3	117	19,259	3	0	3	118					
				T2S	17,635	3	0	3	108	18,998	3	0	3	117	19,238	3	0	3	118					
				T2M	17,726	3	0	3	109	19,096	3	0	3	117	19,337	3	0	3	119					
				T3S	17,167	3	0	3	105	18,493	3	0	3	113	18,727	3	0	3	115					
				T3M	17,683	3	0	3	108	19,049	3	0	3	117	19,290	3	0	3	118					
				T4M	17,299	3	0	3	106	18,635	3	0	4	114	18,871	3	0	4	116					
				TFTM	17,672	3	0	3	108	19,038	3	0	4	117	19,279	3	0	4	118					
				TSVS	18,379	4	0	1	113	19,800	4	0	1	121	20,050	4	0	1	123					
				TSS	18,394	4	0	2	113	19,816	4	0	2	122	20,066	4	0	2	123					
				TSM	18,348	4	0	2	113	19,766	4	0	2	121	20,016	4	0	2	123					
				TSW	18,228	5	0	3	112	19,636	5	0	3	120	19,885	5	0	3	122					
				BLC	14,489	2	0	2	89	15,609	2	0	3	96	15,806	2	0	3	97					
				LCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72					
				RCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72					
40	1400	P7	183W	T1S	19,227	3	0	3	105	20,712	3	0	3	113	20,975	3	0	3	115					
				T2S	19,206	3	0	3	105	20,690	3	0	3	113	20,952	3	0	3	114					
				T2M	19,305	3	0	3	105	20,797	3	0	3	114	21,060	3	0	3	115					
				T3S	18,696	3	0	3	102	20,141	3	0	3	110	20,396	3	0	4	111					
				T3M	19,258	3	0	3	105	20,746	3	0	3	113	21,009	3	0	3	115					
				T4M	18,840	3	0	4	103	20,296	3	0	4	111	20,553	3	0	4	112					
				TFTM	19,246	3	0	4	105	20,734	3	0	4	113	20,996	3	0	4	115					
				TSVS	20,017	4	0	1	109	21,564	4	0	1	118	21,837	4	0	1	119					
				TSS	20,033	4	0	2	109	21,581	4	0	2	118	21,854	4	0	2	119					
				TSM	19,983	4	0	2	109	21,527	5	0	3	118	21,799	5	0	3	119					
				TSW	19,852	5	0	3	108	21,386	5	0	3	117	21,656	5	0	3	118					
				BLC	15,780	2	0	3	86	16,999	2	0	3	93	17,214	2	0	3	94					
				LCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70					
				RCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70					
60	1050	P8	207W	T1S	22,490	3	0	3	109	24,228	3	0	3	117	24,535	3	0	3	119					
				T2S	22,466	3	0	4	109	24,202	3	0	4	117	24,509	3	0	4	118					
				T2M	22,582	3	0	3	109	24,327	3	0	3	118	24,635	3	0	3	119					
				T3S	21,870	3	0	4	106	23,560	3	0	4	114	23,858	3	0	4	115					
				T3M	22,527	3	0	4	109	24,268	3	0	4	117	24,575	3	0	4	119					
				T4M	22,038	3	0	4	106	23,741	3	0	4	115	24,041	3	0	4	116					
				TFTM	22,513	3	0	4	109	24,253	3	0	4	117	24,560	3	0	4	119					
				TSVS	23,415	5	0	1	113	25,224	5	0	1	122	25,543	5	0	1	123					
				TSS	23,434	4	0	2	113	25,244	4	0	2	122	25,564	4	0	2	123					
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123					
				TSW	23,221	5	0	4	112	25,016	5	0	4	121	25,332	5	0	4	122					
				BLC	18,458	2	0	3	89	19,885	2	0	3	96	20,136	2	0	3	97					
				LCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72					
				RCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72					
60	1250	P9	241W	T1S	25,575	3	0	3	106	27,551	3	0	3	114	27,900	3	0	3	116					
				T2S	25,548	3	0	4	106	27,522	3	0	4	114	27,871	3	0	4	116					
				T2M	25,680	3	0	3	107	27,664	3	0	3	115	28,014	3	0	3	116					
				T3S	24,870	3	0	4	103	26,791	3	0	4	111	27,130	3	0	4	113					
				T3M	25,617	3	0	4	106	27,597	3	0	4	115	27,946	3	0	4	116					
				T4M	25,061	3	0	4	104	26,997	3	0	4	112	27,339	3	0	4	113					
				TFTM	25,602	3	0	4	106	27,580	3	0	4	114	27,929	3	0	4	116					
				TSVS	26,626	5	0	1	110	28,684	5	0	1	119	29,047	5	0	1	121					
				TSS	26,648	4	0	2	111	28,707	5	0	2	119	29,070	5	0	2	121					
				TSM	26,581	5	0	3	110	28,635	5	0	3	119	28,997	5	0	3	120					
				TSW	26,406	5	0	4	110	28,447	5	0	4	118	28,807	5	0	4	120					
				BLC	20,990	2	0	3	87	22,612	2	0	3	94	22,898	2	0	3	95					
				LCCO	15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71					
					15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71					

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics																								
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
60	530	P10	106W	T1S	13,042	3	0	3	123	14,050	3	0	3	133	14,228	3	0	3	134	7,167	2	0	2	72
				T2S	12,967	4	0	4	122	13,969	4	0	4	132	14,146	4	0	4	133	7,507	2	0	2	76
				T2M	13,201	3	0	3	125	14,221	3	0	3	134	14,401	3	0	3	136	7,263	2	0	2	73
				T3S	12,766	4	0	4	120	13,752	4	0	4	130	13,926	4	0	4	131	7,424	2	0	2	75
				T3M	13,193	4	0	4	124	14,213	4	0	4	134	14,393	4	0	4	136	7,387	2	0	2	75
				T4M	12,944	4	0	4	122	13,945	4	0	4	132	14,121	4	0	4	133	7,400	2	0	2	75
				TFTM	13,279	4	0	4	125	14,305	4	0	4	135	14,486	4	0	4	137	7,288	1	0	2	74
				T5VS	13,372	3	0	1	126	14,405	4	0	1	136	14,588	4	0	1	138	7,734	3	0	1	78
				T5S	13,260	3	0	1	125	14,284	3	0	1	135	14,465	3	0	1	136	7,641	3	0	0	77
				T5M	13,256	4	0	2	125	14,281	4	0	2	135	14,462	4	0	2	136	7,737	3	0	2	78
				T5W	13,137	4	0	3	124	14,153	4	0	3	134	14,332	4	0	3	135	7,522	3	0	2	76
				BLC	10,906	3	0	3	103	11,749	3	0	3	111	11,898	3	0	3	112					
				LCCO	7,789	1	0	3	73	8,391	1	0	3	79	8,497	1	0	3	80					
				RCCO	7,779	4	0	4	73	8,380	4	0	4	79	8,486	4	0	4	80					
60	700	P11	137W	T1S	16,556	3	0	3	121	17,835	3	0	3	130	18,061	4	0	4	132	8,952	2	0	2	68
				T2S	16,461	4	0	4	120	17,733	4	0	4	129	17,957	4	0	4	131	9,377	2	0	2	72
				T2M	16,758	4	0	4	122	18,053	4	0	4	132	18,281	4	0	4	133	9,072	2	0	2	69
				T3S	16,205	4	0	4	118	17,457	4	0	4	127	17,678	4	0	4	129	9,273	2	0	2	71
				T3M	16,748	4	0	4	122	18,042	4	0	4	132	18,271	4	0	4	133	9,227	2	0	2	70
				T4M	16,432	4	0	4	120	17,702	4	0	4	129	17,926	4	0	4	131	9,243	2	0	2	71
				TFTM	16,857	4	0	4	123	18,159	4	0	4	133	18,389	4	0	4	134	9,103	2	0	2	69
				T5VS	16,975	4	0	1	124	18,287	4	0	1	133	18,518	4	0	1	135	9,661	3	0	1	74
				T5S	16,832	4	0	1	123	18,133	4	0	2	132	18,362	4	0	2	134	9,544	3	0	1	73
				T5M	16,828	4	0	2	123	18,128	4	0	2	132	18,358	4	0	2	134	9,665	3	0	2	74
				T5W	16,677	4	0	3	122	17,966	5	0	3	131	18,193	5	0	3	133	9,395	4	0	2	72
				BLC	13,845	3	0	3	101	14,915	3	0	3	109	15,103	3	0	3	110					
				LCCO	9,888	1	0	3	72	10,652	2	0	3	78	10,787	2	0	3	79					
				RCCO	9,875	4	0	4	72	10,638	4	0	4	78	10,773	4	0	4	79					
60	1050	P12	207W	T1S	22,996	4	0	4	111	24,773	4	0	4	120	25,087	4	0	4	121					
				T2S	22,864	4	0	4	110	24,631	5	0	5	119	24,943	5	0	5	120					
				T2M	23,277	4	0	4	112	25,075	4	0	4	121	25,393	4	0	4	123					
				T3S	22,509	4	0	4	109	24,248	5	0	5	117	24,555	5	0	5	119					
				T3M	23,263	4	0	4	112	25,061	4	0	4	121	25,378	4	0	4	123					
				T4M	22,824	5	0	5	110	24,588	5	0	5	119	24,899	5	0	5	120					
				TFTM	23,414	5	0	5	113	25,223	5	0	5	122	25,543	5	0	5	123					
				T5VS	23,579	5	0	1	114	25,401	5	0	1	123	25,722	5	0	1	124					
				T5S	23,380	4	0	2	113	25,187	4	0	2	122	25,506	4	0	2	123					
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123					
				T5W	23,165	5	0	4	112	24,955	5	0	4	121	25,271	5	0	4	122					
				BLC	19,231	4	0	4	93	20,717	4	0	4	100	20,979	4	0	4	101					
				LCCO	13,734	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72					
				RCCO	13,716	4	0	4	66	14,776	4	0	4	71	14,963	4	0	4	72					
60	1250	P13	231W	T1S	25,400	4	0	4	110	27,363	4	0	4	118	27,709	4	0	4	120					
				T2S	25,254	5	0	5	109	27,205	5	0	5	118	27,550	5	0	5	119					
				T2M	25,710	4	0	4	111	27,696	4	0	4	120	28,047	4	0	4	121					
				T3S	24,862	5	0	5	108	26,783	5	0	5	116	27,122	5	0	5	117					
				T3M	25,695	5	0	5	111	27,680	5	0	5	120	28,031	5	0	5	121					
				T4M	25,210	5	0	5	109	27,158	5	0	5	118	27,502	5	0	5	119					
				TFTM	25,861	5	0	5	112	27,860	5	0	5	121	28,212	5	0	5	122					
				T5VS	26,043	5	0	1	113	28,056	5	0	1	121	28,411	5	0	1	123					
				T5S	25,824	4	0	2	112	27,819	5	0	2	120	28,172	5	0	2	122					
				T5M	25,818	5	0	3	112	27,813	5	0	3	120	28,165	5	0	3	122					
				T5W	25,586	5	0	4	111	27,563	5	0	4	119	27,912	5	0	4	121					
				BLC	21,241	4	0	4	92	22,882	4	0	4	99	23,172	4	0	4	100					
				LCCO	15,170	2	0	4	66	16,342	2	0	4	71	16,549	2	0	4	72					
					15,150	5	0	5	66	16,321	5	0	5	71	16,527	5	0	5	72					

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 1 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and streetscapes.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (1.01 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 3000 K, 4000 K and 5000 K (70 CRI) configurations. The D-Series Size 1 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1

electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 1 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 1 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS

UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

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.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.





D-Series Size 1

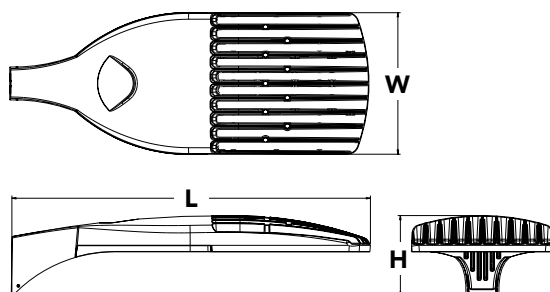
LED Area Luminaire

d#series



Specifications

EPA:	1.01 ft ² (0.09 m ²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height:	7-1/2" (19.0 cm)
Weight (max):	27 lbs (12.2 kg)



A+ Capable options indicated by this color background.

Catalog

Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a **shaded background**. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability¹
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a **shaded background**¹

To learn more about A+, visit www.acuitybrands.com/aplus.

- See ordering tree for details.
- A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: [Link to Roam](#); [Link to DTL DLL](#)

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA DDBXD

DSX1LED												
Series	LEDs	Color temperature		Distribution	Voltage	Mounting						
DSX1 LED	Forward optics	30K	3000 K	T1S	Type I short	T5S	Type V short	MVOLT ^{4,5}	Shipped included			
	P1	P4	P7	40K	4000 K	T2S	Type II short	T5M	Type V medium	120 ⁶	SPA	Square pole mounting
	P2	P5	P8	50K	5000 K	T2M	Type II medium	T5W	Type V wide	208 ^{5,6}	RPA	Round pole mounting
	P3	P6	P9	AMBPC	Amber phosphor converted ²	T3S	Type III short	BLC	Backlight control ^{2,3}	240 ^{5,6}	WBA	Wall bracket
	Rotated optics				T3M	Type III medium			277 ⁶	SPUMBA	Square pole universal mounting adaptor ⁸	
	P10 ¹	P12 ¹			T4M	Type IV medium	LCCO	Left corner cutoff ^{2,3}	347 ^{5,6,7}	RPUMBA	Round pole universal mounting adaptor ⁸	
P11 ¹	P13 ¹			TFTM	Forward throw medium	RCCO	Right corner cutoff ^{2,3}	480 ^{5,6,7}	Shipped separately			
				T5VS	Type V very short				KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ⁹		

Control options				Other options		Finish (required)			
Shipped installed				Shipped installed		DDBXD			
NLTAIR2	nLight AIR generation 2 enabled ¹⁰			PIRH1FC3V	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc ^{5,15,16}	HS	House-side shield ²¹	DBLXD	Black
PER	NEMA twist-lock receptacle only (controls ordered separate) ¹¹			BL30	Bi-level switched dimming, 30% ^{5,14,18}	SF	Single fuse (120, 277, 347V) ⁶	DNAXD	Natural aluminum
PER5	Five-wire receptacle only (controls ordered separate) ^{11,12}			BL50	Bi-level switched dimming, 50% ^{5,14,18}	DF	Double fuse (208, 240, 480V) ⁶	DWHXD	White
PER7	Seven-wire receptacle only (controls ordered separate) ^{11,12}			PNMTDD3	Part night, dim till dawn ^{5,19}	L90	Left rotated optics ¹	DDBTXD	Textured dark bronze
DMG	0-10V dimming extend out back of honsing for external control (leads exit fixture)			PNMT5D3	Part night, dim 5 hrs ^{5,19}	R90	Right rotated optics ¹	DBLBXD	Textured black
DS	Dual switching ^{13,14}			PNMT6D3	Part night, dim 6 hrs ^{5,19}	Shipped separately		DNATXD	Textured natural aluminum
PIR	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc ^{5,15,16}			PNMT7D3	Part night, dim 7 hrs ^{5,19}	BS	Bird spikes ²²	DWHGXD	Textured white
PIRH	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc ^{5,15,16}			FAO	Field adjustable output ²⁰	EGS	External glare shield ²²		
PIRHN	Network, Bi-Level motion/ambient sensor ¹⁷								
PIR1FC3V	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc ^{5,15,16}								



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DSX1-LED
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Ordering Information

Accessories

Ordered and shipped separately.

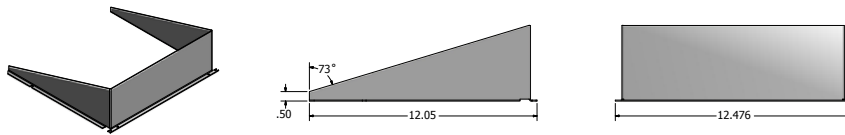
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ²³
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ²³
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ²³
DSHORT SBK U	Shorting cap ²³
DSX1HS 30C U	House-side shield for 30 LED unit ²¹
DSX1HS 40C U	House-side shield for 40 LED unit ²¹
DSX1HS 60C U	House-side shield for 60 LED unit ²¹
PUMBA DDBXD U*	Square and round pole universal mounting bracket (specify finish) ²⁴
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ⁴

For more control options, visit [DTL](#) and [ROAM](#) online.

NOTES

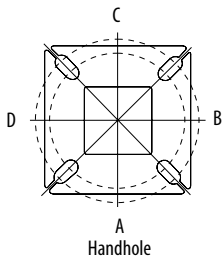
- 1 P10, P11, P12 or P13 and rotated optics (L90, R90) only available together.
- 2 AMBPC is not available with BLC, LCCO, RCCO or P4, P7, P8, P9 or P13.
- 3 Not available with HS.
- 4 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- 5 Any PIRx with BL30, BL50 or PNMT, is not available with 208V, 240V, 347V, 480V or MVOLT. It is only available in 120V or 277V specified.
- 6 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- 7 Not available in P1 or P10. Not available with BL30, BL50 or PNMT options.
- 8 Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
- 9 Must order fixture with SPA option. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- 10 Must be ordered with PIRHN.
- 11 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Not available with DS option. Shorting cap included.
- 12 If ROAM[®] node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Not available with DCR. Node with integral dimming. Shorting cap included.
- 13 Provides 50/50 fixture operation via (2) independent drivers. Not available with PER, PER5, PER7, PIR or PIRH. Not available P1, P2, P3, P4 or P5.
- 14 Requires (2) separately switched circuits.
- 15 Reference Motion Sensor table on page 3.
- 16 Reference PER table on page 3 to see functionality.
- 17 Must be ordered with NLTAIR2. For more information on nLight Air 2 visit [this link](#).
- 18 Not available with 347V, 480V, PNMT, DS. For PER5 or PER7, see PER Table on page 3. Requires isolated neutral.
- 19 Not available with 347V, 480V, DS, BL30, BL50. For PER5 or PER7, see PER Table on page 3. Separate Dusk to Dawn required.
- 20 Not available with other dimming controls options.
- 21 Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- 22 Must be ordered with fixture for factory pre-drilling.
- 23 Requires luminaire to be specified with PER, PER5 or PER7 option. See PER Table on page 3.
- 24 For retrofit use only.

External Glare Shield



Drilling

HANDHOLE ORIENTATION



Tenon Mounting Slipfitter**

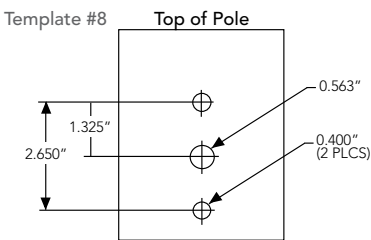
Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Pole drilling nomenclature: # of heads at degree from handhole (default side A)					
DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, D

Note: Review luminaire spec sheet for specific nomenclature

Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N

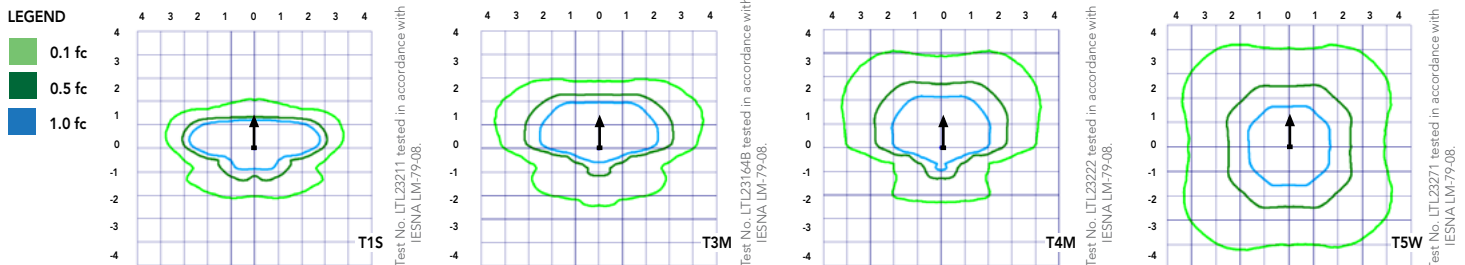
*3 fixtures @120 require round pole top/tenon.



Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [D-Series Area Size 1 homepage](#).

Isofootcandle plots for the DSX1 LED 60C 1000 40K. Distances are in units of mounting height (25').



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Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25000	50000	100000
Lumen Maintenance Factor	1.00	0.96	0.92	0.85

Electrical Load

	Performance Package	LED Count	Drive Current	Wattage	Current (A)					
					120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	30	530	54	0.45	0.26	0.23	0.19	0.10	0.12
	P2	30	700	70	0.59	0.34	0.30	0.25	0.20	0.16
	P3	30	1050	102	0.86	0.50	0.44	0.38	0.30	0.22
	P4	30	1250	125	1.06	0.60	0.52	0.46	0.37	0.27
	P5	30	1400	138	1.16	0.67	0.58	0.51	0.40	0.29
	P6	40	1250	163	1.36	0.78	0.68	0.59	0.47	0.34
	P7	40	1400	183	1.53	0.88	0.76	0.66	0.53	0.38
	P8	60	1050	207	1.74	0.98	0.87	0.76	0.64	0.49
	P9	60	1250	241	2.01	1.16	1.01	0.89	0.70	0.51
Rotated Optics (Requires L90 or R90)	P10	60	530	106	0.90	0.52	0.47	0.43	0.33	0.27
	P11	60	700	137	1.15	0.67	0.60	0.53	0.42	0.32
	P12	60	1050	207	1.74	0.99	0.87	0.76	0.60	0.46
	P13	60	1250	231	1.93	1.12	0.97	0.86	0.67	0.49

Motion Sensor Default Settings

Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with Inline Dusk to Dawn or timer.

PER Table

Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)		
			Wire 4/Wire5		Wire 4/Wire5	Wire 6/Wire7
Photocontrol Only (On/Off)	✓	⚠	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM	⊘	✓	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	⊘	⚠	Wires Capped inside fixture	⚠	Wires Capped inside fixture	Wires Capped inside fixture
Future-proof*	⊘	⚠	Wired to dimming leads on driver	✓	Wired to dimming leads on driver	Wires Capped inside fixture
Future-proof* with Motion	⊘	⚠	Wires Capped inside fixture	✓	Wires Capped inside fixture	Wires Capped inside fixture

✓ Recommended

⊘ Will not work

⚠ Alternate

*Future-proof means: Ability to change controls in the future.



Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics																								
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30	530	P1	54W	T1S	6,457	2	0	2	120	6,956	2	0	2	129	7,044	2	0	2	130	3,640	1	0	1	70
				T2S	6,450	2	0	2	119	6,949	2	0	2	129	7,037	2	0	2	130	3,813	1	0	1	73
				T2M	6,483	1	0	1	120	6,984	2	0	2	129	7,073	2	0	2	131	3,689	1	0	1	71
				T3S	6,279	2	0	2	116	6,764	2	0	2	125	6,850	2	0	2	127	3,770	1	0	1	73
				T3M	6,468	1	0	2	120	6,967	1	0	2	129	7,056	1	0	2	131	3,752	1	0	1	72
				T4M	6,327	1	0	2	117	6,816	1	0	2	126	6,902	1	0	2	128	3,758	1	0	1	72
				TFTM	6,464	1	0	2	120	6,963	1	0	2	129	7,051	1	0	2	131	3,701	1	0	1	71
				T5VS	6,722	2	0	0	124	7,242	3	0	0	134	7,334	3	0	0	136	3,928	2	0	0	76
				T5S	6,728	2	0	1	125	7,248	2	0	1	134	7,340	2	0	1	136	3,881	2	0	0	75
				T5M	6,711	3	0	1	124	7,229	3	0	1	134	7,321	3	0	2	136	3,930	2	0	1	76
				T5W	6,667	3	0	2	123	7,182	3	0	2	133	7,273	3	0	2	135	3,820	3	0	1	73
				BLC	5,299	1	0	1	98	5,709	1	0	2	106	5,781	1	0	2	107					
				LCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80					
				RCCO	3,943	1	0	2	73	4,248	1	0	2	79	4,302	1	0	2	80					
30	700	P2	70W	T1S	8,249	2	0	2	118	8,886	2	0	2	127	8,999	2	0	2	129	4,561	1	0	1	67
				T2S	8,240	2	0	2	118	8,877	2	0	2	127	8,989	2	0	2	128	4,777	1	0	1	70
				T2M	8,283	2	0	2	118	8,923	2	0	2	127	9,036	2	0	2	129	4,622	1	0	2	68
				T3S	8,021	2	0	2	115	8,641	2	0	2	123	8,751	2	0	2	125	4,724	1	0	1	69
				T3M	8,263	2	0	2	118	8,901	2	0	2	127	9,014	2	0	2	129	4,701	1	0	2	69
				T4M	8,083	2	0	2	115	8,708	2	0	2	124	8,818	2	0	2	126	4,709	1	0	2	69
				TFTM	8,257	2	0	2	118	8,896	2	0	2	127	9,008	2	0	2	129	4,638	1	0	2	68
				T5VS	8,588	3	0	0	123	9,252	3	0	0	132	9,369	3	0	0	134	4,922	2	0	0	72
				T5S	8,595	3	0	1	123	9,259	3	0	1	132	9,376	3	0	1	134	4,863	2	0	0	72
				T5M	8,573	3	0	2	122	9,236	3	0	2	132	9,353	3	0	2	134	4,924	3	0	1	72
				T5W	8,517	3	0	2	122	9,175	4	0	2	131	9,291	4	0	2	133	4,787	3	0	1	70
				BLC	6,770	1	0	2	97	7,293	1	0	2	104	7,386	1	0	2	106					
				LCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79					
				RCCO	5,038	1	0	2	72	5,427	1	0	2	78	5,496	1	0	2	79					
30	1050	P3	102W	T1S	11,661	2	0	2	114	12,562	3	0	3	123	12,721	3	0	3	125					
				T2S	11,648	2	0	2	114	12,548	3	0	3	123	12,707	3	0	3	125					
				T2M	11,708	2	0	2	115	12,613	2	0	2	124	12,773	2	0	2	125					
				T3S	11,339	2	0	2	111	12,215	3	0	3	120	12,370	3	0	3	121					
				T3M	11,680	2	0	2	115	12,582	2	0	2	123	12,742	2	0	2	125					
				T4M	11,426	2	0	3	112	12,309	2	0	3	121	12,465	2	0	3	122					
				TFTM	11,673	2	0	2	114	12,575	2	0	3	123	12,734	2	0	3	125					
				T5VS	12,140	3	0	1	119	13,078	3	0	1	128	13,244	3	0	1	130					
				T5S	12,150	3	0	1	119	13,089	3	0	1	128	13,254	3	0	1	130					
				T5M	12,119	4	0	2	119	13,056	4	0	2	128	13,221	4	0	2	130					
				T5W	12,040	4	0	3	118	12,970	4	0	3	127	13,134	4	0	3	129					
				BLC	9,570	1	0	2	94	10,310	1	0	2	101	10,440	1	0	2	102					
				LCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76					
				RCCO	7,121	1	0	3	70	7,671	1	0	3	75	7,768	1	0	3	76					
30	1250	P4	125W	T1S	13,435	3	0	3	107	14,473	3	0	3	116	14,657	3	0	3	117					
				T2S	13,421	3	0	3	107	14,458	3	0	3	116	14,641	3	0	3	117					
				T2M	13,490	2	0	2	108	14,532	3	0	3	116	14,716	3	0	3	118					
				T3S	13,064	3	0	3	105	14,074	3	0	3	113	14,252	3	0	3	114					
				T3M	13,457	2	0	2	108	14,497	2	0	2	116	14,681	2	0	2	117					
				T4M	13,165	2	0	3	105	14,182	2	0	3	113	14,362	2	0	3	115					
				TFTM	13,449	2	0	3	108	14,488	2	0	3	116	14,672	2	0	3	117					
				T5VS	13,987	4	0	1	112	15,068	4	0	1	121	15,259	4	0	1	122					
				T5S	13,999	3	0	1	112	15,080	3	0	1	121	15,271	3	0	1	122					
				T5M	13,963	4	0	2	112	15,042	4	0	2	120	15,233	4	0	2	122					
				T5W	13,872	4	0	3	111	14,944	4	0	3	120	15,133	4	0	3	121					
				BLC	11,027	1	0	2	88	11,879	1	0	2	95	12,029	1	0	2	96					
				LCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72					
				RCCO	8,205	1	0	3	66	8,839	1	0	3	71	8,951	1	0	3	72					
30	1400	P5	138W	T1S	14,679	3	0	3	106	15,814	3	0	3	115	16,014	3	0	3	116					
				T2S	14,664	3	0	3	106	15,797	3	0	3	114	15,997	3	0	3	116					
				T2M	14,739	3	0	3	107	15,878	3	0	3	115	16,079	3	0	3	117					
				T3S	14,274	3	0	3	103	15,377	3	0	3	111	15,572	3	0	3	113					
				T3M	14,704	2	0	3	107	15,840	3	0	3	115	16,040	3	0	3	116					
				T4M	14,384	2	0	3	104	15,496	3	0	3	112	15,692	3	0	3	114					
				TFTM	14,695	2	0	3	106	15,830	3	0	3	115	16,030	3	0	3	116					
				T5VS	15,283	4	0	1	111	16,464	4	0	1	119	16,672	4	0	1	121					
				T5S	15,295	3	0	1	111	16,477	4	0	1	119	16,686	4	0	1	121					
				T5M	15,257	4	0	2	111	16,435	4	0	2	119	16,644	4	0	2	121					
				T5W	15,157	4	0	3	110	16,328	4	0	3	118	16,534	4	0	3	120					
				BLC	12,048	1	0	2	87	12,979	1	0	2	94	13,143	1	0	2	95					
				LCCO	8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71					
					8,965	1	0	3	65	9,657	1	0	3	70	9,780	1	0	3	71					

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics																								
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lu-mens	B	U	G	LPW
40	1250	P6	163W	T1S	17,654	3	0	3	108	19,018	3	0	3	117	19,259	3	0	3	118					
				T2S	17,635	3	0	3	108	18,998	3	0	3	117	19,238	3	0	3	118					
				T2M	17,726	3	0	3	109	19,096	3	0	3	117	19,337	3	0	3	119					
				T3S	17,167	3	0	3	105	18,493	3	0	3	113	18,727	3	0	3	115					
				T3M	17,683	3	0	3	108	19,049	3	0	3	117	19,290	3	0	3	118					
				T4M	17,299	3	0	3	106	18,635	3	0	4	114	18,871	3	0	4	116					
				TFTM	17,672	3	0	3	108	19,038	3	0	4	117	19,279	3	0	4	118					
				TSVS	18,379	4	0	1	113	19,800	4	0	1	121	20,050	4	0	1	123					
				TSS	18,394	4	0	2	113	19,816	4	0	2	122	20,066	4	0	2	123					
				T5M	18,348	4	0	2	113	19,766	4	0	2	121	20,016	4	0	2	123					
				TSW	18,228	5	0	3	112	19,636	5	0	3	120	19,885	5	0	3	122					
				BLC	14,489	2	0	2	89	15,609	2	0	3	96	15,806	2	0	3	97					
				LCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72					
				RCCO	10,781	1	0	3	66	11,614	1	0	3	71	11,761	2	0	3	72					
40	1400	P7	183W	T1S	19,227	3	0	3	105	20,712	3	0	3	113	20,975	3	0	3	115					
				T2S	19,206	3	0	3	105	20,690	3	0	3	113	20,952	3	0	3	114					
				T2M	19,305	3	0	3	105	20,797	3	0	3	114	21,060	3	0	3	115					
				T3S	18,696	3	0	3	102	20,141	3	0	3	110	20,396	3	0	4	111					
				T3M	19,258	3	0	3	105	20,746	3	0	3	113	21,009	3	0	3	115					
				T4M	18,840	3	0	4	103	20,296	3	0	4	111	20,553	3	0	4	112					
				TFTM	19,246	3	0	4	105	20,734	3	0	4	113	20,996	3	0	4	115					
				TSVS	20,017	4	0	1	109	21,564	4	0	1	118	21,837	4	0	1	119					
				TSS	20,033	4	0	2	109	21,581	4	0	2	118	21,854	4	0	2	119					
				T5M	19,983	4	0	2	109	21,527	5	0	3	118	21,799	5	0	3	119					
				TSW	19,852	5	0	3	108	21,386	5	0	3	117	21,656	5	0	3	118					
				BLC	15,780	2	0	3	86	16,999	2	0	3	93	17,214	2	0	3	94					
				LCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70					
				RCCO	11,742	2	0	3	64	12,649	2	0	3	69	12,809	2	0	3	70					
60	1050	P8	207W	T1S	22,490	3	0	3	109	24,228	3	0	3	117	24,535	3	0	3	119					
				T2S	22,466	3	0	4	109	24,202	3	0	4	117	24,509	3	0	4	118					
				T2M	22,582	3	0	3	109	24,327	3	0	3	118	24,635	3	0	3	119					
				T3S	21,870	3	0	4	106	23,560	3	0	4	114	23,858	3	0	4	115					
				T3M	22,527	3	0	4	109	24,268	3	0	4	117	24,575	3	0	4	119					
				T4M	22,038	3	0	4	106	23,741	3	0	4	115	24,041	3	0	4	116					
				TFTM	22,513	3	0	4	109	24,253	3	0	4	117	24,560	3	0	4	119					
				TSVS	23,415	5	0	1	113	25,224	5	0	1	122	25,543	5	0	1	123					
				TSS	23,434	4	0	2	113	25,244	4	0	2	122	25,564	4	0	2	123					
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123					
				TSW	23,221	5	0	4	112	25,016	5	0	4	121	25,332	5	0	4	122					
				BLC	18,458	2	0	3	89	19,885	2	0	3	96	20,136	2	0	3	97					
				LCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72					
				RCCO	13,735	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72					
60	1250	P9	241W	T1S	25,575	3	0	3	106	27,551	3	0	3	114	27,900	3	0	3	116					
				T2S	25,548	3	0	4	106	27,522	3	0	4	114	27,871	3	0	4	116					
				T2M	25,680	3	0	3	107	27,664	3	0	3	115	28,014	3	0	3	116					
				T3S	24,870	3	0	4	103	26,791	3	0	4	111	27,130	3	0	4	113					
				T3M	25,617	3	0	4	106	27,597	3	0	4	115	27,946	3	0	4	116					
				T4M	25,061	3	0	4	104	26,997	3	0	4	112	27,339	3	0	4	113					
				TFTM	25,602	3	0	4	106	27,580	3	0	4	114	27,929	3	0	4	116					
				TSVS	26,626	5	0	1	110	28,684	5	0	1	119	29,047	5	0	1	121					
				TSS	26,648	4	0	2	111	28,707	5	0	2	119	29,070	5	0	2	121					
				T5M	26,581	5	0	3	110	28,635	5	0	3	119	28,997	5	0	3	120					
				TSW	26,406	5	0	4	110	28,447	5	0	4	118	28,807	5	0	4	120					
				BLC	20,990	2	0	3	87	22,612	2	0	3	94	22,898	2	0	3	95					
				LCCO	15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71					
					15,619	2	0	4	65	16,825	2	0	4	70	17,038	2	0	4	71					

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics																								
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
60	530	P10	106W	T1S	13,042	3	0	3	123	14,050	3	0	3	133	14,228	3	0	3	134	7,167	2	0	2	72
				T2S	12,967	4	0	4	122	13,969	4	0	4	132	14,146	4	0	4	133	7,507	2	0	2	76
				T2M	13,201	3	0	3	125	14,221	3	0	3	134	14,401	3	0	3	136	7,263	2	0	2	73
				T3S	12,766	4	0	4	120	13,752	4	0	4	130	13,926	4	0	4	131	7,424	2	0	2	75
				T3M	13,193	4	0	4	124	14,213	4	0	4	134	14,393	4	0	4	136	7,387	2	0	2	75
				T4M	12,944	4	0	4	122	13,945	4	0	4	132	14,121	4	0	4	133	7,400	2	0	2	75
				TFTM	13,279	4	0	4	125	14,305	4	0	4	135	14,486	4	0	4	137	7,288	1	0	2	74
				T5VS	13,372	3	0	1	126	14,405	4	0	1	136	14,588	4	0	1	138	7,734	3	0	1	78
				T5S	13,260	3	0	1	125	14,284	3	0	1	135	14,465	3	0	1	136	7,641	3	0	0	77
				T5M	13,256	4	0	2	125	14,281	4	0	2	135	14,462	4	0	2	136	7,737	3	0	2	78
				T5W	13,137	4	0	3	124	14,153	4	0	3	134	14,332	4	0	3	135	7,522	3	0	2	76
				BLC	10,906	3	0	3	103	11,749	3	0	3	111	11,898	3	0	3	112					
				LCCO	7,789	1	0	3	73	8,391	1	0	3	79	8,497	1	0	3	80					
				RCCO	7,779	4	0	4	73	8,380	4	0	4	79	8,486	4	0	4	80					
60	700	P11	137W	T1S	16,556	3	0	3	121	17,835	3	0	3	130	18,061	4	0	4	132	8,952	2	0	2	68
				T2S	16,461	4	0	4	120	17,733	4	0	4	129	17,957	4	0	4	131	9,377	2	0	2	72
				T2M	16,758	4	0	4	122	18,053	4	0	4	132	18,281	4	0	4	133	9,072	2	0	2	69
				T3S	16,205	4	0	4	118	17,457	4	0	4	127	17,678	4	0	4	129	9,273	2	0	2	71
				T3M	16,748	4	0	4	122	18,042	4	0	4	132	18,271	4	0	4	133	9,227	2	0	2	70
				T4M	16,432	4	0	4	120	17,702	4	0	4	129	17,926	4	0	4	131	9,243	2	0	2	71
				TFTM	16,857	4	0	4	123	18,159	4	0	4	133	18,389	4	0	4	134	9,103	2	0	2	69
				T5VS	16,975	4	0	1	124	18,287	4	0	1	133	18,518	4	0	1	135	9,661	3	0	1	74
				T5S	16,832	4	0	1	123	18,133	4	0	2	132	18,362	4	0	2	134	9,544	3	0	1	73
				T5M	16,828	4	0	2	123	18,128	4	0	2	132	18,358	4	0	2	134	9,665	3	0	2	74
				T5W	16,677	4	0	3	122	17,966	5	0	3	131	18,193	5	0	3	133	9,395	4	0	2	72
				BLC	13,845	3	0	3	101	14,915	3	0	3	109	15,103	3	0	3	110					
				LCCO	9,888	1	0	3	72	10,652	2	0	3	78	10,787	2	0	3	79					
				RCCO	9,875	4	0	4	72	10,638	4	0	4	78	10,773	4	0	4	79					
60	1050	P12	207W	T1S	22,996	4	0	4	111	24,773	4	0	4	120	25,087	4	0	4	121					
				T2S	22,864	4	0	4	110	24,631	5	0	5	119	24,943	5	0	5	120					
				T2M	23,277	4	0	4	112	25,075	4	0	4	121	25,393	4	0	4	123					
				T3S	22,509	4	0	4	109	24,248	5	0	5	117	24,555	5	0	5	119					
				T3M	23,263	4	0	4	112	25,061	4	0	4	121	25,378	4	0	4	123					
				T4M	22,824	5	0	5	110	24,588	5	0	5	119	24,899	5	0	5	120					
				TFTM	23,414	5	0	5	113	25,223	5	0	5	122	25,543	5	0	5	123					
				T5VS	23,579	5	0	1	114	25,401	5	0	1	123	25,722	5	0	1	124					
				T5S	23,380	4	0	2	113	25,187	4	0	2	122	25,506	4	0	2	123					
				T5M	23,374	5	0	3	113	25,181	5	0	3	122	25,499	5	0	3	123					
				T5W	23,165	5	0	4	112	24,955	5	0	4	121	25,271	5	0	4	122					
				BLC	19,231	4	0	4	93	20,717	4	0	4	100	20,979	4	0	4	101					
				LCCO	13,734	2	0	3	66	14,796	2	0	4	71	14,983	2	0	4	72					
				RCCO	13,716	4	0	4	66	14,776	4	0	4	71	14,963	4	0	4	72					
60	1250	P13	231W	T1S	25,400	4	0	4	110	27,363	4	0	4	118	27,709	4	0	4	120					
				T2S	25,254	5	0	5	109	27,205	5	0	5	118	27,550	5	0	5	119					
				T2M	25,710	4	0	4	111	27,696	4	0	4	120	28,047	4	0	4	121					
				T3S	24,862	5	0	5	108	26,783	5	0	5	116	27,122	5	0	5	117					
				T3M	25,695	5	0	5	111	27,680	5	0	5	120	28,031	5	0	5	121					
				T4M	25,210	5	0	5	109	27,158	5	0	5	118	27,502	5	0	5	119					
				TFTM	25,861	5	0	5	112	27,860	5	0	5	121	28,212	5	0	5	122					
				T5VS	26,043	5	0	1	113	28,056	5	0	1	121	28,411	5	0	1	123					
				T5S	25,824	4	0	2	112	27,819	5	0	2	120	28,172	5	0	2	122					
				T5M	25,818	5	0	3	112	27,813	5	0	3	120	28,165	5	0	3	122					
				T5W	25,586	5	0	4	111	27,563	5	0	4	119	27,912	5	0	4	121					
				BLC	21,241	4	0	4	92	22,882	4	0	4	99	23,172	4	0	4	100					
				LCCO	15,170	2	0	4	66	16,342	2	0	4	71	16,549	2	0	4	72					
					15,150	5	0	5	66	16,321	5	0	5	71	16,527	5	0	5	72					

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 1 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and streetscapes.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (1.01 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 3000 K, 4000 K and 5000 K (70 CRI) configurations. The D-Series Size 1 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1

electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 1 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 1 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS

UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

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.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



LED AREA LIGHTS - LSI SLICE LARGE (XLCL)



US patent D726,947 7,828,456 8,002,428 8,177,386 8,434,893 8,567,983 and US & Int'l. patents pending

SMARTTEC™ - LSI drivers feature integral sensor which reduces drive current, when ambient temperatures exceed rated temperature.

ENERGY SAVING CONTROL OPTION - DIM - 0-10 volt dimming enabled. Available with integrated LSI Controls wireless modules.

LEDS - Select high-brightness LEDs in Cool White (5000K), or Neutral White (4000K) color temperature, 70 CRI.

DISTRIBUTION/PERFORMANCE - Types 3, 5, FT, FT-L, FT-R and FTA available. Type FTA available for single automotive front row design. FT-L and FT-R allow for D180 mounting configurations with factory set optics for applications such automotive front row. Exceptional uniformity creates bright environment at lower light levels.

HOUSING - One-piece, die-formed aluminum housing contains factory prewired driver in a gasketed, weather-resistant wiring compartment. Hinged wiring access door (with safety lanyard) located underneath. Fixture is IP65 rated.

OPTICAL UNIT - Clear tempered optical-grade flat glass lens permanently sealed to weather-tight aluminum optic frame (includes pressure-stabilizing breather).

MOUNTING - Tapered rear design allows fixtures to be mounted in 90° and 120° configurations. Use with 5" traditional drilling pattern. A round pole plate (RPP2) is required for mounting to round poles. Wall mount available by ordering wall mounting bracket (BKS-BO-WM-* -CLR). Mast Arm mounting available by ordering BKA-NM-MA-5-XLCL-CLR adaptor (for 2" pipe). See Accessories for all brackets.

ELECTRICAL - Two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Location Category C. Available with universal voltage power supply 120-277VAC (50/60Hz input) and 347-480 VAC. Optional twistlock photocell receptacle is available. Photocell must be ordered separately.

DRIVER - Available in SS (Super Saver) and HO (High Output) drive currents. Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can be easily accessed.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F)

FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Available in black, bronze and white. Other standard LSI finishes available. Consult factory.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at www.lsi-industries.com for detailed photometric data.

SHIPPING WEIGHT (in carton) - 55 lbs./24.9Kg

LISTING - UL listed to US and international safety standards. Suitable for wet locations.

		Lumens (Nominal)				Watts (Nominal)
		Type 3	Type FT	Type 5	FTA	
Cool White	SS	45,800	49,500	50,700	51,300	435
	HO	53,400	57,300	59,200	59,100	542
Neutral White	SS	45,600	48,600	49,600	50,400	435
	HO	52,800	56,300	57,600	57,700	542

LED Chips are frequently updated therefore values may increase.

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.

ARRA
Funding Compliant

PLC
LISTED

UL US
LISTED
wet location

RoHS
COMPLIANT

CE

FC

IP65

Fixtures comply with ANSI C136.31-2010 American National Standard for Roadway Lighting Equipment - Luminaire Vibration 1.5G requirements.



Project Name _____ Fixture Type _____

Catalog # _____

03/17/17

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LSI INDUSTRIES INC.

LED AREA LIGHTS - LSI SLICE LARGE (XLCL)

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **XLCL FT LED HO CW UE WHT PCR**

Prefix	Distribution	Light Source	Drive Current	Color Temperature	Input Voltage	Finish	Optional Controls	Options
XLCL	3 - Type III 5 - Type V FT - Forward Throw FT-L - Forward Optic Rotated for D180 Mount (Left Side) FT-R - Forward Optic Rotated for D180 Mount (Right Side) FTA - Forward Throw Automotive	LED HO - High Output	SS - Super Saver HO - High Output	CW - Cool White (5000K) NW - Neutral White (4000K)	UE - Universal Voltage (120-277V) 347-480 Universal Voltage (347-480V)	BLK - Black BRZ - Bronze WHT - White	Wireless Controls System ⁵ PCM - Platinum Control System PCMH - Host/Satellite Platinum Control System GCM - Gold Control System GCMH - Host/Satellite Gold Control System	DIM - 0-10V Dimming (from External Signal) PCR - Photoelectric Control Receptacle ¹

LUMINAIRE EPA CHART - XLCL

	Single	.7
	D180°	1.4
	D90°	1.1
	T90°	2.3
	TN120°	2.3
	Q90°	2.6

Note: House Side Shield adds to fixture EPA. Consult Factory.

ACCESSORY ORDERING INFORMATION

(Accessories are field installed)

Description	Order Number	Description	Order Number
BKS-B0-WM-* - CLR Wall Mount Plate	123111CLR	PC208-277 Photocell for use with PCR option (208V, 240V, 277V)	122515 ³
XLCL-3/FT-HSS RM - External House Side Shield (Black only - rear mounted)	610098BLK ²	PC347 Photocell for use with PCR option (347V)	159516 ³
XLCL-FT-L/FT-R-HSS SM - External House Side Shield (Black only - side mounted)	610100BLK ²	PC480 Photocell for use with PCR option (480V)	225180 ³
BKA-NM-MA-5-XLCL-CLR Mast Arm Adaptor	617865 CLR	FK120 - Single Fusing (120V)	FK120 ⁴
RPP2 - Round Pole Plate	162914CLR	FK277 - Single Fusing (277V)	FK277 ⁴
PC120 Photocell for use with PCR option (120V)	122514 ³	DFK208,240 - Double Fusing (208V, 240V)	DFK208,240 ⁴
		DFK480 Double Fusing (480V)	DFK480 ⁴
		FK347 Single Fusing (347V)	FK347 ⁴

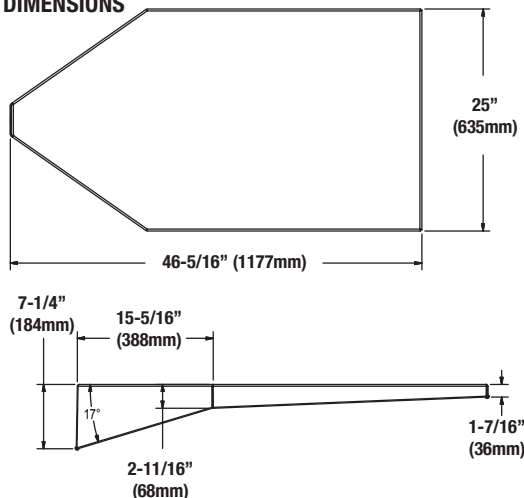
FOOTNOTES:

- 1- Photocell must be ordered separately. See Accessories.
- 2- House Side Shields add to fixture EPA. Consult factory.
- 3- Factory installed PCR option required. See Options.

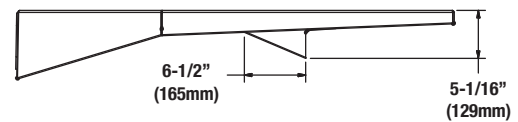
4- Fusing must be located in hand hole of pole.

5- For wireless controls information and accessories, see Controls Section.

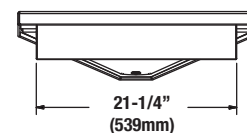
DIMENSIONS



House Side Shields

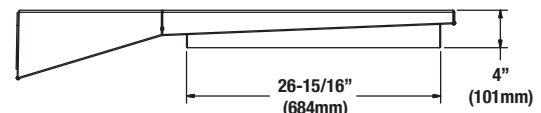


Side View



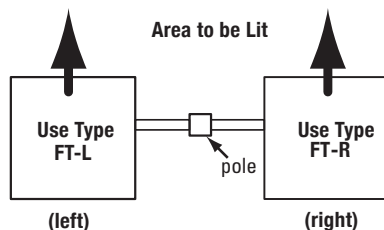
Front View

Rear Mount (610098BLK)



Side Mount (610100BLK)

LEFT AND RIGHT VERSIONS OF TYPE FT REFLECTORS (TOP VIEW)



Note: Optics are not field-rotatable. For D180 Forward Throw installations specify left (FT-L) and/or right (FT-R) side mounting. Orientation is based on standing at the pole and looking out at the area to be lit.



Project Name _____ Fixture Type _____
Catalog # _____

03/17/17
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LED AREA LIGHTS - LSI SLICE LARGE (XLCL)

BUG LISTING

XLCL - Type 3

Drive Current	Color Temp.*	Lumens	Watts	LER	BUG Rating
HO	CW	53,365	545	98	B5-U0-G4
	CW-HSS	36,015	543	66	B4-U0-G4
	NW	52,840	544	97	B5-U0-G4
	NW-HSS	35,358	543	65	B4-U0-G4
SS	CW	45,829	424	108	B5-U0-G4
	CW-HSS	31,300	427	73	B4-U0-G3
	NW	45,570	428	106	B5-U0-G4
	NW-HSS	30,512	429	71	B4-U0-G3

XLCL - Type FT-L

Drive Current	Color Temp.*	Lumens	Watts	LER	BUG Rating
HO	CW	58,144	545	107	B5-U0-G5
	CW-HSS	48,083	547	88	B5-U0-G5
	NW	57,001	544	105	B5-U0-G5
	NW-HSS	45,910	544	84	B5-U0-G5
SS	CW	49,913	435	115	B5-U0-G5
	CW-HSS	41,457	428	97	B5-U0-G5
	NW	48,751	434	112	B5-U0-G5
	NW-HSS	39,767	423	94	B5-U0-G5

XLCL - Type 5

Drive Current	Color Temp.*	Lumens	Watts	LER	BUG Rating
HO	CW	59,153	547	108	B5-U0-G4
	CW-HSS	36,076	544	66	B4-U0-G4
	NW	57,636	545	106	B5-U0-G4
	NW-HSS	35,681	544	66	B4-U0-G4
SS	CW	50,680	434	117	B5-U0-G4
	CW-HSS	31,200	427	73	B4-U0-G4
	NW	49,629	434	114	B5-U0-G4
	NW-HSS	29,657	422	70	B4-U0-G4

XLCL - Type FT-R

Drive Current	Color Temp.*	Lumens	Watts	LER	BUG Rating
HO	CW	58,144	545	107	B5-U0-G5
	CW-HSS	48,083	547	88	B5-U0-G5
	NW	57,001	544	105	B5-U0-G5
	NW-HSS	45,910	544	84	B5-U0-G5
SS	CW	49,913	435	115	B5-U0-G5
	CW-HSS	41,457	428	97	B5-U0-G5
	NW	48,751	434	112	B5-U0-G5
	NW-HSS	39,768	423	94	B5-U0-G5

* Color Temperature: NW-4000K, CW-5000K

XLCL - Type FTA

Drive Current	Color Temp.*	Lumens	Watts	LER	BUG Rating
HO	CW	59061	533	111	B4-U0-G3
	CW-HSS	55,330	533	104	B4-U0-G3
	NW	57,718	533	108	B4-U0-G3
	NW-HSS	54,094	533	102	B4-U0-G3
SS	CW	51,332	429	120	B4-U0-G3
	CW-HSS	48,395	429	113	B4-U0-G3
	NW	50,417	429	117	B4-U0-G3
	NW-HSS	47,071	429	110	B4-U0-G2

XLCL - Type FT

Drive Current	Color Temp.*	Lumens	Watts	LER	BUG Rating
HO	CW	57,320	545	105	B4-U0-G5
	CW-HSS	41,895	544	77	B3-U0-G5
	NW	56,282	546	103	B4-U0-G5
	NW-HSS	41,730	544	77	B3-U0-G5
SS	CW	49,499	437	113	B4-U0-G5
	CW-HSS	37,097	427	87	B3-U0-G4
	NW	48,586	437	111	B4-U0-G5
	NW-HSS	35,457	425	83	B3-U0-G4



LED SURFACE MOUNT - LEGACY™ (CRUS SM)



US & Int'l. patents pending.

HOUSING - One-piece, die-formed, aluminum housing with powder coated finish. One conduit knockout and four mounting holes. 2x2 housing is formed from zinc-coated steel.

LEDS - Features an array of select, mid-power, high brightness, high efficiency LED chips; 5000K color temperature, 70 CRI.

DRIVE CURRENT - Choice of Very Low Wattage (VLW), Low Wattage (LW), Super Saver (SS), High Output (HO) or Very High Output (VHO).

OPTICS / DISTRIBUTION - Symmetrical, which directs light through a glass lens to provide a uniform distribution of light to vertical and horizontal surfaces.

OPTICAL UNIT - Features an ultra-slim 7/8" profile die cast housing, with a standard flat clear or diffused glass lens. Unit is water-resistant, sealed to an IP67 rating. Integral designed heat sink does not trap dirt and grime, ensuring cool running performance over the life of the fixture.

PRESSURE STABILIZING VENT - Luminaire assembly incorporates a pressure stabilizing vent breather to prevent seal fatigue and failure.

DRIVER - State-of-the-art driver technology superior energy-efficiency and optimum light output. Driver components are fully encased in potting for moisture resistance. Complies with IEC and FCC standards. 0-10 V dimming supplied standard with all drive currents.

ADAPTOR PANEL - Die formed galvanized steel, with powder coat finish.

OPERATING TEMPERATURE - -40°C to 50°C (-40°F to +122°F)

ELECTRICAL - Universal voltage power supply, 120-277 VAC, 50/60 HZ input. Drivers feature two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Scenario 1, Location Category C.

FINISH - Standard color is white and is finished with LSI's DuraGrip polyester powder coat process. DuraGrip withstands extreme weather changes without cracking or peeling.

INSTALLATION - Pre-assembled optical unit and mounting panel attaches to fixture housing via 4 fasteners. Driver is pre-mounted to back of optical assembly.

SHIPPING WEIGHT - 35 pounds.

EXPECTED LIFE - Minimum 60,000 to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

WARRANTY - Limited 5-year warranty.

PHOTOMETRICS - Applications layouts are available upon request. Contact LSI Petroleum Lighting or petroleum.apps@lsi-industries.com

LISTING - UL listed to UL 1598, UL 8750 and other U.S. and International safety standards. Suitable for wet locations. For a list of the specific products in this series that are DLC listed, please consult the LED Lighting section of our website or the Design Lights website at www.designlights.org.

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



IP67



Project Name _____ Fixture Type _____
Catalog # _____

6/6/17
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LSI INDUSTRIES INC.

LED SURFACE MOUNT - LEGACY™ (CRUS SM)

LUMINAIRE ORDERING INFORMATION

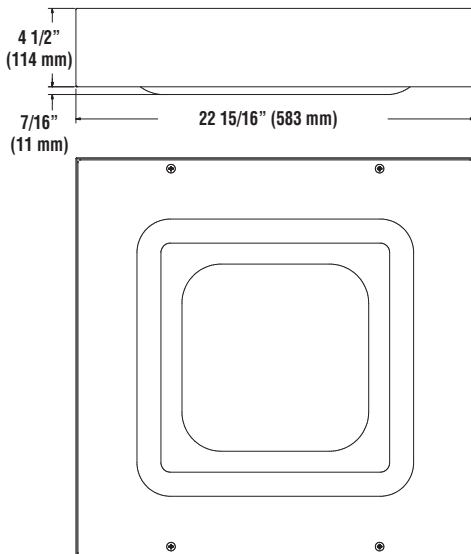
TYPICAL ORDER EXAMPLE: **CRUS SM SC LED VHO 50 UE WHT**

Prefix	Distribution	Light Source	Drive Current	Color Temperature	Input Voltage	Finish	Options
CRUS SM (Surface Mount)	SC - Standard Symmetric	LED	VLW - Very Low Watt LW - Low Watt SS - Super Saver HO - High Output VHO - Very High Output	50 - 5000K	UE - Universal Voltage (120-277V) 347-480 Volt	WHT - White BRZ - Bronze BLK - Black	DFL - Diffused Lens

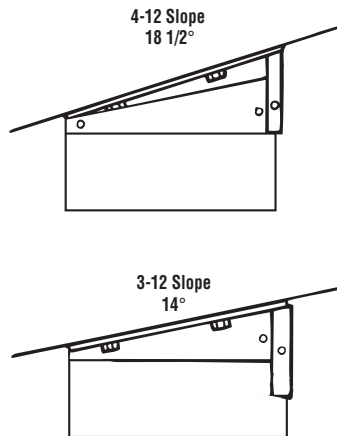
ACCESSORY ORDERING INFORMATION

Description	Order Number
SSA Slope Surface Adaptor	52152 CLR
2x2 Shallow Housing Only	545376
10' Toggle Cable Hanger	TCH10

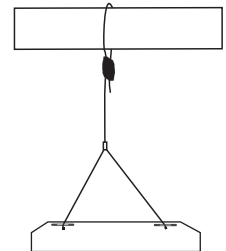
DIMENSIONS



SLOPE SURFACE ADAPTOR – SSA ACCESSORY



TOGGLE CABLE HANGER



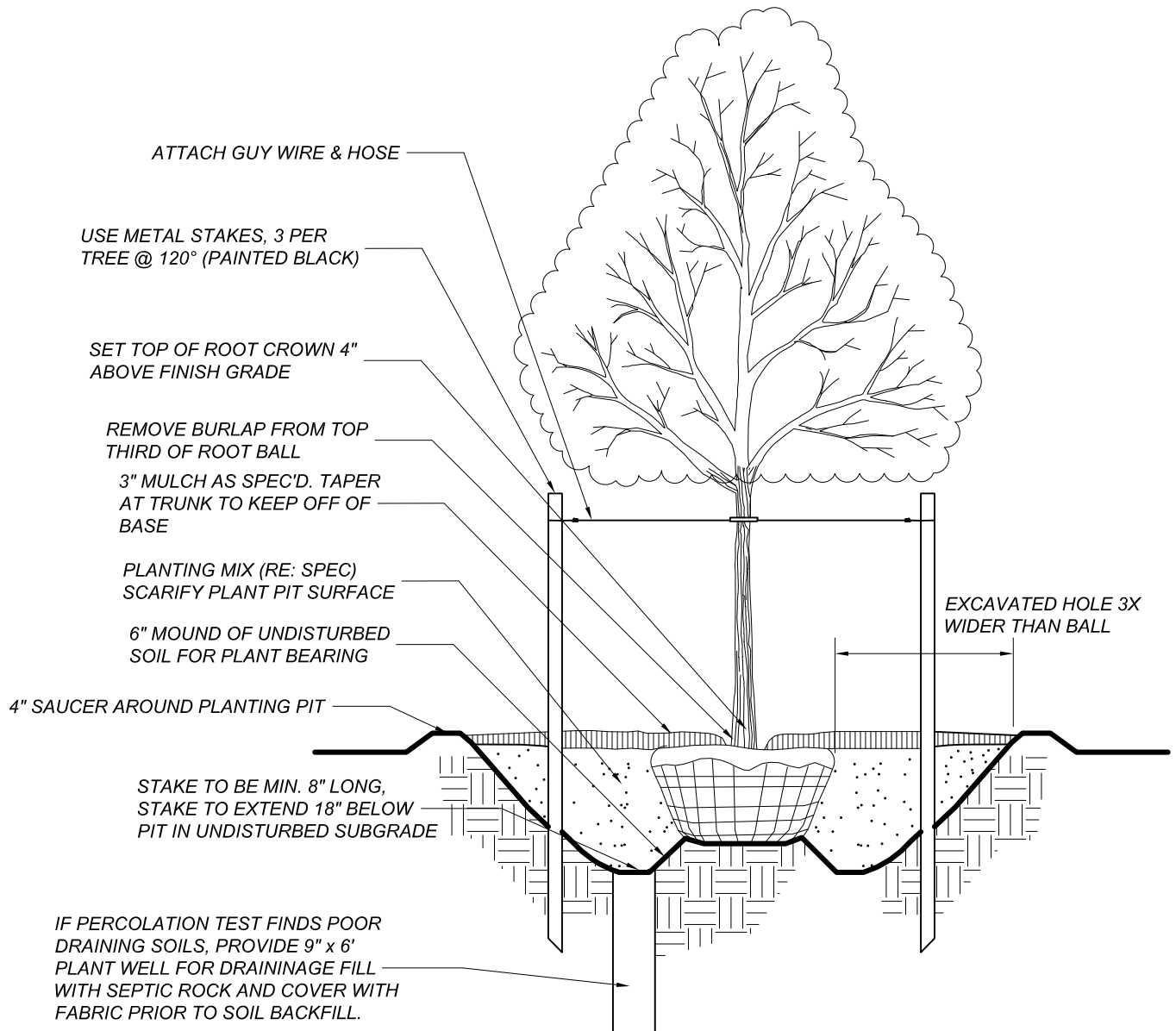
LIGHT OUTPUT - CRUS SM

		Lumens		Watts	LPW	
		SC	AC	SC/AC	SC	AC
Cool White	VLW - Very Low Watt	9055	7632	61	148	125
	LW - Low Watt	10525	8884	74	142	120
	SS - Super Saver	13674	11595	98	140	118
	HO - High Output	18633	15145	132	141	115
	VHO - Very High Output	22418	17262	159	141	109



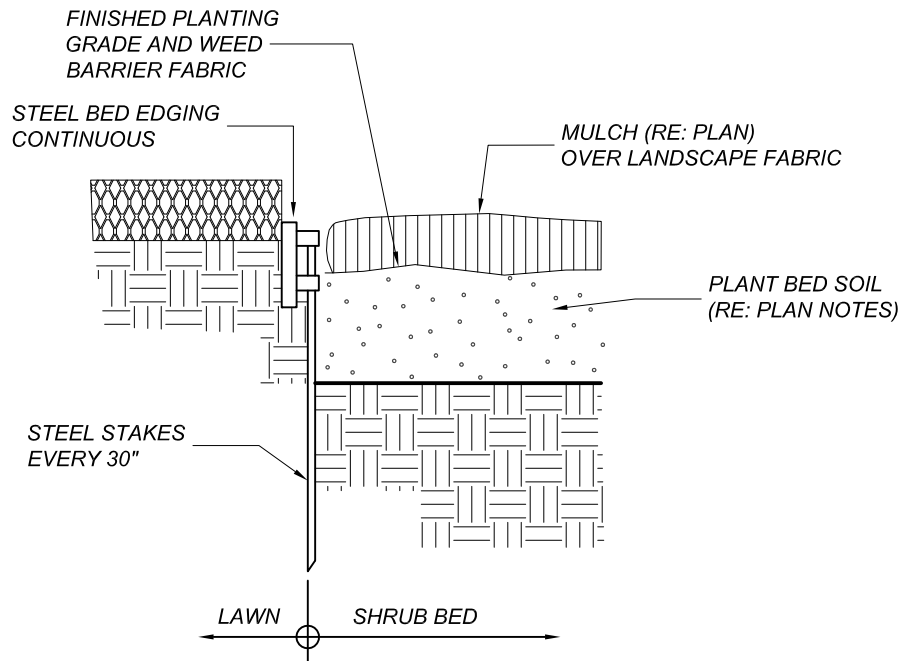
Project Name _____ Fixture Type _____
Catalog # _____

6/6/17
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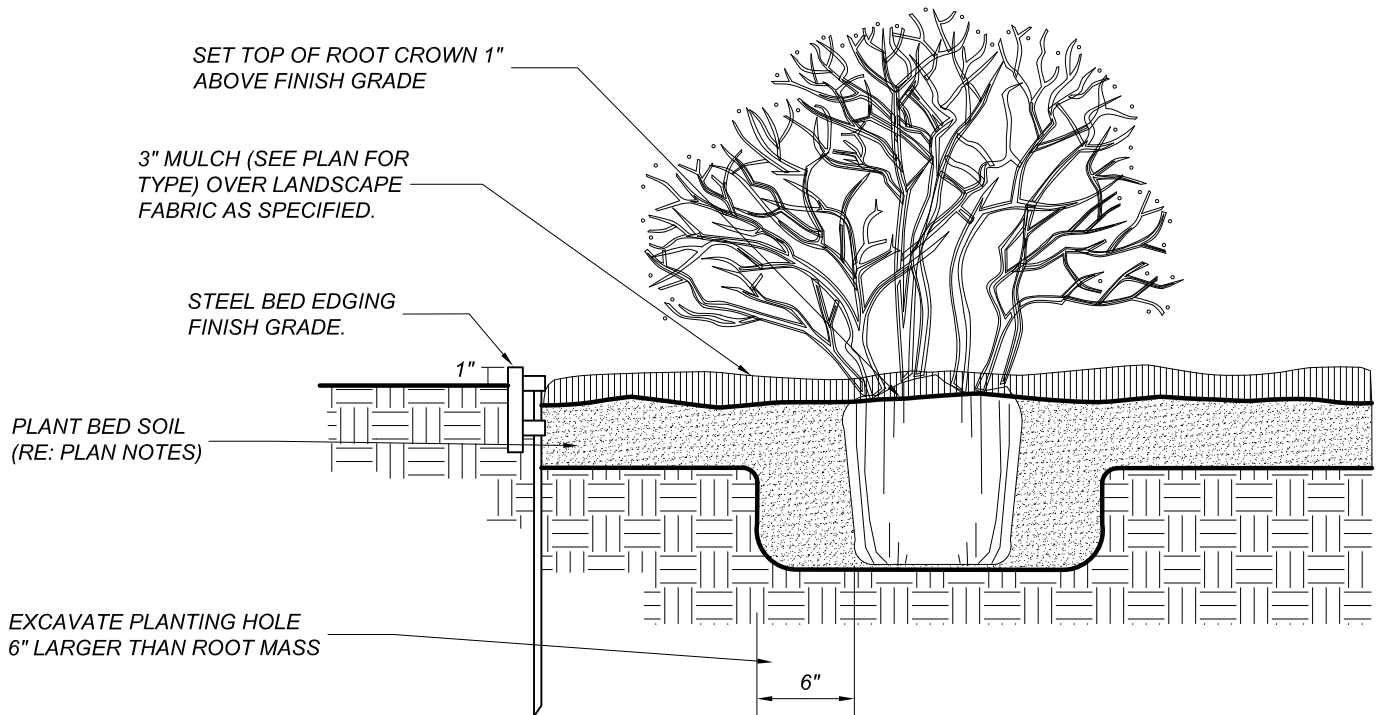
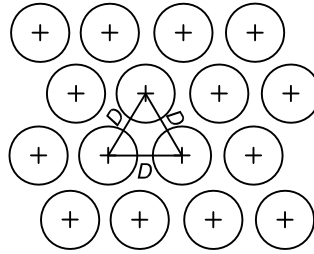
TYPICAL LANDSCAPING DETAIL

TREE PLANTING



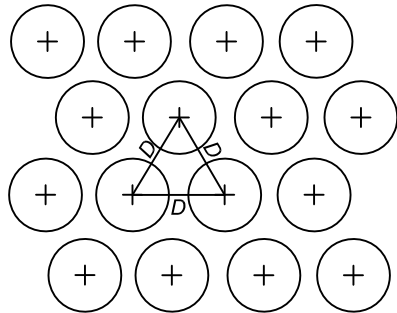
TYPICAL LANDSCAPING DETAIL
STEEL BED EDGING

*D - DIMENSION OF SHRUB SPACING
AS DETERMINED BY SCALING OF
PLANTING PLAN TO NEAREST 6"*



TYPICAL LANDSCAPING DETAIL

SHRUB PLANTING

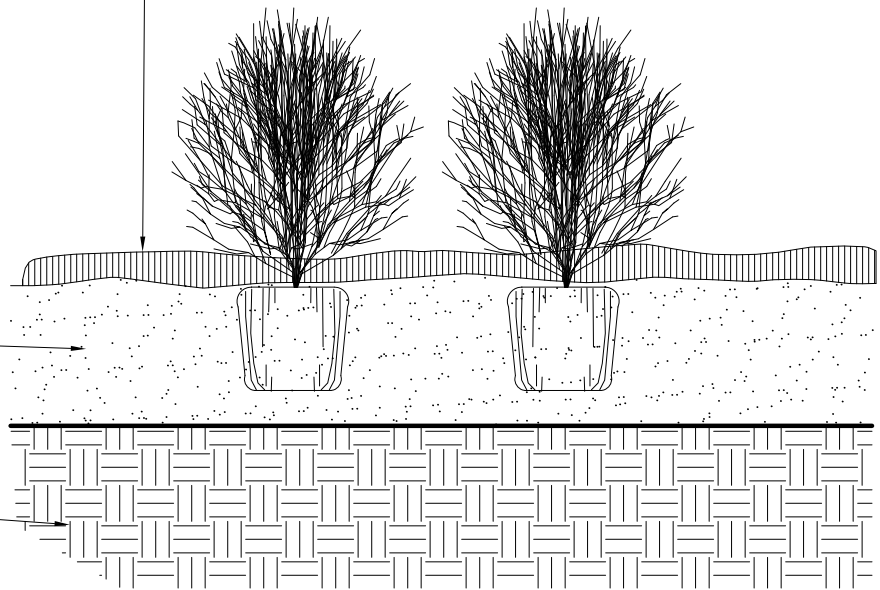


*D - DIMENSION OF SHRUB SPACING
AS DETERMINED BY SCALING OF
PLANTING PLAN TO NEAREST 6"*

*3" MULCH (SEE PLAN FOR TYPE) OVER
LANDSCAPE FABRIC AND
PRE-EMERGENT HERBICIDE.*

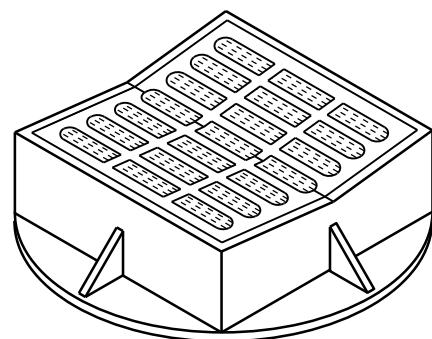
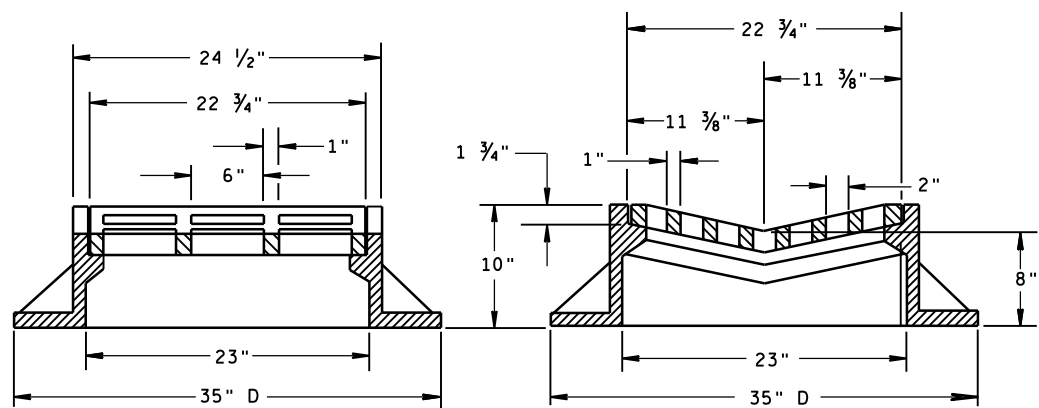
*PLANT BED SOIL MIXTURE
(RE: PLAN & SPECS.)*

*UNDISTURBED
EXISTING SOIL*

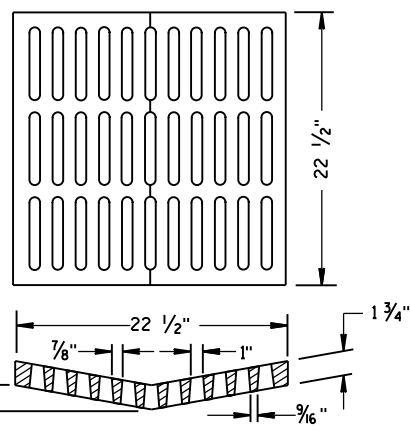


TYPICAL LANDSCAPING DETAIL

PERENNIAL PLANTING

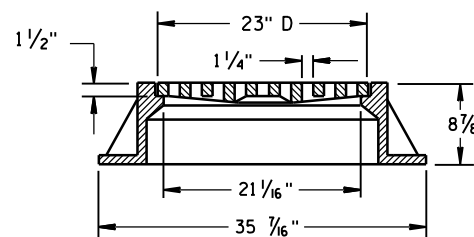
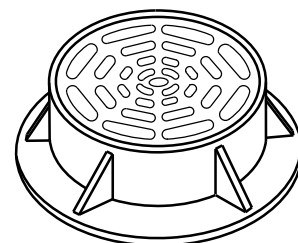
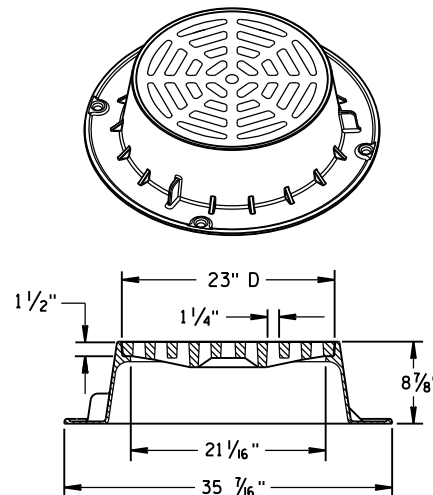


TYPE "B"



ALTERNATIVE GRATE FOR
TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

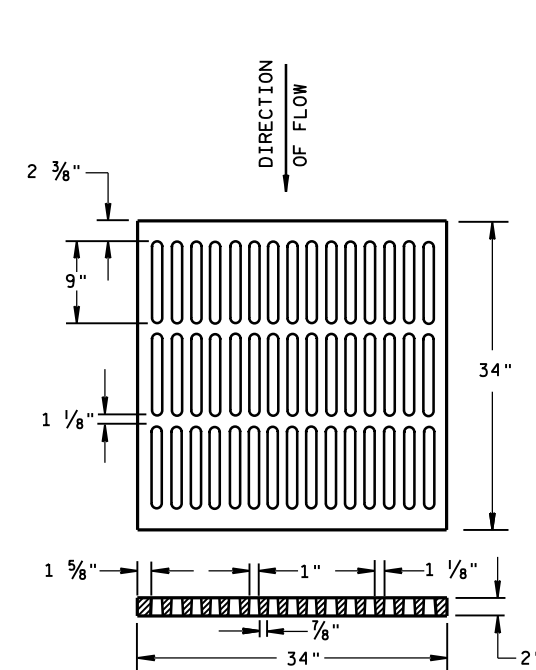
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

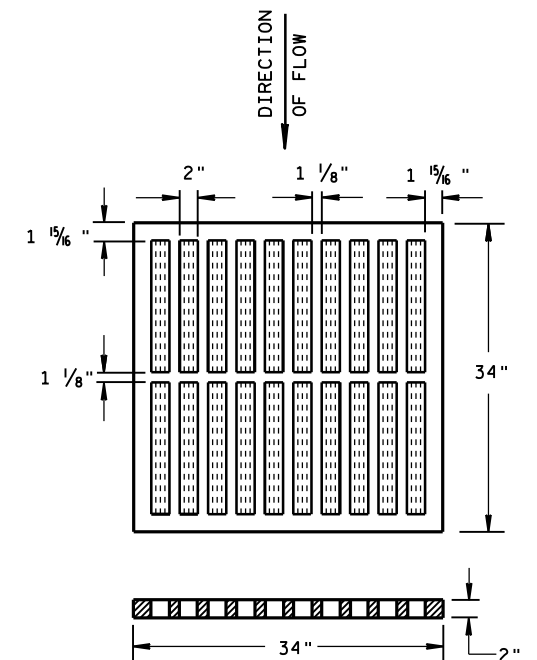
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



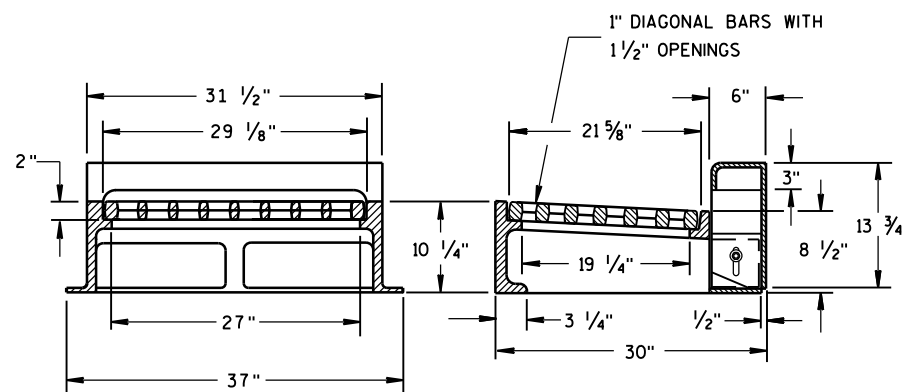
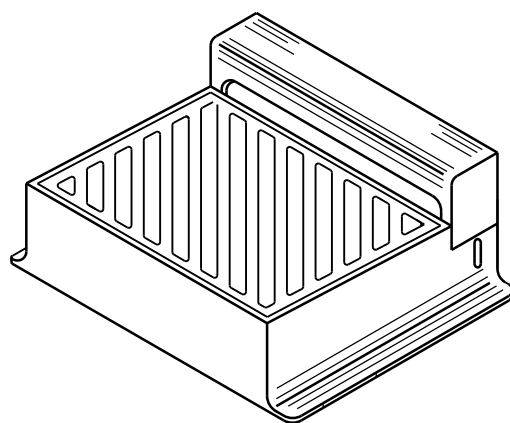
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

DIAGONAL SLOTS, SHALL BE ORIENTED
TO THE DIRECTION OF FLOW AS ILLUSTRATED.
GRATES ARE MANUFACTURED TO BE REVERSIBLE.

INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

*Inlet Covers Type B, B-A, C, MS, MS-A, and WM***References:**[FDM 13-25-30](#)

Neenah Foundry Company Catalog "Construction Castings"

Bid items associated with this drawing:

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
611.0606	Inlet Covers Type B	EACH
611.0609	Inlet Covers Type B-A.....	EACH
611.0612	Inlet Covers Type C	EACH
611.0642	Inlet Covers Type MS	EACH
611.0645	Inlet Covers Type MS-A.....	EACH
611.0660	Inlet Covers Type WM	EACH

Standardized Special Provisions associated with this drawing:

NONE

Other SDDs associated with this drawing:

NONE

Design Notes:

When alternative grates are required, note a Type B-A or MS-A and use the appropriate bid item number.

Inlet Covers Type B and B-A are placed on Inlets 2x2-FT. Type B and B-A covers may also be placed on Inlets 3-FT and 4-FT Diameter and Catch Basins 3-FT, 4-FT, 5-FT and 6-FT Diameter with a flat top 2x2-FT opening.

Inlet Covers Type C are placed on circular inlets, circular catch basins, and square or circular manholes with a 2' diameter opening size.

Inlet Covers Type MS and MS-A are to be placed on Inlet Median 1, 2, 3, or 4 Grates.

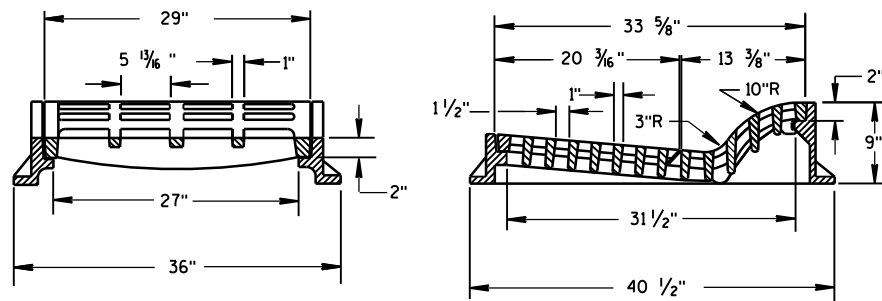
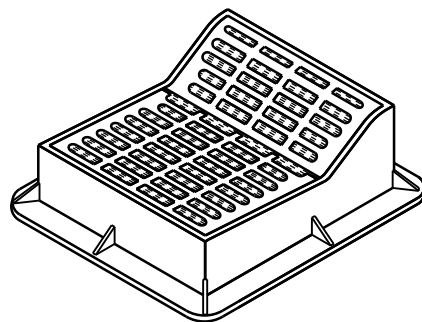
Inlet Covers Type WM is placed on Inlets and Catch Basins 2x2.5-FT. Type WM Covers may also be placed on Inlets 4-FT Diameter and Catch Basins 4-FT, 5-FT and 6-FT Diameter with a flat top 2x2.5-FT opening.

Contact Person:

Ann-Marie Kirsch (608) 267-3766

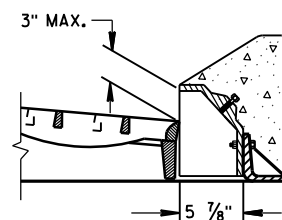


SDD 8a5-c Inlet Covers Type F, HM, HM-S, S, T, V, HM-GJ, and HM-GJ-S



TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



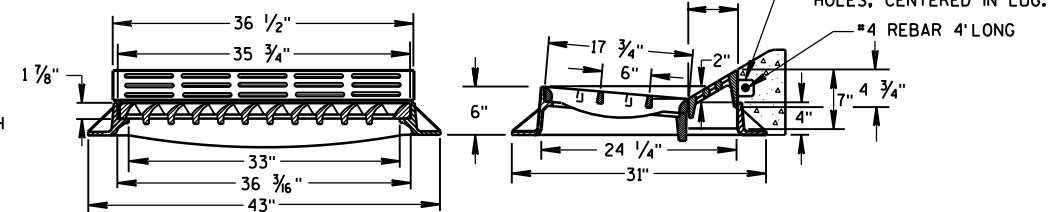
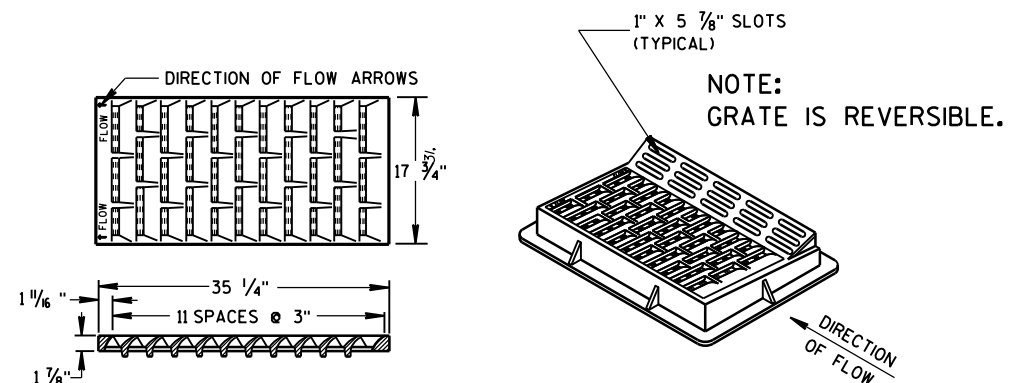
ALTERNATIVE CURB BOX
FOR TYPE "HM" COVER

USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

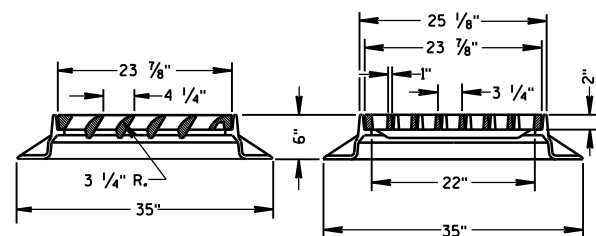
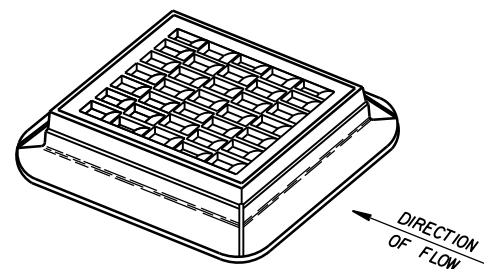
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



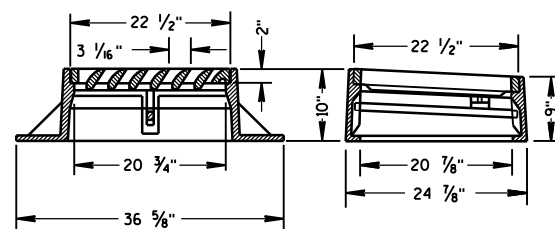
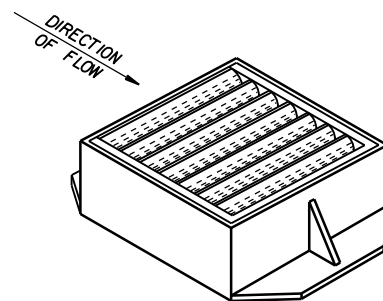
TYPE "HM"

USE WITH TYPES A & D CONCRETE
CURB & GUTTER, 36 INCH.

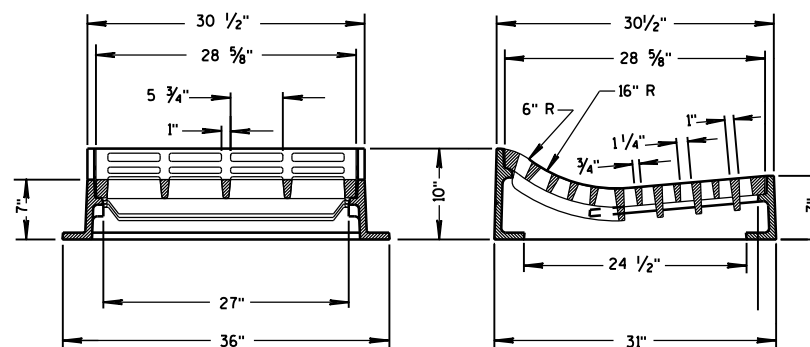
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



TYPE "S"

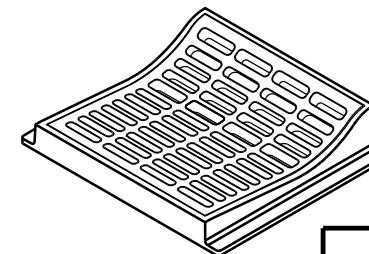


TYPE "V"



TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



INLET COVERS
TYPE F, HM, HM-S, S, T, V,
HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

*Inlet Covers Type F, HM, HM-S, S, T, V, HM-GJ, and HM-GJ-S***References:**

[FDM 11-20-1](#)
[FDM 11-45-10](#)
[FDM 13-25-15](#)
[FDM 13-25-30](#)

Neenah Foundry Company Catalog "Construction Castings"

Bid items associated with this drawing:

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
611.0615	Inlet Covers Type F.....	EACH
611.0627	Inlet Covers Type HM	EACH
611.0630	Inlet Covers Type HM-GJ	EACH
611.0633	Inlet Covers Type HM-GJ-S.....	EACH
611.0636	Inlet Covers Type HM-S.....	EACH
611.0654	Inlet Covers Type V	EACH
611.0651	Inlet Covers Type S	EACH
611.0652	Inlet Covers Type T.....	EACH

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:

NONE

Design Notes:

When special grate is required for Type HM cover, note the inlet as HM-S.

When special grate is required for Type HM-GJ cover, note the inlet as HM-GJ-S. Note alternative curb box for Type HM cover, note the inlet as Type HM-GJ.

Inlet cover Type F is placed on Inlets and Catch Basins 2.5x3-FT. Type F covers may also be placed on Inlets 4-FT Diameter and Catch Basins 4-FT, 5-FT and 6-FT Diameter with a flat top 2.5x3-FT opening.

Inlet Covers Type HM, HM-S, HM-GJ and HM-GJ-S are placed on Inlets and Catch Basins 2x3-FT. Type HM, HM-S, HM-GJ and HM-GJ-S covers may also be placed on Inlets 4-FT Diameter, Catch Basins 4-FT, 5-FT and 6-FT Diameter with a flat top 2x3-FT opening.

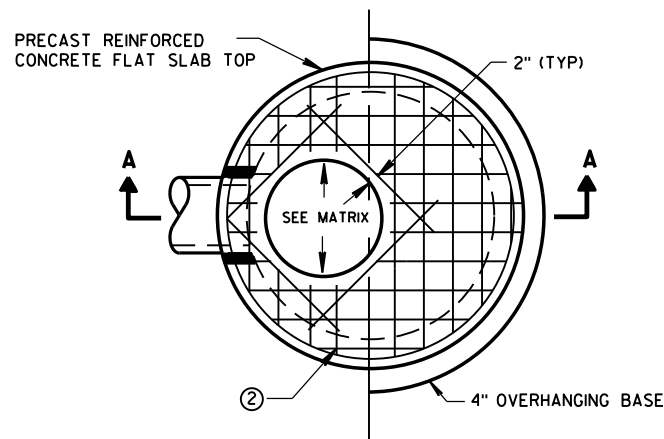
Inlet Cover Type S is placed on Inlets 2x2-FT or 2x2.5-FT. Inlet Cover Type S may also be placed on Inlets 3-FT and Catch Basin 3-FT Diameter with a flat top 2x2-FT opening or Inlets 4-FT Diameter and Catch Basins 4-FT, 5-FT and 6-FT Diameter with a flat top 2x2-FT or 2x2.5-FT opening.

Inlet Cover Type T is placed on Inlets 2x2.5-FT. Inlet Cover Type T may also be placed on Inlets 4-FT Diameter and Catch Basin 4-FT, 5-FT and 6-FT Diameter with a flat top 2x2.5-FT opening. Type T covers are used on Type R and T curb and gutter.

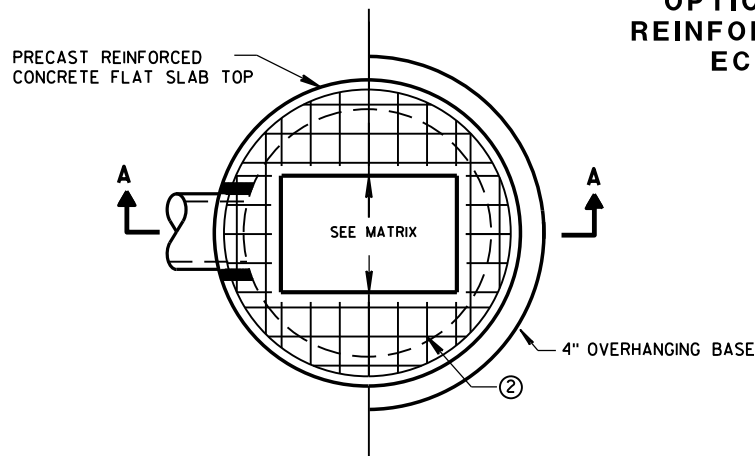
Inlet Cover Type V can be placed on Inlets 2x2-FT or 2x2.5-FT. However, Type V have unique dimensions that don't fit these inlets well. Consider using Inlet 3-FT or Catch Basin 3-FT to 6-FT with a 24x21-Inch centered opening. A special construction detail will be required.

Contact Person:

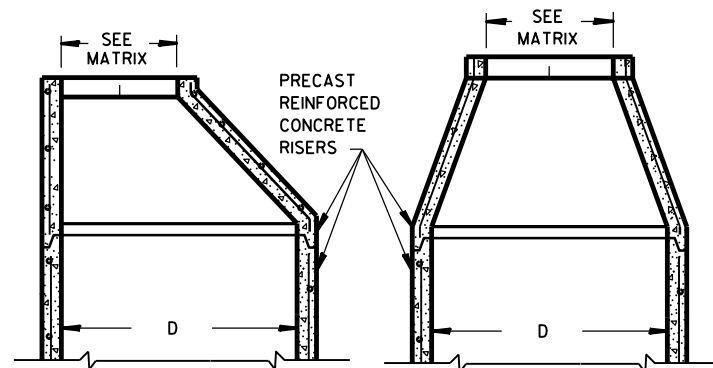
Ann-Marie Kirsch (608) 267-3766



PLAN VIEW CIRCULAR OPENING

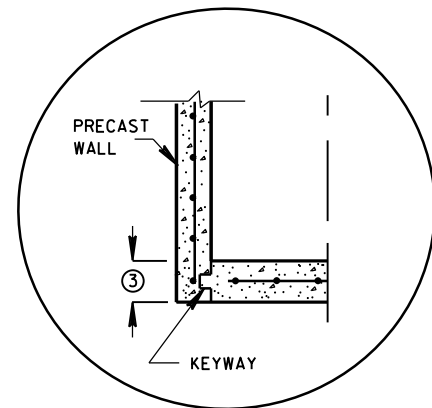


PLAN VIEW RECTANGULAR OPENING



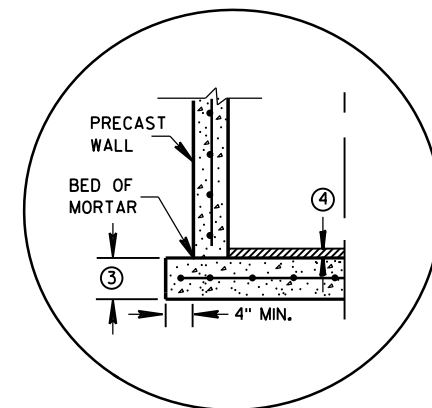
OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



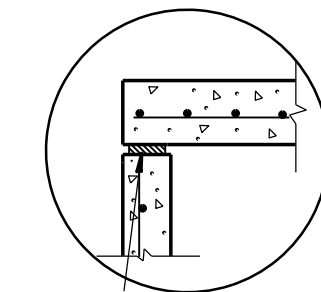
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

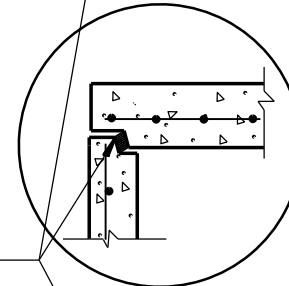


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

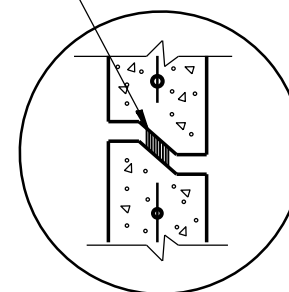
DETAIL "A"



TOP WITH PLAIN END JOINT

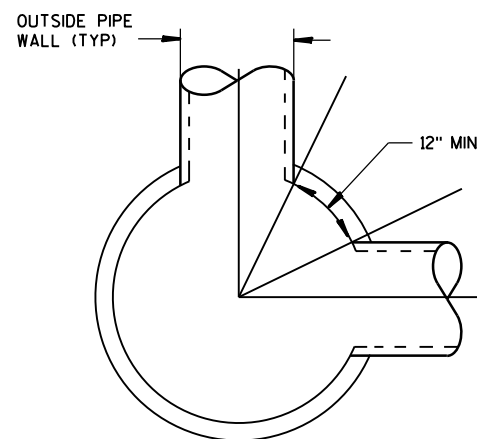


TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2 INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.
- FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".
- 1" CONCRETE KEY POURED AFTER INSTALLATION. 2" SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER OPENING MATRIX

CATCH BASIN SIZE	INLET COVER TYPE OPENING SIZE (FT)	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
3-FT	2X2	X	X					X		X		
	2 DIA.				X							X
4-FT- 6-FT	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2 DIA.				X							X
	2X3						X					
	2.5X3					X						

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	30

CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

*Catch Basins 3-FT, 4-FT, 5-FT and 6-FT Diameter***References:**[FDM 13-25-30](#)**Bid items associated with this drawing:**

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
611.1003	Catch Basins 3-FT Diameter.....	EACH
611.1004	Catch Basins 4-FT Diameter.....	EACH
611.1005	Catch Basins 5-FT Diameter.....	EACH
611.1006	Catch Basins 6-FT Diameter.....	EACH

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:

SDD 8A5	Inlet cover sheets "a", "b", "c" and "d".
SDD 8D17	Manholes, Manhole and Inlet Covers

Design Notes:

Guidelines for matching catch basin opening size and inlet covers are provided on the front side of this SDD.

A pipe matrix on the front side of this SDD provides guidance for selecting the maximum inside pipe diameter.

If a sump depth greater than 2' is required this must be specified in the miscellaneous quantities comments.

Catch Basins should be used only on projects that have a maintenance agreement for cleaning the sumps.

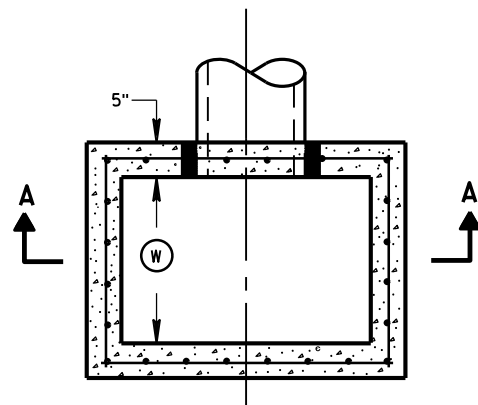
Catch basins should not be used in municipalities that do not want them because of insect control.

Contact Person:

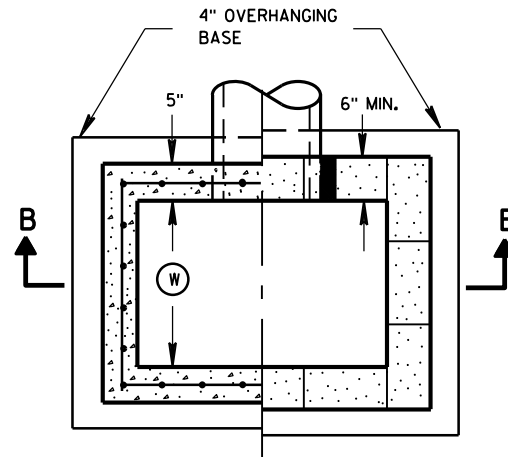
Ed Lilla (608) 266-2312



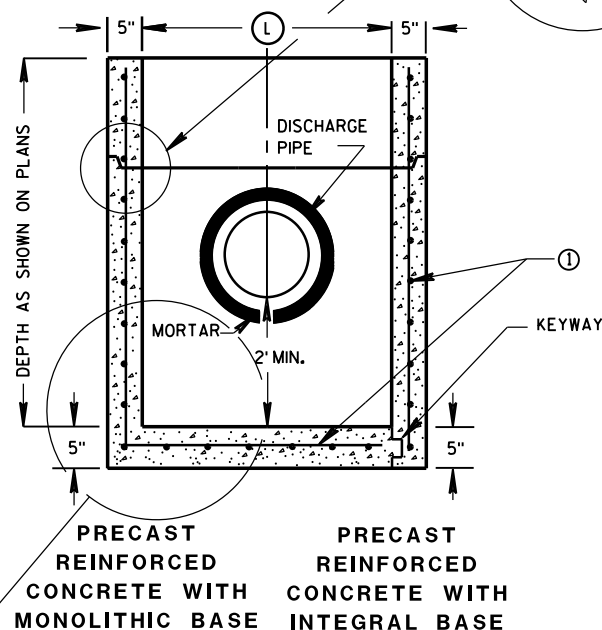
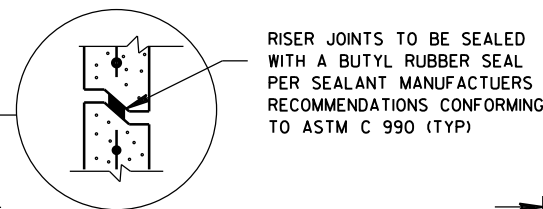
SDD 8a9 Catch Basins 2x3-FT and 2.5x3-FT



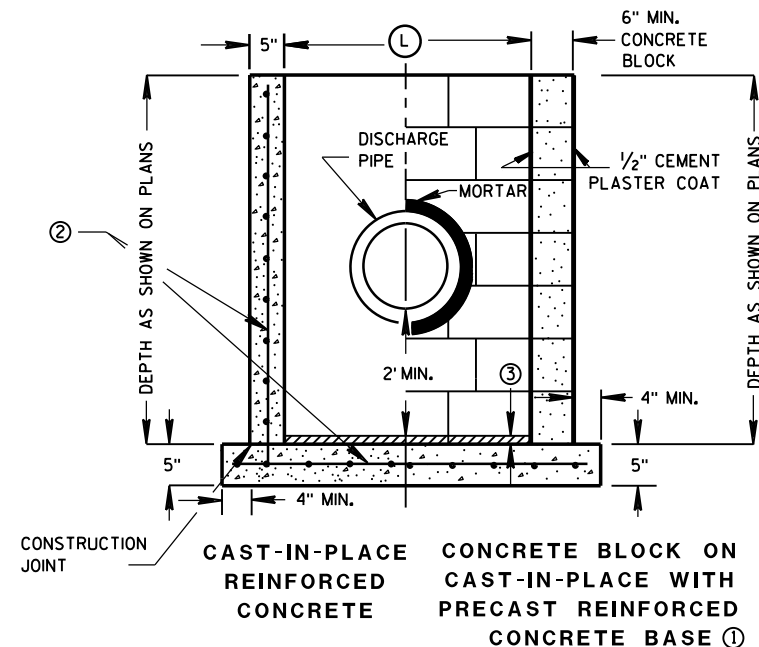
PLAN VIEW



PLAN VIEW



SECTION A-A



SECTION B-B

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

CATCH BASINS 2X3-FT AND 2.5X3-FT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST CATCH BASIN UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

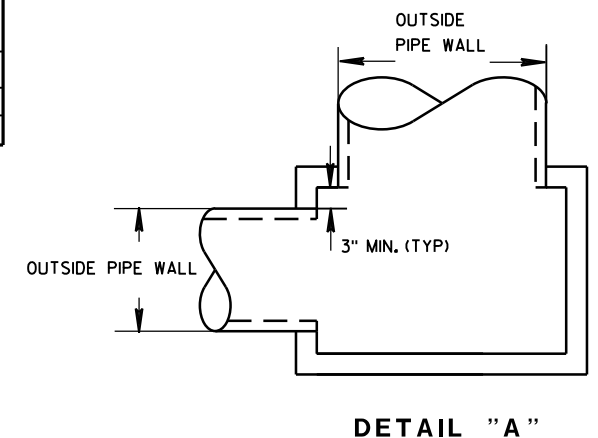
- ① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.
- ③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2" SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

CATCH BASIN SIZE	WIDTH ① (FT)	LENGTH ② (FT)	F	ALL H'S
2X3-FT	2	3		X
2.5X3-FT	2.5	3	X	

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

CATCH BASINS 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

*Catch Basins 2x3-FT and 2.5x3-FT***References:**[FDM 13-25-30](#)**Bid items associated with this drawing:**

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
611.1230	Catch Basins 2x3-FT	EACH
611.1253	Catch Basins 2.5x3-FT	EACH

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:

SDD 8A5	Inlet cover sheets "a" and "c"
SDD 8D17	Manholes, Manhole and Inlet Covers

Design Notes:

Guidelines for matching catch basin opening size and inlet covers are provided on the front side of this SDD.

A pipe matrix on the front side of this SDD provides guidance for selecting the maximum inside pipe diameter. The inside pipe diameter was determined by the pipe entering perpendicular to the structure at 90°. Pipes entering at a skewed angle should be evaluated on a case by case basis.

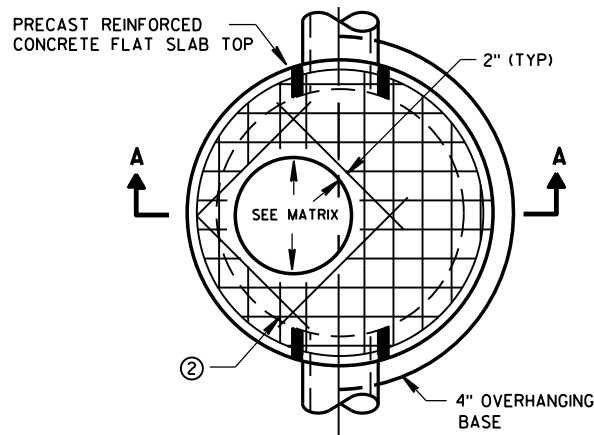
If a sump depth greater than 2' is required this must be specified in the miscellaneous quantities comments.

Catch Basins should be used only on projects that have a maintenance agreement for cleaning the sumps.

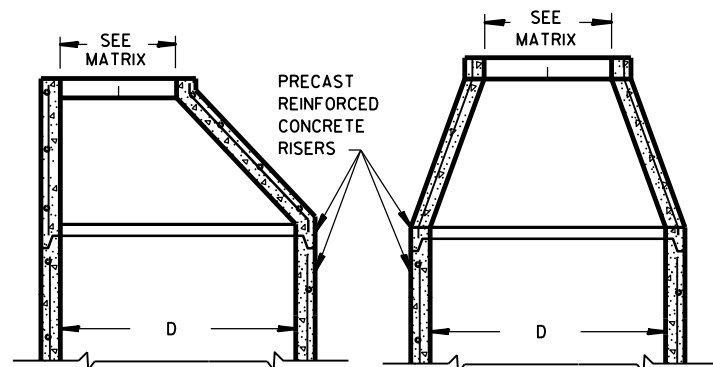
Catch basins should not be used in municipalities that do not want them because of insect control.

Contact Person:

Ed Lilla (608) 266-2312

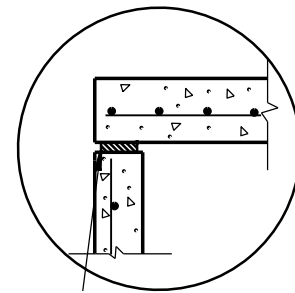


PLAN VIEW CIRCULAR OPENING

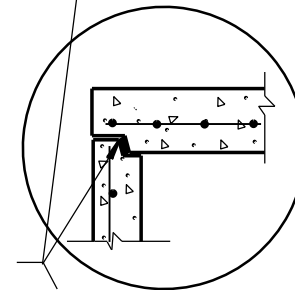


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

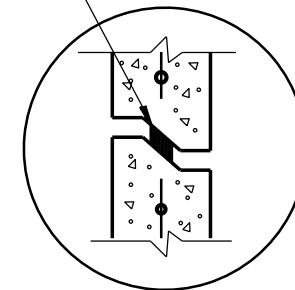
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT

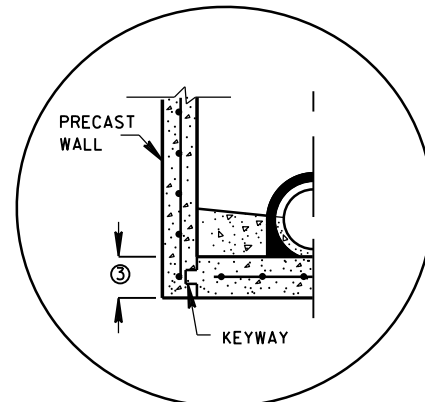


TOP WITH TONGUE AND GROOVE JOINT

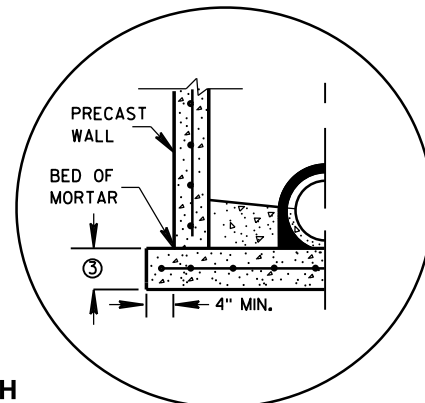


DETAIL "B"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

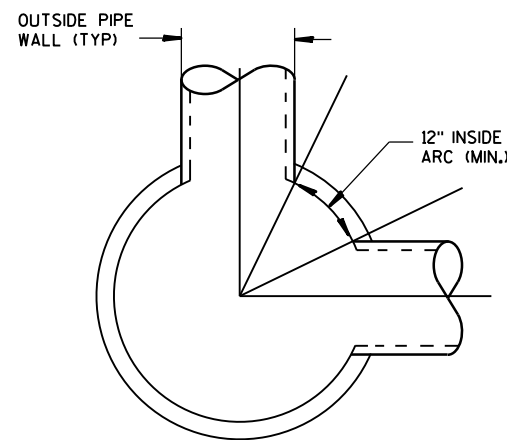


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

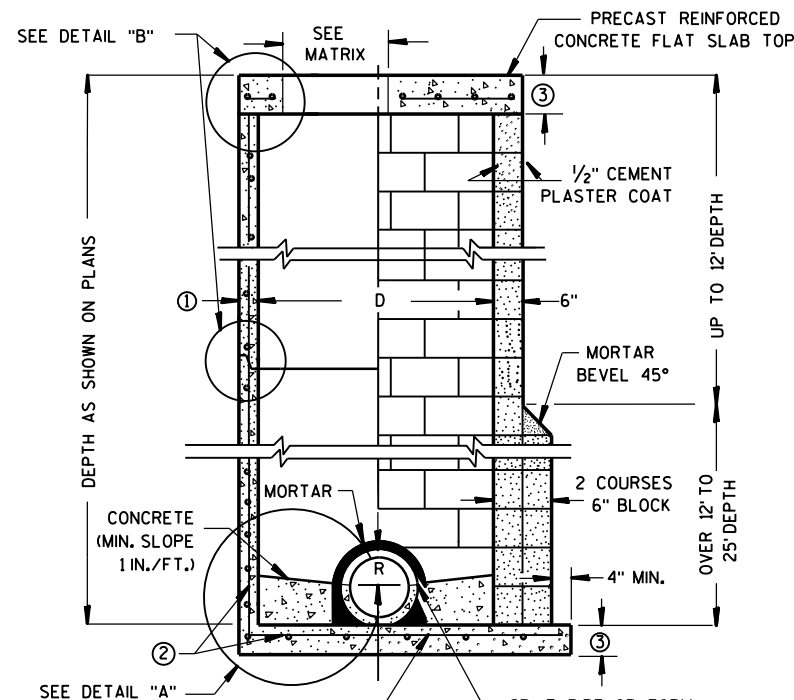


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



PRECAST REINFORCED CONCRETE BLOCK WITH CONCRETE WITH MONOLITHIC BASE CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.
- ② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2016
DATE

FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

*Manholes 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, and 8-FT Diameter***References:**[FDM 13-25-15](#)**Bid items associated with this drawing:**

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
611.2003	Manholes 3-FT Diameter	EACH
611.2004	Manholes 4-FT Diameter	EACH
611.2005	Manholes 5-FT Diameter	EACH
611.2006	Manholes 6-FT Diameter	EACH
611.2007	Manholes 7-FT Diameter	EACH
611.2008	Manholes 8-FT Diameter	EACH

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:

SDD 8A5	Inlet cover sheets "b" and "d".
SDD 8D17	Manholes, Manhole and Inlet Covers

Design Notes:

Guidelines for matching manhole opening size and manhole covers are provided on the front side of this SDD.

A pipe matrix on the front side of this SDD guidance for selecting the maximum inside pipe diameter.

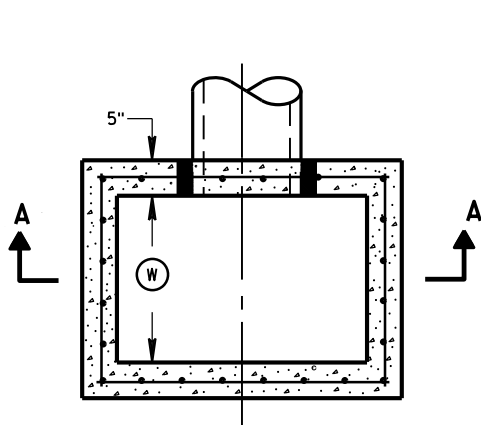
Manholes should be used as follows:

1. For cleaning and maintenance locations spaced as recommended in FDM chapter 13
2. At changes in pipe size
3. At bends in pipe
4. Where flow needs to be split or diverted

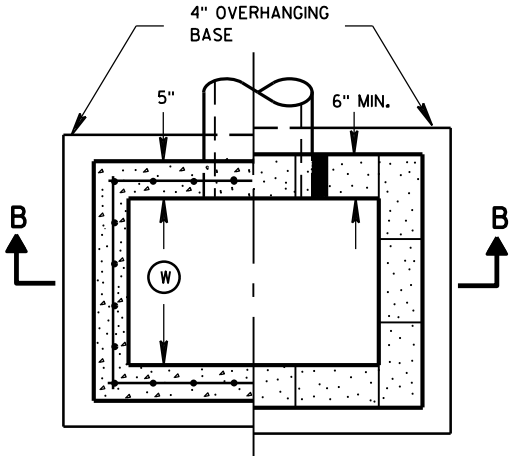
Precast concrete manholes 10' and 12' in diameter are available but require a special construction detail. A structural design should be completed to determine the wall thickness and steel requirements for the top, walls and base.

Contact Person:

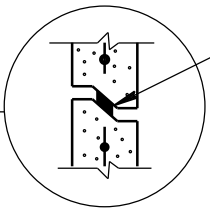
Ed Lilla (608) 266-2312



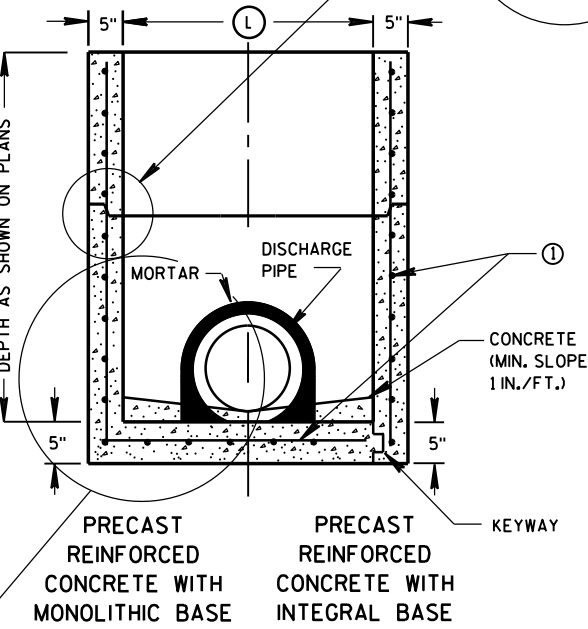
PLAN VIEW



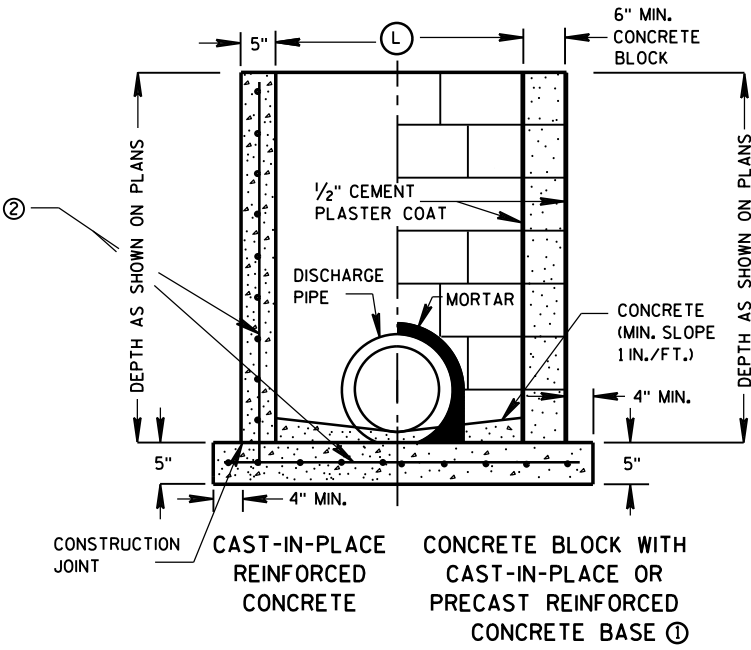
PLAN VIEW



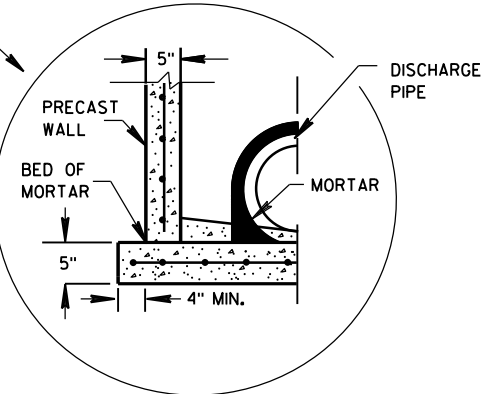
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

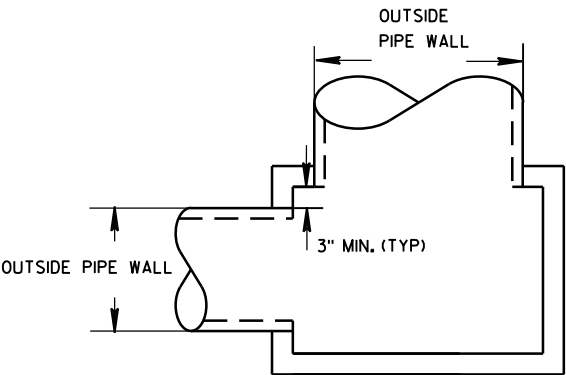
- FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE	INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (1) (FT)	LENGTH (2) (FT)								
2X2-FT	2	2	X	X			X		X	
2X2.5-FT	2	2.5		X			X	X	X	X
2X3-FT	2	3				X				
2.5X3-FT	2.5	3			X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

*Inlets 2x2-FT, 2x2.5-FT, 2x3-FT, and 2.5x3-FT***References:**[FDM 13-25-30](#)**Bid items associated with this drawing:**

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
611.3220	Inlets 2x2-FT	EACH
611.3225	Inlets 2x2.5-FT	EACH
611.3230	Inlets 2x3-FT	EACH
611.3253	Inlets 2.5x3-FT	EACH

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:

SDD 8A5	Inlet cover sheets "a", "b", "c" and "d".
SDD 8D17	Manholes, Manhole and Inlet Covers

Design Notes:

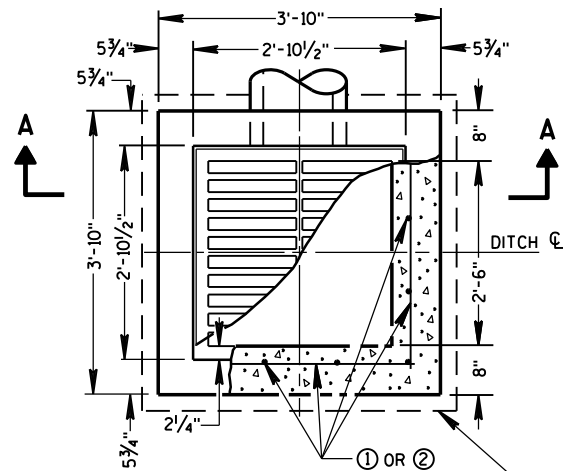
Guidelines for matching inlet opening size and inlet covers are provided on the front side of this SDD.

A pipe matrix on the front side of this SDD provides guidance for selecting the maximum inside pipe diameter. The inside pipe diameter was determined by the pipe entering perpendicular to the structure at 90°. Pipes entering at a skewed angle should be evaluated on a case by case basis.

Inlets should be kept as shallow as possible to reduce cost.

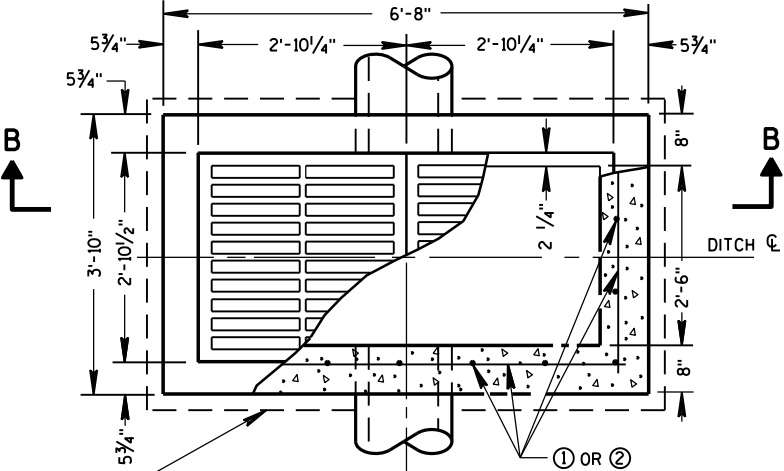
Contact Person:

Ed Lilla (608) 266-2312

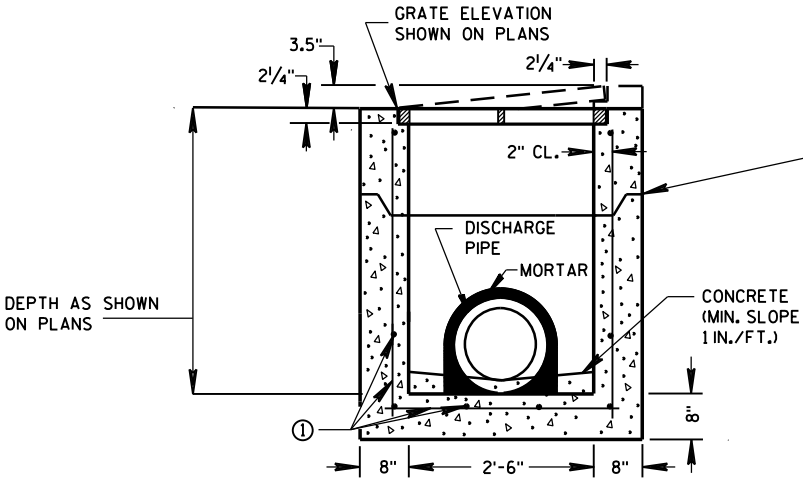


PLAN VIEW

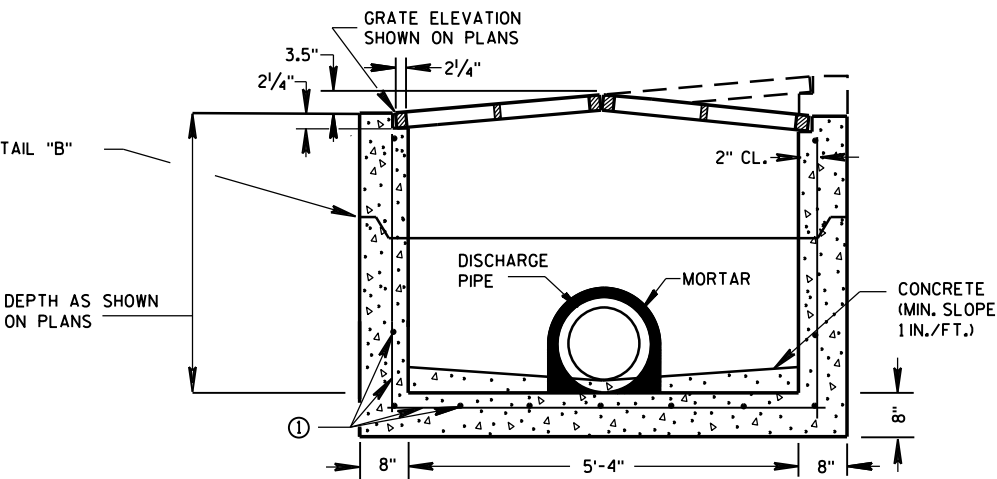
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



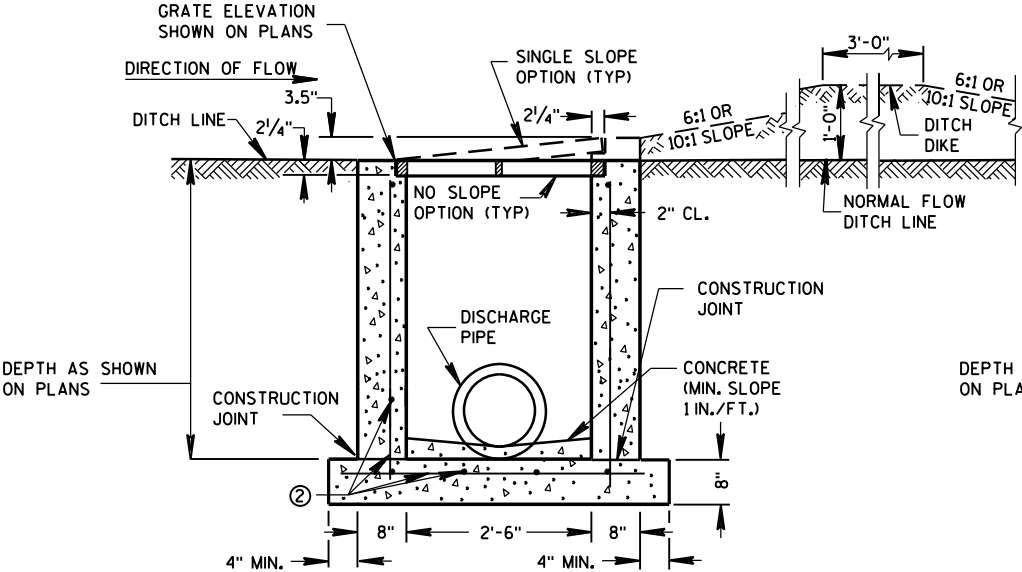
PLAN VIEW



PRECAST REINFORCED CONCRETE SECTION A-A

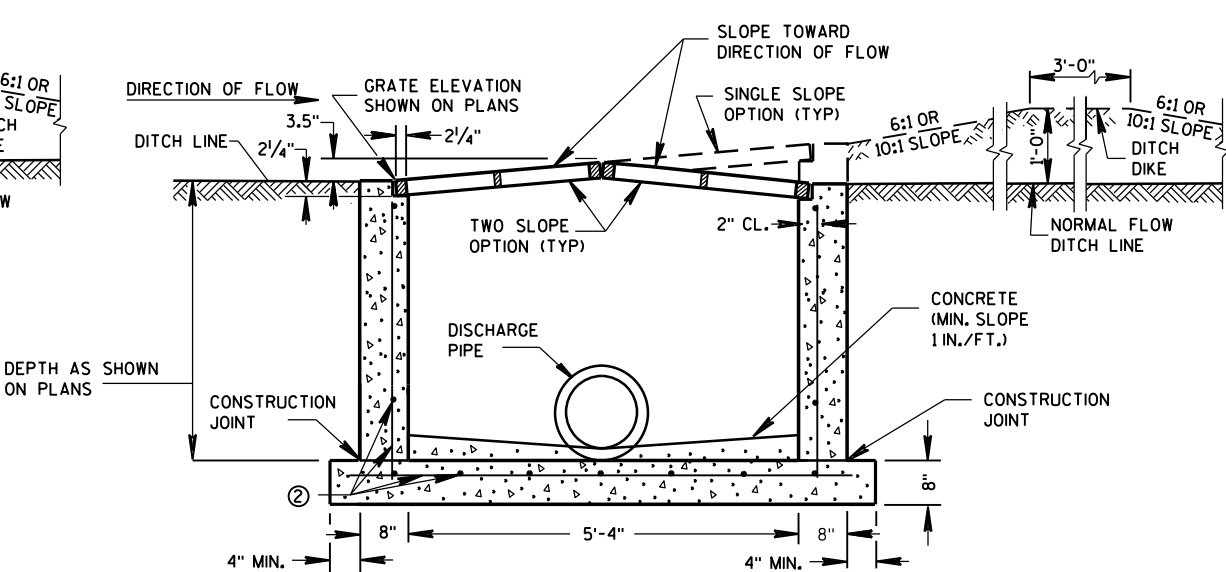


PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A

INLETS MEDIAN 1 GRATE



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 2 GRATE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, IG-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

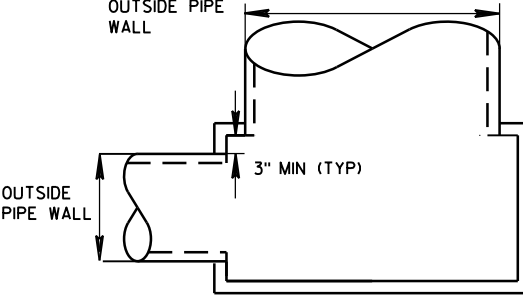
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

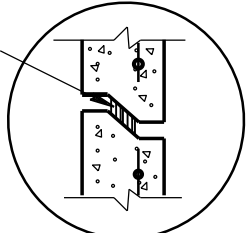
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

*Inlets Median 1 and 2 Grate***References:**[FDM 13-25-30](#)**Bid items associated with this drawing:**

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
611.3901	Inlets Median 1 Grate.....	EACH
611.3902	Inlets Median 2 Grate.....	EACH
611.0642	Inlets Cover Type MS	EACH
611.0645	Inlets Cover Type MS-A.....	EACH

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:[SDD 8A5](#) Inlet cover sheet "b".**Design Notes:**

A pipe matrix on the front side of this SDD provides guidance for selecting the maximum inside pipe diameter. The inside pipe diameter was determined by the pipe entering perpendicular to the structure at 90°. Pipes entering as a skewed angle should be evaluated on a case by case basis.

For Inlets Median 1 Grate, the designer must specify the slope of the inlet cover as either single slope or no slope.

For Inlets Median 2 Grate, the designer must specify the slope of the two inlet covers as either single slope, two different slopes or no slope.

Designer must specify either a MS or MS-A inlet cover.

Inlets Median 1 and 2 Grate with MS or MS-A covers shall not be used in paved areas with traffic.

Grates shall be sloped no greater than 10 to 1.

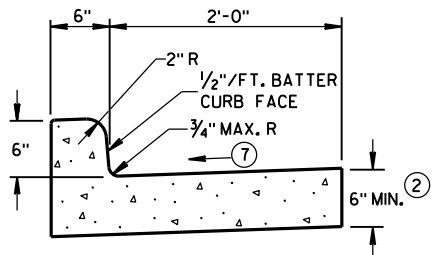
Ditch Dikes shall be sloped at:

6:1 for design speeds less than 60 m.p.h.

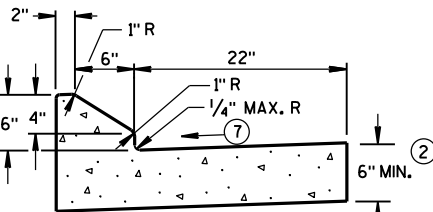
10:1 for design speeds greater than or equal to 60 m.p.h.

Contact Person:

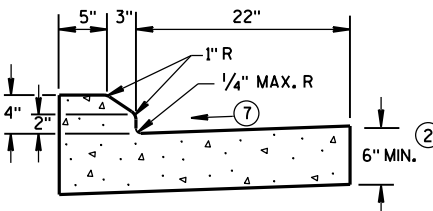
Ed Lilla (608) 266-2312



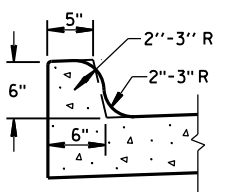
TYPES A^① & D



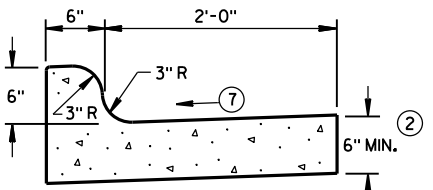
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

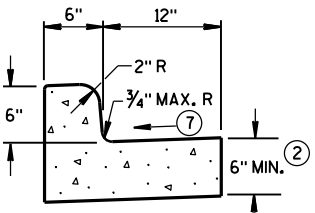


TYPES K^① & L
(OPTIONAL CURB SHAPE)



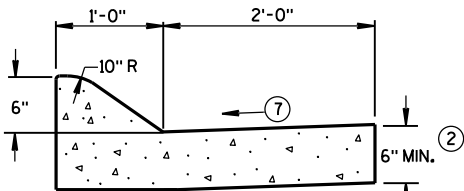
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

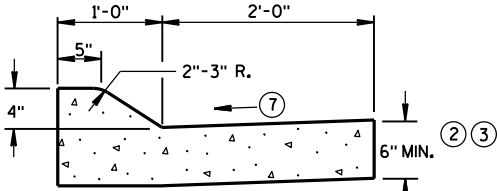


TYPES A^① & D

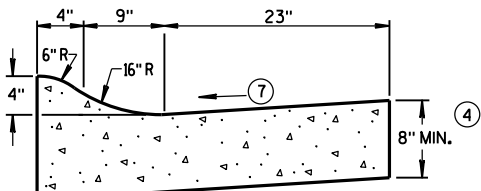
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

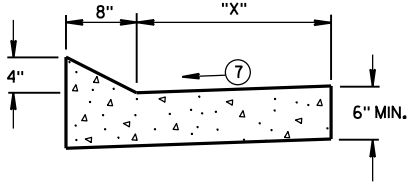


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

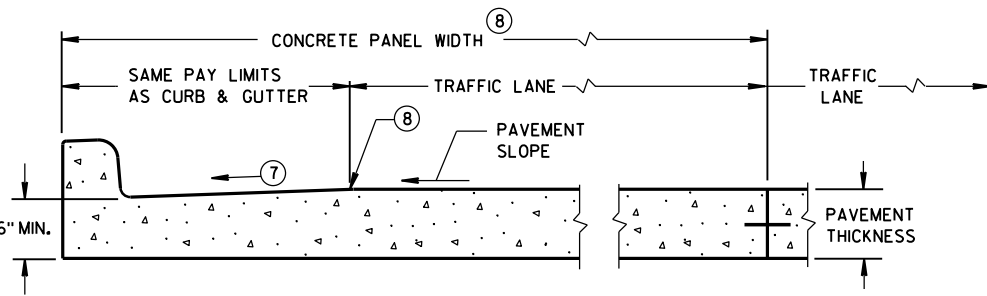
CONCRETE CURB & GUTTER 36"



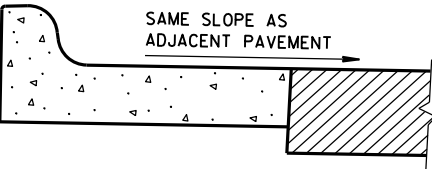
TYPES TBT & TBTT^①

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.
- INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.
- WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.
- UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.
- TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
 - THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
 - USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
 - THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
 - THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
 - WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
 - USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
 - INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

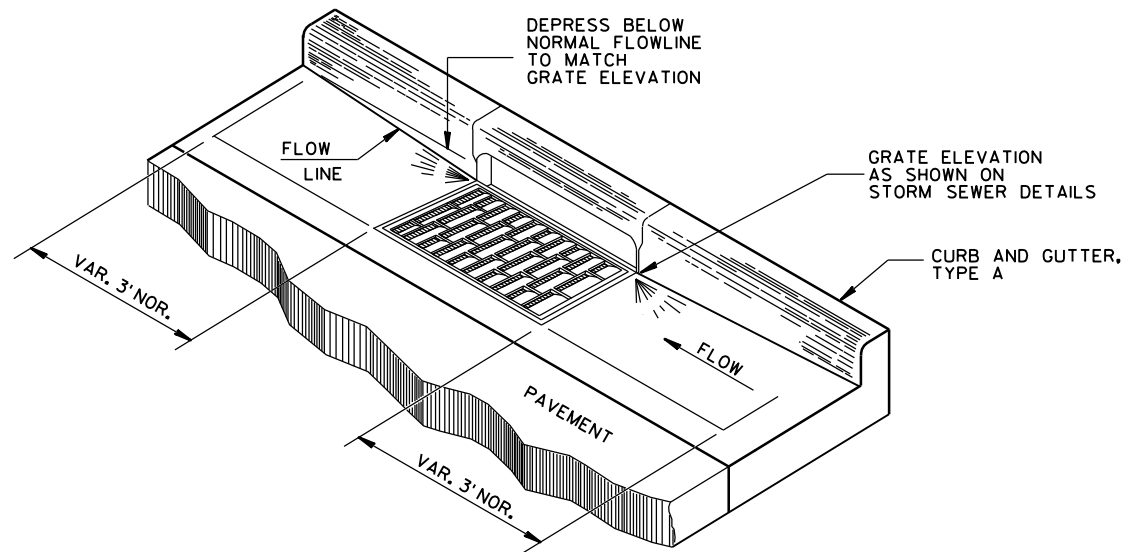
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

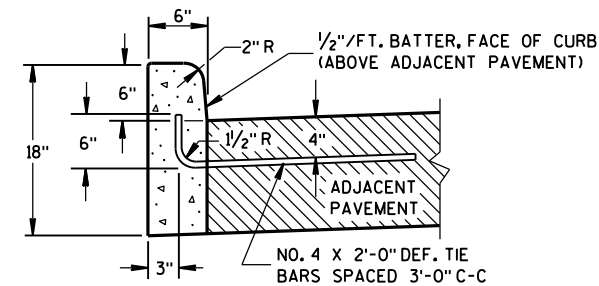
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

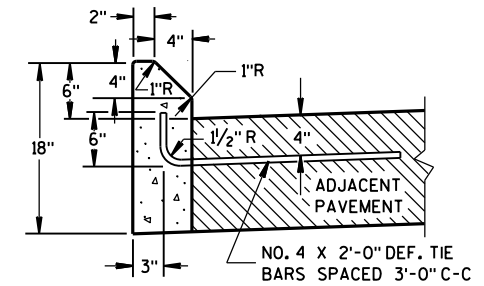
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



DETAIL OF CURB AND GUTTER AT INLETS
(TYPE H INLET COVER SHOWN)

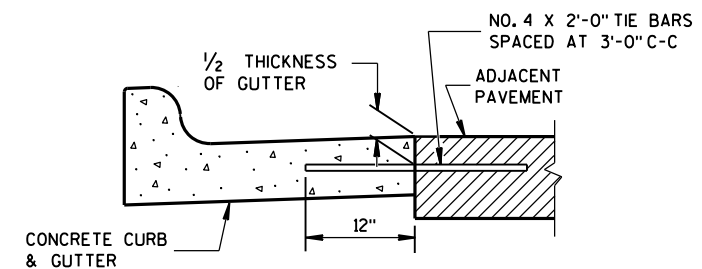


TYPES A^① & D

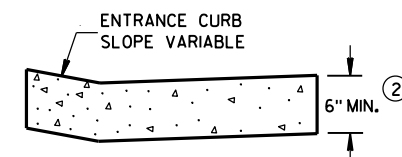


TYPES G^① & J

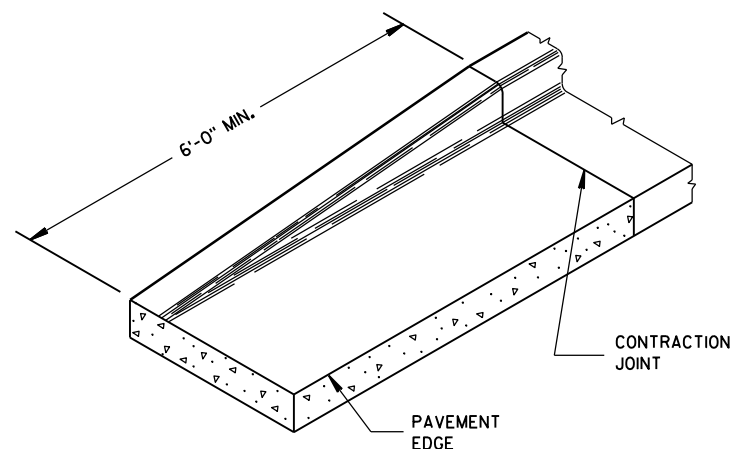
CONCRETE CURB



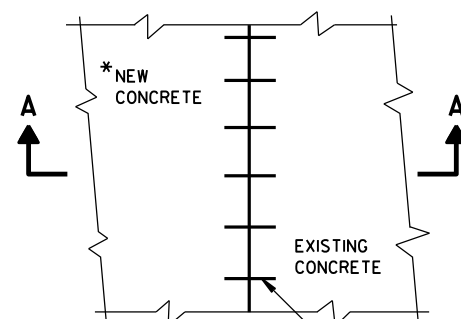
TYPICAL TIE BAR LOCATION^①



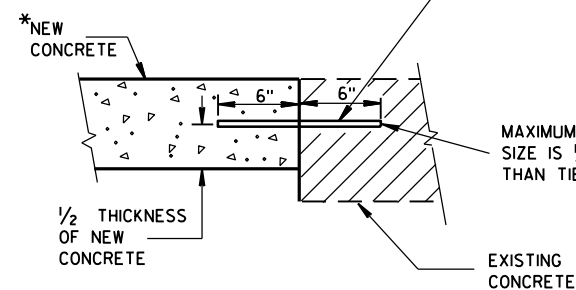
DRIVEWAY ENTRANCE CURB^⑨
(WHEN DIRECTED BY THE ENGINEER)



END SECTION CURB & GUTTER



*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.



TIE BARS DRILLED INTO EXISTING PAVEMENT

NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT.

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June, 2017 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

*Concrete Curb, Concrete Curb & Gutter and Ties***References:**[FDM 11-20-1](#)**Bid items associated with this drawing:**

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
416.0610	Drilled Ties Bars.....	EACH
601.0105	Concrete Curb Type A	LF
601.0110	Concrete Curb Type D	LF
601.0115	Concrete Curb Type G	LF
601.0120	Concrete Curb Type J	LF
601.0150	Concrete Curb Integral Type D	LF
601.0155	Concrete Curb Integral Type J	LF
601.0405	Concrete Curb & Gutter 18-Inch Type A.....	LF
601.0407	Concrete Curb & Gutter 18-Inch Type D	LF
601.0409	Concrete Curb & Gutter 30-Inch Type A.....	LF
601.0411	Concrete Curb & Gutter 30-Inch Type D	LF
601.0413	Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type G	LF
601.0415	Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type J	LF
601.0417	Concrete Curb & Gutter 30-Inch Type K.....	LF
601.0419	Concrete Curb & Gutter 30-Inch Type L	LF
601.0452	Concrete Curb & Gutter Integral 30-Inch Type D	LF
601.0454	Concrete Curb & Gutter Integral 30-Inch Type J	LF
601.0456	Concrete Curb & Gutter Integral 30-Inch Type L	LF
601.0501	Concrete Curb & Gutter Integral 4-Inch Sloped 36-Inch.....	LF
601.0511	Concrete Curb & Gutter Integral 6-Inch Sloped 36-Inch.....	LF
601.0551	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type A	LF
601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF
601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF
601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF
601.0574	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type G	LF
601.0576	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type J	LF
601.0580	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type R	LF
601.0582	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type T	LF
601.0584	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBT	LF
601.0586	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBTT	LF
601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF
601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:

NONE

Design Notes:

Any special curb or curb and gutter, different from those listed above, requires a SPV.0900 item number, special provision and special detail.

List in miscellaneous quantities all curb and curb and gutter types along with STA-STA limits LT and RT. Label typical finished sections with curb and curb and gutter types. Indicate on plan sheets where reverse slope gutter is required.

A 4% gutter cross slope is the standard slope. The longstanding 3/4" per foot (= 6.25%) cross slope may still be used for various applications. Refer to [FDM 11-20-1.2.1.1](#) for gutter cross slope selection and plan labeling criteria. Also refer to [FDM 11-46-10.3](#) for gutter cross slope guidance with curb ramp applications. Provide inlet spacing for selected gutter cross slope per [FDM 13-25-15](#). Provide construction detail if project requires modification to the standard gutter cross slope.

The face of curb for the Type R and T is 6-inches from the back of curb.

Use the end section curb & gutter at railroad crossings where curb & gutter is present and at driveways where the sidewalk is adjacent to the back of curb.

Curb and gutter Type TBT (Thrie Beam Transition) and TBTT (Thrie Beam Transition Tied) can be used with thrie beam transitions to control water by the thrie beam transition. See the Thrie Beam Transition SDDs for more information. In some cases, TBT and TBTT are required for proper performance of the thrie beam transition.

Note:

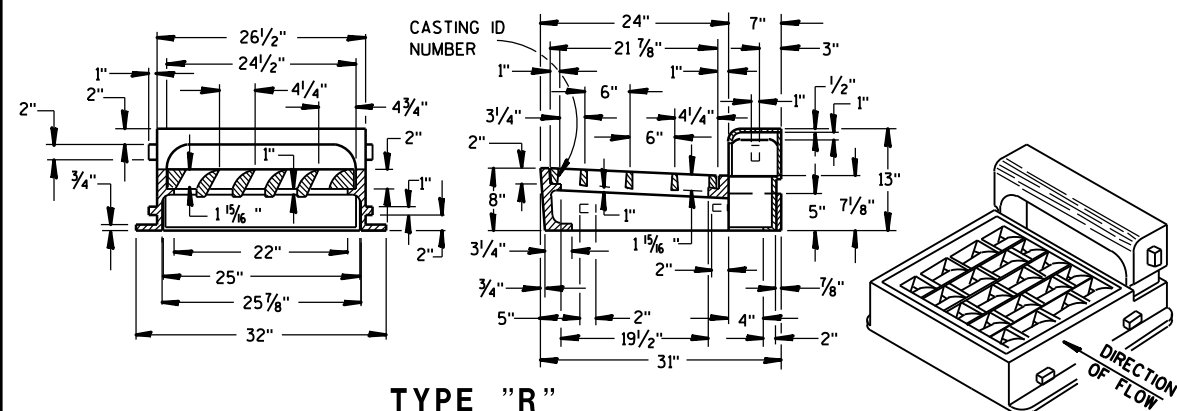
Do not use this SDD for Items 601.0199.s Concrete Curb Precast or 465.0310 Asphaltic Curb. Always include a special detail in the plan for these items. (See CADDs cell 9 or 10 in file CDCRBFTR.CEL and modify titles to match that of item 465.0310.)

Contact Person:

Ann-Marie Kirsch (608) 267-3766

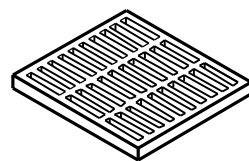
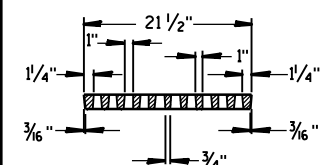


INLET COVERS



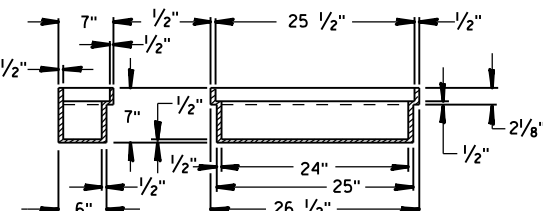
TYPE "R"

SHOWING SPECIAL GRATE NO. 1
(TO BE NOTED AS R-1 IN DRAINAGE TABLE)



NOTE:
CURB PLUG USED IN PLACE
OF CURB BOX IN ABSENCE
OF CONC. CURB. FILL TO
TOP WITH CONCRETE.

(APPROX. WEIGHT - 510 LBS.)
FRAME..... 245 LBS.
CURB..... 120 LBS.
GRATE..... 145 LBS.

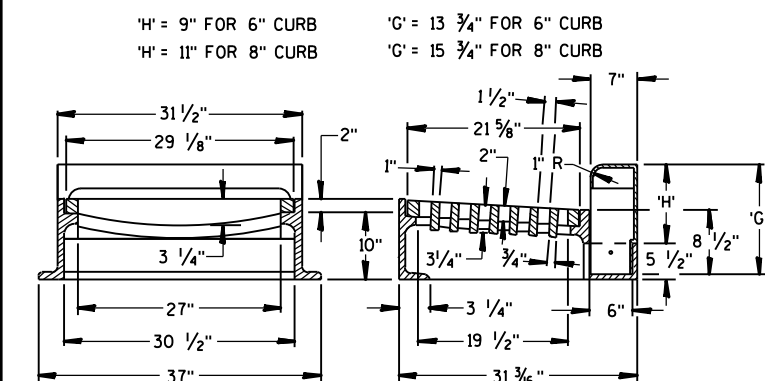


GRATE FOR TYPE "R" INLET COVER

(GRATE..... 150 LBS.)
(TO BE USED UNLESS OTHERWISE NOTED IN DRAINAGE TABLE)

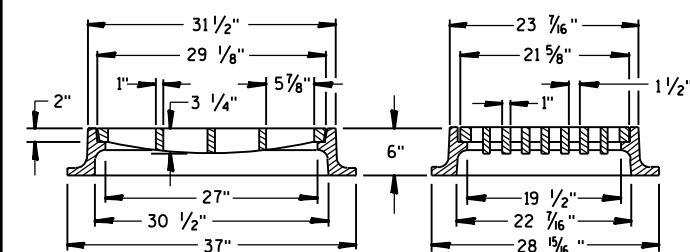
SECTION B-B SPECIAL CURB PLUG "P"

(CURB PLUG..... 85 LBS.)
(TO BE NOTED AS R-P IN DRAINAGE TABLE)



TYPE "W"

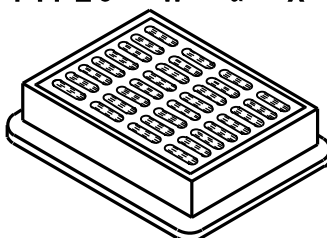
(APPROX. WEIGHT - 670 LBS.)
FRAME..... 350 LBS.
CURB BOX..... 135 LBS.
GRATE..... 185 LBS.



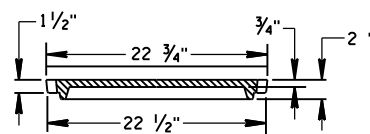
TYPE "X"

(APPROX. WEIGHT - 470 LBS.)

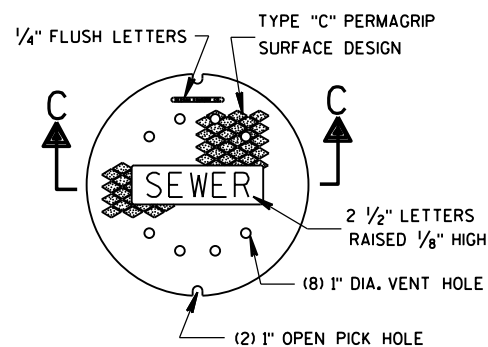
ALTERNATE GRATE (FOR EXPRESSWAY RAMPS) TYPES "W" & "X"



MANHOLE COVER



SECTION C-C



TYPE "Q"

(APPROX. WEIGHT - 290 LBS.)

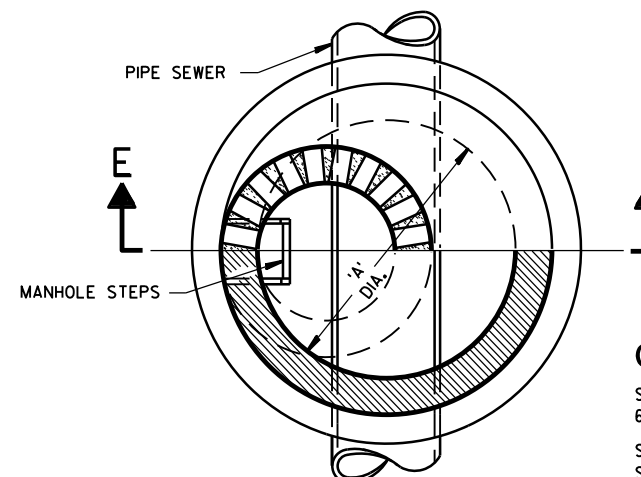
TABLE OF DIMENSIONS

TYPE	'A'	'B'	'C'
11	3'-6"	2'-8"	12" - 36"*
12	4'-0"	3'-8"	12" - 42"*
13	5'-0"	5'-8"	42" - 48"
14	6'-0"	7'-8"	54" - 60"

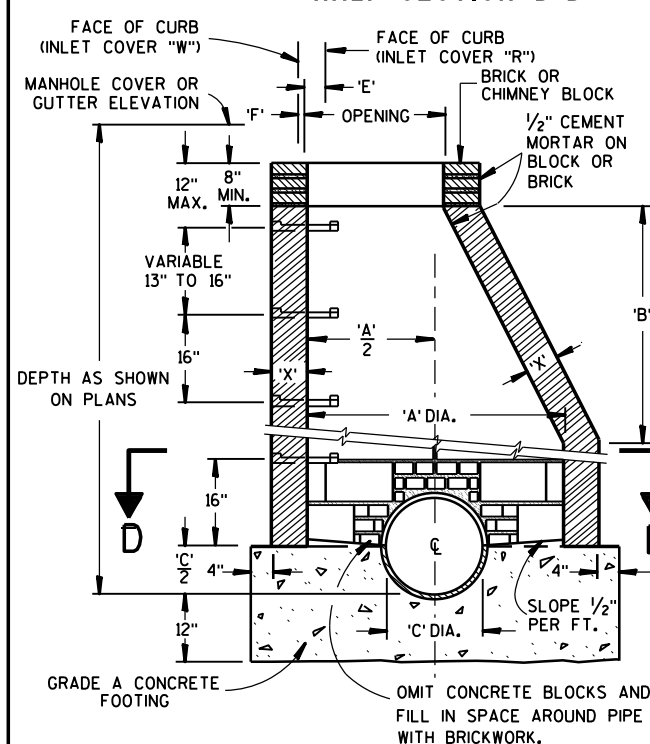
* 12" - 21" FOR PRECAST MANHOLES
** 12" - 24" FOR PRECAST MANHOLES

THE FIRST STEP SHALL BE PLACED
16" ABOVE THE BENCH.

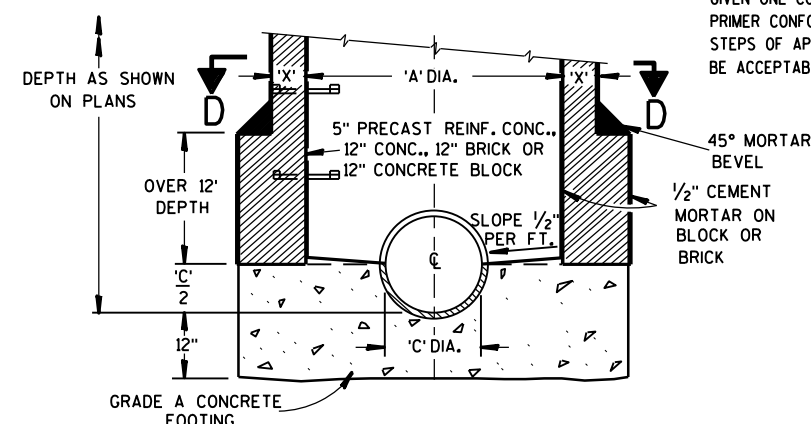
MANHOLE



HALF SECTION D-D



SECTION E-E



SECTION E-E

TYPES 11, 12, 13 & 14

TABLE OF OPENING DIMENSIONS

COVER	TYPE	DESCRIPTION	OPENING	'E'	'F'
"O"	ROUND	2'-2" DIA.	—	—	—
"W"	CURB BOX	1'-8" X 2'-6"	—	1"	—
"X"	INLET	1'-10" X 2'-6"	—	—	—
"R"	CURB BOX	2'-0" X 2'-1"	4"	—	—

GENERAL NOTES

STRUCTURE WALL THICKNESS 'X' TO BE 8" BRICK, 6" CONCRETE BLOCK, 6" GRADE A CONCRETE OR 5" PRECAST REINFORCED CONCRETE.

STRUCTURE FOOTINGS ARE TO BE GRADE A CONCRETE OF THE THICKNESS SHOWN IN THE DETAIL OR 5" PRECAST REINFORCED CONCRETE.

REINFORCEMENT FOR 5" PRECAST REINFORCED CONCRETE SHALL BE 6" X 6" W16 X W16 WELDED SREEL WIRE FABRIC AND SHALL BE EMBEDDED 2" CLEAR.

PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

PRECAST CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6" IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR GRANULAR BACK-FILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

SET FRAME ELEVATION 0.03 FT. LOWER THAN ELEVATION INDICATED ON THE PLANS.

THE CONTRACTOR MAY FORM AND POUR MONOLITHIC CONCRETE INVERT PROVIDED THE PIPE ENDS ARE EXTENDED INTO THE M.H. AND NOT TERMINATED WITHIN THE M.H. WALLS.

MANHOLE STEPS

STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH; 16 INCH C-C MAX. SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM WALL EMBEDMENT OF 3 INCHES IN PRECAST MANHOLE AND 6 INCHES IN 8 INCH BRICK OR 6 INCH BLOCK MANHOLE; TREAD OF STEP SHALL HAVE A NON-SKID SURFACE AND BE FLANKED BY CLEATS, WITH A MINIMUM OF 10 INCHES CLEAR BETWEEN CLEATS, TO PREVENT FOOT SLIPPING OFF THE EDGE CLEATS SHALL BE A MINIMUM OF 3/4 INCH HIGH BY 3/4 INCH WIDE HAVING A MINIMUM THICKNESS OF 3/8 INCH. STEPS SHALL BE CAPABLE OF SUPPORTING A CONCENTRATED LOAD OF 300 LBS. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 0.75 INCH. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCING BAR WILL BE ACCEPTABLE.

MANHOLES, MANHOLE & INLET COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/12/2011 /S/ Jerry H. Zogg
DATE
ROADSIDE STANDARDS DEVELOPMENT
ENGINEER
FHWA

*Manholes, Manhole and Inlet Covers***References:**[FDM 13-25-30](#)

Neenah Foundry Company Catalog "Construction Castings"

Bid items associated with this drawing:

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
611.0225	Manholes Type 11	EACH
611.0230	Manholes Type 12	EACH
611.0235	Manholes Type 13	EACH
611.0240	Manholes Type 14	EACH
611.0555	Manhole Covers Type Q	EACH
611.0657	Inlet Covers Type W	EACH
611.0663	Inlet Covers Type X	EACH
601.0648	Inlet Covers Type R	EACH

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:

NONE

Design Notes:

This SDD replaces SDD 8M3-5. It is for use in Milwaukee County only. This includes the City of Milwaukee and other communities in Milwaukee County.

When special grate No. 1 is needed for Type R Inlet Covers, bid as Type R but show as R-1 in drainage table. Special curb plug "P" should be shown as R-P in drainage table, but is bid as Type R.

Contact Person:

Ann-Marie Kirsch (608) 267-3766



SDD 8f1 Apron Endwalls for Culvert Pipe

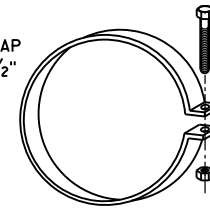
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1/2")	L (±1 1/2")	L1 ①	L2 ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.	
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.	
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.	
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.	
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.	
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.	
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.	
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.	
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.	
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.	
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.	
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.	
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.	
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.	
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.	
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.	

* EXCEPT CENTER PANEL
SEE GENERAL NOTES

REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ¹ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1
24	3	9 ¹ / ₂	43 ¹ / ₂	30	73 ¹ / ₂	48	3	3 to 1
27	3 ¹ / ₄	10 ¹ / ₂	49 ¹ / ₂	24	73 ¹ / ₂	54	3 ¹ / ₄	3 to 1
30	3 ¹ / ₂	12	54	19 ³ / ₄	73 ¹ / ₂	60	3 ¹ / ₂	3 to 1
36	4	15	63	34 ³ / ₄	97 ³ / ₄	72	4	3 to 1
42	4 ¹ / ₂	21	63	35	98	78	4 ¹ / ₂	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 ¹ / ₂	27	65	33 ¹ / ₄ -35	98 ¹ / ₄ -100	90	5 ¹ / ₂	2 ¹ / ₂ to 1
60	6	30-35	60	39	99	96	5	2 to 1
66	6 ¹ / ₂	24-30	72-78	21-27	99	102	5 ¹ / ₂	2 to 1
72	7	24-36	78	21	99	108	6	2 to 1
78	7 ¹ / ₂	24-36	78	21	99	114	6 ¹ / ₂	2 to 1
84	8	36	90 ¹ / ₂	21	111 ¹ / ₂	120	6 ¹ / ₂	1 ¹ / ₂ to 1
90	8 ¹ / ₂	41	87 ¹ / ₂	24	111 ¹ / ₂	132	6 ¹ / ₂	1 ¹ / ₂ to 1

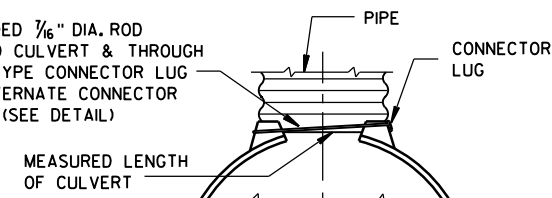
* MINIMUM
** MAXIMUM

1" WIDE, 12 GA. (0.109"
THICK) GALVANIZED STRAP
WITH STANDARD 6" X 1/2"
BAND BOLT AND NUT



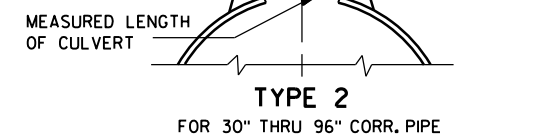
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP

THREADED 1/6" DIA. ROD
AROUND CULVERT & THROUGH
TANK TYPE CONNECTOR LUG
OR ALTERNATE CONNECTOR
STRAP (SEE DETAIL)



TYPE 1
FOR 12" THRU 24" CORR. PIPE

THREADED 1/6" DIA. ROD
OVER TOP OF APRON, SIDE
LUGS TO BE RIVETED TO
APRON



TYPE 2
FOR 30" THRU 96" CORR. PIPE

MEASURED LENGTH
OF CULVERT

CONNECTOR SECTION
TO BE PAID FOR AS
PART OF END SECTION

COUPLING BAND
REQUIRED

RIVETED OR
BOLTED

TYPE 3
FOR 42" THRU 96" CORR. PIPE

DIMPLED OR CORRUGATED
COUPLING BAND

RIVETED OR BOLTED AT
DIMPLES (6" C-C FOR
CORRUGATED BAND)

2 - 1/2" X 6"
BAND BOLTS

MEASURED
LENGTH
OF CULVERT

TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

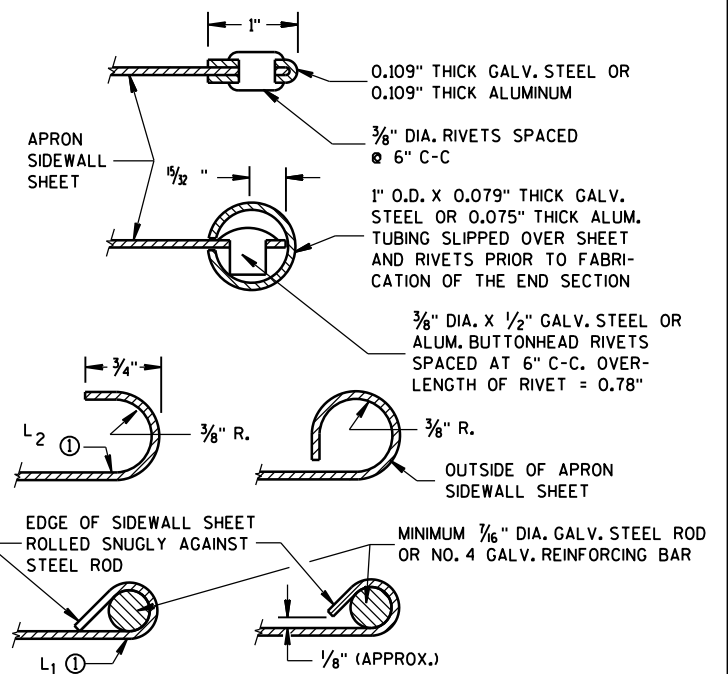
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE
ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5
AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL
CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO
CIRCUMFERENTIAL CORRUGATIONS AT EACH END
USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON
THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE
STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL
OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR
ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE
OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND
LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL
THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND
LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH
OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE
PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS
FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS.
FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED
EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH
GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE
ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM
NUTS AND BOLTS FOR ALUMINUM UNITS.

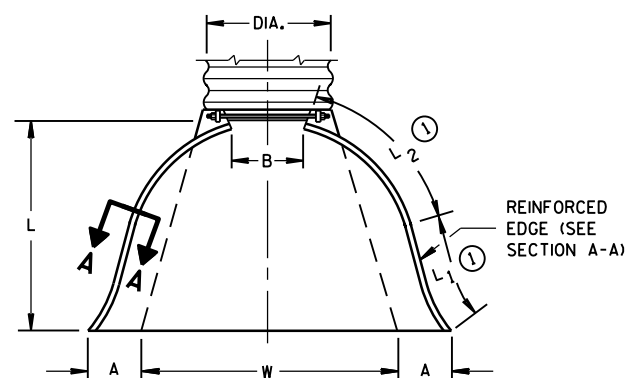
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT
TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT
TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED
INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

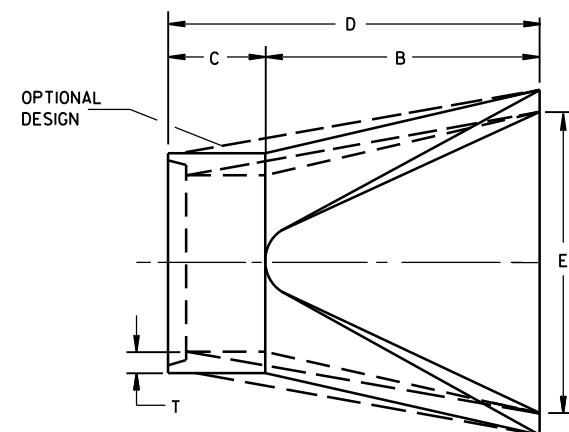
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

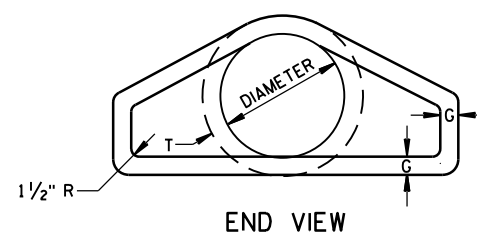
APPROVED
8-30-94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



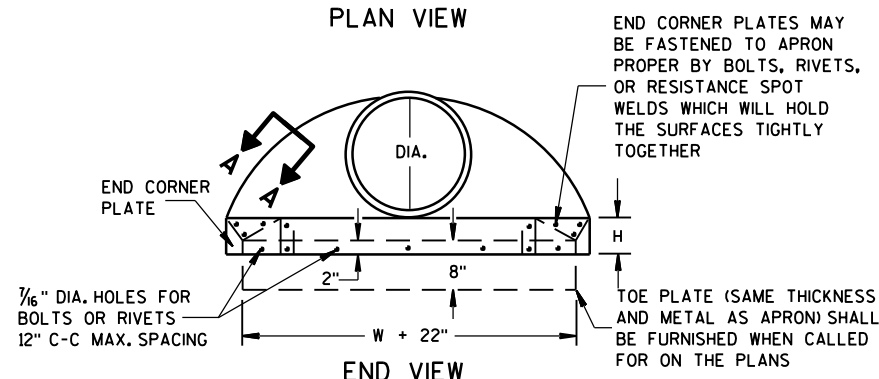
PLAN VIEW



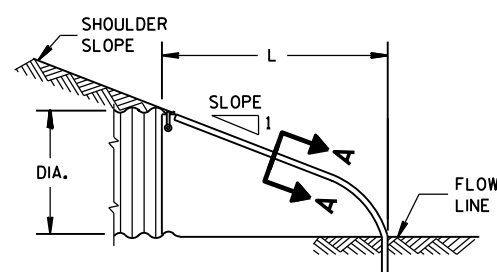
PLAN



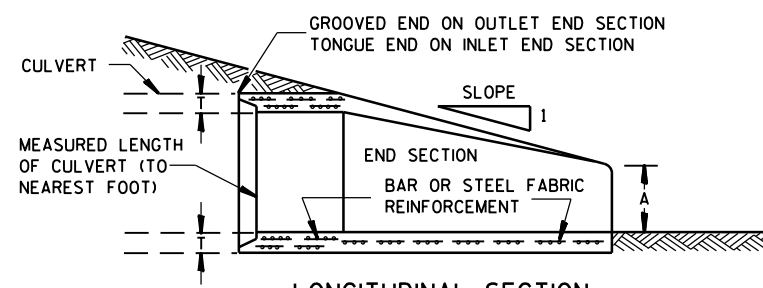
END VIEW



END VIEW



SIDE ELEVATION
METAL ENDWALLS



LONGITUDINAL SECTION
CONCRETE ENDWALLS

*Apron Endwalls for Culvert Pipe***References:**[FDM 19-15-70](#)[FDM 13-1-15](#)[FDM 13-1-17](#)**Bid items associated with this drawing:**

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
520.1000 - 1199	Apron Endwalls for Culvert Pipe (size)	EACH
521.1000 - 1199	Apron Endwalls for Culvert Pipe Steel (size)	EACH
522.1000 - 1199	Apron Endwalls for Culvert Pipe Reinforced Concrete (size)	EACH
525.0300 - 0399	Apron Endwalls for Culvert Pipe Aluminum (size)	EACH

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
--------------------	--------------

SPV.0060	if non-standard size is specified.
----------	------------------------------------

Other SDDs associated with this drawing:

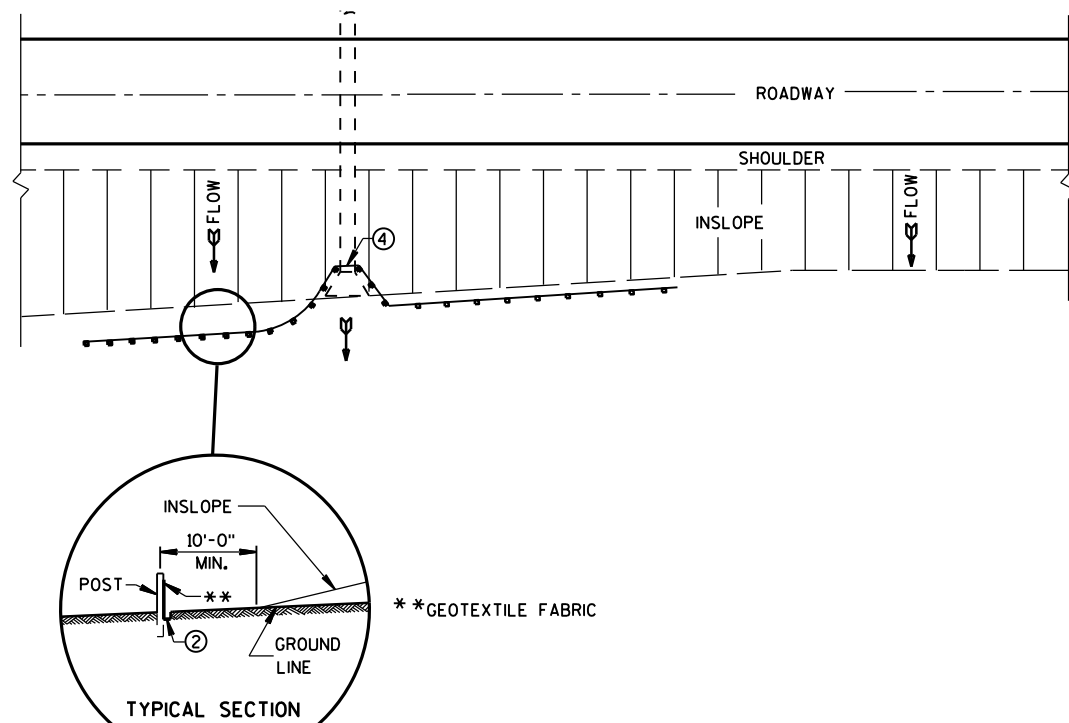
SDD 8F4	Joint Ties for Concrete Pipe
-------------------------	------------------------------

Design Notes:

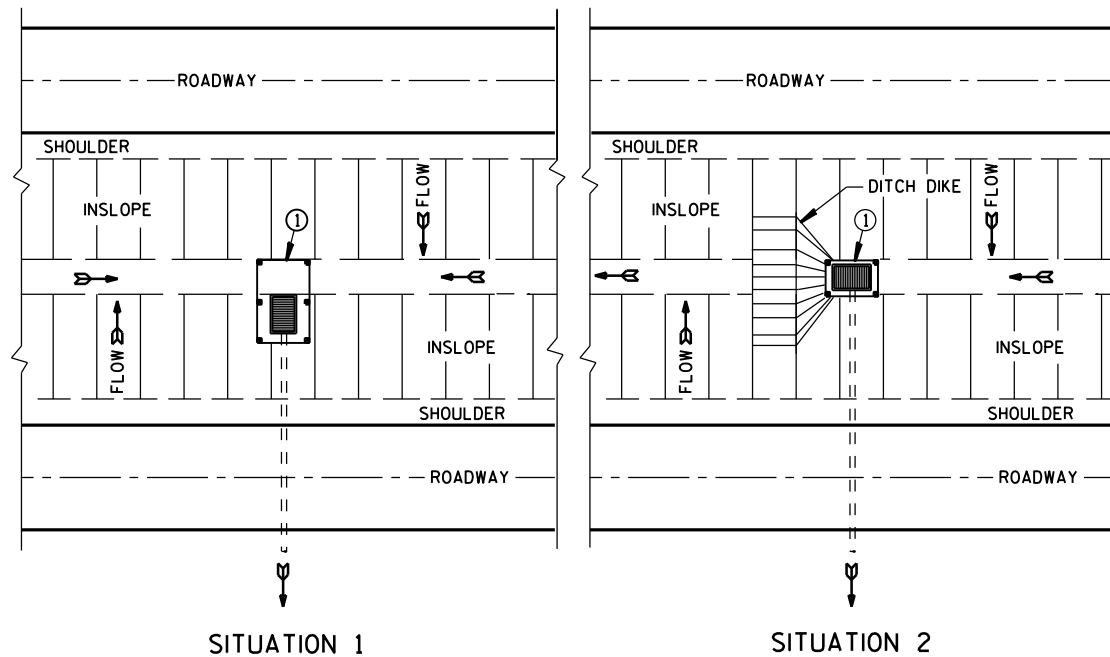
Joint ties are required for the apron endwall and the last 2 sections of culvert and storm sewer pipe installations. See Standard Specifications.

Contact Person:

Ed Lilla (608) 266-2312



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

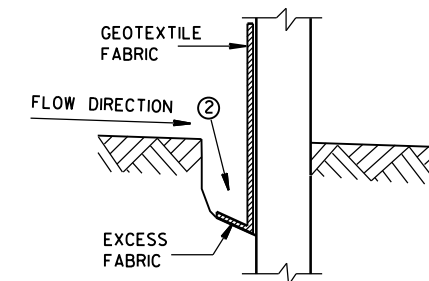


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

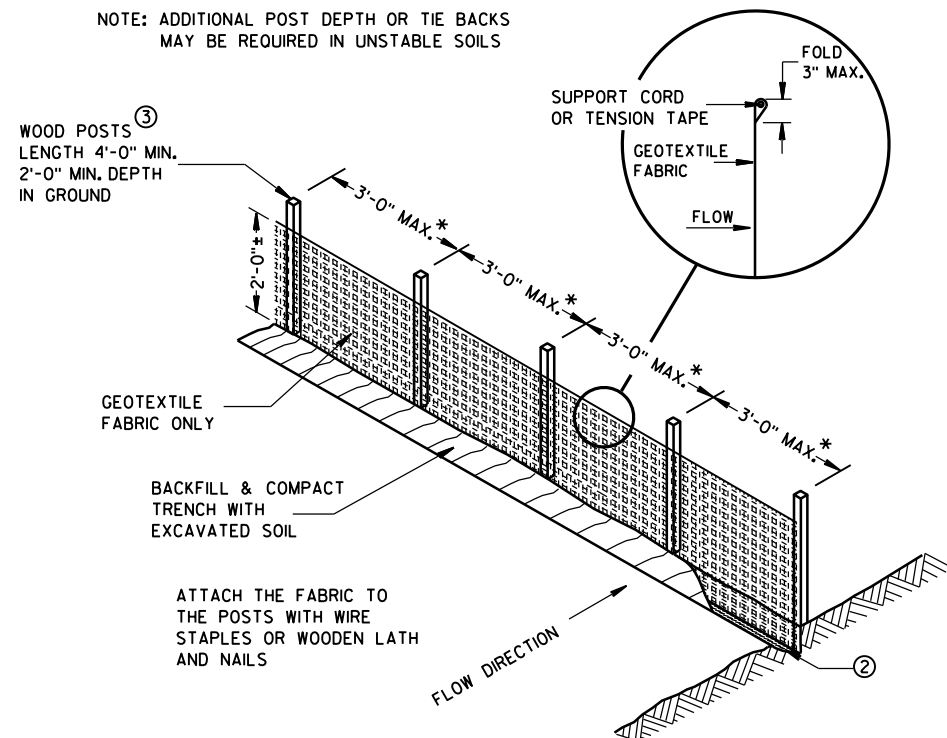
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

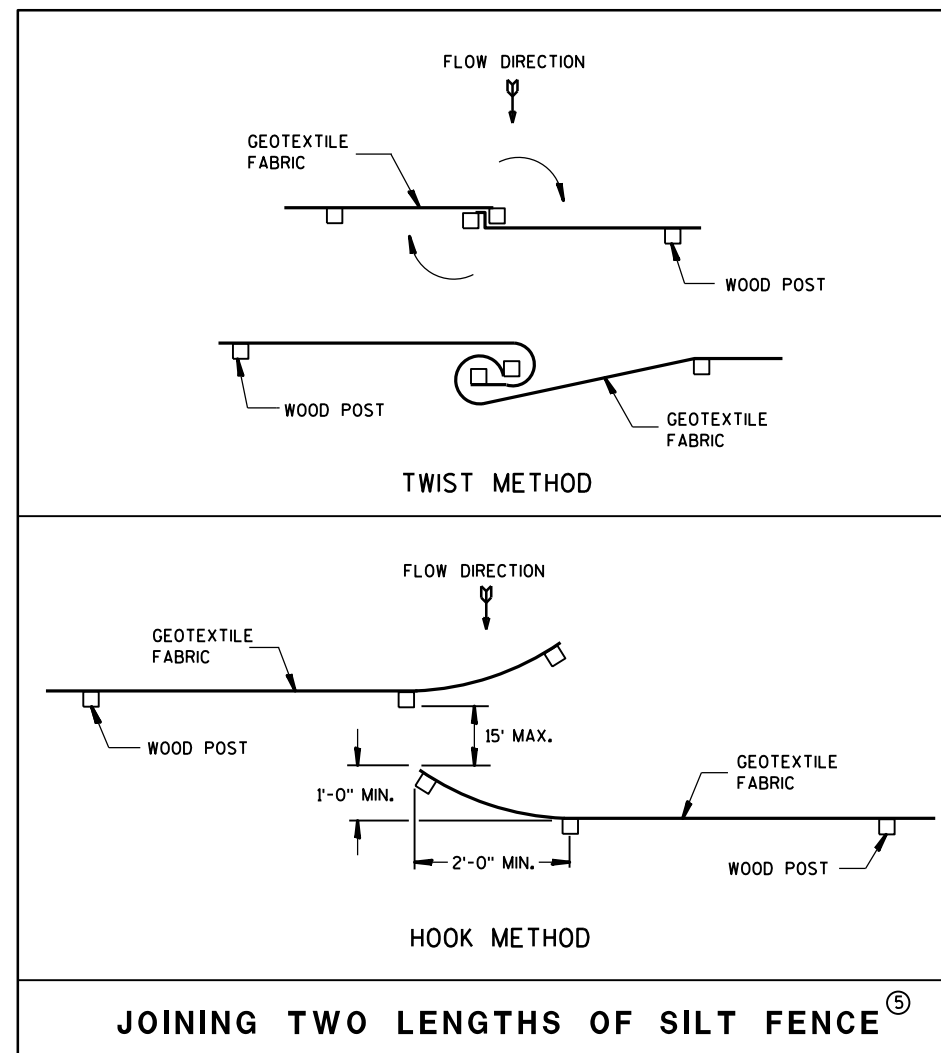
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



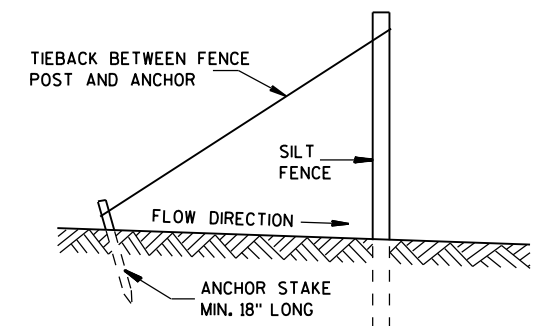
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE ⑤

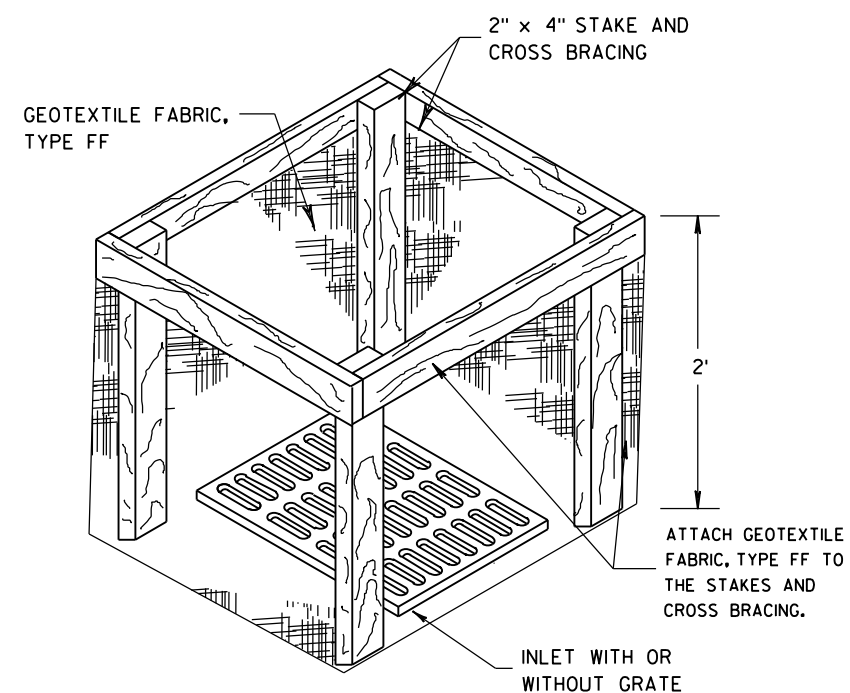
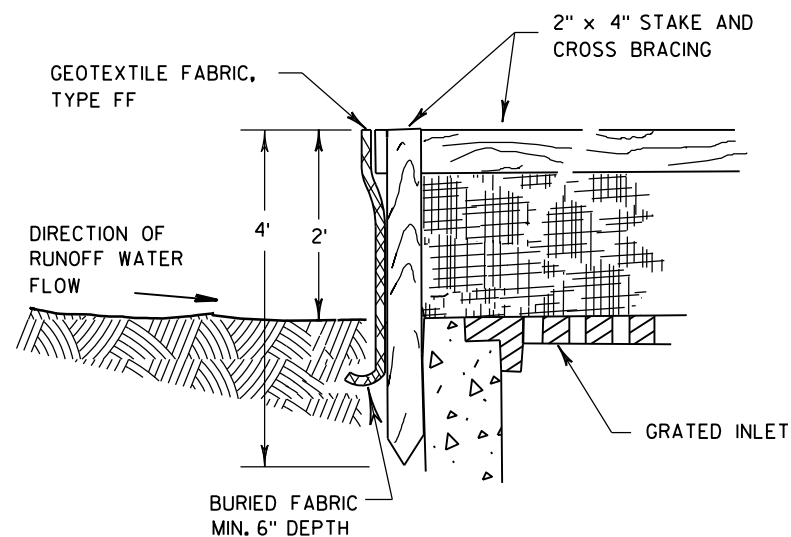


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



INLET PROTECTION, TYPE A

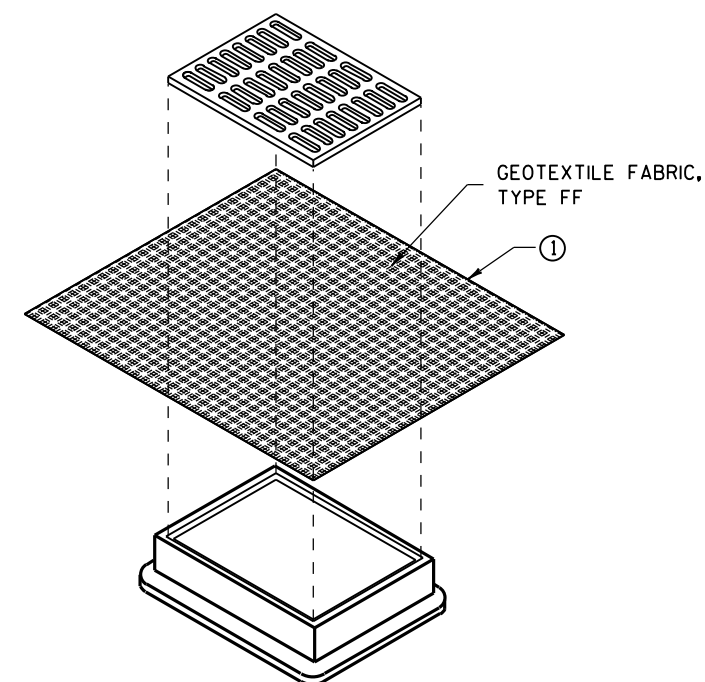
GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

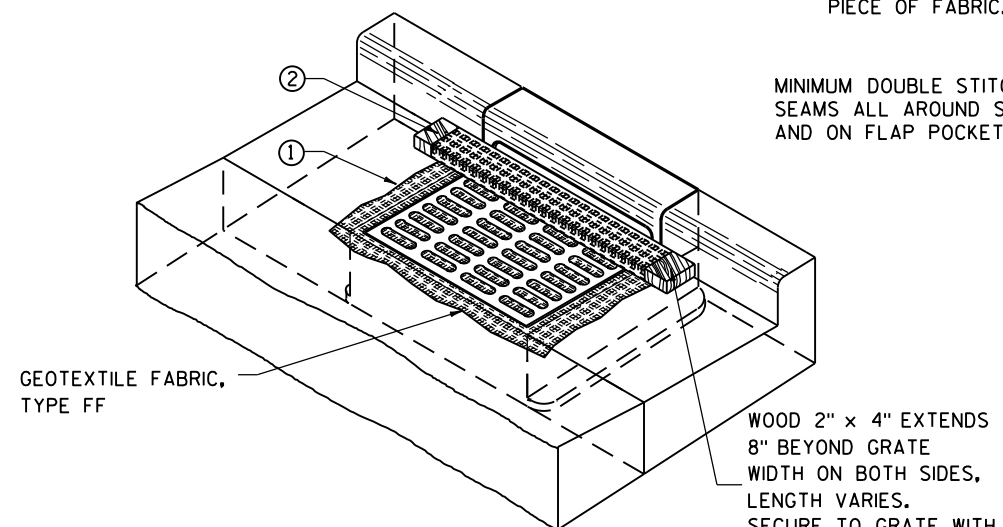
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

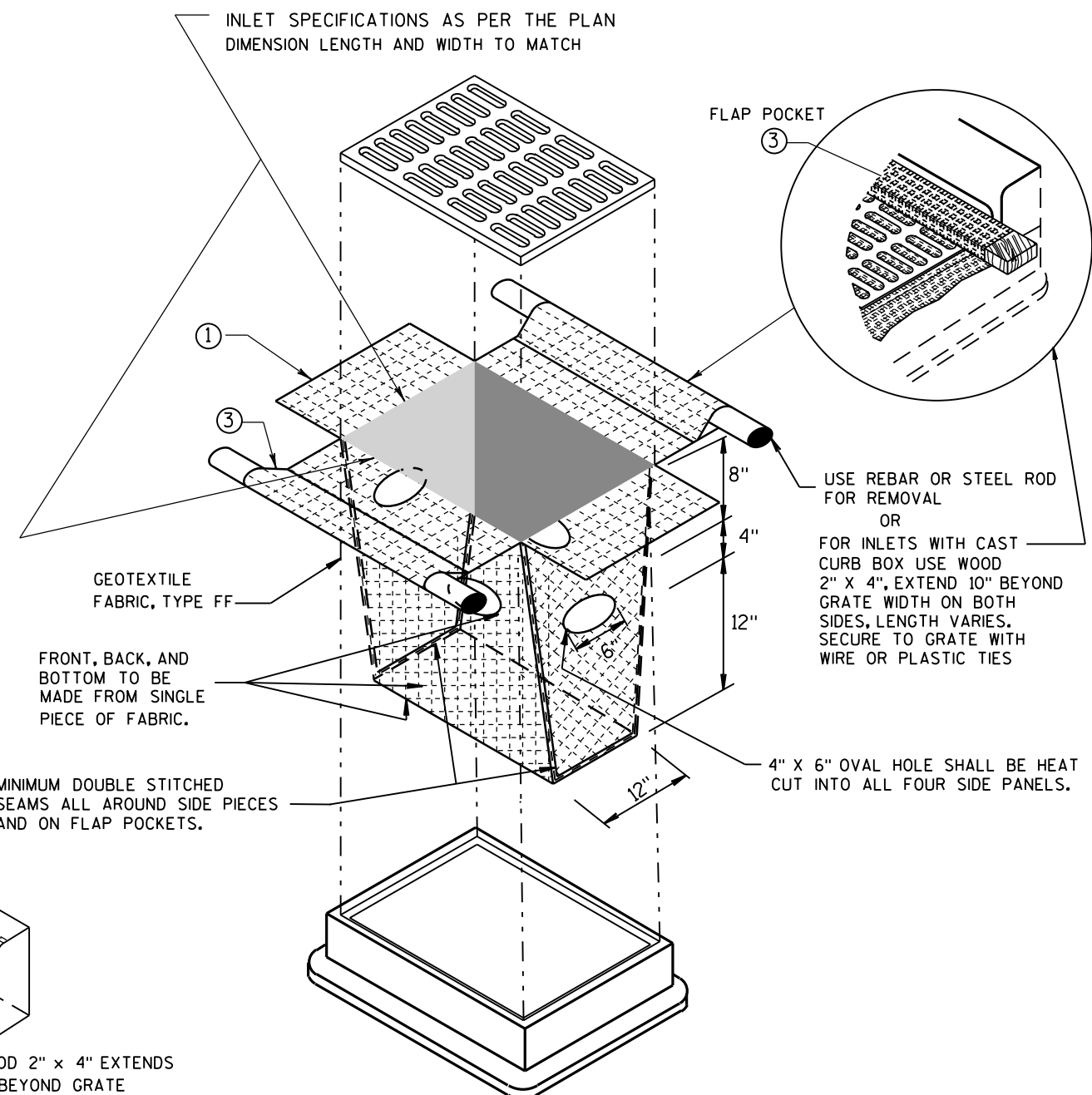
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE (2))

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>10-16-02</u> DATE	<u>/s/ Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

*Inlet Protection Type A, B, C and D***References:**[FDM 10-10-27](#)**Bid items associated with this drawing:**

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
628.7005	Inlet Protection Type A.....	EACH
628.7010	Inlet Protection Type B.....	EACH
628.7015	Inlet Protection Type C	EACH
628.7020	Inlet Protection Type D	EACH

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:

NONE

Design Notes:

See Wisconsin Department of Transportation's Product Acceptability List (PAL) for other inlet protection devices available. A copy of the PAL is available at

<http://www.dot.wisconsin.gov/business/engrserv/docs/pal.pdf>.

Use inlet protection Type A where the wooden posts can be placed around the inlet box. Examples of such locations include median inlets, field inlets, yard drains, or curb inlet locations prior to the placement of curb and gutter.

Inlet protection Type B or C may be used only after the inlet castings are in place. Most urban projects, with curb inlets will require both the bid item or inlet protection Type A and inlet protection Type C, at each inlet location, as the project progresses.

Inlet protection Type D is intended for locations where street flooding could pose safety hazards. Projects without parking lanes and locations where the inlets are on the low side of curves or the low points of vertical profiles should be evaluated for Type D inlet protection.

Contact Person:

Robert Armstrong (608) 267-3147

*Silt Fence***References:**[FDM 10-10-23](#)**Bid items associated with this drawing:**

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
628.1504	Silt Fence	LF
628.1520	Silt Fence Maintenance	LF

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SSDs associated with this drawing:

NONE

Design Notes:

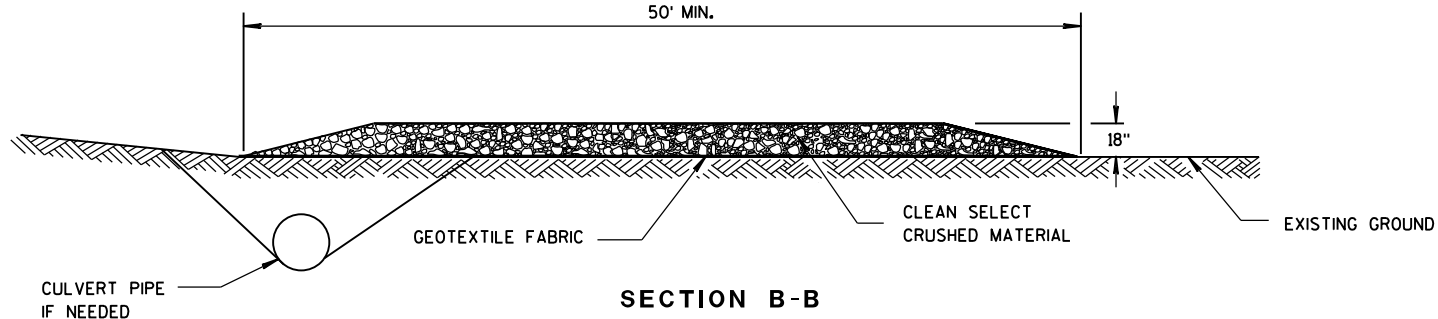
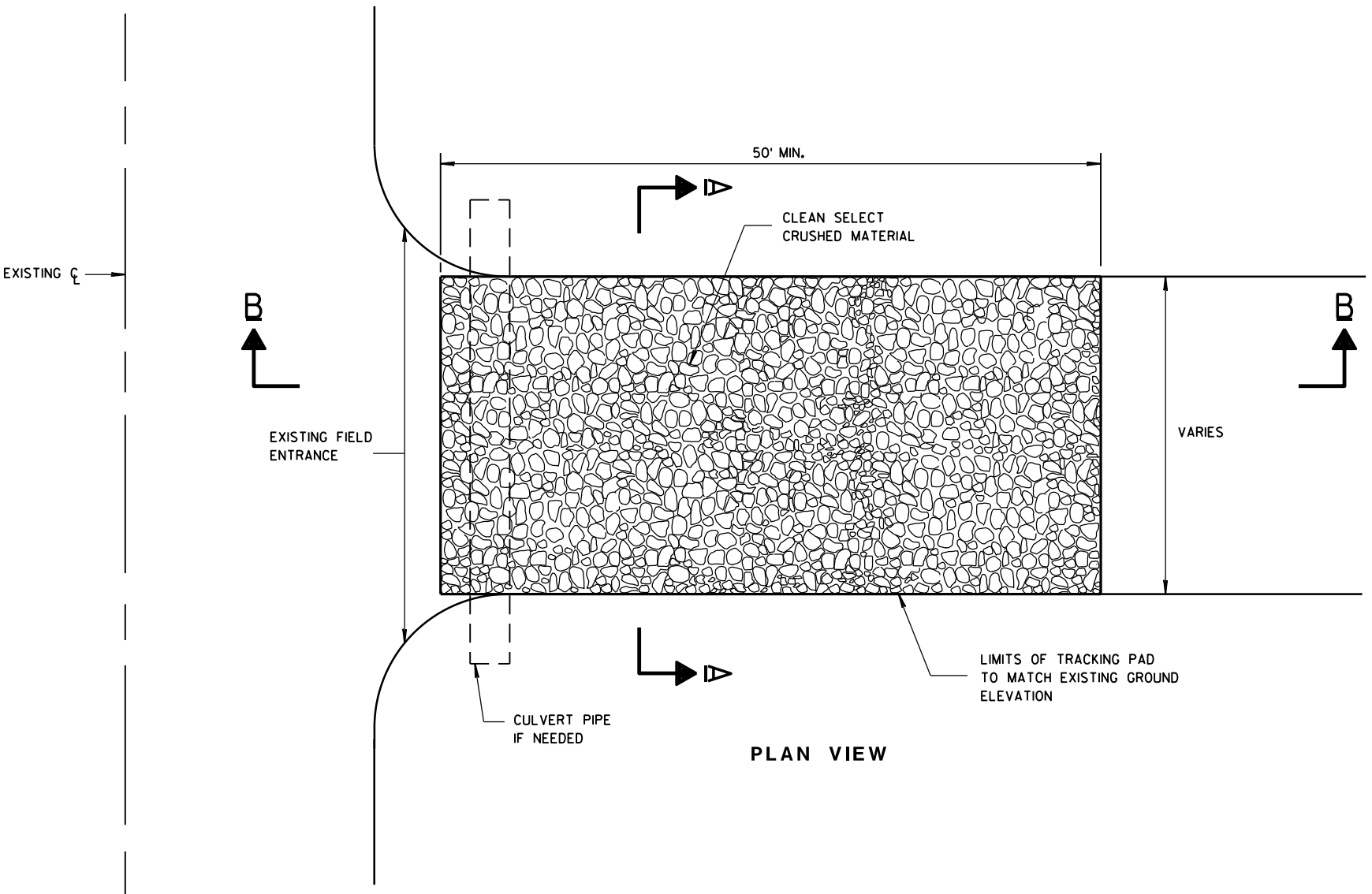
Silt Fence is not recommended for channel applications.

Increase the calculated need for silt fence by 25% and list this quantity as "undistributed" on the miscellaneous quantities sheet.

Silt Fence is neither biodegradable, recyclable, nor reusable and, therefore is recommended only when other erosion control best management practices are not practical.

Contact Person:

Robert Armstrong (608) 267-3147



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

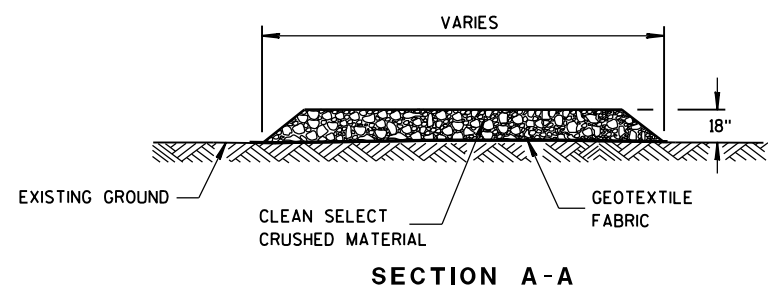
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



6

6

S.D.D. 8 E 14-1

S.D.D. 8 E 14-1

TRACKING PAD

TRACKING PAD	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3-24-2011 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

*Tracking Pad***References:**[FDM 10-10-42](#)**Bid items associated with this drawing:**

Bid items for tracking pad are encoded as follows:

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
628.7560	Tracking Pad	EACH

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:

NONE

Design Notes:

1. Tracking pads are to be used at egress points from the project, borrow and/or waste site locations, where construction vehicles enter live traffic.
2. One tracking pad per selected site.
3. Practices used to divert flow away from, under, or around tracking pads are incidental to the bid item.

Contact Person:

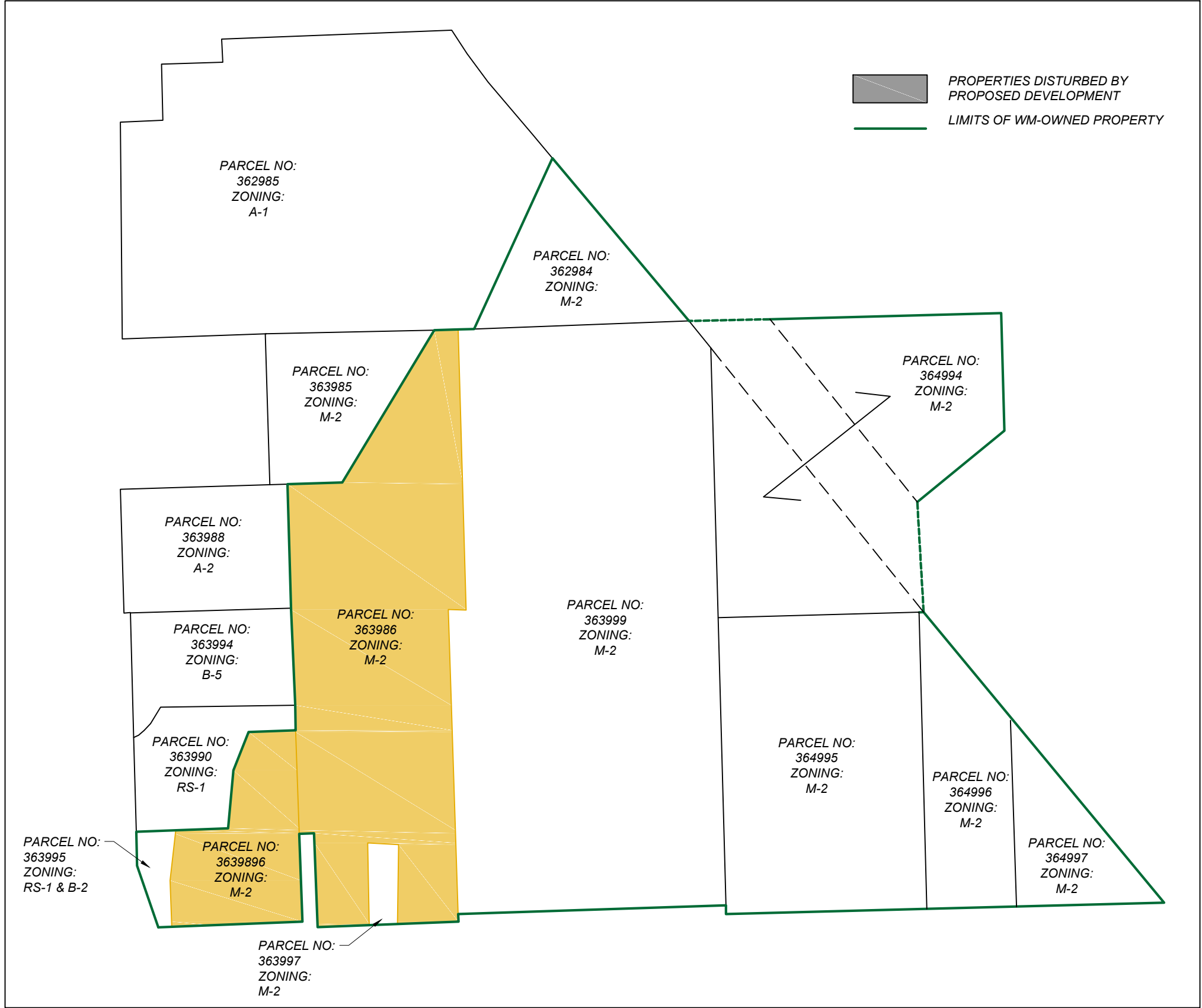
Robert Armstrong (608) 267-3147

PLANS FOR:

WASTE MANAGEMENT TRUCK MAINTENANCE FACILITY

N96 W13840 COUNTY LINE RD.

GERMANTOWN, WI 53022



ADJACENT PROPERTY ZONING MAP:
SCALE: 1" = 500'



SITE MAP
SCALE: 1" = 200'

PROJECT CONTACTS:

CIVIL ENGINEER:



DIVERSIFIED ENGINEERING INC.
NICK BERNER, P.E.
175 RAY AVE NE
NEW PHILADELPHIA, OH 44663
PHONE: (330) 364-1031
EMAIL: nberner@div-eng.com

OWNER:



WASTE MANAGEMENT OF WISCONSIN, INC.
DONALD SMITH, P.E.
PO BOX 1450
CHICAGO, IL 60690-1450
PHONE: (262) 808-6039
EMAIL: dsmith@wm.com

SITE INFORMATION:

PARCEL NO. 1:	GTNV_363996	PARCEL NO. 2:	GTNV_363996	FEMA:	COMMUNITY NUMBER:	550472
TAX KEY	M2	TAX KEY	M2	PANEL #:	SUFFIX:	0379
ZONING	8.15 AC.	ZONING	35.63 AC.	DATE OF FIRM:	FIRM ZONE:	D
TOTAL ACREAGE		TOTAL ACREAGE		BFE:		11/20/2013
						A
						769 FT.

BENCHMARKS:

WASHINGTON COUNTY BENCH MARK NO.	102	NATIONAL GEODETIC VERTICAL DATUM OF 1929
DATUM:		766.809
ELEVATION:		BENCHMARK 102 IS A CHISELED SQUARE SET IN THE TOP OF THE EASTERLY 60-INCH-DIAMETER
DETAILED DESCRIPTION:		CONCRETE CULVERT PIPE

LEGAL DESCRIPTION:

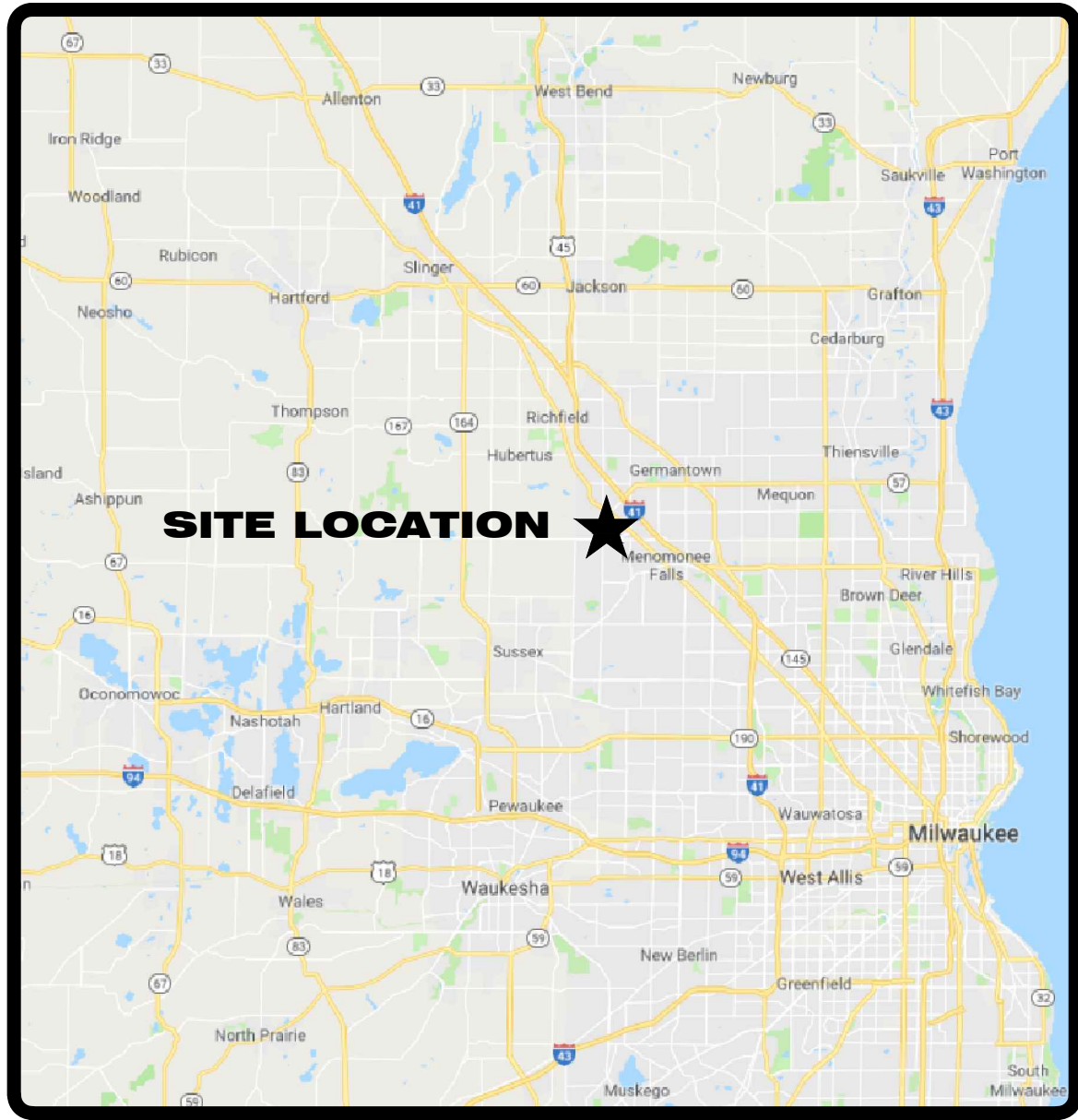
PARCEL NO. 1: (363996)
LOT 2 - CSM4247 V28 P30 PT OF SW SW V1013 P676 SEC 36-9-20 8.15 AC.

PARCEL NO. 2: (363996)
PT NW SW V747 P264 EXC PT SOLD SEC 36-9-20

NOTE: LOTS TO BE COMBINED PRIOR TO PERMIT.

DRAWING INDEX:

GENERAL	LANDSCAPING
G1.0 COVER	L1.0 SITE LANDSCAPING PLAN
CIVIL	EXHIBITS
C1.0 SYMBOLS LEGEND & GENERAL NOTES	X1.0 SITE PHOTOMETRIC PLAN
C1.1 EXISTING CONDITIONS PLAN	
C1.2 SITE DEMOLITION PLAN	
C1.3 SITE ZONING MAP	
C1.4 SITE IMPROVEMENT PLAN	
C1.5 ENLARGED SITE IMPROVEMENT PLAN	
C1.6 SITE GRADING PLAN	
C1.7 ENLARGED SITE GRADING PLAN	
C1.8 STORM WATER MANAGEMENT PLAN	
C1.9 SITE UTILITY PLAN	
C1.10 HARD SURFACE KEY PLAN	



ISSUED FOR REVIEW 01/04/2019

P/W	- Right-of-Way
P/L	- Adjacent Property Line
℄	- Centerline
P.O.B.	- Place/Point of Beginning
P.O.C.	- Place/Point of Commencement
Rad	- Radius
Δ	- Arc Length
arc	- Delta Angle
ChL	- Chord Length
ChB	- Chord Bearing
Calc.	- Calculated
Msd.	- Measured
dd	- Deed
(Record)	- Actual
N.R.D.	- No Recorded Data
F.F.E.	- Finished Floor Elevation
CMP	- Corrugated Metal Pipe
DI	- Ductile Iron
HDPE	- High Density Polyethylene
PVC	- Polyvinyl Chloride
RCP	- Reinforced Concrete Pipe
VCP	- Vitrified Clay Pipe

	- Guardrail
	- Fence (As Noted)
	- Wood Fence (As Noted)
	- Steel Fence (As Noted)
	- Sanitary Sewer
	- Storm Sewer
	- Water Line
	- Underground Gas Pipeline
	- Underground Electric
	- Underground Lighting
	- Underground Telephone
	- Underground Cable T.V.
	- Underground Fiberoptics
	- Overhead Utilities
	- Field Tile
	- Gravel Area
	- Concrete Area
	- No Parking Area
	- Building Area
	- 1' Elevation Contour
	- 5' Elevation Contour

- - Iron Pin Set
- ▲ - Drill Hole or Railroad Spike Set
- - Iron Pin Pile
- - Iron Pin Found
- △ - Monument Found as Noted
- - Stone Monument Found
- - Monument Box
- | — - Sign
- AC - Air Condition Unit
- MP - Monitoring Well
- - Bollard Post
- - Parking Meter
- AP - Air Pump
- - Bollard Light / Ground Light
- - Grease Trap
- - Ground Light
- MB - Mail Box
- - Basketball Hoop
- KE - Gate Entry Key Pad
- | — - Flag Pole
- - Interstate Highway
- - United States Highway
- - State Highway
- - County Highway
- - Drum Blaise Red Maple
- - Moon Glow Juniper
- - Endless Summer Hydrangeas
- - Pasture Rose

	- Manhole
	- Storm Manhole
	- Catch Inlet Basin w/ Grate
	- Curb Basin
	- Storm Vault
	- Cleanout
	- Sanitary Manhole
	- Water Vault
	- Water Stand Pipe
	- Fire Hydrant
	- Post Indicator Valve
	- Water Valve
	- Water Meter
	- Water Manhole
	- Water Backflow Preventer
	- Water Vault
	- Water Curb Box
	- Gas Meter
	- Gas Valve
	- Gas Curb Box
	- Fiberoptic Manhole
	- Cable T.V. Pedestal
	- Electric Meter
	- Electric Transformer
	- Electric Manhole
	- Electric Vault
	- Telephone Pedestal
	- Telephone Manhole
	- Telephone Booth
	- Telephone Vault
	- Traffic Vault
	- Signal Pull Box
	- Power Pole
	- Traffic Pole
	- Telephone Pole
	- Flag Pole
	- Light Pole
	- Guy Wire
	- Utility Vault
	- Underground Utility Marker
	- Vacuum
	- Unknown Valve

	- Encroachment
	- Easement Circle
	- Easement Alt. 1
	- Easement Alt. 1
	- Label 1
	- Label 2
	- Regular Parking Count - Handicap Parking Count
	- Handicap Space

1. All necessary preventative measures will be taken to keep damage from occurring to adjacent structures such as utilities, tree, poles, structures, and private property during the progress of this work. Any and all damages that occur due to construction activities shall be repaired or replaced by the contractor at no expense to the owner.
2. All material excavated or used in the laying of the pipe will be located and stockpiled in a way not to endanger the public, the personnel on the job, or block natural drainage patterns.
3. **DEWATERING:**
Contractor is responsible for all and all necessary dewatering activities for any excavation.
4. **ROOT/ DRAIN NOTE:**
Root cut from drainage drains, and other clean water connections to sanitary sewer system are strictly prohibited.
5. **NOTIFICATION:**
Any time utilities are involved, other than city water and sewer, notify Wisconsin One Call at 1-800-242-8511 three (3) working days prior to excavation.
6. **EROSION CONTROL:**
Contractor to allow no silt or erosion to enter existing/proposed storm sewer system or water courses during construction phase. Contractor shall use erosion control measures such as inlet filters and ditch check dams in accordance with Wisconsin D.O.T. Specifications.
7. All grass areas to be disturbed shall have topsoil removed and stockpiled prior to excavation. Upon completion of construction, a 6" minimum of topsoil shall be replaced, then seeded and mulched (in accordance with the Wisconsin D.O.T. Specifications). All disturbed areas are to be graded to have positive drainage.
8. Underground utilities were plotted from records and field observations and actual locations may deviate from the plans. Contractor shall be responsible for verifying location of all underground utilities within the project area.
9. Contractor shall exercise caution within and adjacent to his work areas as not to damage existing facilities. Any facilities that are damaged due to the contractors operations shall be repaired or replaced by the contractor to original or better condition at no expense to the owner.
11. **TRACKING OF MUD UPON PUBLIC WAYS**
It shall be the duty of the contractor to supervise the handling of all traffic entering and leaving the work area to prevent mud or debris of any nature from being tracked onto the sidewalks and streets of the city.
12. **MATERIAL DISPOSAL:**
The contractor shall not dump any waste materials on the Owner's property without the written permission of the Owner, or another property without the written permission of the owner or lesser thereof. When such permission is granted, dumping shall be subject to regulations prescribed by the Engineer.
13. **PROTECTION OF TREES**
All trees within the construction area not specified for removal are to be protected by the contractor. Care shall be taken to insure the the roots are not cut. The contractor shall be responsible for replacing any damaged trees of the same size and kind as specified. Damaged tree branches shall be properly trimmed immediately after damage.
14. **CONCRETE PROTECTIONS**
The contractor shall protect the finish of all freshly placed concrete from vandalism until the concrete has taken its initial set. The contractor shall be responsible for any damage to the concrete finish caused by the contractor or due to his failure to protect the concrete.

1. Contractor shall submit a maintenance of traffic plan to Waste Management, Maintenance Supervisor and Diversified Engineering for review and approval 15 days prior to start of work.
2. Contractors maintenance of traffic plan shall be in accordance with Wisconsin D.O.T. Specifications.
3. The contractor shall furnish and maintain all necessary safeguards such as barricades, satisfactory barrier lighting, flaggers, and such other traffic control devices as provided in Wisconsin D.O.T. Specifications.
4. All construction traffic control signs used for the project shall conform to the current "Manual of Uniform Traffic Control Devices" and shall be provided, erected, and maintained by the contractor.

CALL BEFORE YOU DIG !
WISCONSIN LAW REQUIRES EXCAVATORS TO NOTIFY
THE PROTECTION SERVICE AT LEAST THREE (3)
BUSINESS DAYS BUT NOT MORE THAN TEN (10)
CALENDAR DAYS PRIOR TO EXCAVATION

 **Wisconsin One Call
Notification Center**
www.diggershotline.com
811 or 1-800-242-8511



**Diversified
Engineering Inc.**

CONSULTING ENGINEERS & SURVIVORS

175 RAY AVENUE, N.E.
NEW PHILADELPHIA, OH 44663

Phone: (330) 364-1631
Fax: (330) 364-4031
E-Mail: info@diversified.com
Web: www.diversified.com

WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: SYMBOLS LEGEND & GENERAL NOTES

SHEET NO:

C1.0

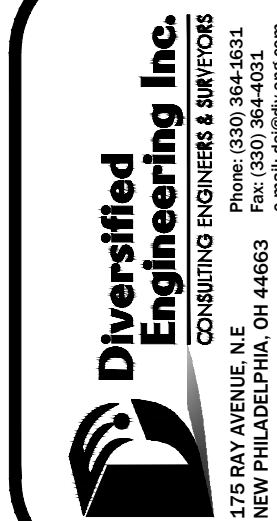
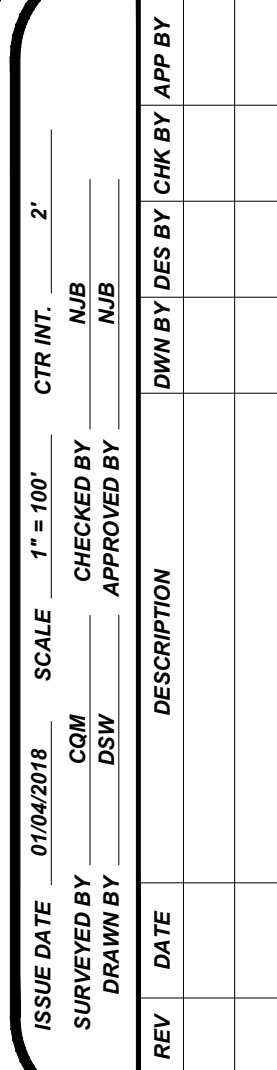
JOB NO:
ENG-1465



- Waste Management Parcels 363995, 363996, 363997, 363986 and the existing ~0.58ac. parcel "Public Right of Way" off of County Line Rd. to be combined to one contiguous parcel at a later date.

A. All existing utilities are shown herein as reference only and are based on record of the various utility companies and a field survey. Contractor is responsible for determining the exact locations of all utilities prior to any construction activities.

B. All existing conditions, topography, utilities, and property information are taken from a survey of land situated in the City of Sterling, county of Loudoun, State of Virginia, by surveyors: Construction Quality Management, Inc. 2679 Continental Drive, Green Bay, WI 54311, ph: (920) 465-3911, fx: (920) 465-3913 and Diversified Engineering, Inc., 175 Ray Avenue, NE, New Philadelphia, OH 44663, ph: (330) 364-1631, fx: (330) 364-4031.



WASTE MANAGEMENT

PROJECT:

TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

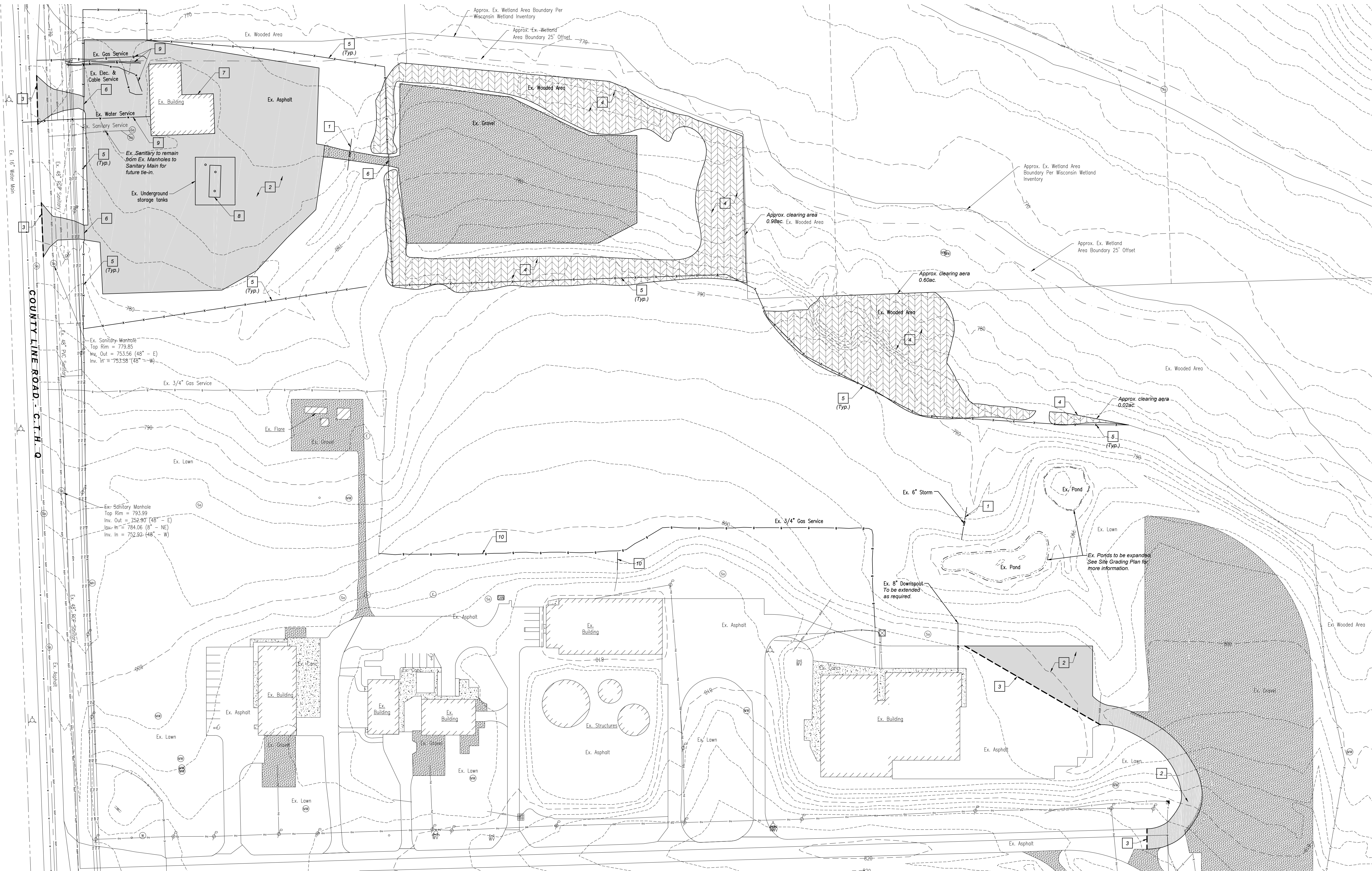
SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NO:

C1.1

JOB NO:
ENG-1465



SITE DEMOLITION PLAN

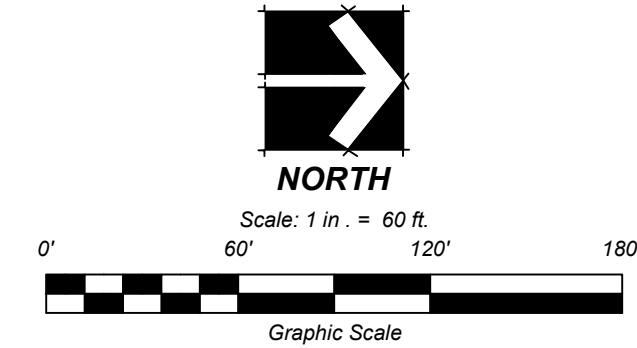
Scale: 1" = 60'

KEYED NOTES:

- 1.) Remove storm water pipe. Demolition debris shall be hauled off-site.
- 2.) Remove asphalt pavement section and base material. Demolition debris shall be hauled off-site.
- 3.) Full depth asphalt saw cut line.
- 4.) Clear, grub and completely remove stump.
- 5.) Remove fence and appurtenances. Demolition debris shall be hauled off-site.
- 6.) Remove gate and appurtenances. Coordinate any electrical disconnection with Electrical Contractor. Demolition debris shall be hauled off-site.
- 7.) Remove building. Coordinate any utility disconnection with associated trade. Demolition debris shall be hauled off-site.
- 8.) Remove underground storage tanks. Coordinate any utility disconnection with associated trade. Demolition debris shall be hauled off-site.
- 9.) Existing building utility services to be cut, capped and abandoned in place. Demolition debris shall be hauled off-site.
- 10.) Relocate 3/4" gas service to location show in drawings.

GENERAL NOTES:

- A. At start of project and prior to demolition of existing conditions, contractor shall be in contact with adjacent property owners, city representative, and site representative to coordinate demolition timing.
- B. Contractor to remove and dispose of all debris and other materials resulting from demolition and construction operations, disposal will be in accordance with all local, state, and federal regulations governing such operations.
- C. Contractor shall take all precautions necessary to avoid damage to adjacent properties during construction phases of this project. Contractor will be solely responsible for damage to neighboring properties occurring as a result of construction activities.
- D. All existing utilities are shown herein as reference only and are based on record of the various utility companies. Contractor is responsible for determining the exact locations and depths of all utilities prior to demolition activities.
- E. Contractor shall provide traffic control in accordance with the state manual on uniform traffic control devices.
- F. Prior to starting demolition, it is the responsibility of the contractor to obtain all permits, tap fees, bond fees, and inspection fees required by local and state governmental agencies.
- G. All landfill tipping fees shall be paid by the Contractor.
- H. Utilities shall be removed and the trenches backfilled with approved backfill material. Backfill material shall be placed in maximum eight inch lifts and compacted in accordance with the geotechnical report or to a minimum of 95% of the maximum dry density as determined by ASTM D-1557 modified proctor method +/- 3% optimum moisture content.
- I. Contractor shall not burn debris or use explosives.
- J. Contractor shall be responsible for all phasing of demolition when the demolition may impact traffic, access, or utilities to neighbors or facilities to remain and other surrounding infrastructure or facilities.
- K. Conduct demolition operations to ensure minimal interference with roads, sidewalks, and any other adjacent occupied facilities.
- L. Do not close or obstruct roads, sidewalks, or any other occupied facilities without permission from the local authority having jurisdiction and/or property owners.
- M. The contractor shall be responsible for ensuring the construction site and surrounding areas are free of accumulated debris.



LEGEND:

- Existing Asphalt to be Removed
- Existing Wooded area to be cleared
- Proposed Full-depth Saw Cut Line

ISSUE DATE	07/04/2018	SCALE	1" = 60'	CTR INT.	2"
SURVEYED BY	COM	CHECKED BY	NJB		
DRAWN BY	DSW	APPROVED BY			
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY
					APP BY

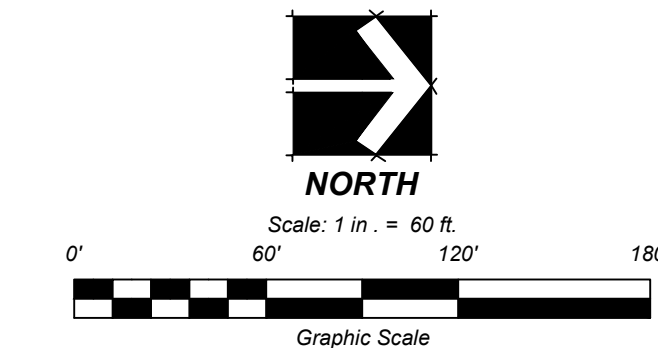


PROJECT:	TRUCK MAINTENANCE FACILITY GERMANTOWN, WI
SHEET TITLE:	SITE DEMOLITION PLAN

SHEET NO:

C1.2

JOB NO:
ENG-1465



 Proposed Parking Space Count Indicator

 Proposed Chain Link Fence

 Proposed Landscaping Area, See Site Landscaping Plan for further coordination

Total Parking Spaces (Public) = 159
Total Parking Spaces (Handicap) = 7
Typical Parking Space Dimension: 10' x 20' (Unless otherwise noted)

Scale: 1" = 60'

Required Front yard Setback:	30'
Required Side yard Setback:	25'
Required Rear yard Setback:	25'
Required Lot Frontage Setback:	150'

Lot square footage total:	2,005,005 S.F.
Impervious surface percentage:	25.7%
Green space percentage:	74.3%
Percent permitted (over/under):	under 48.6%

- Professional Office Space:
Office Area: 9,750 S.F.
Office Employees: 128 Persons
Required parking one space per 200 S.F. + 1/2 space per employee
- 9,750 S.F. / 200 S.F. = 49 Spaces
- 128 Persons / 2 = 64 Spaces
- Total Required Office Spaces = 113 Spaces

- Auto Repair Space:
Auto Repair Area: 19,500 S.F.
Auto Repair Employees: 16 Persons
Required parking one space per 250 S.F. + 1 space per employee
- 19,500 S.F. / 250 S.F. = 78 Spaces
- 16 Persons = 16 Spaces
- Total Required Auto Repair Spaces = 94 Spaces

*NOTE: Additional parking area if required for future tenant = 44 spaces bringing total available spaces to 210 parking spaces, meeting required parking spaces per code.

Required Spaces:
Total required spaces = 207 Spaces per code

Provided Spaces:
159 Standard Spaces
7 Accessible Spaces
166 Total Spaces Provided

 **Diversified
Engineering Inc.**
CONSULTING ENGINEERS & SURVEYORS

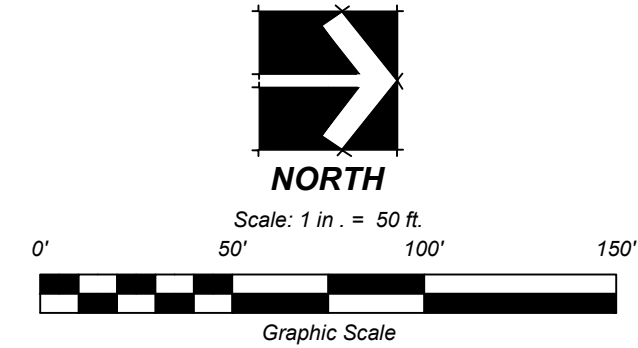
Phone: (330) 364-1631
Fax: (330) 364-4031

175 RAY AVENUE, N.E.
NEW PHILADELPHIA, OH 44663

SHEET NO:

C1.3

JOB NO:
ENG-1465



Total Parking Spaces (Public) = 159
Total Parking Spaces (Handicap) = 7
Typical Parking Space Dimension: 10' x 20' (Unless otherwise noted)

[illegible]

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: SITE IMPROVEMENT PLAN

WASTE MANAGEMENT

C1.4

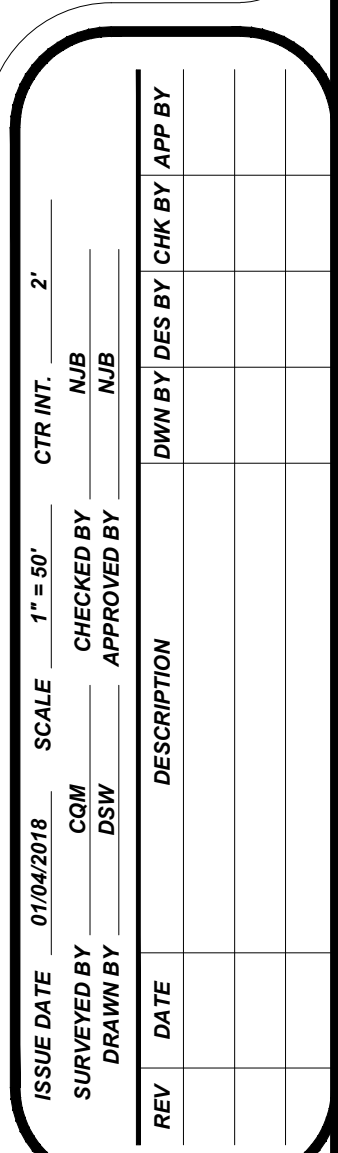
JOB NO:
ENG-1465

Scale: 1" = 50'

1) Grass area (slope to drain). Re-seed existing lawn where disturbed by new construction and construction activities.	12) Swing Gate Operator & Concrete Pad provided & installed by G.C., equal to "LiftMaster Elite Series" Model CSW24U, 120V (Conduits & Wire by E.C.).
2) 6" concrete curb.	13) 6" high chain link security fence / access gate.
3) 4" concrete sidewalk.	14) Taper curb.
4) Integral concrete curb and walk.	15) Pavement painting: 4" wide yellow striping.
5) Proposed light-duty asphalt pavement.	16) Pavement marking: Yellow directional arrow.
6) Proposed heavy-duty concrete pavement.	17) Proposed site lighting: By E.C. (shown for reference). See site electrical plan.
7) Block Retaining Wall.	18) Pedestal for gate operator access control key pad, furnished and installed by G.C. Conduit to pedestal by E.C., wiring by Access Control installer.
8) Concrete truck wheel stop.	19) Proposed relocated 3/4" gas service line location.
9) Reinforced Concrete Apron.	20) Concrete parking bumper.
10) Frost footing at man doors.	
11) Proposed Landscaping (Shown for reference). See Sheet L1.0 "Site Landscaping Plan".	"NOTE: See 'SITE PLAN REVIEW SUBMITTAL PACKET' for final construction details.

A. Provide smooth transition from newly paved areas to existing paved areas as necessary. The existing edge of pavement shall be free of all loose debris at all areas where the new pavement is placed. The existing edge of the existing asphalt pavement shall be properly sealed with a tack coat material in all areas where new asphalt pavement is material to join existing. B. Contractor is responsible for locating and verifying all existing underground utilities prior to construction, and is responsible for any damage to them during construction. C. All dimensions to face of curb or edge of concrete unless otherwise noted. D. All pavement markings depicting parking spaces, accessible parking spaces, access aisles, and no parking signage shall be applied with mechanical equipment and templates at the locations and lengths as shown on the plans. All new pavement shall be yellow in color (unless otherwise specified) and shall meet all applicable requirements of state department of highway specifications, unless otherwise specified. E. Contractor shall be solely responsible for and take all precautions necessary to avoid damage to adjacent properties during the construction phases of this project. F. All construction methods and materials must conform to current standards and specifications of the federal, state, county, city or local requirements, whichever has the most restrictive.	G. All excavated and/or disturbed areas indicated as "grass area" (per keyed note #1), are to be seeded with a locally adaptive turf seed mix after finish grading unless otherwise noted. All newly seeded areas shall have a minimum of 6" of topsoil. Hold soil down 1" from pavement elevation. Contractor to supply straw mulch where grass seed has been planted. H. All radii indicated on plans shall be constructed as circular. I. Resurface or reconstruct at least to original conditions all areas where traffic by contractors, subcontractors or suppliers have damaged existing pavement, lawns or other improvements during construction, after construction work is complete. J. The contractor shall verify all dimensions and elevations in the field prior to the start of construction. The contractor shall be responsible for all field dimensions and elevations during the entire construction schedule. If any discrepancies are found in these plans from actual field dimensions, the contractor shall contact the engineer immediately.
---	---





 **Diversified
Engineering Inc.**
CONSULTING ENGINEERS & SURVEYORS

Phone: (330) 364-1831
Fax: (330) 364-1035
E-Mail: info@div-eng.com
Web: www.div-eng.com

175 RAY AVENUE N.E.
NEW PHILADELPHIA, OH 44663

WASTE MANAGEMENT

PROJECT:

TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE:

SITE GRADING PLAN

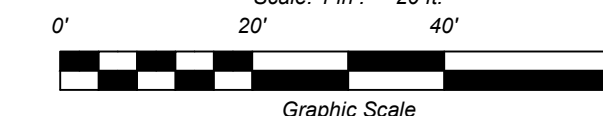
SHEET NO:

C1.6

JOB NO:
ENG-1465



Scale: 1 in. =



Scale: 1" = 20'

[illegible]

 **Diversified
Engineering Inc.**
CONSULTING ENGINEERS & SURVEYORS

5 RAY AVENUE, N.E.
PHILADELPHIA, OH 44663

Phone: (330) 364-1631
Fax: (330) 364-1031
e-mail: design@diveng.com
Web: www.diveng.com

WASTE MANAGEMENT

WASTE MANAGEMENT

SUBJECT: TRUCK MAINTENANCE FACILITY

GERMANTOWN, WI

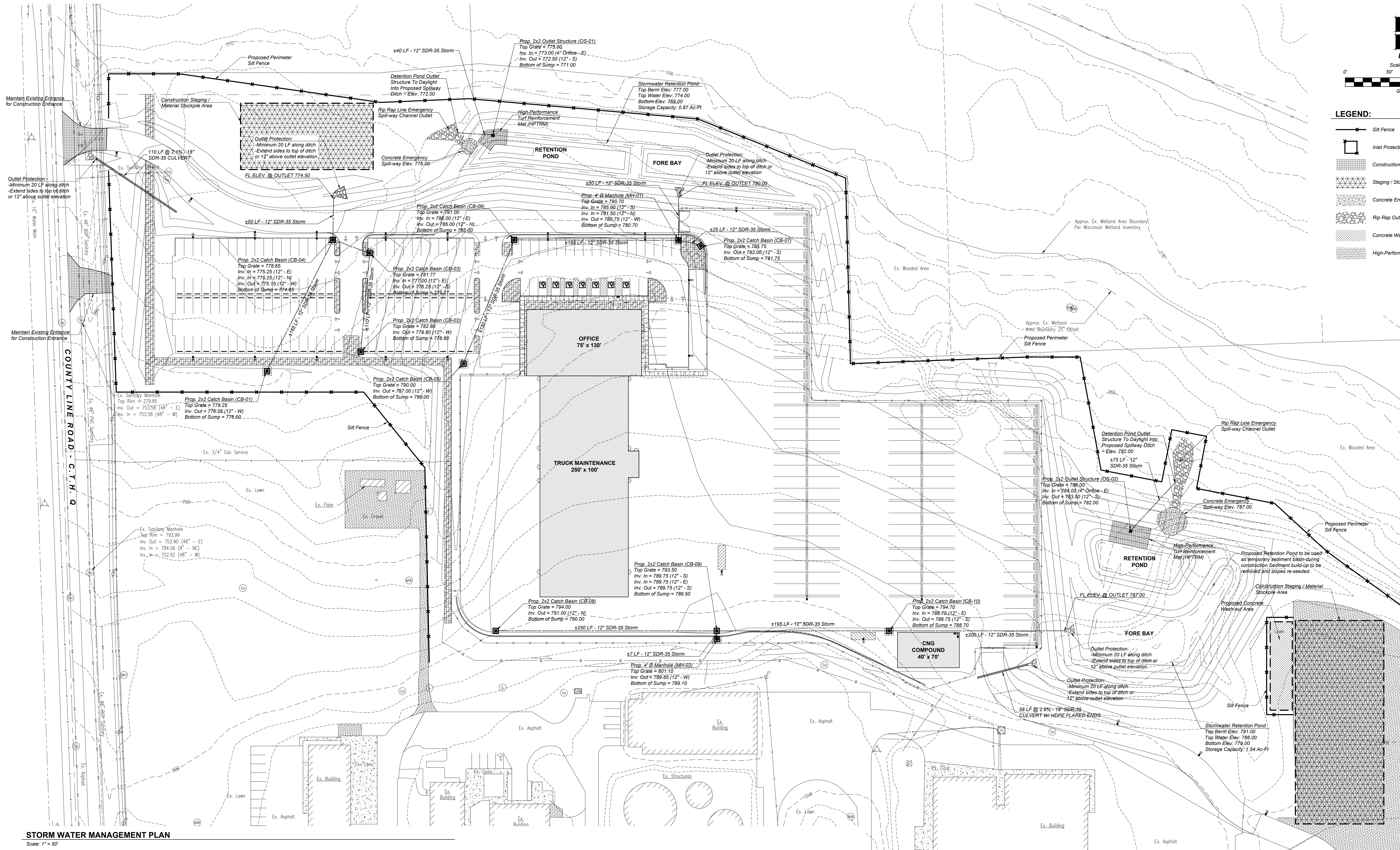
ENLARGED SITE GRADING PLAN

SHEET NO:

C1.7

JOB NO:
ENG-1465

Z:\Projects\2018\Waste Management\Waste Management - Storm Water Management Plan - 11/20/2018 1:28 PM



STORM WATER MANAGEMENT PLAN
Scale: 1" = 50'

GENERAL NOTES:

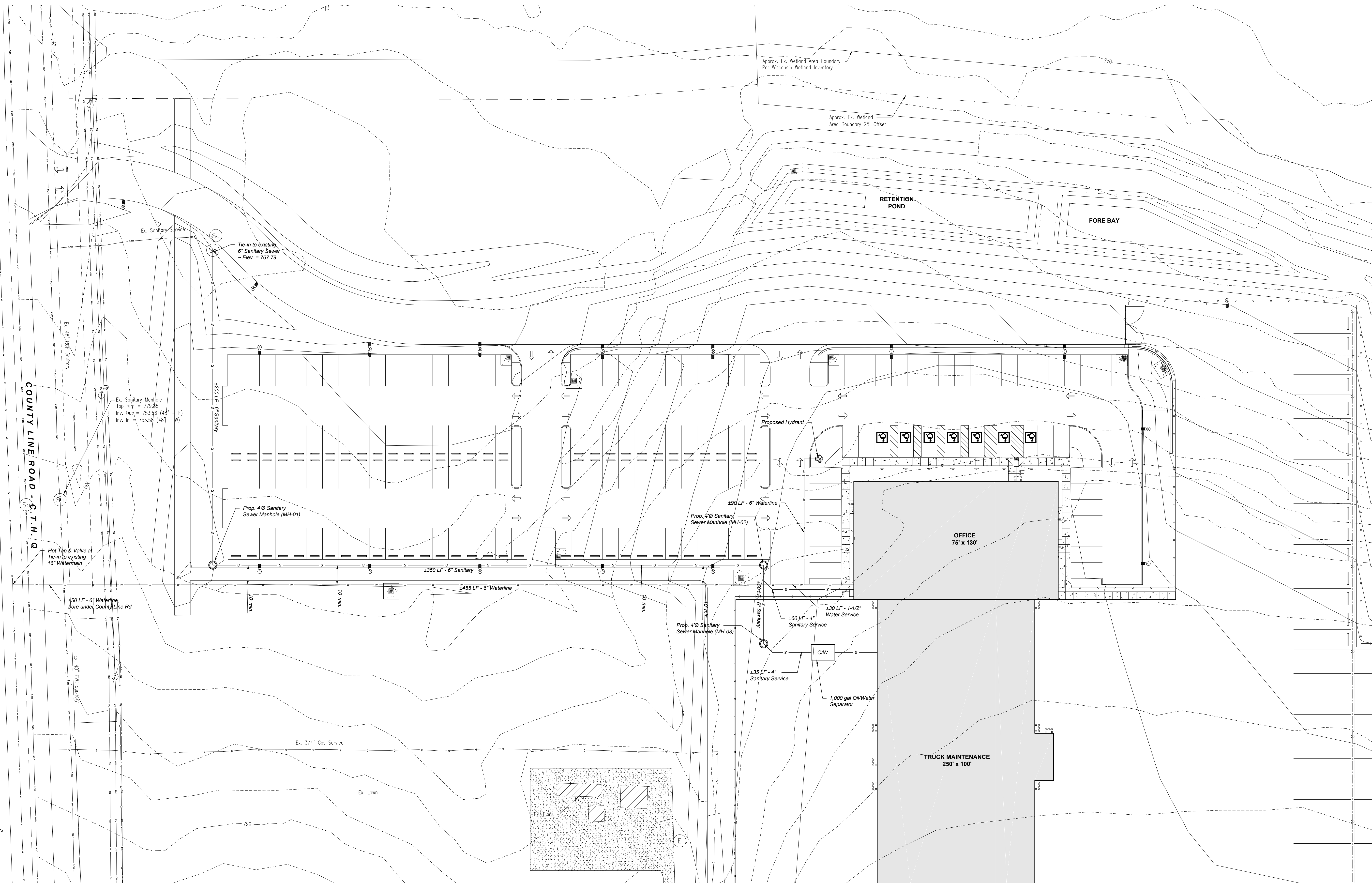
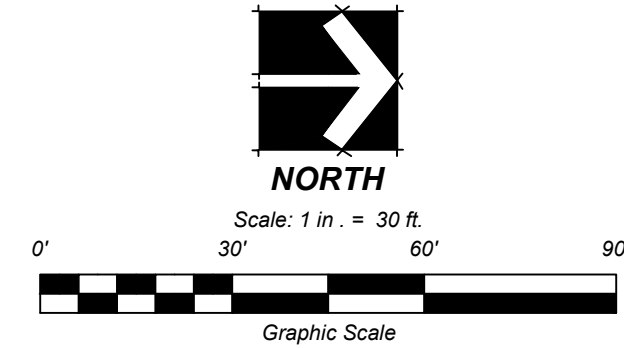
- STREET SWEEPING:** Streets directly adjacent to construction entrances and receiving traffic from the development area shall be cleaned daily to remove sediment tracked off-site.
- INTERNAL INSPECTION AND MAINTENANCE:** All controls on the development shall be inspected at least once every seven (7) calendar days and within 24 hours after any storm event greater than one-half (0.5) inch of rain per 24 hour period by the Owner.

ISSUE DATE	SCALE	1" = 50'	CTR INT.	2"
01/04/2018	1" = 50'			
SURVEYED BY	COM	CHECKED BY	NJB	
DRAWN BY	DSW	APPROVED BY		
REV	DATE	DESCRIPTION	DWN BY	DES BY
				CHK BY
				APP BY

Diversified Engineering Inc.
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WASTE MANAGEMENT
PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI
SHEET TITLE: STORM WATER MANAGEMENT PLAN

SHEET NO:
C1.8
JOB NO:
ENG-1465



SITE UTILITY PLAN
Scale: 1" = 30'

GENERAL NOTES:

- A. All existing utilities are shown herein as reference only and are based on record of the various utility companies. Contractor is responsible for determining the exact locations and depths of all utilities prior to any construction activities.
- B. The contractor shall field verify the elevations and pipe material of existing piping prior to ordering any pre-cast structure.
- C. The contractor shall refer to architectural plans for exact location and size of downspouts.
- D. The Site Contractor shall coordinate locations of utilities provided by other trades not shown on this plan.

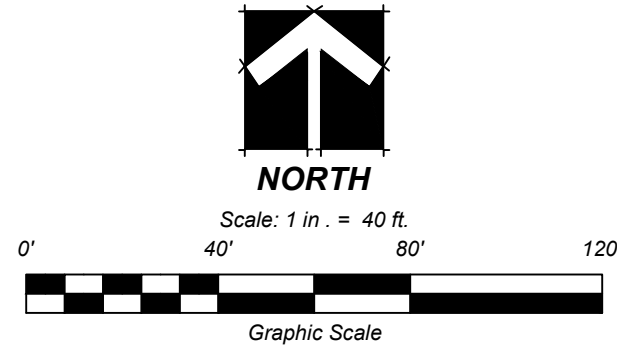
ISSUE DATE	SCALE	1" = 30'	CTR INT.	2"
07/04/2018	DSW	DSW	DSW	DSW
SURVEYED BY	CHECKED BY	APPROVED BY	N/A	N/A
DRAWN BY	DESCRIPTION	DWN BY	DES BY	CHK BY / APP BY
REV	DATE			

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WASTE MANAGEMENT
PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI
SHEET TITLE: SITE UTILITY PLAN

SHEET NO:
C1.9
JOB NO:
ENG-1465



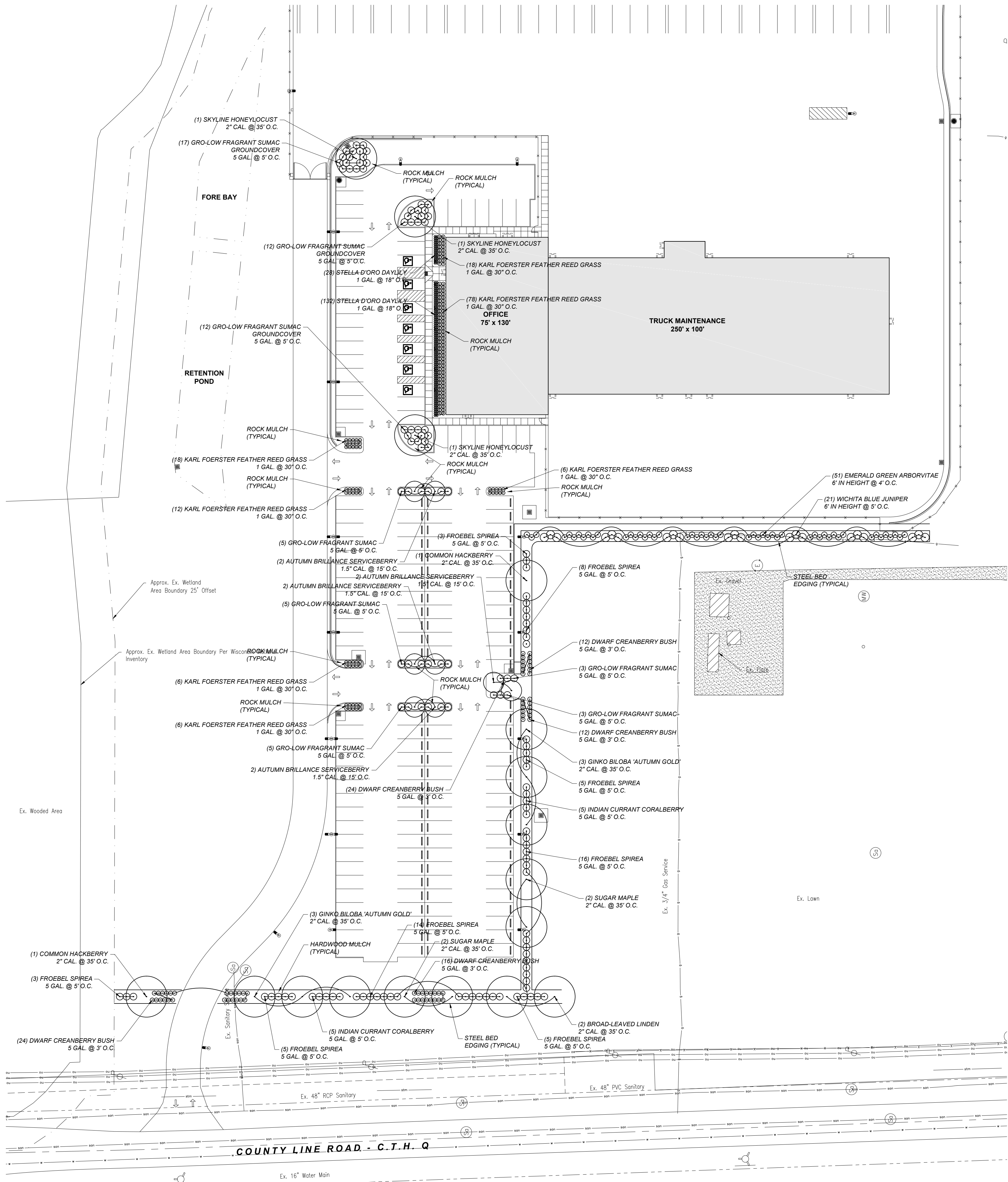


GENERAL NOTES:

1. Verify all conditions and dimensions shown on the plans at the site prior to commencement of work. Notify landscape architect of any discrepancies. Contractor shall notify utility companies and verify the exact location of utility easements and all utilities in the field prior to commencement of excavation or construction activities.
2. All work shall conform to the City of Mason City and S.U.D.A.S. standards unless noted otherwise.
3. Underground utilities shown are for information only. Locations have not been verified. Contractor shall contact Iowa One-Call and verify location of existing underground utilities before commencing any excavation to avoid damage. The contractor shall be responsible for repair of an damage caused by construction activities. Exercise extreme care in excavating and working around existing site features and utilities. Verify location and condition of all utilities. Field adjust plant locations so as to avoid conflicts with utilities.
4. Verify plant counts. If quantities in planting schedule vary from landscape plan graphic, graphic shall prevail.
5. Locate plant material by measuring off of the drawing to the nearest 6" and stake where trees will be located. The Landscape Architect will review prior to planting.
6. Align and equally space in all directions tree, shrub and perennials designated per these drawing and typical details.
7. Backfill soil (planting soil) for tree pits shall consist of a mixture of two parts top soil and one part compost. Remove soil excavated from tree planting area and dispose of off site.
8. Remove existing topsoil and stockpile on site; topsoil to be incorporated into soils at a later date.
9. Finish grade of planter areas shall be 3 inches below adjacent curb or structure to allow for 3" of mulch depth.
10. All landscape beds shall be edged with DURAEDGE 5"x2" steel lawn edging as manufacturing by the J.D. Russell Company (800-888-9709) or approved equal. Edging shall be hot rolled steel with an electrostatically applied powder coat surface paint, black in color.
11. New trees shall meet the minimum standards of ANSI Z60.1, Latest Edition. Plants shall be freshly dug or well-established in container as applicable, not root-bound in the container. Trees with broken or unidentifiable leader, broken or mushy roots, lopsided growth, or weak open structure (in the opinion of the landscape architect) will not be acceptable.
12. The contractor shall submit at least one nursery photograph of each type of tree species for approval by the landscape architect prior to shipping and installation. Most species are matched to the specimens must have consistent branching heights and habits within species. The landscape architect will use the submitted photographs as a standard of comparison for each tree species installed on site.
13. Wood mulch for tree rings and where indicated on the plan shall be 3" deep, composed of cedar or cypress wood of uniform color and long, fibrous nature (2-4 inches in length). Do not use walnut. Do not use chips. Apply pre-emergence herbicide over the top of all wood mulch. Mulch rings around new trees shall be minimum 6' in diameter. Thoroughly water mulched areas, rake to a smooth finished surface.
14. Planting beds next to the building and parking lot islands shall be 3" deep washed river rock mulch over weed barrier fabric. Fabric shall be a woven polypropylene, 3.5 to 4.0 ounce products. Apply pre-emergence herbicide over the top of all rock mulch.
15. All plants shall be maintained and watered by the contractor through substantial completion.
16. No trees, bushes, or vegetation existing on site to remain.

PLANTING SCHEDULE

TREES	QTY	COMMON NAME	BOTANICAL NAME	TYPE	CAL (IN.)	CONT
	3	THORNLESS HONEYLOCUST "SKYLINE"	GLEDTISIA TRIACANTHOS VAR. INERMIS	DECIDUOUS SHADE TREE	0'-2"	B&B
	2	COMMON HACKBERRY	CELTIS OCCIDENTALIS	DECIDUOUS SHADE TREE	0'-2"	B&B
	6	GINKGO BILOBA 'AUTUMN GOLD'	GINKGO BILOBA 'AUTUMN GOLD'	DECIDUOUS SHADE TREE	0'-2"	B&B
	4	SUGAR MAPLE	ACER SACCHARUM	DECIDUOUS SHADE TREE	0'-2"	B&B
	2	BROAD-LEAVED LINDEN	TILIA PLATYPHYLLOS	DECIDUOUS SHADE TREE	0'-2"	B&B
	8	AUTUMN BRILLIANCE SERVICEBERRY	AMERLANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	DECIDUOUS ORNAMENTAL TREE	0'-2"	B&B
SHRUBS						
	51	EMERALD GREEN ARBOVITAE	THUJA OCCIDENTALIS 'SMARAGD'	EVERGREEN SHRUB		6' HEIGHT
	21	WICHITA BLUE JUNIPER	JUNIPERUS SCOPULORUM 'WICHITA BLUE'	EVERGREEN SHRUB		6' HEIGHT
	65	GRO-LOW FRAGRANT SUMAC	RHUS AROMATICA 'GRO-LOW'	DECIDUOUS SHRUB		5 GAL
	59	SEA GREEN JUNIPER	JUNIPERUS X PRITZERIANA 'SEA GREEN'	EVERGREEN SHRUB		5 GAL
	10	INDIAN CURRANT CORALBERRY	SYMPHORICARPOS ORBICULATUS	DECIDUOUS SHRUB		5 GAL
	64	DWARF CRANBERRY BUSH	VIBURNUM OPULUS 'NANUM'	DECIDUOUS SHRUB		5 GAL
PERENNIALS						
	154	KARL FOERSTER FEATHER REED GRASS	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	PERENNIAL GRASS		1 GAL
	160	STELLA D'ORO DAYLILY	HEMEROCALLIS 'STELLA DE ORO'	PERENNIAL FLOWER		6' HEIGHT



SITE LANDSCAPING PLAN

Scale: 1" = 40'

ISSUE DATE	SCALE	1" = 40'	CTR. INT.	DATE	DESCRIPTION
07/04/2018	1" = 40'				
SURVEYED BY	CHECKED BY	DATE	DATE	DATE	DATE
DRAWN BY	COM	LOB	APPROVED BY	NJB	DWN BY DES BY CHK BY APP BY
REV	DATE				

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WASTE MANAGEMENT
PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI
SHEET TITLE: SITE LANDSCAPING PLAN

SHEET NO:
L1.0
JOB NO:
ENG-1465

[illegible]

WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: CONDITIONAL USE PERMIT
PROPOSED LIGHTING/PHOTOMETRIC PLAN

SHEET NO:

X1.0

JOB NO:
ENG-1465

SIGN PERMIT REVIEW

2/11/19 Plan Commission Meeting

Verizon / Germantown Commons

Village Planner Report

Germantown, Wisconsin

Summary

Sign Effectz Inc., agent for DDS Germantown Investment LLC, property owner, and Verizon Cellular Sales of WI, operator, is requesting approval for additional wall and monument signs for the new retail store in the Germantown Commons building located at N112 W16076 Mequon Road.

Property Location: N112 W16076 Mequon Road

Applicant/

Property Owner: DDS Germantown Investment LLC
c/o Stephen Provancher
6108 N. Shoreland Ave
Milwaukee, WI

Current Zoning: B-3: General Business District

Adjacent Land Uses		Zoning
North	Residential	Rm-3
South	Residential	Rm-3
East	Commercial	B-2
West	Commercial	B-2/PDD



Background/Proposal

In October 2018, the Plan Commission approved the following new signage for the Verizon store in the Germantown Commons:

- (2) 3' x 13'10" (41.5 sqft each; 83 sqft total) wall-mounted LED internally-illuminated channel lettering and logo raceway mounted on the south and east elevations (same sign/same size on each); and
- (1) 33" x 70" (16 sqft) monument sign panel insert

At this time, Verizon is requesting approval for the following additional wall and monument signage:

- (1) 3' x 13'10" (41.5 sqft) wall-mounted LED internally-illuminated channel lettering and logo raceway mounted on the west elevation (same sign & size as on the south and east elevations); and
- 2' x 12'1" addition to the top of the existing 8' x 12'1" monument sign to accommodate a new (full-width) monument sign panel insert

Staff Comments

The previously approved wall signs meet the Village's sign requirements including the allowance for 1.5 sqft of sign area for every 1 linear foot of building frontage (83 sqft proposed vs. the maximum allowance of 168 sqft for 112 linear feet of building frontage).

With respect to the wall sign proposed for the west elevation, the only issue is that the sign regulations only allow wall signage on all street-facing elevations, but gives the Plan Commission the ability to "...approve signage on any façade of a building when deemed appropriate". While the west elevation is not a street-facing elevation, neither is the east elevation for which the same sign was previously approved. The Plan Commission can approve signage on the west elevation if it is deemed appropriate. The additional 41.5 sqft sign area would not increase the total (124.5 sqft) beyond the overall allowance of 168 sqft. With that said, the question becomes how much signage does one business like Verizon in this location really need given that number of signs proposed and ability to view more than one from any particular vantage point along Mequon Road (as clearly shown in the operator's own supporting photo renderings).

With regard to the monument sign addition, it should be noted that the existing pylon sign is non-conforming (no address coordinates, masonry base or landscaping). Nonetheless, it can continue to be used provided no structural changes are made and only the faces are replaced. The existing height of 8' is less than the maximum height of 10' allowed and the overall sign area per side and total (78 sqft per side; 156 sqft total) is slightly less than the maximum allowed (80 sqft per side; 160 sqft total). The existing sign is setback from the Mequon Road property line at the minimum 5' requirement.

The proposed monument sign addition, adding 3'3" to the overall height and another 41.5 sqft per side increases the sign height and area beyond the maximums allowed for this 7,645 sqft multi-tenant retail center.

As presented in Table 1 of Section 17.46(7) of the sign regulations (copy attached), a multi-tenant commercial building under 25,000 sqft with 3 or fewer tenants is only allowed a monument sign up to 10' high and 80 sqft per side/160 sqft total with a minimum property line setback of 5 feet. The next category for a larger multi-tenant commercial building with 4-9 tenants and 25-50,000 sqft allows monument signs up to 15' high with a maximum of 120 sqft sign area per side/240 sqft total and at a minimum property line setback of ½ the sign height (but not less than 5 feet).

When built in 1999, the 7,645 sqft Germantown Commons was intended to be a 3-tenant building; clearly falling into the smaller monument sign category. However, the current arrangement of space is set up for a total of 4 tenants. Regardless, as Zoning Administrator, my interpretation of Table 1 in the sign regulations is that the total building size is the critical factor for determining which category in Table 1 applies to a multi-tenant building. Moreover, the existing sign is designed to accommodate 4 tenants without the need for additional sign area or height. For that reason, staff does not support the request for increasing the monument sign height or area.

NOTE: If the building owner and/or Verizon filed a successful appeal of this interpretation or obtained a variance from these requirements/restrictions from the Board of Zoning Appeals, whatever sign proposal resulted would eventually have to come back to the Plan Commission for approval. With that in mind, and assuming the same sign expansion is proposed in the future as is proposed now, i.e. a height of 11'3" and sign area of 120 sqft per side/240 sqft total, that modified sign would be required to meet the current monument sign requirements including the need to:

- *move the monument sign further into the site to increase the property line setback to meet the minimum requirement of ½ the sign height;*
- *add a masonry base;*
- *add address coordinates; and*
- *install landscaping around the base*

Village Planner Recommendation

APPROVE the proposed wall sign for the west elevation as proposed for the Verizon retail store located in the Germantown Commons center located at N112 W16076 Mequon Road subject to the following conditions:

1. Electrical permits shall be obtained from the Inspection Services prior to installation.

DENY the proposed monument sign modifications as proposed.

17.46 - SIGNS.

- (1) **INTENT AND PURPOSE.** (Am. Ord. #14-00) The intent of this section is to provide for and regulate the location and safe construction of signs in the Village in a manner that will ensure that signs are compatible with surrounding land uses, and to express the identity of individual proprietors and the community as a whole. No flashing or blinking signs other than traffic signs placed by a public agency shall be placed or erected within the Village. All signs, unless otherwise specified, shall be approved by the Plan Commission.

In considering a sign application, the Plan Commission shall consider the purpose of advertising; the appearance, location, lighting, height and size of the sign; safety of the operators of vehicles upon the adjoining streets and highways; the effect of the sign on property values within the immediate area; and the effect of the sign with respect to the scenic beauty of the vicinity in which the sign is proposed to be located.

- (2) **SIGN PERMIT.** (Am. Ord. #14-00; Am. Ord. #12-09; Am. Ord. #21-09) No sign shall hereafter be located, erected, moved, reconstructed, extended, enlarged, converted, structurally altered, nor shall the face of a sign be changed without a sign permit, except those signs exempted by subsection (3) below, and all signs shall fully conform to the requirements of this section. Applications for sign permits shall be filed with the Zoning Administrator who shall review them for completeness and approval or referral to the Plan Commission for their review and approval as may be required herein. A sign permit for a temporary sign, temporary real estate sign, or home occupation sign may be issued after review and approval by the Zoning Administrator. A sign permit shall become null and void if work authorized under the permit has not been completed within 60 days from the date of issuance (or renewed by the Zoning Administrator).

Applications for sign permits shall be made on forms provided by the Zoning Administrator, shall be submitted along with the necessary fees and removable bond (if applicable) as established by the Village Board, and shall contain or have attached thereto the following information:

- (a) Name, address and telephone number of the applicant and location of the building, structure or lot to which or upon which the sign is to be attached or erected.
- (b) Name of person, firm, corporation or association erecting the sign.
- (c) Written consent of the owner or lessee of the building, structure or land to which or upon which the sign is to be affixed.
- (d) A scale drawing of such sign indicating the dimensions, the materials to be used, the type of illumination, if any, and the method of construction and attachment.
- (e) A scale drawing indicating the location and position of such sign in relation to property lines and to nearby buildings or structures.
- (f) Copies of any other permit required and issued for said sign, including the written approval by the Building Inspector in the case of illuminated signs. The Building Inspector shall examine the plans and specifications, inspecting all wiring and connections to determine if the same complies with this Code.
- (g) Additional information as may be required by the Building Inspector or the Plan Commission.
- (h) A colored rendering, diagram or picture of the proposed sign(s). (Cr. Ord. #21-09)

- (i) The 15-day time period(s), with beginning and ending dates, during which a temporary sign will be displayed and then removed (list all time periods if applying for multiple permits on one application). (Cr. Ord. #21-09)
- (3) **SIGNS PERMITTED IN INDIVIDUAL ZONING DISTRICTS WITHOUT A SIGN PERMIT.** The following signs are permitted without a sign permit, subject to the following regulations:
- (a) Memorial signs, tables, name of building and date of building erection signs in all zoning districts when cut into any masonry surface or when constructed of metal and affixed flat against a structure, and not illuminated.
 - (b) Name, home occupation, professional home office, on-site traffic control and directional signs, and warning signs in all zoning districts, provided that such signs shall not exceed 3 square feet in area. (Am. Ord. #21-09)
 - (c) Official ground signs such as parking restriction signs, information signs and notices in all zoning districts. Such signs may be placed at the curb line or pavement edge.
 - (d) Real estate signs temporarily advertising the sale, rental or lease of a lot, parcel of land, building, or part thereof, upon which the sign is located in all residential zoning districts, provided that such sign shall not exceed 4 square feet in area. In agricultural, business and industrial zoning districts, such real estate signs shall not exceed 32 square feet in area. All such signs shall be removed no later than 10 days after the date said lot, parcel, building, or part thereof, has been sold, rented or leased. All signs shall be located on private property and not on public property or in any public right-of-way. (Am. Ord. #21-09)
 - (e) Rummage sale signs. The display and placement of rummage sale signs shall comply with the same requirements as election campaign signs as set forth in section 9.19 and section 17.70(4). (Cr. Ord. #21-09)
 - (f) Temporary signs advertising the need for or availability of employment opportunities (e.g., "Welders Wanted—Apply Within") except for residential districts that do not allow major home occupations. (Cr. Ord. #9-10)
- (4) **SIGNS PERMITTED IN ALL ZONING DISTRICTS WITH A SIGN PERMIT.** (Am. Ord. #9-10)
- (a) Bulletin boards, ground signs or wall signs for public, charitable or religious institutions, provided that such signs shall not exceed 8 square feet in area.
 - (b) Temporary signs as provided in section 17.46(7)(e).
- (5) **SIGNS PERMITTED IN ALL AGRICULTURAL DISTRICTS WITH A SIGN PERMIT.** Agricultural ground signs advertising farm products produced on the premises or the sale of farm equipment, stock and personal goods, provided that such signs shall not exceed 16 square feet in area.
- (6) **SIGNS PERMITTED IN RESIDENTIAL DISTRICTS WITH A SIGN PERMIT.** The following signs are permitted in all residential districts with a sign permit, subject to the following regulations:
- (a) Permanent real estate development signs located on private property or within the public right-of-way at entrances or along streets or highways which designate a particular development and which only include the name of the development. If located on private property, such signs shall be at least 5 feet from the outer edge of the street right-of-way. Such signs shall be constructed and properly maintained so as to be aesthetically pleasing to the surrounding development. Prior to the issuance of a sign to be located within the public right-of-way, a written agreement shall be provided which places all maintenance responsibility on the developer(s) or owner(s) and

exempts the Village from all maintenance responsibilities. Drawings showing the size, location and design of such signs shall be submitted to the Plan Commission for review and approval prior to the issuance of a sign permit. (Am. Ord. #14-10)

- (b) Temporary real estate development signs for the purpose of directing attention to the opening and location of a new building or a new residential subdivision or development, provided that such signs shall not exceed a total of 32 square feet in area, unless approved by the Plan Commission, and provided further that such signs shall be at least 5 feet from the outer edge of the street right-of-way. Sign permits for such signs may be issued by the Zoning Administrator for a period until such time as 90% of all lots, parcels, building or part thereof has been sold, rented or leased. Temporary real estate signs shall require an annual sign permit that is valid for the duration of the current calendar year and renewal for subsequent years provided that it is removed no later than 10 days after the date the lot, parcel, building or part thereof meeting the 90 percent removal requirement has been sold, rented or leased by the original subdivider/developer at least one time. (Am. Ord. #21-09)

(7) SIGNS PERMITTED IN BUSINESS, INDUSTRIAL AND INSTITUTIONAL DISTRICTS WITH A SIGN PERMIT. The following signs are permitted in all business, industrial and institutional districts, subject to the following restrictions:

- (a) Wall signs shall not exceed 1.5 square feet of signage per one linear foot of building frontage, up to 300 square feet for any individual use. Signage is only permitted on building frontage. However, the Plan Commission may approve signage on any facade of a building when deemed appropriate for the use. In addition to signage on a building frontage, the Plan Commission may also permit directional wall signage on any facade of a building when it is necessary and appropriate for the use. Wall signs shall not extend above the ceiling level of the top floor of the building upon which they are located. (Am. Ord. #24-06)
- (b) Projecting signs, awning signs, canopy signs and marquees shall not be externally lighted; shall not exceed 100 square feet in area for any one premises; shall not extend more than 5 feet into any required yard; shall not extend into any public right-of-way; shall be located not less than 10 feet from all side lot lines; shall not exceed a height of 20 feet above the mean center line grade of the abutting street; and shall not be less than 10 feet above the sidewalk nor 15 feet above a driveway or an alley.
- (c) Ground signs shall meet the requirements set forth in Table 1. One ground sign may be allowed along each road the subject property has at least 50 feet of road frontage. All ground signs shall be mounted on a decorative base constructed of the same or similar materials as the principal building, e.g. stone, decorative block. All single-tenant ground signs shall include the street address coordinates for the property mounted on the base of the sign (minimum 5-inch numbering). No ground sign shall be placed closer than 80 feet to another ground sign or projecting, awning, canopy or marquee sign. See also section 17.46(13). Any time the Plan Commission reviews a permit for a ground sign, landscaping shall be required according to the following provisions: (Am. Ord. #5-90; Am. Ord. #10-90; Am. Ord. #24-06; Am. Ord. #02-08)
 - 1. The landscaping shall extend a minimum of 3 feet from the outer edge of the sign base on all sides. Where the area around the base of a sign is insufficient in size to accommodate landscaping, the Plan Commission may permit installation of a portion of the required landscaping at an alternate location on the site or at their discretion waive the landscaping requirement.

2. Ground signs shall be landscaped with small shrubs, ornamental grasses, and perennials a minimum of 2 to 4 feet in height at the time of planting, depending on the height of the sign. Shrubs shall include evergreen varieties to provide green plantings year round.
3. The landscaping shall be placed and maintained as to not obstruct the view of an address placed on a monument sign.

TABLE 1. GROUND SIGN REQUIREMENTS

Building Type/Area and No. of Tenants	Maximum Sign Area (square feet)	Maximum Height (feet above mean centerline of adjacent roadway)	Minimum Setback (feet from property line)
Single and Multi-Tenant (< 3 tenants and < 25,000 SF gross building area)	80 SF per side 160 SF total	10 feet	5 feet
Multi-Tenant (4 to 9 tenants and 25,000 to 50,000 SF gross building area)	120 SF per side 240 SF total	15 feet	5 feet or ½ total sign height whichever is greater
Multi-Tenant (> 10 tenants and > 50,000 SF gross building area)	160 SF per side 320 SF total (or as approved by Plan Commission)	20 feet (or as approved by Plan Commission)	5 feet or ½ total sign height whichever is greater (or as approved by Plan Commission)

- (d) Roof signs shall not exceed 10 feet in height above the roof, shall meet the height requirements for the zoning district in which they are located, and shall not exceed 300 square feet on all sides for any one premises.
- (e) Temporary signs (as defined in section 17.08) shall be permitted subject to the following requirements: (Am. Ord. #3-01; Am. Ord. #11-01; Am. Ord. #07-09; Am. Ord. #15-09; Am. Ord. #21-09)
 1. Signs shall not exceed a total of 32 square feet in area (all sides).
 - 2.

Signs shall not be displayed in public rights-of-way and be at least 5 feet from all property lines and the street right-of-way.

3. Temporary signs may be displayed for a time period not to exceed 15 consecutive days per permit with a limitation of 12 permits issued per business address per calendar year.
4. Signs shall not be attached to a utility pole, traffic sign, living vegetation, motor vehicle, trailer, or other moveable structure or object.
5. Shall not be displayed above the roof line of a building.
6. Signs may be displayed upon issuance of a sign permit and payment of a permit fee established by resolution by the Village Board, except that the fee shall be waived by the Zoning Administrator for nonprofit organizations or nonprofit purposes by organizations and businesses. (Am. Ord. #9-11)
7. Signs shall be made, maintained and displayed in a neat, clean and hazard-free manner. Signs that are not neatly kept or maintained may be required to be repaired, replaced or removed by the Zoning Administrator.
8. Signs should be designed (including the color, lettering style, symbols and material) to be compatible with the design of the establishment's primary sign, abutting properties, and the general streetscape in the immediate vicinity of the establishment.
9. Signs displayed on days not authorized in a permit or without a permit are deemed to be a violation of the Zoning Code and subject to removal and/or municipal citation. Violations of the Zoning Code, terms or conditions of a permit, or complaints received by the Village regarding the use of temporary signs by a business operator or property owner may be grounds for not issuing subsequent temporary sign permits.
10. In addition to the requirements above, "sandwich board" signs are subject to the following:
 - a. Sandwich board signs shall not exceed 2 feet in width and 4 feet in height;
 - b. Only one sandwich board sign shall be displayed per business;
 - c. Signs shall only be displayed during regular business hours for that business and removed overnight and during other nonbusiness hours;
 - d. Signs shall not obstruct the public right-of-way or any sidewalk or walkway;
 - e. Signs shall be freestanding, easily portable and internally weighted so that it is stable and windproof;
 - f. Signs may be temporarily anchored to the ground but shall not be roped, chained or otherwise secured to any pole, post, tree, fire hydrant, railing, or other structure;
 - g. Signs displayed at or within 15 feet of the storefront of the business for which the sign is used shall:
 - (i) Not count against the temporary sign area allowance;
 - (ii) Shall be exempt from the time period limitation imposed above; and
 - (iii) Shall not be subject to a permit fee.
11. In addition to the requirements above, one "grand opening" and one "opening soon" sign shall be allowed for each new business establishment subject to the following:
 - a. "Grand opening" signs may be displayed up to 30 consecutive days within 3 months of the date of issuance of a certificate of occupancy;
 - b.

"Opening soon" signs may be displayed up to 30 consecutive days before the first day a business is open for business;

c. A permit is required but no permit fee shall apply.

12. Notwithstanding the above allowances and restrictions, the display of temporary signs on the day of all legal holidays and communitywide events, e.g., Maifest, Maxwell Street Days, etc., shall be allowed without a permit provided they are only displayed and removed that same day.

13. Temporary signs shall not include any internal artificial lighting. (Cr. Ord. #4-10)

14. Temporary signs shall not include changeable text or reader boards. (Cr. Ord. #4-10)

(f) **ON-SITE TRAFFIC CONTROL AND DIRECTIONAL SIGNS.** (Cr. Ord. #28-14) One or more directional signs such those used to identify parking lot entrances and exits, direct customers to drive-through windows, direct delivery vehicles to loading/drop-off areas, etc. may be installed on a property as needed and in locations on a property necessary to serve and in the number placed adjacent to driveways provided that:

1. No sign shall be placed in the street right-of-way, within a vision corner or otherwise designed or installed in a manner that obstructs vehicle sight lines or vision;

2. No sign shall exceed 4 feet in height;

3. No sign shall contain more than 6 square feet of sign area per side;

4. Signs shall be designed and constructed of materials that either match or are complimentary to the architecture and materials of the primary building(s) and other permanent signs already installed on or proposed for the site;

5. Signs may be attached to or installed on decorative pylons, posts or a masonry base provided they are comprised of materials and/or painted to match or be complimentary to the primary building;

6. Wall-mounted directional signs above 4 feet in height are prohibited;

7. Signs shall not include any graphics, marketing or advertising messages except that the sign may include the business name, logo and directional arrows as necessary to simplify the message and assist vehicles getting to, in and around a facility or property.

(g) **OFF-PREMISES BUSINESS SIGNS.** (Cr. Ord. #28-14) Ground signs located on a particular property serving the business(es) located on that property may incorporate off-premise signage benefiting one or more other businesses not located on the same property upon which the ground sign is installed provided the following minimum requirements have been met as determined by the Plan Commission:

1. The sign meets all requirements for ground signs in section 17.46(7)(c) above;

2. The sign shall be located along a street frontage or near the intersecting street where vehicles would be required to turn in order to gain access to the property(ies) or business(es) benefiting from the off-premises sign;

3. The property(ies) or business(es) benefiting from the sign should be located with ¼ mile from the sign location, on a local side street, cul-de-sac or other location that is not easily visible and/or accessible from the street where the sign is located;

4. At the discretion of the Plan Commission, the incorporation of an off-premises sign into an existing or new ground sign may result in a reduction in the number and/or size of signage needed to be displayed on the property(ies) or business(es) benefiting from the off-premises

signage;

5. The sign area used for the off-premises sign shall not exceed 50 percent of the total sign area.

(h) **ELECTRONIC MESSAGE BOARDS.** (Cr. Ord. #28-14) Electronic message boards may be permitted by the Plan Commission but only as an integral and subordinate portion of a freestanding monument or ground sign (and not a wall, projecting, window or any other sign) provided said monument sign complies with the provisions set forth in section 17.46(7)(c) above. Electronic message boards may be allowed with approval by the Plan Commission and shall meet all of the following requirements:

1. Electronic message boards may be allowed for permitted and conditional uses located within the B-1, B-2, B-3, B-4, B-5, I, M-1 and M-2 zoning districts, except on those lots within the boundaries of the Germantown Business Park and Willow Creek Business Park of Germantown;
2. Electronic message boards shall not be located within 150 feet of a residential zoning district boundary, or, be located, designed or operated in such a manner as to create in the opinion of the Plan Commission at the time of sign approval a negative visual impact on property used for existing residential uses;
3. Electronic message boards may be installed as part of an existing monument or ground sign which is in compliance with all applicable requirements of this chapter and other applicable requirements of law. No electronic message board may be installed on or otherwise be made part of a nonconforming sign;
4. Electronic message boards shall only display static messages. Messages shall not contain animation, effects simulating animation, or video. Messages shall not contain text or images that dissolve, fade, scroll, travel, flash, spin, revolve, shake or include any other type of movement or motion during the message interval. The message interval, i.e. the minimum amount of time a message is required to be displayed, shall not be less than 7 seconds. The transition interval, i.e. the maximum amount of time allowed to transition from one message to the next message, may include fading, dissolving or traveling but shall not exceed 3 seconds;
5. The sign area or display face of the message board shall be included in the calculation of sign area for the monument or ground sign to which it is attached, and, shall not exceed 40 percent of the total sign area allowed for the monument or ground sign to which it is attached;
6. Electronic message boards shall be equipped with a sensor or other device that is programmed to automatically determine the ambient light level and adjust or dim the message board light level to not exceed a maximum brightness level of 0.3 foot-candles above ambient light conditions during both daylight hours (i.e. sunrise to sunset) and night time hours (i.e. sunset to sunrise);
7. The electronic message board shall be programmed or set in such a manner that the display face will turn dark and emit no light in case of a malfunction;
8. The owner of the property upon which a ground sign containing off-premises signage is located is responsible for preparing and keeping up-to-date information in an electronic message board use and maintenance agreement that identifies the name and contact

information for the person(s) responsible for maintaining the message board and ensuring that the use and content of the message board complies with the provisions set forth herein on a continual basis.

- (8) **ELECTION CAMPAIGN SIGNS.** See section 9.19 of this Code.
- (9) **FACING OF SIGNS.** No sign which is within 100 feet of a residential district shall be permitted to face the residential district unless it is a sign permitted by subsections (3), (4) and (6) above, or unless it is permitted by the Plan Commission.
- (10) **LIGHTING, COLOR AND PLACEMENT.** (Am. Ord. #28-14) Signs shall not resemble, imitate or approximate the shape, size, form or color of railroad or traffic signs, signals or devices. Signs shall not obstruct or interfere with the effectiveness of railroad or traffic signs, signals or devices. Signs shall not be placed so as to obstruct or interfere with traffic visibility, nor be lighted in such a way as to cause glare or impair driver visibility upon public ways. Except for electronic message boards approved under section 17.46(7)(h) herein, signs may be illuminated, but nonflashing. The background panel and/or other non-message components of internally-illuminated signs shall be opaque or a dark color to prevent glare.
- (11) **RESERVED.** (Rep. Ord. #21-09)
- (12) **CONSTRUCTION AND MAINTENANCE STANDARDS.**
 - (a) Wind Pressure and Dead Load Requirements. All signs and other advertising structures shall be designed and constructed to withstand wind pressure of not less than 40 pounds per square foot of area and shall be constructed to receive dead loads as required in the Building Code or other ordinance.
 - (b) Protection of the Public. The temporary occupancy of a sidewalk or street or other public property during construction is permitted, provided the space occupied is roped off, fenced off or otherwise isolated to prevent hazard to pedestrians and property.
 - (c) Maintenance. The owner of any sign shall keep it in good maintenance and repair which includes restoration, repainting or replacement of a worn or damaged sign to its original condition, and shall maintain the premises on which the sign is erected in a clean, sanitary and inoffensive condition, free and clear of all obnoxious substances, rubbish, weeds and grass.
 - (d) Sign Supports. Supporting members or braces of all signs shall be constructed of galvanized iron, properly treated wood, steel, copper, brass or other non-corrosive incombustible material. All projecting signs, if placed at an angle to the wall or roof of any building, shall be attached by such non-corrosive metal bolts, anchors, cable or other metal attachments as shall ensure permanent and safe construction and shall be maintained free from rust or other defects. Every means or device used for attaching any sign shall extend through a wall or roof of the building should the Building Inspector determine that the safe and permanent support of such sign so requires, and shall be securely anchored by wall plates and nuts to the inside of the wall or to bearings on the underside of 2 or more roof or ceiling joists in accordance with instructions given by the Building Inspector. Small flat signs containing less than 10 feet of area may be attached to a building by the use of lag bolts or other means to the satisfaction of the Building Inspector.
 - (e) Fire Protection Consideration. No sign or any part thereof or sign anchors, braces or guide rods shall be attached, fastened or anchored to any fire escape, fire ladder or standpipe, and no such sign or any part of such sign or any anchor, brace or guide rod shall be erected, put up or

maintained so as to hinder or prevent free ingress or egress through a door, doorway or window or so as to hinder or prevent the raising or placing of ladders against a building by the Fire Department of the Village, as necessity therefor may require.

- (f) **Removal Required.** (Cr. Ord. #21-09) Signs for existing businesses, institutions or other nonresidential operations shall be removed and/or the sign faces replaced, removed or modified within 60 days after said business or operation ceases operation.
- (13) **EXISTING SIGNS.** (Am. Ord. #21-09) Signs lawfully existing at the time of the adoption or amendment of this section may be continued even though the use, size or location does not conform with the provisions of this section; provided, however, that such signs shall be deemed a nonconforming use or structure where the provisions of section 17.48 of this chapter shall apply except that the replacement of a sign face with the same or nearly identical sign face may be approved with a permit by the Zoning Administrator.
- (14) **METHODOLOGY FOR MEASURING SIGN AREA.** (Cr. Ord. #3-98) The area of a sign shall be determined as follows:
 - (a) The height multiplied by the width of any sign cabinet, fixture or placard used to convey any words, letters, figures, numerals, phrases, sentences, emblems or logos to the public.
 - (b) Where more than one cabinet, fixture or placard is used, the areas shall be measured by drawing a rectangle enclosing the entire perimeter of all cabinets and/or fixtures.
 - (c) Where no cabinet or fixture is used, e.g., individual 3-dimensional letters or symbols attached directly to a wall, the area shall be measured by drawing a single rectangular box around the extreme limits of the advertising message.
 - (d) Decoration, framing and other nonstructural embellishments shall not be included in the sign area, provided that no advertising copy or graphics are contained on such embellishments. The total area of the sign structure, including any embellishments, may not exceed twice the area of the sign or 160 square feet, whichever is greater.
 - (e) The permit fee shall be based on the area of the entire sign structure.
- (15) **OFF-PREMISES ADVERTISING SIGNS.** (Cr. Ord. #32-99; Am. Ord. #21-09; Am. Ord. #9-11)
 - (a) All off-premises advertising signs, including temporary signs and billboards, are prohibited within the Village of Germantown except for the following:
 1. Official and temporary signs displayed within the Village for public agencies, charitable organizations and religious institutions;
 2. Election campaign signs and rummage sale signs;
 3. Temporary directional signs for businesses, residential developments, schools and institutions when adjacent streets are temporarily closed for repairs or similar reasons (subject to any other specific limitations set forth herein or other sections of the Village Code);
 4. *Off-Premises Business Signs.* (Cr. Ord. #28-14) Permanent directional signs benefiting one or more businesses when incorporated into a permanent ground sign as set forth in section 17.46(7)(g).



Village of



Fee must accompany application

\$275 Sign Review Fee

\$ 75 Sign Face Replacement

Paid Date 1-8-19

SIGN REVIEW APPLICATION

Pursuant to Section 17.46 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Sign Effectz Inc.

Eric Rohs - Project Coordinator

1827 W. Glendale Ave.

Milwaukee, WI 53209

Phone (414) 312-6973

Fax ()

E-Mail ericr@signeffectz.com

PROPERTY OWNER

DDS-Germantown Investment

Stephen Provancher

* please see included letter of approval

Phone (262) 271-4440

2 PROPERTY ADDRESS OR GENERAL LOCATION

N112 W16076 Mequon Road

3 SIGN INFORMATION Existing Pylon sign addition

Sign Dimensions 2'-3" height x 12'-1" width

Number of Sides 2

Total Square Footage of Sign (include all sides)

Total height of the Sign 11'-3"

Is the Sign to be illuminated X yes no

Type of Sign Construction Materials Aluminum construction with Acrylic faces

Distance to Closest Property Line

Single/Multi Tenant (circle one)

Building Frontage SF

Are there any existing signs on the property YES

If yes, what is the total Square Footage of existing signs 78 Sq. Ft. per side

What are the intentions for the existing signs: Take down Remain X

4 SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Eric Rohs
Applicant

January 7th, 2019
Date

* See attached Letter of Authorization

Owner

Date



Paid 11 Date

Date _____

To Whom It May Concern:

I, Stephen Provancher, as the owner or agent for the property listed as N112 W16076 Mequon Road, Germantown, WI do approve the sign package provided by Blink Signs as well as authorize Verizon's contractor, architect, engineer, or their authorized agent, to obtain a sign permit for the above referenced property on my behalf. I can be contacted 262-271-4440 with any questions.

Regards,

A handwritten signature in black ink, appearing to read "Stephen B. Provancher". The signature is fluid and cursive, with a large, stylized initial "S" and a long, sweeping underline.

Stephen Provancher, Member
DDS-Germantown Investment, LLC



To whom it may concern:

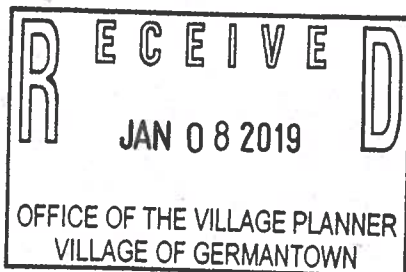
Verizon is extremely excited to open our new location to service Germantown and the surrounding population. Much like any national retail entity, we work very hard to project an image to the community that is both prominent and in line with our branding across the country. The existing monument sign for the property we will be occupying is less than half the size of our standard. The updated version we are requesting will give us the presence we desire and allow us to be easily seen as people pass by. Our fear with the existing monument sign is that its size does not stand out allowing passing traffic to easily identify us.

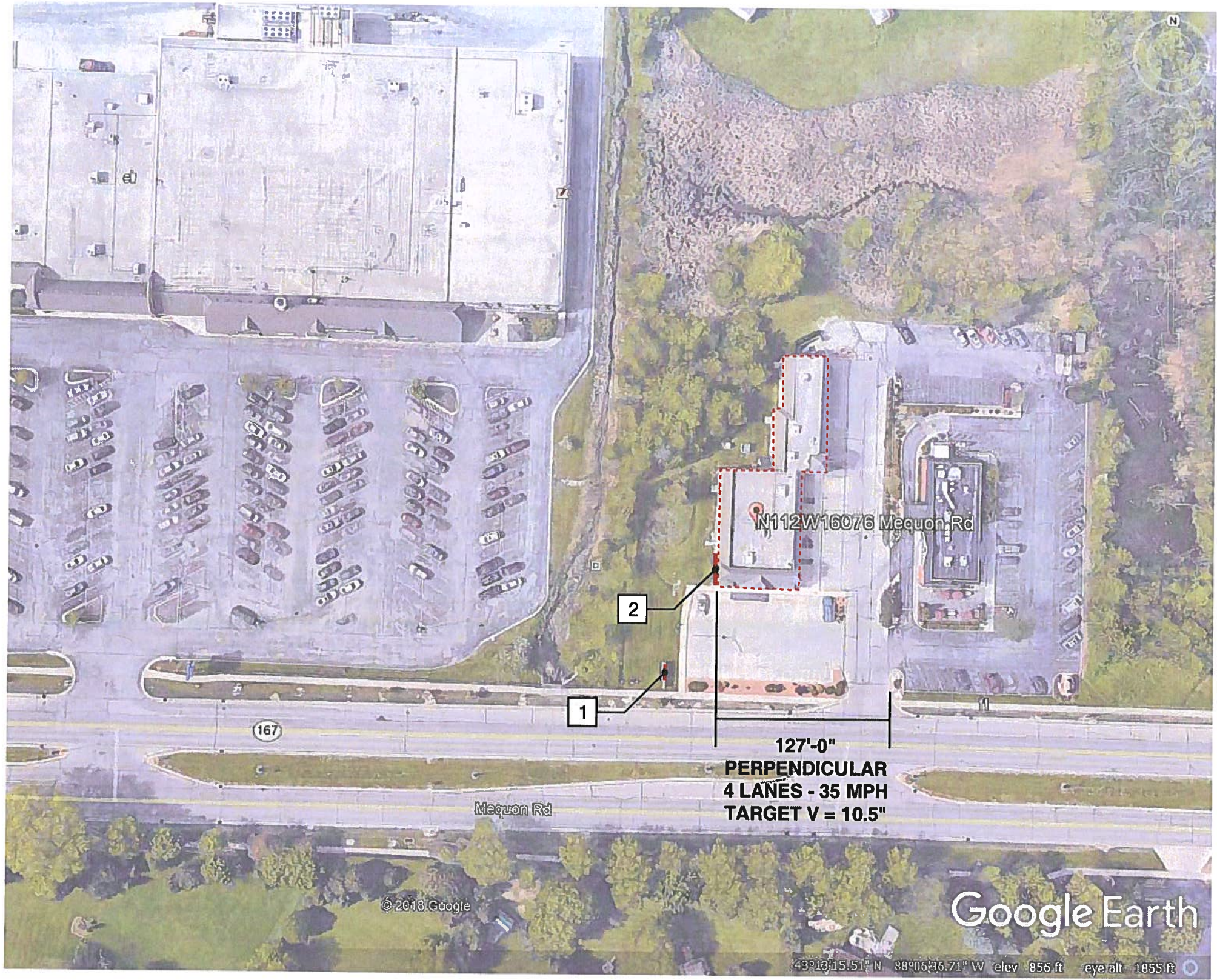
We look forward to servicing the Germantown and being a pillar of the business community for years to come.

Best,

Warren T. Keays

Regional Director – Cellular Sales of Wisconsin





LEGEND		QTY
1	MONUMENT REVISION - DOUBLE SIDED	1
2	WEST ELEVATION WALL SIGN	1

KEY

SIGN LOCATION —

BUILDING OUTLINE - - - - -





PREVIOUSLY APPROVED SIGNAGE





Additional Survey Info

REQUIRED

- REVEAL SIZE & INSET
- INSTALLATION METHOD
- CABINET DIMENSIONS INCLUDING DEPTH



EXISTING CONDITION



NOTE: SURVEY OF MONUMENT INTERIOR, INCLUDING INSTALLATION METHOD, REQUIRED TO DETERMINE FABRICATION DETAILS

REVISED CONDITION



NOTE: SOUTH AND EAST ELEVATION SIGNAGE HAS ALREADY BEEN APPROVED AND MANUFACTURED. NOW THE CLIENT WOULD LIKE TO PAINT THE BUILDING PMS COOL GRAY 4 C WITH ALL ACCENTS PAINTED PMS COOL GRAY 10 C. THIS WILL REQUIRE THE EXISTING RACEWAYS TO BE REPAINTED.



EXISTING CONDITION

REVISED CONDITION

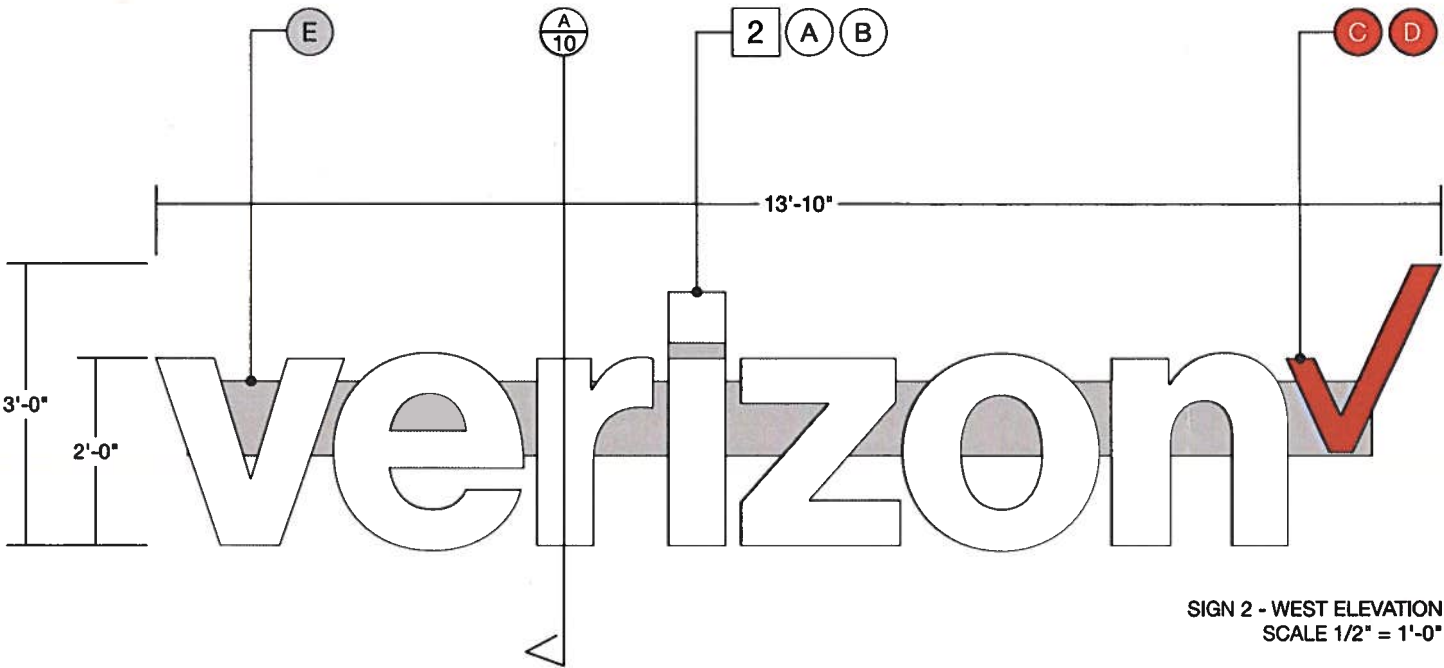
SCOPE OF WORK

MANUFACTURE ONE (1) NEW CHANNEL LETTERSET FOR THE WEST ELEVATION. PAINT BUILDING PMS COOL GRAY 4 C. PAINT ACCENTS PMS COOL GRAY 10 C. PAINT EXISTING TWO (2) RACEWAYS PMS COOL GRAY 4 C TO MATCH NEW FACADE COLOR.

KEY NOTES	QTY
2 2" DEEP, FACE-LIT, FABRICATED ALUMINUM CHANNEL LETTERS. RACEWAY MOUNTED.	1

COLORS

- A MATTE WHITE ACRYLIC
- B SATIN WHITE TRIM & RETURNS
- C 3M TRANSLUCENT POPPY RED 3630-143
- D SATIN PMS 485 TRIM & RETURNS
- E PMS COOL GRAY 4 C



TARGET "V" HEIGHT: 10.5"
ACTUAL "V" HEIGHT: 24"



SITE PLAN REVIEW

2/11/19 Plan Commission Meeting

Germantown High School / Plunkett Raysich Architects LLP

Village Planner Report

Germantown, Wisconsin

Summary

Plunkett Raysich Architects, agent for the Germantown School District, property owner, is seeking approval of revisions to the approved building plans for the Germantown High School facility located at W180 N11501 River Lane.

Property Location: W180 N11501 River Lane

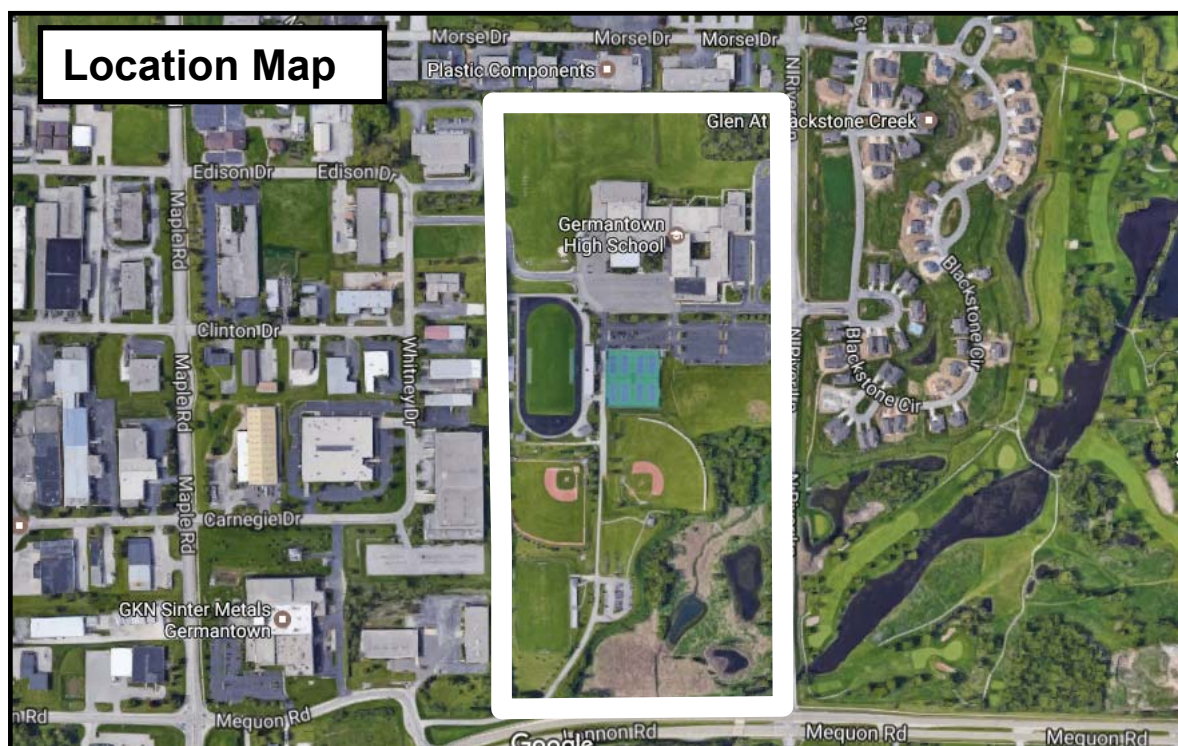
Applicant/

Property Owners: Scott Kramer, AIA
Plunkett Raysich
209 S Water St
Milwaukee, WI

Ric Erickson
Germantown School District
N104 W13840 Donges Bay Road
Germantown, WI

Current Zoning: I: Institutional

Adjacent Land Uses		Zoning
North	Industrial	M-1
South	Business/Agricultural	B-3/A-2
East	Residential	Rd-2
West	Industrial	M-1



Background

The Germantown School District received site development and building plan approval back in May 2017 for the following building additions, alterations and site improvements to the existing 278,425 sqft High School facility located on River Lane:

- Classroom expansion (15,801 sqft)
- Tech Education addition (9,865 sqft)
- Administration/Office addition (4,789 sqft)
- Performing Arts Center addition (30,913 sqft)
- Fieldhouse addition (49,953 sqft)
- Swimming Pool addition (21,032 sqft)
- Heavy Renovation, e.g. new partitions, finishes, major mechanical, electrical & plumbing (65,105 sqft)
- Light Renovation, e.g. flooring, ceiling, paint, casework, lighting, electrical and data (10,384 sqft)
- Complete & updated sprinkler system
- Net increase of 372 on-site parking stalls in two new and two reconfigured parking areas & service drive/fire lane around the north side of the building
- On-site storm sewer and underground storm water detention system (beneath the proposed northeast parking lot) & other minor storm water management features, e.g. site grading, swales

With regard to the building architecture, the design and exterior materials for all the additions and expansions complement the existing architecture and appearance. Brick, architectural pre-cast panels and trim, and metal composite panels are the predominant materials used in varying degrees for the administration/office, auditorium, pool, and fieldhouse additions. In addition, a number of new rooftop mechanical installations were proposed and subsequently approved with metal panels to provide visual screening (see Sheets A230 and A420 attached).

Proposal

At this time, the District's architect is requesting that the District NOT be required to install the metal panel screening for the rooftop units. As indicated in a January 29 letter, the architect explains that only two rooftop unit locations are actually visible from the surrounding grade: one that serves the administrative addition (labeled RAHU-1 on the attached sheets) and the second that serves the new fieldhouse (labeled RAHU-2 & RAHU-3). Moreover, the architect states that the rooftop equipment in these two locations has been painted a tan color to blend in with the building materials making the metal panel screening unnecessary.

Staff Comments

As indicated by the architect and shown in the photos provided, only two (2) out of the total twelve (12) rooftop mechanical locations are visible from the surrounding grade. Consistent with previous decisions made by the Plan Commission regarding the screening of rooftop mechanicals for other commercial & industrial buildings, staff supports the request to eliminate the requirement for screening the ten (10) locations that are not visible. The two locations that are visible should be screened as originally proposed the District and approved by the Plan Commission.

On a related matter, a problem with exterior lighting at the high school currently exists.

As discussed by staff in the original staff report and recommendation from May 2017, the District proposed the use of non-cut-off floodlight fixtures in the parking lots:

The proposed exterior lighting in the two new parking areas utilize LED floodlights that are not cut-off fixtures but can achieve the same purpose if the fixtures are adjusted with the light source perpendicular to the ground and not angled outward from the parking lot edges where the poles are located toward the interior of the parking lots. Presumably, use of floodlights capable of being angled outward to cast light is a consequence of not having any internal landscaped islands or pole-mounted lights within the parking lot. The Village's lighting guidelines recommend cut-off fixtures to eliminate direct view of the light source and reduce potential glare and light dispersion onto adjoining property. In this case, the only potential issue with the floodlights being angled outward would be associated with the parking area in the northeast corner of the property. With a proposal to remove all of the existing trees in the wooded area and replace them with a parking lot, there is the potential for glare from the floodlights affecting the Blackstone Creek residential neighborhood to the east. The District should be required to not angle the floodlights in any manner that creates a light problem for the residential area across River Lane, or, replace the proposed floodlights with cut-off fixtures that can serve the intended purpose.

With this in mind, the Plan Commission approved the site development & building plans subject to Condition #9 (repeated below):

9. *The District shall not angle the pole-mounted floodlights proposed for the two new parking areas in any manner that creates a light problem for the residential area across River Lane. As an alternative, the District should consider replacing the proposed floodlights with an alternative cut-off fixture. In the event that complaints are received from the nearby Blackstone Creek residential neighborhood, the District may be required to reposition and/or replace the floodlight fixtures to remedy any negative light glare or spillover impacts affecting said residential properties.*

To date the Village has received a complaint from the Blackstone Creek residential neighborhood regarding both the parking lot lighting and accent lighting that has been installed at the entrance to the performing arts center (that was not included in the lighting plan nor called out on architectural elevation plan sheets).

In response, Village staff has reached out to the residential homeowner's associations for Blackstone Creek (for the condominiums and the single-family) requesting feedback regarding the lighting. Responses received so far express concern with the lighting as summarized below:

- The parking lot lighting is turned on too early in the morning and too late in the evening and well beyond the time periods when students are present and/or after-school activities are occurring
- The parking lot fixtures are angled in such a way that light is cast directly toward certain residences in Blackstone Creek
- The parking lot lighting is too bright
- The lighting at the entrance to the performing arts center is too bright

With regard to the parking lot lighting, the District and contractor has been notified and has re-angled the fixtures (at 90° and perpendicular to the ground) to re-direct light downward onto the school district property. Staff will continue to work with the District on an acceptable solution pursuant to the requirements of Condition #9.

With regard to the accent lighting at the performing arts center entrance, staff recommends that the lights either be turned off altogether, or, allowed to be turn on at a reduced intensity (level to be determined in cooperation with staff) and only immediately before, after and during night-time event (up to 30 minutes before and after). If the District wants to keep the lighting operation, they should be required to submit detailed specifications and operational characteristics for this accessory lighting as should have been included in the original lighting plan.

Village Planner Recommendation

APPROVE the School District request to eliminate the rooftop mechanical screen requirement (as shown on Sheets A230 & A420 dated 6/15/18) except for Units RAHU-1, RAHU-2 and RAHU-3 subject to the following conditions:

1. The accent lighting at the performing arts center entrance shall either be turned off permanently, or, allowed to be turn on at a reduced intensity (level to be determined in cooperation with Village staff) and only before, after and during scheduled night-time events (up to 30 minutes before and after). If the District chooses to keep the lighting operational, the District shall submit to the Village the detailed specifications and operational characteristics for said accessory lighting for review and approval no later than April 1, 2019.

January 29, 2019

Jeff W. Retzlaff, AICP
Community Development Director
Zoning Administrator
Village of Germantown
N112W17001 Mequon Rd
Germantown, WI 53022

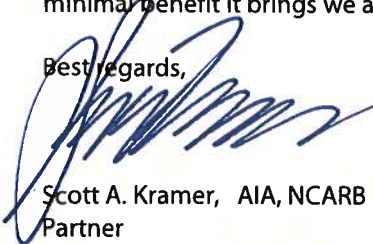
Re: Germantown High School
PRA Project No. 160024-06

Copy: Jeff Holmes – Germantown School District

JEFF, the School District of Germantown has requested that we re-think the decision to have roof screening around "all" rooftop equipment. When initial plans were presented to the Village we were early in design and did not have all of the equipment sized or located. In review of what has been constructed the majority of the rooftop equipment is not visible from grade with the exception of two locations. The first is the rooftop that serves the new administrative addition at the East side of the building. The second are the units that serve the new fieldhouse and are located on the East end of the new fieldhouse and are mainly visible from the South school parking lots. Please see the photos below and the attached plans.

As you will see in the photos the rooftop equipment has been painted a tan color to blend in with the other building materials and is barely visible from the road. The rooftop screening that is currently specified consists of a metal screen wall that hangs off of the rooftop equipment. It would be painted the same color the equipment is currently painted but would enlarge the footprint of the unit by at least eight feet in length and width. Based on the high cost of this screening and the minimal benefit it brings we are requesting that the Village allow the screening to be eliminated from the project.

Best regards,



Scott A. Kramer, AIA, NCARB
Partner



209 south water street milwaukee, wisconsin 53204 414 359 3060
2310 crossroads drive suite 2000 madison, wisconsin 53718 608 240 9900
205 north orange avenue suite 202 sarasota, florida 34236 941 444 8845

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Partners: Kevin M. Broich, Michael P. Brush, Martin P. Choren, Gregg R. Golden, Mark C. Herr, John J. Holz, Nicholas D. Kent,
Steven A. Kieckhafer, Scott A. Kramer, Jason W. Puestow, David J. Raysich, Michael H. Scherbel, Larry A. Schneider, Michael J. Sobczak



Germantown High School Front Entry from Across River Lane





Germantown High School South View from River Lane





Germantown High School Front Entry Close Up from East Parking Lot



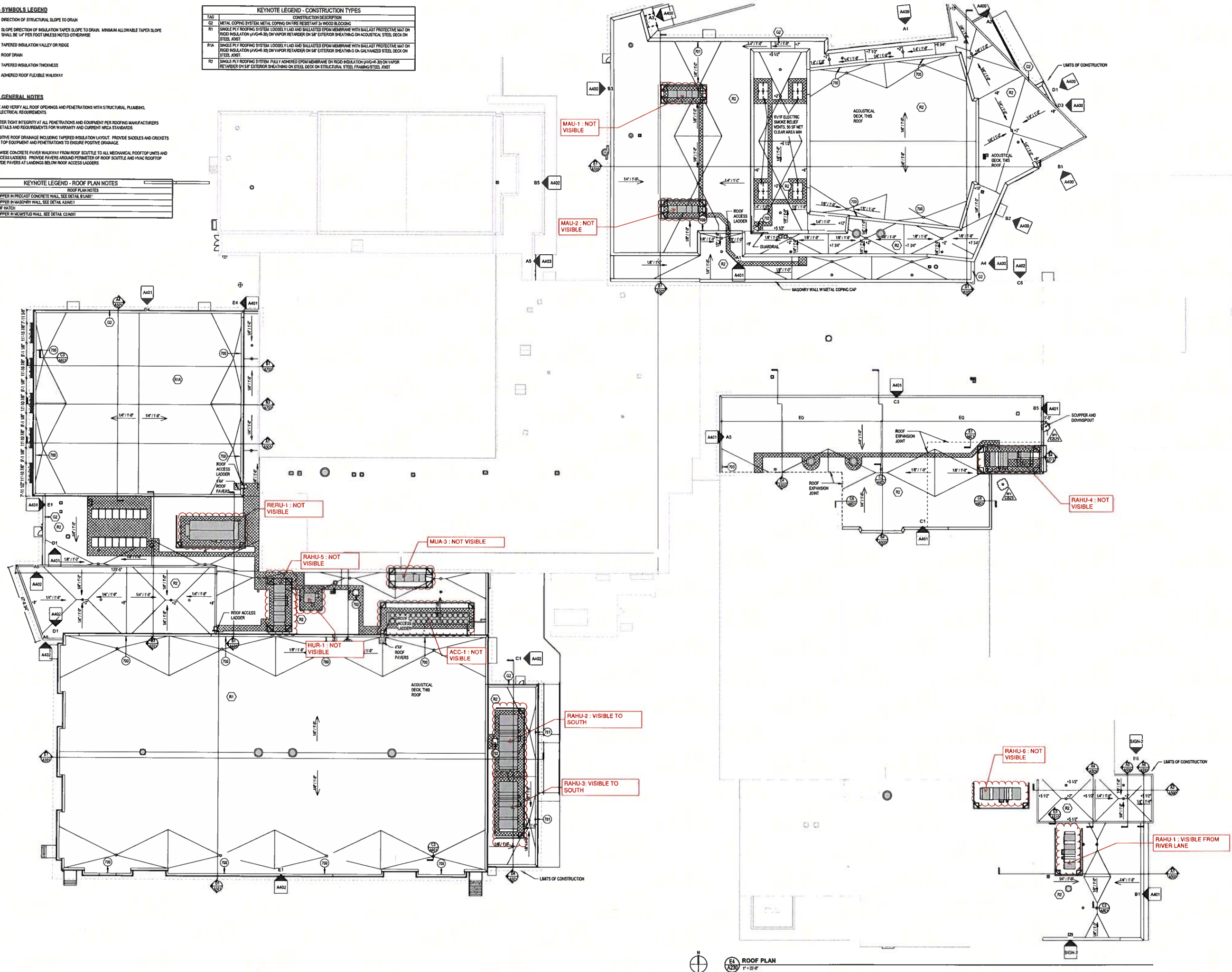
8/24/2018 3:10:16 PM DRAWN BY: MAE C:\Users\mae\Documents\160024-06 - Germantown HS - mae.dwg

ROOF PLAN - SYMBOLS LEGEND	
	DIRECTION OF STRUCTURAL SLOPE TO DRAIN
	SLOPE DIRECTION OF INSULATION TAPER SLOPE TO DRAIN. MINIMUM ALLOWABLE TAPER SLOPE SHALL BE 1/4" PER FOOT UNLESS NOTED OTHERWISE
	TAPERED INSULATION VALLEY OR RIDGE
	ROOF DRAIN
	TAPERED INSULATION THICKNESS
	ADHERED ROOF FLEXIBLE WALKWAY

- ROOF PLAN - GENERAL NOTES**
- COORDINATE AND VERIFY ALL ROOF OPENINGS AND PENETRATIONS WITH STRUCTURAL, PLUMBING, HVAC, AND ELECTRICAL REQUIREMENTS.
 - PROVIDE WATER TIGHT INTEGRITY AT ALL PENETRATIONS AND EQUIPMENT PER ROOFING MANUFACTURERS STANDARD DETAILS AND REQUIREMENTS FOR WARRANTY AND CURRENT WISA STANDARDS.
 - PROVIDE POSITIVE ROOF DRAINAGE INCLUDING TAPERED INSULATION LAYOUT. PROVIDE SADDLES AND CRACKS AT ALL ROOF TOP EQUIPMENT AND PENETRATIONS TO ENSURE POSITIVE DRAINAGE.
 - PROVIDE 36" WIDE CONCRETE PAVEMENT FROM ROOF SCUTTLE TO ALL MECHANICAL ROOF TOP UNITS AND ALL ROOF ACCESS LADDERS. PROVIDE PAVERS AROUND PERIMETER OF ROOF SCUTTLE AND HVAC ROOF TOP UNITS. PROVIDE PAVERS AT LANDINGS BELOW ROOF ACCESS LADDERS.

KEYNOTE LEGEND - ROOF PLAN NOTES	
NOTE #	ROOF PLAN NOTES
700	SCUPPER IN PRECAST CONCRETE WALL, SEE DETAIL B L401
701	SCUPPER IN MASONRY WALL, SEE DETAIL A3A01
702	ROOF WATCH
703	SCUPPER IN CMU/STUO WALL, SEE DETAIL C3A01

KEYNOTE LEGEND - CONSTRUCTION TYPES	
TAG	CONSTRUCTION DESCRIPTION
G2	METAL COPING SYSTEM METAL COPING ON FIRE RESISTANT 2" WOOD BLOCKING
R1	SINGLE PLY ROOFING SYSTEM LOOSELY LAD AND BALLASTED EPDM MEMBRANE WITH BALLAST PROTECTIVE MAT ON ROOF INSULATION (AVG-H-30) ON VAPOR RETARDER ON 5" EXTERIOR SHEATHING ON ACoustICAL STEEL DECK ON STEEL JOIST
R1A	SINGLE PLY ROOFING SYSTEM LOOSELY LAD AND BALLASTED EPDM MEMBRANE WITH BALLAST PROTECTIVE MAT ON ROOF INSULATION (AVG-H-30) ON VAPOR RETARDER ON 5" EXTERIOR SHEATHING ON GALVANIZED STEEL DECK ON STEEL JOIST
R2	SINGLE PLY ROOFING SYSTEM FULLY ADHERED EPDM MEMBRANE ON ROOF INSULATION (AVG-H-30) ON VAPOR RETARDER ON 5" EXTERIOR SHEATHING ON STEEL DECK ON STRUCTURAL STEEL FRAMING STEEL JOIST



SITE PLAN REVIEW

2/11/19 Plan Commission Meeting

Germantown Historical Society / Village of Germantown

Village Planner Report

Germantown, Wisconsin

Summary

Jeff Dhein, President of the Germantown Historical Society (GHS), is requesting re-approval of site development and building plans for an 11,200 sqft open-air pavilion to be constructed within the Village's Dheinsville Park property on Holy Hill Road.

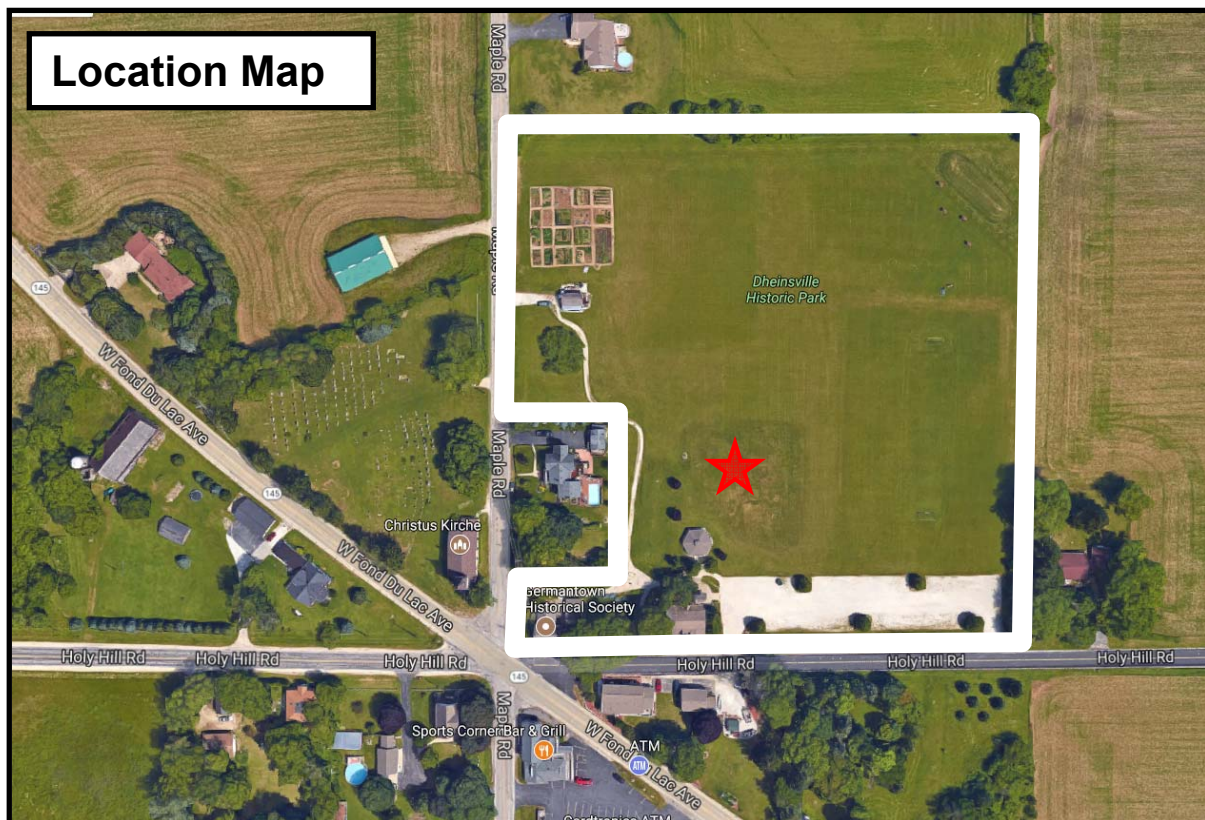
Location: Dheinsville Park – N128 W18780 Holy Hill Road

Applicants: Germantown Historical Society Village of Germantown
N128 W18780 Holy Hill Road N112 W17001 Mequon Road
Germantown, WI Germantown, WI

Current Zoning: I: Institutional

Adjacent Land Uses		Zoning
North	Residential	Rs-3
South	Commercial	B-1
East	Institutional	I
West	Residential	Rs-3/Rm-2

Location Map



Background

Dheinsville Park is a 9.5-acre historical park site located near the intersection of Fond du Lac Avenue, Holy Hill Road and Maple Road. This area is commonly referred to as the “Historic Dheinsville Settlement”. The land was purchased in 1994 with funds from both the Village of Germantown and the Germantown Historical Society (GHS). In 1997, the Historical Society received a matching grant from the Jeffris Family Foundation to begin improvements on the site. To date, the GHS has constructed a parking lot, walkways, as well as, refurbished several buildings on the property. The park is home to the Bast Bell Museum and the Society’s annual Oktoberfest celebration held the last weekend in September. Existing park amenities include:

- Archery Range
- Community Garden
- Gazebo (available for rent)
- Parking
- Picnic Tables
- Restrooms
- Soccer Field

In September, 2015, the GHS presented preliminary plans for a 80’ x 140’ pavilion to the Germantown Park & Recreation Commission. The Commission was receptive to the proposal given that it fit into the future plans for the park. The Commission recommended that the Village Board enter into a Memorandum of Understanding (MOU) with the GHS for the project (copy attached). The 2015 MOU assigns project management and construction responsibility to the GHS and ownership, maintenance and administration responsibility (once constructed) to the Village.

In the summer of 2017, the GHS presented revised pavilion plans to both the Village Park & Recreation Commission and Plan Commission. At their September 2017 meeting, the Plan Commission approved the pavilion proposal as presented in the attached and summarized below:

- 11,200 sqft under roof area (w/ handicapped accessibility)
- Standing seam metal hip roof w/ raised center section & 2 6-sided decorative cupolas
- Concrete slab floor w/ 3-ply 2”x6” treated wood column supports
- Removable “tent-style” side flaps (mainly for west elevation to serve as a buffer closest to adjacent residences)

As shown on the attached aerial view, the pavilion will be located within the park north of the existing parking lot. Exterior lighting for the facility is limited to whatever fixtures are installed under roof.

Because the Village’s approval was valid for only 12 months and expired in September 2018, Jeff Dhein, President of the GHS, is requesting re-approval of the site development and building plans for the 11,200 sqft open-air pavilion to be constructed within the Village’s Dheinsville Park property on Holy Hill Road. The only change is that west elevation of the pavilion will have a permanent wall (vs. the previously proposed “tent-style” removable enclosure).

Staff CommentsInspection Services

The Building Inspector has indicated that the submission of state-approved plans will be required prior to issuing a building permit.

Public Works Department

No comment received.

Fire Department/Police Department

Approval is recommended subject to the following:

1. Building of undetermined construction type is 11,200 sqft and the building use is Assembly (A-3) per IBC. Therefore, the allowable capacity is up to 2240 persons;
2. An approved fire lane is recommended around the outside of the building connecting to the parking area or roadway for emergency vehicle access;
3. No Fire department water supply is available on site. GFD only has one water tender at this time. The FD needs a water supply of 1500 GPM.

Community Development

At their February 4 meeting, the Village Board agreed to designate up to \$150,000 of capital improvement funds in 2019 for the GHS pavilion project. With Village funding, the project will require oversight by the Village's Building Construction Oversight Committee.

Staff supports the request to re-approve the pavilion plans subject to revisions to the conditions of approval as noted below (underline).

Village Planner Recommendation

APPROVE the site development and building plans for the proposed 11,200 sqft pavilion to be constructed within the Village's Dheinsville Park property on Holy Hill Road subject to the following conditions:

1. Approval is for the site and building plan set dated March 13, 2017 with a requirement that the west elevation be comprised of a solid wall (vs. removable tent or flaps) unless otherwise revised by a subsequent plan set approved by the Village Planner pursuant to revisions required herein.
2. State approved plans are required by Inspection services as part of the building permit application. The GHS shall coordinate installation of ADA accessibility improvements with the Village Building Inspector and/or appropriate state agency.
3. A fire lane approved by the Germantown Fire Department is required around the perimeter of the building connecting to the parking area or roadway for emergency vehicle access. The GHS shall coordinate the location, design, materials and installation of the fire lane with the Fire Department.
4. The GHS pavilion project shall be subject to oversight by the Village's Building Construction Oversight Committee as provided by Village Code.

**Fee must accompany application**

- ☐ \$700 Minor Addition
- ☐ \$1,240 Construction <10,000 SF
- ☐ \$2,095 Construction 10,000 SF to 50,000
- ☐ \$3,460 Industrial Construction >50,000 SF
- ☐ \$3,460 Commercial Construction >50,000
- ☐ \$200 Plan Commission Consultation
- ☐ \$125 Fire Department Plan Review

PAID _____ DATE 8-4-17

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. All applications must be signed and dated.

1**APPLICANT OR AGENT**Germantown Historical SocietyJEFF DHEIN (PRESIDENT)Phone 262-689-0537
E-Mail JEFFDHEIN@AOL**PROPERTY OWNER**VILLAGE OF GERMANTOWNDHEINSVILLE PARKPhone () _____
E-Mail _____**2****PROPERTY ADDRESS****3****NEIGHBORING USES** – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
<u>RESIDENCE</u>	<u>RESIDENCE</u>	<u>RESIDENCE</u>	<u>RESIDENCE</u>

4**READ AND INITIAL THE FOLLOWING:**JD I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.JD I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.JD I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.**5****SIGNATURES** – ALL APPLICATION MUST BE SIGNED BY OWNER!

[Signature] 8-4-17
Applicant Date

Owner Date



Germantown Park and Recreation Department
N112 W17001 Mequon Road
P.O. Box 337
Germantown, Wisconsin 53022-0337

(262) 250-4710 Fax (262) 255-2920
Information Line (262) 250-4711

Meeting Date: July 19, 2017

To: Park & Recreation Commission

From: Mark Schroeder, Park & Recreation Director

Re: Dheinsville Park Pavilion – Update from the Germantown Historical Society

Background Information - Dheinsville Park is a 10-acre historical park site located in northwest Germantown at the six corners intersection in the area that is known as the Historic Dheinsville Settlement. The land was purchased in 1994 with monies from the Village of Germantown and the Germantown Historical Society (GHS). In 1997 the GHS received a matching grant from the Jeffris Family Foundation to begin improvements to the site including the development of the Wolf Haus and later the Bast Bell Museum.

Throughout the years, the Village and GHS have collaborated to construct the parking lot, pathways, and gazebo shelter. Most recently, the village has added the Archery Range (2012) and Community Gardens (2013). Future projects that have been discussed in recent years include paving the parking lot, pathway improvements, playground structure, and park shelter/pavilion.

At the September 2015 Park & Recreation Commission Meeting, the Germantown Historical Society presented preliminary conceptual plans for an approximately 80'x140' open air park pavilion. The estimated cost projections for this project, including concrete slab and electrical exceeded \$500,000. The pavilion would host future Oktoberfest celebrations, as well as be available for community rentals. The Park & Recreation Commission gave positive feedback to the GHS indicating this facility would fit with the future plans for the park, as well as positive support for the group's fundraising efforts.

At the November 11th, 2015 Park & Recreation Commission Meeting, a recommendation was made to the Village Board to enter into a Memorandum of Understanding (MOU) with the GHS for the Dheinsville Park Pavilion Project. The Village Board approved this MOU at the December 7, 2015 meeting.

The Germantown Historical Society will be presenting updated pavilion design plans and cost estimates for review and discussion at the July 19th meeting.

Attachment: Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING

This memorandum of understanding is entered into by and between the Village of Germantown, Wisconsin hereinafter referred to as the "Village," and the Germantown Historical Society hereinafter referred to as "Society."

It is the understanding of the Village and the Society that any money raised for the Dheinsville Park Pavilion shall be used solely for the construction and related costs of the pavilion.

The Village and Society will have the final approval of the design of the pavilion.

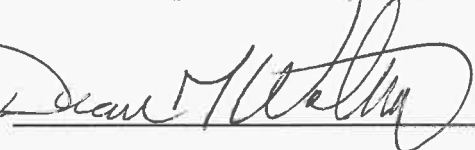
Society will be responsible for project management and construction of the pavilion with the oversight and approval from the Village.

The pavilion will be the property of the Village and the Village will be responsible for all maintenance to the pavilion. The Village will insure the pavilion while the pavilion is in construction and after construction is completed.

The Village of Germantown Park and Recreation Department will be responsible for the scheduling and administration of the pavilion.

The pavilion shall be named the _____.

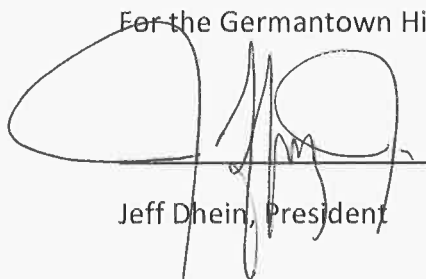
For the Village of Germantown, Wisconsin

 12-10-15

President Dean Wolter

Date

For the Germantown Historical Society

 12-11-15

Jeff Dhein, President

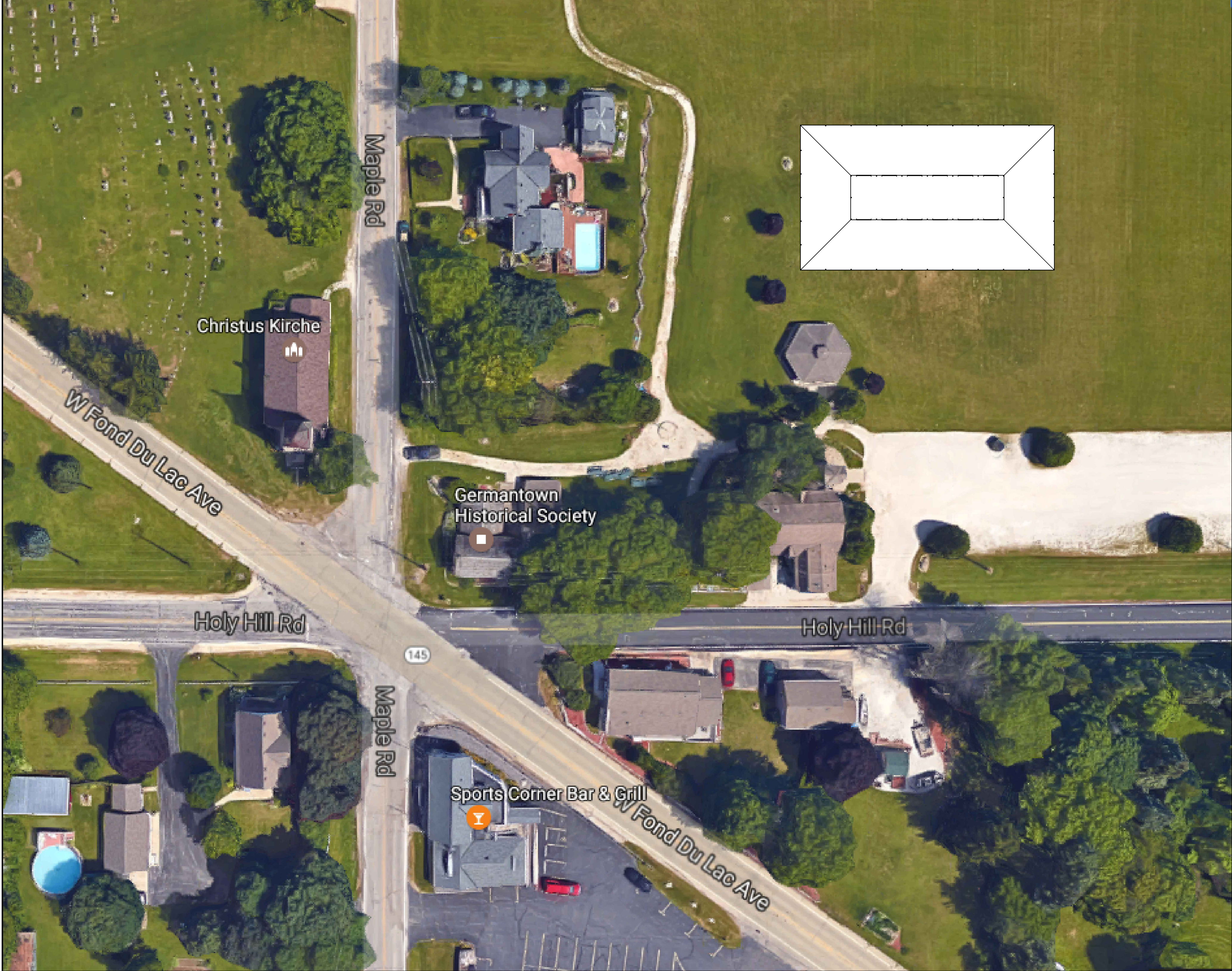
Date

The Germantown Historical Society wants to build a park structure at Dheinsville Park. This structure will be 80 x 140 feet and would be home to our annual Oktoberfest. It can also be used for weddings, reunions, craft fairs and be available to the public to rent through the Parks Department.

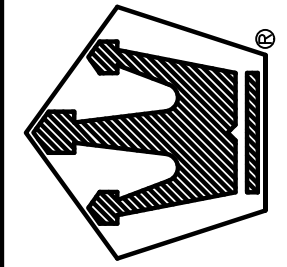
Sincerely,

Jeff Dhein

President (GHS)



Job No: P95-1456
Checked By:
Approved By:
Sheet No:

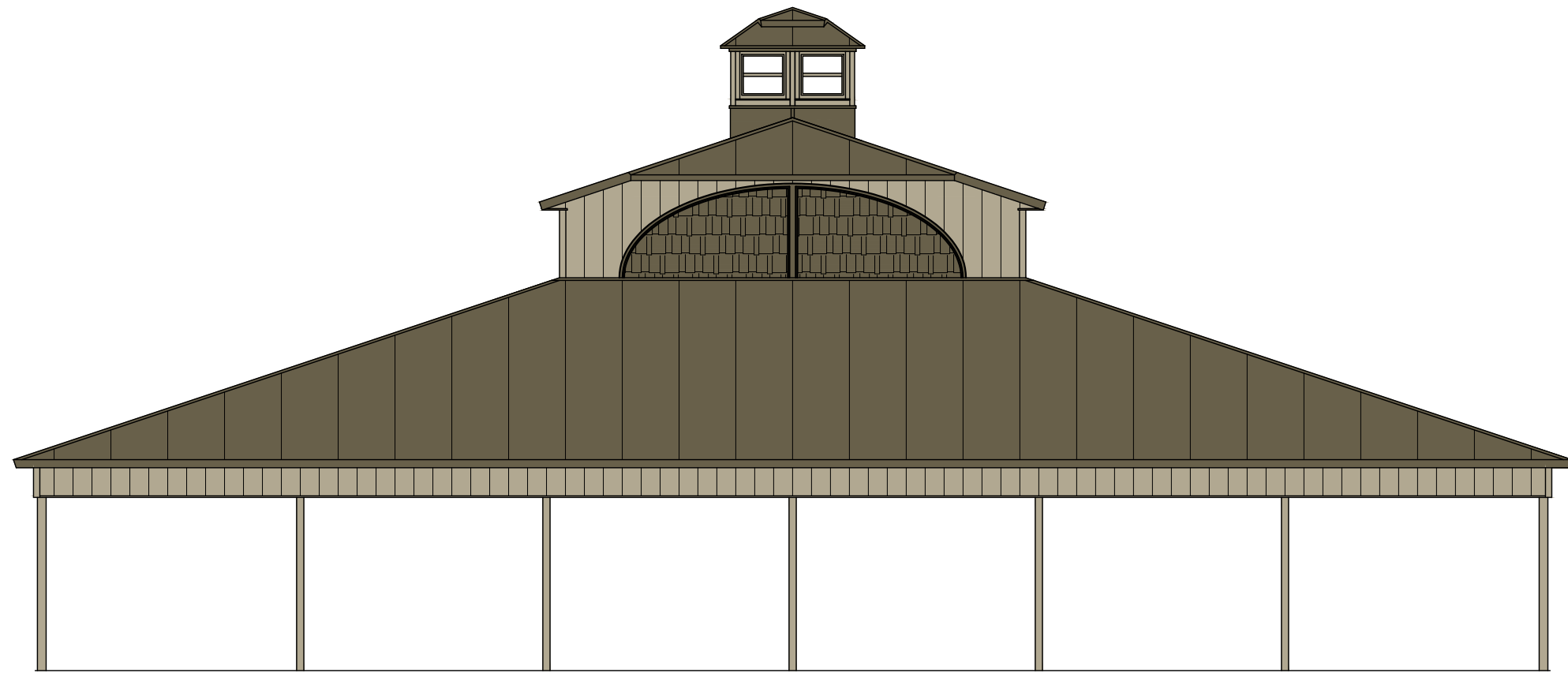


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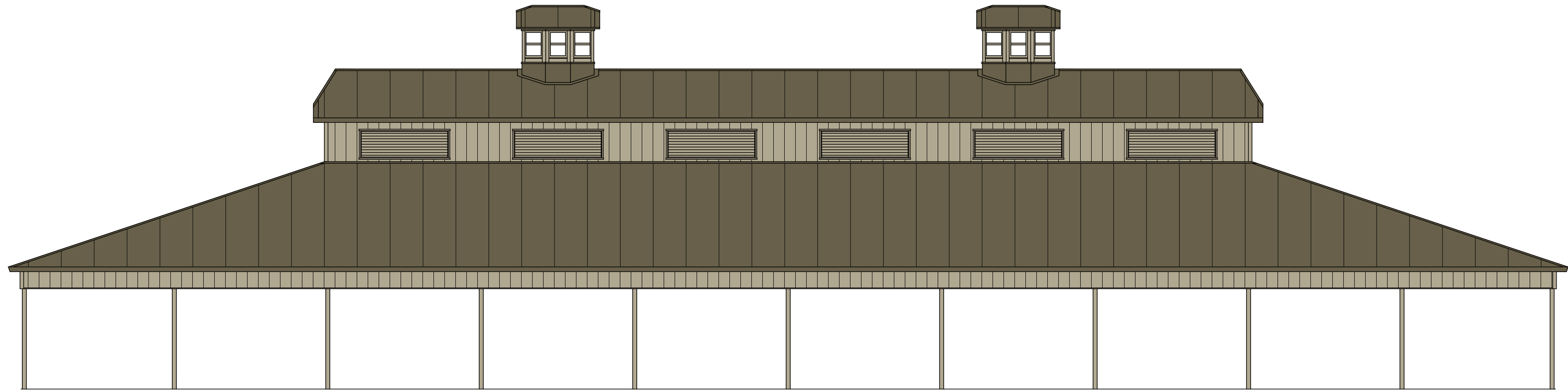
Drawn By: AAS
Date: 3/13/17
Revised By:
Revised Date:

Owner:
Project: DHEINSVILLE HISTORICAL SOCIETY
Location:
Dealer/Salesman: SCOTT WALTERS



END ELEVATIONS

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



SIDE ELEVATIONS

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

PRELIMINARY

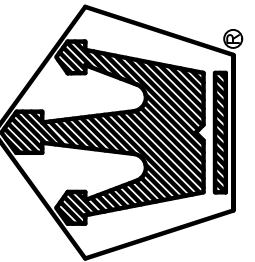
I HAVE REVIEWED THE PRELIMINARY DRAWINGS.	
CUSTOMER SIGNATURE:	DATE:
WALTERS REPRESENTATIVE:	DATE:
COMMENTS: _____	

I UNDERSTAND THAT CHANGES MAY BE NECESSARY DUE TO CODE AND/OR STRUCTURAL REQUIREMENTS.	

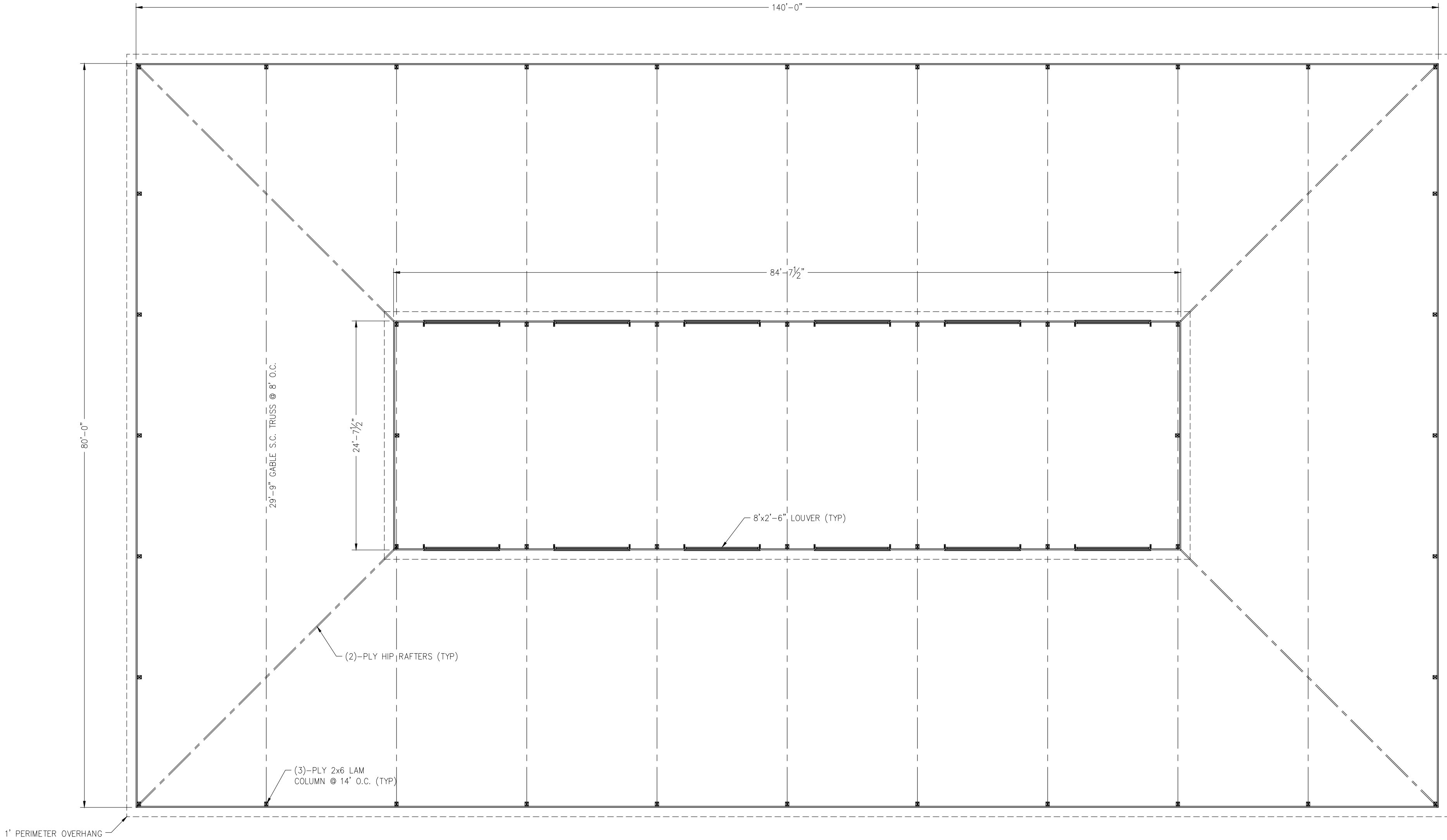
Owner:
Project: DHEINSVILLE HISTORICAL SOCIETY
Location:
Dealer/Salesman: SCOTT WALTERS

Drawn By: AAS
Date: 3/13/17
Revised By:
Revised Date:

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Checked By:
Approved By:
Sheet No:



FRAMING PLAN

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

PRELIMINARY

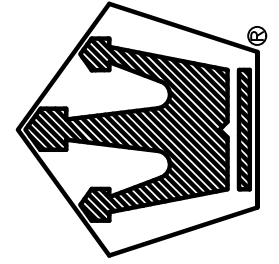
I HAVE REVIEWED THE PRELIMINARY DRAWINGS.	
CUSTOMER SIGNATURE:	DATE:
WALTERS REPRESENTATIVE:	DATE:
COMMENTS: _____	

I UNDERSTAND THAT CHANGES MAY BE NECESSARY DUE TO CODE AND/OR STRUCTURAL REQUIREMENTS.	

Owner:
Project: DHEINSVILLE HISTORICAL SOCIETY
Location:
Dealer/Salesman: SCOTT WALTERS

Drawn By: AAS
Date: 3/13/17
Revised By:
Revised Date:

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