



PLAN COMMISSION AGENDA

March 9, 2023 – 6:00 pm
Village Hall
235 Hickory Street, Pewaukee, WI 53072

To view the meeting: <https://youtube.com/live/aIGmB5ZLFe0?feature=share>

1. Call to Order and Roll Call
2. Public Hearings.
 - a. Conditional Use Grant request of property owner/applicant Waukesha County Technical College (WCTC) to modify the permitted operating hours for the outdoor driving training facilities located on their campus at 800 Main Street (PWV 0926997001 & PWV 0926997). This campus property is zoned IPS Institutional and Public Service District.
 - b. Conditional Use Grant request of property owner Kirkland Crossings, Inc. to develop an 84-unit Housing for the Elderly building project on the vacant ~2.49 acre lot located at the northwest corner of Ryan Street at Quinlan Drive (PWV 0883993200). This site is zoned B-1 Community Business District with Housing for the Elderly Overlay (HEO) District.
3. Citizen Comments: *This is an opportunity for citizens to share their opinions with Commission Members on any topic they choose. However, due to Wisconsin Open Meeting laws, the Commission is not able to answer questions or respond to your comments. All comments should be directed to the Commission. Comments are limited to 3 minutes per speaker. Speakers are asked to use the podium and state their name and address.*
4. Approval of the Minutes:
 - a. Regular Plan Commission Meeting – February 9, 2023
5. Old Business:
 - a. Review, discussion, and possible recommendation to Village Board regarding an amendment(s) to Section 40.471 of the Village of Pewaukee Code of Ordinances regarding Transient Lodging.
 - b. Review and discussion regarding density limits for the residential component of mixed-use with multi-family development or straight multi-family development in the Villages Business Zoning Districts (i.e. B-1 Community Business, B-2 Downtown Business, B-3 Office & Service Business, B-4 Business Park, and B-5 Light Industrial), and the existing density limits of the Villages R-M Multi-Family Residential District.
6. New Business.
 - a. Review, discussion, and possible action on the request of property owner/applicant Waukesha County Technical College (WCTC) to modify the permitted operating hours for the outdoor driving training facilities located on their campus at 800 Main Street (PWV 0926997001 & PWV 0926997). This campus property is zoned IPS Institutional and Public Service District.
 - b. Review, discussion, and possible action/recommendation to the Village Board on the

- request of Kirkland Crossings, Inc. to modify the language in Division 3. of the Village Code – Housing for the Elderly Overlay (HEO) District as it relates to the percentage of units in a HEO project that may be allocated for independent (vs assisted) living.
- c. Review, discussion, and possible action on the request of property owner Kirkland Crossings, Inc. to develop an 84- unit Housing for the Elderly building project on the vacant ~2.49-acre lot located at the northwest corner of Ryan Street at Quinlan Drive (PWV 0883993200). This site is zoned B-1 Community Business District with Housing for the Elderly Overlay (HEO) District.
 - d. Review, discussion and possible action on the request of property owner/applicant North Shore Bank for Sign Code waiver to permit a temporary sign exceeding the 15 sq. ft. area limit and the seven consecutive/30 cumulative days per year duration limits as set forth in Section 70.111(a)(11) of the Village Code on their .68-acre, B-2 Downtown Business zoned property located at 104/120 W. Wisconsin Avenue.
 - e. Review, discussion, and possible action on the Sign Code waiver request of tenant applicant Janet DAmato, d/b/a Benessere Salon & Spa, to place a wall sign exceeding the 30 sq. ft. area limit set forth in Section 70.115(d)(9) of the Village Code. This 10.96-acre, B-1 Community Business zoned property is owned by Society of St. Vincent De Paul.
 - f. Review, discussion, and possible action on the request of property owner/applicant Agape Community Church, Inc. for site plan amendment approval as to changes proposed related to parking, sidewalk, and patio area(s) configuration as well as dumpster/enclosure location and design. This 1.66-acre parcel, located at 449 W. Wisconsin Avenue, is zoned IPS Institutional & Public Service District.

7. Citizen Comments. – *This is an opportunity for citizens to share their opinions with Commission Members on any topic they choose. However, due to Wisconsin Open Meeting laws, the Commission is not able to answer questions or respond to your comments. All comments should be directed to the Commission. Comments are limited to 3 minutes per speaker. Speakers are asked to use the podium and state their name and address.*

8. Adjournment

Note: It is possible that members and/or possibly a quorum of members of other governmental bodies of the municipality may be in attendance at the above-stated meeting to gather information; action will not be taken by any governmental body at the above-stated meeting other than the governmental body specifically referred to above in the notice. Upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. To request such assistance, contact the Village Clerk at 262-691-5660.

Dated: March 3, 2023

PLAN COMMISSION MINUTES
February 9, 2023 – 6:00 pm
Village Hall
235 Hickory Street, Pewaukee, WI 53072

DRAFT-DRAFT-DRAFT-DRAFT-DRAFT-DRAFT

1. Call to Order, Pledge of Allegiance, Roll Call

President Knutson called the meeting to order at approximately 6:04 p.m.

Plan Commission members present: Comm. Mark Grabowski, Comm. Ryan Lange, Trustee Craig Roberts and President Jeff Knutson. Comm. Cheryl Mantz, Comm. Theresa Hoff and Comm. Brian Belt were excused.

Also present: Village Planner, Mary Censky; Village Engineer, Tim Barbeau; Village Attorney, Matt Gralinski; Village Administrator, Scott Gosse; and Village Deputy Clerk/Treasurer Jenna Peter.

2. Public Hearings –

a. Public Hearing on Conditional Use Grant request of applicant L Lazar Konda d/b/a Beach House Bistro, to develop a seasonal outdoor dining/seating area accessory to their existing restaurant/tavern use using three of the public parking stalls situated in the W. Wisconsin Avenue right-of-way directly in front of the business located at 161 W. Wisconsin Avenue – Unit 1.J. Building owner is Siepmann Development Company. Right-of-way is owned by the Village of Pewaukee. Property is Zoned B-2 Downtown Business District – No Comments

b. Public Hearing on Conditional Use Grant request of property owner/applicant Waukesha County Technical College (WCTC) to construct a modular burn structure on the current fire training grounds of the College campus located at 800 Main St., to be used by WCTC Fire and EMS programs. Property is zoned Institutional and Public Service District (IPS). – No Comments

c. Public Hearing on Conditional Use Grant request of property owner/applicant Waukesha County Technical College (WCTC) to construct a ~6485 square foot classroom and training space addition to the existing VBuilding on the College campus located at 800 Main Street. Property is zoned Institutional and Public Service District (IPS). – No Comments

3. Citizen Comments –

Kristen Kreuser @ 429 Pirate Pass – Ms. Kreuser does not want any regulations on short term rentals in the Village. She knows several community members have reached out via email in support of no regulations and believes she has presented the Commission with enough facts, data and benefits.

Steve McCullough @ 620 Kopmeier Dr – Mr. McCullough owns several properties in the Village that he currently rents out. He has had 3 different bachelorette parties stay and they were very quiet and respectful to the neighbors. He stated there is no financial gain to host an unruly party because he doesn't want holes in his walls. He also charges a cleaning fee.

Kyle Kreuser @ 429 Pirate Pass – Mr. Kreuser believes the decision should be up to the homeowners and does not want a minimum night stay.

4. a. Approval of the Minutes – Regular Plan Commission Meeting – January 12, 2023.

Comm. Lange motioned, seconded by Comm. Grabowski to approve the January 12, 2023 Regular Plan Commission Meeting minutes as presented.

Motion carried unanimously

5. Old Business

- a. **Review, discussion, and possible recommendation to Village Board regarding an amendment(s) to Section 40.471 of the Village of Pewaukee Code of Ordinances regarding Transient Lodging.**

Attorney Gralinski stated the consensus of the Commission is the language will not change. The only remaining concerns are the minimum night stay and the consecutive days. Discussion followed. Trustee Roberts wants to hold off taking a vote since three of the Commission members are absent.

No action taken.

Items below were not presented in order.

- b. **Review and discussion regarding density limits for the residential component of mixed-use with multi-family development or straight multi-family development in the Villages Business Zoning Districts (i.e. B-1 Community Business, B-2 Downtown Business, B-3 Office & Service Business, B-4 Business Park, and B-5 Light Industrial), and the existing density limits of the Villages R-M Multi-Family Residential District.**

No discussion or action taken.

6. New Business

- a. **Review and Possible Action on Conditional Use Grant request of applicant Llazar Konda d/b/a Beach House Bistro, to develop a seasonal outdoor dining/seating area accessory to their existing restaurant/tavern use using three of the public parking stalls situated in the W. Wisconsin Avenue right-of-way directly in front of the business located at 161 W. Wisconsin Avenue – Unit 1.J. Building owner is Siepmann Development Company. Right-of-way is owned by the Village of Pewaukee. Property is Zoned B-2 Downtown Business District.**

Planner Censky explained that the applicant is asking to utilize 3 of the angled parking stalls in front of their tenant space for outdoor dining. The applicant says his delineation of the space would mirror what has been done by Chocolate Factory and Artisan 179. Engineer Barbeau's only concern was the handicap ramp placement and wants to make sure there it does not block the water flow/runoff.

Village Planner Recommendations:

- 1) Applicant to return to the Planning Commission for review and approval of the detailed plans explaining how they will establish/protect the boundaries of the space allocated by this approval and what the plans are for tables, chairs, umbrellas, ADA ramping, public address/audio, ... are for the interior of the allocated space;
- 2) Approval is subject to the terms of the attached DRAFT CUG document and related exhibits.

Comm. Grabowski motioned, seconded by Comm. Lange to approve per the Planner's and Engineer's recommendations but to change the handling of final review and approval of the specific plans to the Village staff level.

Motion carried unanimously.

- b. **Review and Possible Action on Conditional Use Grant request of property owner/applicant Waukesha County Technical College (WCTC) to construct a modular burn structure on the current fire training grounds of the College campus located at 800 Main St., to be used by WCTC Fire and EMS programs. Property is zoned Institutional and Public Service District (IPS)**

Planner Censky explained the applicant is wanting to construct a new +/- 6,400 sf, steel fabrication, modular-type fire training structure in the fire training area of the campus. The structure will be a series of containers stacked and connected. The interior is customizable to simulate what is specific to the training. Overall height of the structure is proposed to be approximately 19 ft. The structure's footprint area is approximately 3,250 sf. The angled roof is no longer being proposed - it will be a flat roof instead. The applicant stated there is only water going used on this structure – no foam or chemicals.

Village Planner Recommendations:

- 1) Village Engineer review and approval of all grading, drainage, stormwater management, erosion control, and other/similar utility related plans as may be required in support of this project;
- 2) Village staff review and approval of the proposed color of the structure.
- 3) Recording of the Conditional Use Permit prior to the start of any site preparation or construction in support of this project.

Engineer Barbeau mentioned he looked at the grading plan, the area drains from north to south. There is a lot of asphalt and concrete; however, the applicant will be reducing the amount of hard surface with a bio retention pond to catch the water. They will also be doing watermain work; however, the watermain is private.

Trustee Roberts motioned, seconded by Comm. Grabowski to approve a Conditional Use Grant for the burn building as proposed including the Engineer and Planner's recommendations and approve the gray color.

Motion carried unanimously.

c. Review and Possible Action on Conditional Use Grant request of property owner/applicant Waukesha County Technical College (WCTC) to construct a ~6485 square foot classroom and training space addition to the existing V-Building on the College campus located at 800 Main Street. Property is zoned Institutional and Public Service District (IPS).

Planner Censky stated the original V-Building plan presented to the Village back in 2020 did include this space but the applicant deleted it from the eventual construction. The existing portion of this building is the firing range. The building will be similar to the existing architecturally and with respect to color scheme and materials.

Village Planner Recommendations:

- 1) Village staff review and approval of any additional or modified exterior lighting as well as any new/modified landscaping proposed in connection to this project;
- 2) Village Engineer review and approval of all grading, drainage, stormwater management, erosion control, and other/similar utility related plans as may be required in support of this project;
- 3) Recording of the Conditional Use Permit prior to the start of any site preparation or construction in support of this project

Engineer Barbeau explained the stormwater pond and grading are already in place to prepare for the addition.

Village Engineer Recommendations:

- 1) Installation of a silt fence along the bio-retention basin during building construction.
- 2) Information to assure that the bioretention pond will operate as designed if the addition of the building and sidewalks increase the hard surface area above 5,100 square feet.

The applicant indicated that the intent is to build the proposed building and the future building at once. Censky was not aware that the plans erroneously described a portion the addition for "future", however the entire addition, "future building" and "proposed addition" together are the 6,485 square feet that was proposed and described in the agenda.

Trustee Roberts motioned, seconded by Comm. Grabowski to approve a Conditional Use Grant for the addition to the existing V-Building as presented in the packet and documents provided including both the proposed, as well as, future building in the schematics and if anything significant cannot be agreed upon between staff and applicant in the final review of detailed plans that it could come back to the Plan Commission for final consideration and possible approval.

Motion carried unanimously.

d. Consultation/feedback regarding the possibility of modifying the existing language of the Housing for the Elderly Overlay District, introducing a less rigid maximum ratio of independent living units as compared to all/total units within a project.

Anne O'Connor spoke on behalf of Senior Housing Partners. She explained the language in the letter provided to the Commission means people moving into independent living could use any independent in-home care provider – not just from Kirkland Crossings. It gives the residents a lot more choices and flexibility. Ms. O'Connor further explained the biggest driver for this change is staffing. Since 2020, vacancies have increased 25% with 23,000 open vacancies for CNA's. There is more demand for independent livings as opposed to assisted living. Jon Fletcher with Presbyterian Homes, explained the intent is to bring in alternative care when it is needed vs setting all the units up as assisted living from the start. Mr. Fletcher is not proposing to eliminate the 50% allowed but is asking for flexibility on how they can deliver the care and the timing at which it is delivered.

No action was taken.

e. Discussion Regarding Interaction and Behavior of Plan Commission Members and General Public During Meetings.

The Village recently installed a camera and computer system which allows Village meetings to be broadcast live on YouTube. The recorded meetings will be available to the public starting at the March 9, 2022 Plan Commission meeting.

7. Citizen Comments – None.

8. Adjournment

Trustee Roberts motioned, seconded by Comm. Lange to adjourn the February 9, 2023, Regular Plan Commission meeting at approximately 8:09 p.m.

Motion carried unanimously.

Respectfully submitted,

Jenna Peter
Deputy Village Clerk/Treasurer

720 Clinton Street
P.O. Box 766
Waukesha, WI 53187-0766

**Hippenmeyer, Reilly,
Blum, Schmitzer,
Fabian & English
S.C.**

Memo

To: Plan Commission, Village of Pewaukee
From: Village Attorney Matthew R. Gralinski
Date: February 28, 2023
Re: Ordinance Regarding the Prohibition of Transient Commercial Uses in Residential Districts

Dear Commissioners:

This memorandum is in reference to the proposed ordinance regarding the Prohibition of Transient Commercial Uses in Residential Districts, i.e., short-term rentals. The Commission has been considering different versions of this proposed ordinance at its past several meetings. Pursuant to the direction given to me at the January meeting, the purpose of this memorandum is two-fold; 1) to present additional conditions, for the Commission's consideration, included in a similar ordinance in the Town of Holland, Sheboygan County, and; 2) to address possible alternatives to the licensing structure in terms of renewal, application, and revocation.

First, I would point out a minor clarification to the ordinance in this packet. In proposed Sections 40.471(f)(2) and (f)(3), I clarified that if a property is at any time under a formal building inspection order for compliance, any short-term rental license for a property under such order will be deemed suspended while the compliance order is in effect.

Turning back to possible additional conditions, which the Commission may be inclined to impose on an applicant, please find attached excerpts from the Town of Holland, Sheboygan County Ordinance relating to the designation of a contact person or property manager when a short-term rental property is rented. Essentially, if a property owner resides within a certain geographical distance of the short-term rental property, they do not have to designate a property manager, but do have to be available during certain hours that the property is rented. The owner would also have to provide contact information to the Village Clerk for purposes of such contact. If an owner is outside the geographic range, they must designate a local property manager who resides within that geographic range to the rental property to be available when the property is rented. Contact information requirements also apply to this property manager.

This particular ordinance has been reviewed and upheld by a Circuit Court reviewing the general question of whether the State Statute in this area is preempted local for short-term rentals. However, I would caution the Commission that the Circuit Court opinion on this matter is not binding state-wide precedent. Given the recency of the State Statute in this area, there has been little else in the way of case law development on this subject. I point this out for the Commission's reference, so that you may determine how to rely on this particular ordinance when crafting your own.

Addressing the licensing procedure, allow me to summarize what the current draft provides.

- (1) For a new license, an applicant files an application with the Village Clerk. The application includes certain information about the property and a written certification that the property meets the requirements and conditions of the short-term rental ordinance. Upon filing an application, the property will be inspected by the police department, fire department, and building inspector to ensure compliance with applicable statutes and ordinances, as well as the requirements of the short-term rental ordinance. If there are observed issues, they must be corrected prior to a license being issued. Once corrected, a license will be issued.
- (2) A license is valid for one year. During the license term, the license can be revoked by the Village Board after notice and a hearing that the licensee failed to make payment of any Village fees or taxes; the issuance of three or more citations related to the property; or failure to adhere to the terms and conditions of the short-term rental ordinance. Additionally, a license would be suspended during any period that the property remains under the formal order of the building inspector.
- (3) The license would be subject to renewal on an annual basis. The licensee would file a renewal application identical to the one for the initial license. The property would then again be subject to the police department, fire department, and building inspector inspections. No license would be issued until any observed violation are corrected. Additionally, upon renewal, the Village Clerk can request reports of enforcement actions related to the property in the previous license year. The Clerk may approve or deny a renewal application after considering the number of, frequency, and severity of any enforcement actions which have occurred. If denied, that decision can be appealed to the Village Board.

Currently, an applicant would have to satisfy certain requirements to initially obtain a license and obtain renewal. Certain failures during a license year can lead to a revocation. At the previous meeting, I was asked to provide thoughts on alternative procedures available. The current draft reflects the direction given at several meetings, acknowledging the Commission has yet to take formal action on a recommendation. If the Commission is inclined to make changes in the procedure related to the treatment of potential applicants, it may want to examine alternatives such as 1) modifying the length of the license term; or 2) modifying the frequency of required inspections. As I have stated in the past, my

recommendation remains that any revocation procedures include a notice to the applicant and a hearing.

Ultimately, any modifications to this draft in these areas are decisions of policy in the purview of the Commission, the wisdom of which are squarely up to the Commission. I am happy to provide counsel if specific modifications are proposed, but evaluation of whether modifications are necessary in the first place is up to the Commission.

Hopefully, the above information is helpful as the Commission continues its deliberation on this topic.

Respectfully Submitted,

/s/ Matthew R. Gralinski

Matthew R. Gralinski

MRG/rm

Chapter 280. Short-Term Rentals

§ 280-3. Operation of short-term rentals.

- A. No person may maintain, manage or operate a short-term rental more than 10 nights each license year without a short-term rental license. Every short-term rental shall be operated by a property owner or property manager.
- B. Each short-term rental property owner is required to have the following licenses and permits:
- (1) A state of Wisconsin tourist rooming house license.
 - (2) A seller's permit issued by the Wisconsin Department of Revenue, unless all rentals of the property are exempt from such permit requirement per state regulations.
[Amended 7-29-2019 by Ord. No. 4-2019]
 - (3) A license from the Town of Holland issued pursuant to this chapter.
- C. Each short-term rental shall comply with all of the following:
- (1) No residential dwelling unit may be rented for a period of six or fewer consecutive days. However, after a short-term rental license has been issued for a residential dwelling unit under § 280-4, then any subsequent rental of that dwelling unit during the license term may be for a period of six or fewer consecutive days.
 - (2) There shall not be excessive noise as prohibited by § 240-1 of the Town Code, excessive fumes, glare, or vibration, any nuisance activities prohibited pursuant to Chapter 245 of the Town Code, dogs at large as prohibited by § 140-2 of the Town Code, or trespass onto neighboring properties as prohibited by Chapter 257 of the Town Code.
 - (3) Name plates or other signage related to the short-term rental property shall not exceed one square foot. No other signage advertising the short-term rental is permitted on site.
 - (4) The number of occupants in any dwelling unit shall not exceed the limits set forth in Wis. Admin. Code § ATCP 72.14 for hotels, motels, and tourist rooming houses.
 - (5) No recreational vehicles (RVs), campers, tents or other temporary lodging arrangements shall be permitted on site as a means of providing additional accommodations for paying guests or other invitees.
 - (6) Compliance with all applicable state, county and local codes and regulations is required.
 - (7) If the property owner resides within 35 miles of the short-term rental property, a local property manager is not required to be designated. The property owner shall be available between the hours of 8:00 a.m. and 11:00 p.m. on those days when the property is rented. The property owner must notify the Town Clerk within three business days of any change in the property owner's contact information and submit the revised contact information to the Town Clerk within the same time period.
[Added 6-1-2020 by Ord. No. 6-2020^[1]; amended 6-15-2020 by Ord. No. 9-2020]
[1] *Editor's Note: This ordinance also renumbered former Subsection C(7) through (10) as Subsection C(8) through (11), respectively.*
 - (8) Unless the property owner resides within 35 miles of the short-term rental property, a local property manager must be designated for contact purposes and his or her name must be included in the application filed with the Town Clerk. The local property manager must reside within 35 miles of the short-term rental property and shall be available between the hours of 8:00 a.m. and 11:00 p.m. on those days when the property is rented. The property owner must notify the Town Clerk within three business days of any change in the property manager's contact information for the short-term rental and submit the revised contact information to the Town Clerk within the same time period.
[Amended 6-15-2020 by Ord. No. 9-2020]
 - (9) The property owner shall have and maintain homeowner's liability or business liability insurance effective during all short-term rental periods for the premises that are used for short-term rental and shall provide written evidence of such insurance with the license application and renewal application forms. This insurance requirement may be satisfied through such sources as the property owner may choose, including, but not limited to, conventional insurance or insurance offered through a lodging marketplace.
[Amended 6-15-2020 by Ord. No. 9-2020]
 - (10) The property owner or property manager of each short-term rental shall provide a guest register and require all guests to register their true names and addresses and rental time period(s) before being assigned sleeping quarters. The guest register shall be kept by the property owner or property manager and available for inspection for at least one year, as required by the Wisconsin Administrative Code. If the property owner or property manager does not consent to inspection of the guest register, the register shall be subject to disclosure to an authorized official pursuant only to a proper search warrant, administrative subpoena, judicial subpoena, or other lawful procedure to compel the production of records that affords the property owner or property manager an opportunity for precompliance review by a neutral decisionmaker.
 - (11) Upon probable cause to believe that a violation of this chapter, or of a law, code, rule or regulation relating to buildings, housing, electrical, plumbing, heating, gas, fire, health, safety, environmental pollution, water quality, food or zoning has occurred or is occurring, the Town Building Inspector or a local health officer may request that the property owner or property manager allow him or her, upon presenting proper identification, access to the short-term rental premises at any reasonable time for any of the following purposes: to determine if there has been a violation of this chapter, or of a law, code, rule or regulation related to the short-term rental or its operation; to determine compliance with previously written violation orders; to examine and copy relevant documents and records related to the

ORDINANCE NO. ____

**ORDINANCE TO AMEND SECTION 40.471 OF VILLAGE CODE OF
VILLAGE OF PEWAUKEE REGARDING THE PROHIBITION
ON TRANSIENT COMMERCIAL USES IN RESIDENTIAL DISTRICTS**

The Village Board of the Village of Pewaukee, Waukesha County, Wisconsin do ordain as follows:

SECTION I

Section 40.471, (a), (2) of the Village Code of the Village of Pewaukee is amended to read as follows:

Section 40.471(a)(2) – Transient commercial lodging uses: The use by any person of residential property for bed and breakfasts, hostels, hotels, inns, lodging, motels, resort or other similar uses.

SECTION II

Section 40.471, (b) of the Village Code of the Village of Pewaukee is amended to read as follows:

Section 40.471(b) – Transient lodging uses: Transient lodging uses for remuneration are prohibited in the residential districts of the Village where the period of each individual use is less than seven (7) days. Any person acting as an agent, real estate broker, real estate sales agent, property manager, reservation service or arranges or negotiates for the use of residential property or transient lodging uses, or any person who uses or allows the use of residential property in this manner shall be considered in violation of this Section. Each day in which such residential property is used or allowed to be used in violation of this Section shall be considered a separate offense. Any rental of single-family property for camping purposes is prohibited.

SECTION III

Section 40.471, (c) of the Village Code of the Village of Pewaukee is hereby deleted and recreated to read as follows:

Section 40.471 (c) – Individual Transient commercial lodging uses of more than 6 but fewer than 30 consecutive days within any consecutive 365-day period may be rented for no more than 181 days in the aggregate. The days during which the transient commercial lodging uses may be conducted shall run consecutively. Any individual or entity which engages in transient commercial lodging rental shall notify the Village Clerk, in writing, when the first rental within a

365-day period is to begin.

SECTION IV

Section 40.471, (d) of the Village Code of the Village of Pewaukee is hereby created to read as follows:

Section 40.471(d) – Any person who maintains, manages or operates a short-term rental (which means a residential dwelling that is offered for rent for a fee and for fewer than 30 consecutive days, or such rentals occur for more than 10 nights each year) shall do the following:

- (1) Obtain from the Department of Agriculture, Trade and Consumer Protection a license as a tourist rooming house as defined in Wisconsin Statute Sec. 97.01(15k) when required by said Statute; and
- (2) Any person who maintains, manages or operates a short-term rental as defined in this subsection shall obtain from the Village a short term rental license as provided for in Section 40.471(e). The Village shall establish a license fee from time to time based on the Village’s actual cost of issuing and monitoring said license. The Village Board shall establish such license fee by Resolution from time to time.

SECTION V

Section 40.471(e) of the Village Code of the Village of Pewaukee is hereby created to read as follows:

Section 40.471(e) – Short Term Rental License. The Village Clerk shall issue a short-term rental license if an applicant follows the procedures set forth in Section 40.471(f) and demonstrates compliance with the provisions of this Section 40.471 of the Village Code. A short term rental license is issued for one (1) license year, and may be renewed annually as provided for in this section. The short term license shall contain the following information:

- (1) The name of the property owner, with contact information including mailing address and a telephone number at which the property owner is available.
- (2) The license term.
- (3) The State of Wisconsin tourist rooming house license number.

Upon issuance, a license-holder shall provide a copy of this Code section and a copy of the license to all parties using the property for short term rental use, prior to the commencement of each such use.

SECTION VI

Section 40.471(f) of the Village Code of the Village of Pewaukee is hereby created to read as follows:

Section 40.471(f) – Short Term Rental License Application, Renewal, and

Revocation Procedure.

(1) Applications. All applications for short term rental licenses shall be filed with the Village Clerk. No license shall be issued unless a completed application form is accompanied by payment of the required application fee, which fee shall be nonrefundable. Each application shall include the following information and documentation for each short-term rental unit in order to demonstrate compliance with the requirements of this section:

- a. The name of the property owner, with contact information including mailing address and a telephone number at which the property owner is readily available.
- b. The street address of the property proposed to be made available for short term rental use.
- c. A description of the premises proposed to be made available for short term rental use.
- d. A copy of the Department of Agriculture, Trade and Consumer Protection tourism house license, as defined in Wisconsin Statute Sec. 97.01(15k), in effect during the short term license year.
- e. Written certification by the property owner that the short-term rental meets the following requirements:
 - i. All short term rental properties shall be subject to and comply with Wisconsin Administrative Code ATCP 72, which is hereby fully incorporated by reference;
 - ii. A minimum of one off-street parking stall shall be provided for every guest bedroom with a minimum of three parking stalls required. All parking areas shall meet the applicable size and location requirements of the Village Code, and shall be hard-surfaced and maintained in a reasonably dustless condition;
 - iii. Sleeping quarters related to a short term rental shall only be located within the principal structure on a lot. Accessory buildings shall not be used for sleeping quarters;
 - iv. Occupancy limits shall not exceed the number of occupants allowed in Wisconsin Administrative Code Section ATCP 74.14(2)(b) per bedroom, and also shall not exceed 8 per 1,000 square feet of living area within the principal structure;
 - v. A short term rental property shall not have more people on site than the higher of twenty (20) people or the maximum number of people allowed under Wisconsin Administrative Code

Section ATCP 74.14(2)(b).

- vi. The property boundaries shall be reasonably delineated by approved fences, vegetation or other means to ensure that all users can identify the boundaries of the property and can accordingly confine their use to the licensed parcel;
- vii. All refuse containers shall be screened from public view, as required by any applicable zoning or building code requirements
- viii. In addition to possible revocation of the short term rental license provided in this Section, any failure by the license holder, after the issuance of a license, to adhere to the requirements of this Section 40.471(f)(1) e. shall be considered violations of this Ordinance and shall be enforced in accordance Section 1.102 of the Village of Pewaukee Municipal Code. Each day that a violation occurs shall be considered a separate violation and will be enforced accordingly.

(2) Upon the filing of an application pursuant to this section, and prior to the issuance of any license, the property described in the application shall be inspected by the Police Department, Fire Department, and Building Inspector to investigate and determine if the property is in compliance with applicable state, county, or local statutes, ordinances, rules or regulations including, but not limited to, this Section 40.471. Each department conducting such an inspection shall provide a written report to the Village Clerk confirming compliance or, alternatively, detailing any observed violations. Any observed violations shall be corrected by the applicant prior to the issuance of any license. In the event the applicant fails to correct any observed violations or if the property fails to meet the requirements of Section 40.471(f)(1) e., the Village Clerk shall deny the application for a license. In no event shall a license be issued, and any issued license shall be deemed suspended, when the property which is the subject of the license is under an order issued by the building inspector to bring the premises into compliance with state, county, or local statutes, ordinances, rules or regulations.

(3) Renewal. Each application for a renewal of a short term rental license shall include all information and documentation required as part of the original application in an updated form and payment of a renewal fee which shall be nonrefundable. A renewal application and the applicable fee must be filed with the Village Clerk at least 45 days prior to the license expiration

date in order to allow the Village Clerk adequate time to review and investigate the application. No renewal license shall be issued unless a completed application form is accompanied by payment of the required application fee. Upon the filing of a renewal application pursuant to this section, and prior to the issuance of any renewal license, the property described in the application shall be inspected by the Police Department, Fire Department, and Building Inspector to investigate and determine if the property is in compliance with applicable state, county, or local statutes, ordinances, rules or regulations including, but not limited to, this Section 40.471. Each department conducting such an inspection shall provide a written report to the Village Clerk confirming compliance or, alternatively, detailing any observed violations. Any observed violations shall be corrected by the applicant prior to the renewal of any license. In the event the applicant fails to correct any observed violations or if the property fails to meet the requirements of Section 40.471(f)(1) e., the Village Clerk shall deny the application for a renewal license. Additionally, the Village Clerk may request reports from the Police Department, Fire Department, and Building Inspector regarding any enforcement actions occurring at the Property in the preceding short term rental license year. The Clerk shall review the application and any enforcement actions and may approve or deny the application after considering the number, frequency, and/or severity of any previous enforcement action related to the property, and whether the conduct related to the previous enforcement action substantially harms or adversely impacts the predominantly residential uses and nature of the surrounding neighborhood. If the Village Clerk determines to deny an application to renew the license, the Clerk shall notify the applicant in writing of the reason(s) for such decision and the applicant's right to appeal to the Village Board as provided in this section. In no event shall a renewal license be issued, and any issued license shall be deemed suspended, when the property which is the subject of the license is under an order issued by the building inspector to bring the premises into compliance with state, county, or local statutes, ordinances, rules or regulations.

- (4) Revocation. A short term rental license may be revoked by the Village Board, after notice to the licensee and a hearing, during the term of a license year and for one or more of the following reasons:
- a. Failure by the licensee to make payment of delinquent fees, taxes, special charges, forfeitures, or other debt owed to the Village
 - b. The issuance of three (3) or more total citations during any short term rental license year for violations of the

Municipal Code of the Village of Pewaukee occurring at the licensed property. For purposes of this subsection, the total number of citations related to the licensed property shall be considered for the necessary calculation, notwithstanding whether such citations are issued to the license holder or a user of the property for short term rental use.

- c. Failure by the licensee, at any time, to adhere to any requirements certified pursuant to s. 40.471(f)(1) e.

Any resident of the Village, or the Village of its own accord, may file a sworn written complaint with the Village Clerk alleging one or more of the reasons set forth in this section as grounds for revocation of the short-term rental license. Upon filing of the complaint, the Village Clerk shall notify the licensee of the complaint by certified mail, return receipt requested and provide the licensee with a copy of the complaint. Such notice shall also contain the time and place of the hearing before the Village Board on said complaint and consideration of revocation under this section. Any hearing under this section shall be held no sooner than 10 days after the notice required by this section is mailed to the licensee.

(5) Appeal. The Village Clerk's decision to deny an initial license or to deny renewal of a license may be appealed to the Village Board by filing a written appeal with the clerk within 30 days after the date of mailing of the written notice of the Village Clerk's decision. The Village Board shall hold a hearing within 30 days of the Village's receipt of the written appeal, or the license shall be deemed granted. The Village Clerk shall provide written notice of the date, time, and place of any appeal hearing to the licensee by certified mail return receipt requested. Any hearing under this section shall be held no sooner than 10 days after such notice is mailed to the appellant. If the Village Board finds the Village's Clerk's reasons for his or her decision sufficient, the decision shall be affirmed. If the Village Board finds the Village Clerks' reasons for his or her decision insufficient, the decision shall be reversed and the license shall be granted and issued. The Village Board shall provide appellant a written decision specifying the reasons for its determination, and provide such written decision to the appellant within 10 days of such determination.

(6) Restrictions on License Transfers. Transfer of a short term license because of transfer or sale of the licensed property is not permissible. Should the licensed property be sold, transferred, or otherwise conveyed by the named applicant, then the issued license shall become void. Whenever a property changes ownership, a new license shall be required to ensure compliance with all applicable state and local laws and ordinances.

SECTION VI

Section 40.471, (g) of the Village Code of the Village of Pewaukee is hereby created to read as follows:

Section 40.471(g) – Violations of this Ordinance shall be enforced in accordance Section 1.102 of the Village of Pewaukee Municipal Code. Each day that a violation occurs shall be considered a separate violation and will be enforced accordingly.

SECTION VII

All Ordinances or parts of Ordinances contravening the terms and conditions of this Ordinance are hereby to that extent repealed.

SECTION VIII

The several sections of this Ordinance shall be considered severable. If any section shall be considered by a court of competent jurisdiction to be invalid, such decision shall not affect the validity of the other portions of the Ordinance.

SECTION IX

This Ordinance shall take effect upon passage and publication as approved by law, and the Village Clerk shall so amend the Code of Ordinances of the Village of Pewaukee, and shall indicate the date and number of this amending Ordinance therein.

Passed and adopted this _____ day of _____ 2023 by the Village Board of the Village of Pewaukee.

APPROVED:

Countersigned:

Jeff Knutson, Village President

Cassie Smith, Village Clerk

STAFF REPORT

To: Village of Pewaukee Plan Commission

By: Mary Censky

Date Prepared: March 9, 2023

General Information:

Agenda Item: **5.b.**

Applicant:

N/A

Status of Applicant:

Village initiated item

Requested Action:

Review and general discussion regarding density limits for the residential component of mixed-use with multi-family development or straight multi—family development in the Villages Business Zoning Districts (i.e. B-1 Community Business, B-2 Downtown Business, B-3 Office & Service Business, B-4 Business Park, and B-5 Light Industrial), and the existing density limits of the Villages R-M Multi-Family Residential District.

Background:

It has been pointed out that there may be a willingness within the Village to consider permitting new multi-family development as a part of mixed use or as straight multi-family developments within some of the Business zoned areas of the Village. The topic of appropriate density limits for this type of use is proposed to be discussed. Density limits in existing standard multi-family zoning may also be discussed.

*No residential units on street level of business districts multi-fam use?

Current Village parking requirements as to residential parking standards and maximum building heights follow:

- **Residential Parking**
40.426(j) Required number of stalls. The following parking standards shall be applied unless deviations have been specifically approved by the planning commission:
(1) Residential uses.
 - a. Single-family dwellings and two-family dwellings. Two spaces per dwelling unit (excluding garages).
 - b. Multifamily dwellings.
 - 1. One bedroom = 1.75 enclosed parking spaces per unit.

2. Two bedrooms = 2.0 enclosed parking spaces per unit.
3. Three bedrooms = 2.0 enclosed parking spaces per unit.
4. Guest parking requires one parking stall for every two units.

c. Housing for the elderly. Subject to planning commission approval on a case by case basis.

- Oconomowoc multi-family residential parking requirements
 - Parking – All new residential shall be required to install a minimum of (1) on-site parking stall for each (1) bedroom or efficiency units and (2) on-site parking stalls for each (2) bedroom or greater units. Guest parking shall be an additional 0.25 stall per residential unit. Surface parking is encouraged behind buildings. Surface parking is discouraged between the building and primary street frontage.
- Menomonee falls multi-family residential parking requirements
 - 1 space/bedroom with a minimum of 1 space fully enclosed and a maximum of 2 spaces/unit, with 1 additional space/each 2 units for visitors

- **Building/Structure Height - Current Code Limits**

40.253 provides “The height of any structure in the B-1 [Community Business] district shall not exceed four stories or 55 feet...”.

40.268 provides “The height of any structure [in the B-2 Downtown Business District] shall not be less than 1.5 stories nor more than 3 stories by design, and may not exceed 42 feet **(up to 45 feet if the building design incorporates a gabled roofline) and must be designed as one and one-half to three-story structures,** unless **otherwise** approved in accordance with the conditional use grant process.

40.283 provides “The height of any structure in the B-3 [Office and Service Business] district shall not exceed four stories or 55 feet...”.

40.301 provides “The height of any structure in the B-4 [Business Park] district shall not exceed **42 55** feet...”.

40.319 provides “The height of any structure in the B-5 [Light Industrial] district shall not exceed **550** feet...”

40.221 provides “The height of the principal structure in the R-6 [Plex Residential] district shall not exceed 42 feet **(up to 45 feet if the building design incorporates a gabled roofline)**...”

40.229 provides “The height of the principal structures in the RM [Multi-Family Residential] district shall not exceed **three stories or 42 feet (up to 45 feet if the building design incorporates a gabled roofline)**...”

40.400.1(2)(b) provides “Height of any principal structure [in the Housing for the Elderly Overlay District is] **shall** not to exceed four stories or 52 feet **(up to 55 feet if the building design incorporates a gabled roofline)** [unless otherwise approved in accordance with the conditional use grant process]”.

***40.336** provides “The height of any structure in the IPS district shall not exceed 42 feet unless otherwise allowed in accordance with section 40.421.

40.421(d) provides as follows regarding building height: “Increase permitted. The maximum height of any structure may be increased up to ten feet if offset and setbacks

are increased by one foot for each additional foot of structural height exceeding the standard district requirement”.

Discussion:

The Planner and Trustee/Planning Commissioner Roberts will continue to lead discussion on this topic for Commissioners and solicit ongoing input/feedback before presenting any draft changes to the existing Village Code.

STAFF REPORT

To: Village of Pewaukee Plan Commission

By: Mary Censky
Date Prepared: March 9, 2023

General Information:

Agenda Item: **6.a.**

Applicant:

Richard Haen on behalf of owner/applicant
WCTC

Requested Action:

Conditional Use Grant Amendment approval to modify/expand the permitted hours of use for the outdoor driving/training facilities.

Existing Zoning:

IPS Institutional and Public Service

Surrounding Zoning/Land Use:

North: Pewaukee School District Campus
South: City of Pewaukee – vacant wetland/environmental corridor
East: WCTC campus and S.T.H. 16
West: City of Pewaukee – single family residential

Master Plan Classification:

Institutional

Location:

800 Main Street (Southwestern end of WCTC Campus near [just north of] Pewaukee Fire Station #2)

Discussion:

WCTC requests Conditional Use Grant Amendment approval to modify the hours of use on their outdoor driving/training facilities as follows:

Paragraph 8.c. of the most recent Conditional Use Grant Amendment approval as to hours of operation for the outdoor driving/training facilities is hereby modified to read as follows:

“Hours of operation for the outdoor driving/training facilities shall be limited to Monday through Saturdays **8 6** a.m. to **8 10** p.m. and on Sunday from 8a.m. to 5 p.m. Further, no advanced motorcycle classes (i.e. bring your own bike option) or motorcycles with higher than 300 CC’s may operate at the phase 1 expansion on Sundays, and advanced motorcycle classes with no size limitation may operate at the EVOC track that was in existence before December 31, 2016 from 8 a.m. to 5 p.m. on Sundays.”

All other terms and conditions of the existing Conditional Use Grant and its subsequent amendments as recorded from time to time would remain in full force and effect, such as, for instance, the existing requirement that provides “All means of sound abatement that can reasonably be added to the equipment owned by WCTC and used at these facilities shall be installed and used at all times, including, but not necessarily limited to, muffler redirect and brake baffle systems on the semi-tractor/trailer units. External wailing shall be permitted for emergency vehicle training but with reasonable efforts used to limit the timing and length of such external wailing. “Reasonable” as used in this paragraph shall be a standard set at the discretion of the Village of Pewaukee Planning Commission.”

Recommendation:

The Planner raises no specific objections to this request as presented but recommends the following conditions be attached as a part of any approval the Planning Commission may inclined toward granting:

- 1) Full execution and recording of the CUG Amendment document(s) prior to the start of expanded hours.



CONDITIONAL USE GRANT APPLICATION FORM

Complete all items entirely:

Property Address:	
Property Tax Key:	PWV
Zoning of Property:	
Property Owner Name:	
Property Owner Mailing Address:	
Property Owner Phone:	
Property Owner Email:	
Applicant - Name:	
Applicant Mailing Address:	
Applicant - Email:	
Applicant - Phone:	
Description of Request (Please be thorough and attach additional pages if needed)	



Provide detailed information with your application that addresses the following:

1. Development Plans of the proposed use in sufficient detail to enable the Commission to evaluate your application such as architectural & landscape treatment, proper placement of the building(s) on the lot, traffic generation & circulation, provision for parking, site grading and drainage, exterior lighting, dumpster location and screening, outside storage of any sort, and manner of control devices (when necessary) to eliminate noise, dust, odor, smoke or other objectionable operating conditions & ensure general compatibility of the proposed use within its surroundings.
2. It is the responsibility of the applicant/owner to ensure that the proposed project complies with the Village's Land Development Code. It is also highly recommended that the applicant/owner review the Village's adopted [Land Use Plan](#) to ensure a proper understanding of the Village's future vision for the area in question.

A handwritten signature in black ink, appearing to read "Robert Allen", written over a horizontal line.

Property Owner Printed Name

Signature of Property Owner

The application will not be processed without the Owner's Signature regardless of who is listed as the Applicant. This signature authorizes the Village of Pewaukee to process the Conditional Use Approval Application proposed for my property and further authorizes the Village or its representatives to conduct reasonable and routine inspections of my property for the purposes of evaluating this application.

A handwritten signature in black ink, appearing to read "Robert Allen", written over a horizontal line.

Applicant's Printed Name

Signature of Applicant

Return the completed application forms along with the required attachments, \$100 application fee, and a digital copy of the submittal (plus paper copies if required) to Pewaukee Village Hall, 235 Hickory Street, Pewaukee, WI 53072.

If you have any questions, please call Village Hall at (262) 691-5660.



PROFESSIONAL SERVICES REIMBURSEMENT NOTICE

Pursuant to the Village of Pewaukee [Code of Ordinances Sec 40.116\(b\)](#), the Village Board has determined that whenever the services of the Village Attorney, Village Engineer, Village Planner, or any other of the Village's professional staff or other expert consultants are retained by the Village in order to complete a proper project review results in a charge to the Village for that professional's time and services and such service is not a service supplied to the Village as a whole, the Village Treasurer shall charge those service fees incurred by the Village to the applicant/property owner. Also, be advised that pursuant to the Village of Pewaukee Code of Ordinances, certain other fees, costs, and charges are the responsibility of the property owner or responsible party.

By signing this form, I, the undersigned, have been advised that pursuant to the Village of Pewaukee Code of Ordinances, if the Village Attorney, Village Engineer, Village Planner, or any other Village professional staff or other expert consultants retained by the Village in order to complete a proper project review provides services to the Village because of my activities, whether at my request or at the request of the Village, I shall be responsible for the fees incurred. In addition, I have been advised that pursuant to the Village of Pewaukee Code of Ordinances, certain other fees, costs, and charges are my responsibility.


The Village will place fees from unpaid invoices on the real estate tax bill of the property that corresponds to the incurred services.

Complete the information below:

Responsible Party Name	
Mailing Address	
City, State and Zip	
Email:	
Phone:	

**ENTER EMAIL TO SEND
INVOICES:**

Property Owner Printed Name



Signature of Property Owner/Date Signed

Applicant Printed Name



Applicant Signature/Date Signed

Village Staff Acceptance – Date

WCTC Vehicle Driving/Training Facility (VDF)

Waukesha County Technical College's Vehicle Driving/Training Facilities (VDF) is a modern and real-world driver training area designed to provide a comprehensive educational environment for the Truck Driving, Criminal Justice/Law Enforcement, Fire/Emergency Medical Services (EMS) and Motorcycle programs. This grounds currently contain an Emergency Vehicle Operation Course (EVOC), a motorcycle training pad, Commercial Driver's License (CDL) range, and road network around the motorcycle training pad and the CDL range. A noise abatement berm is also located on the west side of these grounds.

History of the training grounds

The Emergency Vehicle Operation Course (EVOC) was built about 35 years ago and was shared by the Criminal Justice/Law Enforcement, Truck Driving, Motorcycle and Fire/EMS programs. The EVOC was outdated for current industry training standards and was also too small for the many driving scenarios required for students in these programs. In 2017, WCTC initiated a multi-phase plan to expand and improve the training grounds. The EVOC is the red shaded area in the attached site map.

Phase 1, completed in 2017: Site grading; motorcycle pad and corresponding lighting; training roundabout; storm water basin; training railroad crossing; road network around future Commercial Driver's License (CDL) range; construction of one metal shed; building of noise abatement berm and landscaping. Ground breaking was in early summer 2017. This is the grey and blue shaded area in the attached site map.

Phase 2, completed in 2019: CDL range prep; paving and corresponding lighting; and construction of two metal sheds. This is the yellow shaded area in the attached site map.

Phase 3, completed in 2021: Classroom building and electrical service. This is the orange shaded area in the attached site map. (An addition to the building has been approved for 2023.)

When construction started in 2017 the CUG was amended for WCTC to operate training in this facility Monday through Saturday from 8 a.m. to 8 p.m. and Sunday from 8 a.m. to 5 p.m.

How has the college limited noise and views of this grounds?

During Phase 1 of the project, the college constructed a berm on the west side of the VDF, approximately 560 feet in length and 12 feet high, to restrict sound and views associated with the EVOC. Atop the berm, white pine trees were planted to further reduce noise and views of the track.

Additionally, the following steps have been taken in the expansion of the VDF:

- The college prohibits the use of the engine breaking and horn blowing.
- Lower wattage speakers on sirens in emergency vehicles have been installed to reduce sound, and other methods are continually explored to further abate the siren noise.

- The safety and security of our neighbors is of the utmost importance to WCTC. Instructors are always on the course during hours of operation and continually monitor the areas surrounding the track.
- The college installs baffles on all Semi tractors/trailers using this training grounds to reduce the noise of the air brake systems and mufflers.
- Scheduling of motorcycle classes on the original EVOC track as much as possible

What is the current use of the VDF

The expanded VDF has benefited all district residents as well as those in Southeastern Wisconsin. The students, incumbent public safety officials, private businesses and industries, government agencies, and citizens that have received training from WCTC have had many different scenarios, in a controlled environment, that ensure they are more competent and prepared when they are driving on our public roadways. The result is better trained public safety officials and citizens, and competent drivers entering transportation related careers. These programs and courses are offered in the VDF:

- Defensive Driving for Industry to include corporate fleets.
- Expanded areas of training in the Police Academy to include: traffic stops, traffic directions training, accident investigations, integrated exercises and high risk stops.
- In-service training by law enforcement agencies.
- Basic rider coach (BRC) training in the motorcycle program.
- Defensive driving, intermediate and advanced motorcycle training.
- Class B Straight Truck certificate.
- School bus and coach bus training/courses (Class C).
- Passenger Endorsement courses.
- Truck driving contract training and refresher training.

The Truck Driving industry has been impacted by federal regulations which reduced the number of hours drivers can operate a semi, and more rigorous entry level training requirements for drivers. Both of these regulations have created a demand for more graduates of our Truck Driving Training program and we have not been able to serve the public with the reduced enrollments as a result of the current CUG. Therefore, we are bringing this request before you to increase the hours of operation in order to better serve the public.

- PHASE 2**
- CDL PAD PREP & PAVING
 - PAD LIGHTING
 - 2 STORAGE BUILDINGS
 - ELECTRIC CHARGING STATIONS
 - PEDESTRIAN PATH
 - LOADING DOCK & CONCRETE WALL

**CLASSROOM
PHASE 3**

**CDL RANGE
PHASE 2**

- PHASE 3**
- CLASSROOM BUILDING
 - ELECTRICAL SERVICE
 - SANITARY AND WATER SERVICES FROM FIRE STATION
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 - PARK SHELTER
 - LANDSCAPING

STORAGE BUILDING

**EXISTING
35 YEAR OLD
EVOC PAD**

300'x200'
MOTORCYCLE
TRAINING

PHASE 1

4-WAY
STOP

PROPOSED 12 FT HIGH BERM

- PHASE 1**
- OVERALL MASS GRADING
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 - PAD LIGHTING
 - ROUNDABOUT
 - STORMWATER BASIN
 - RR-XING
 - ROAD NETWORK AROUND CDL
 - ONE STORAGE BUILDING
 - BERM AND LANDSCAPING
 - LIGHTING

PEWAUKEE
FIRE
STATION
No. 2

STORMWATER BASIN

GATE

BLDG

TOWER

PHASE 3
DEMOLITION
OF EXISTING
STORAGES

BUILDING

BUILDING

SCALE IN FEET
0 30 60

PRELIMINARY - NOT FOR CONSTRUCTION

DRAWN BY: TJS				
DESIGNER: MAM				
CHECKED BY: #####				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

SEH
 PHONE: 414.949.8962
 501 MAPLE AVENUE
 DELAFIELD, WI 53018-9351
 www.sehinc.com

**WCTC PROPOSED EVOC TRACK
PEWAUKEE, WI**

OVERALL CONCEPTUAL SITE PLAN

FILE NO. 145478	1
DATE 03/05/2018	OF 1

WCTC Vehicle Driving/Training Facility (VDF)

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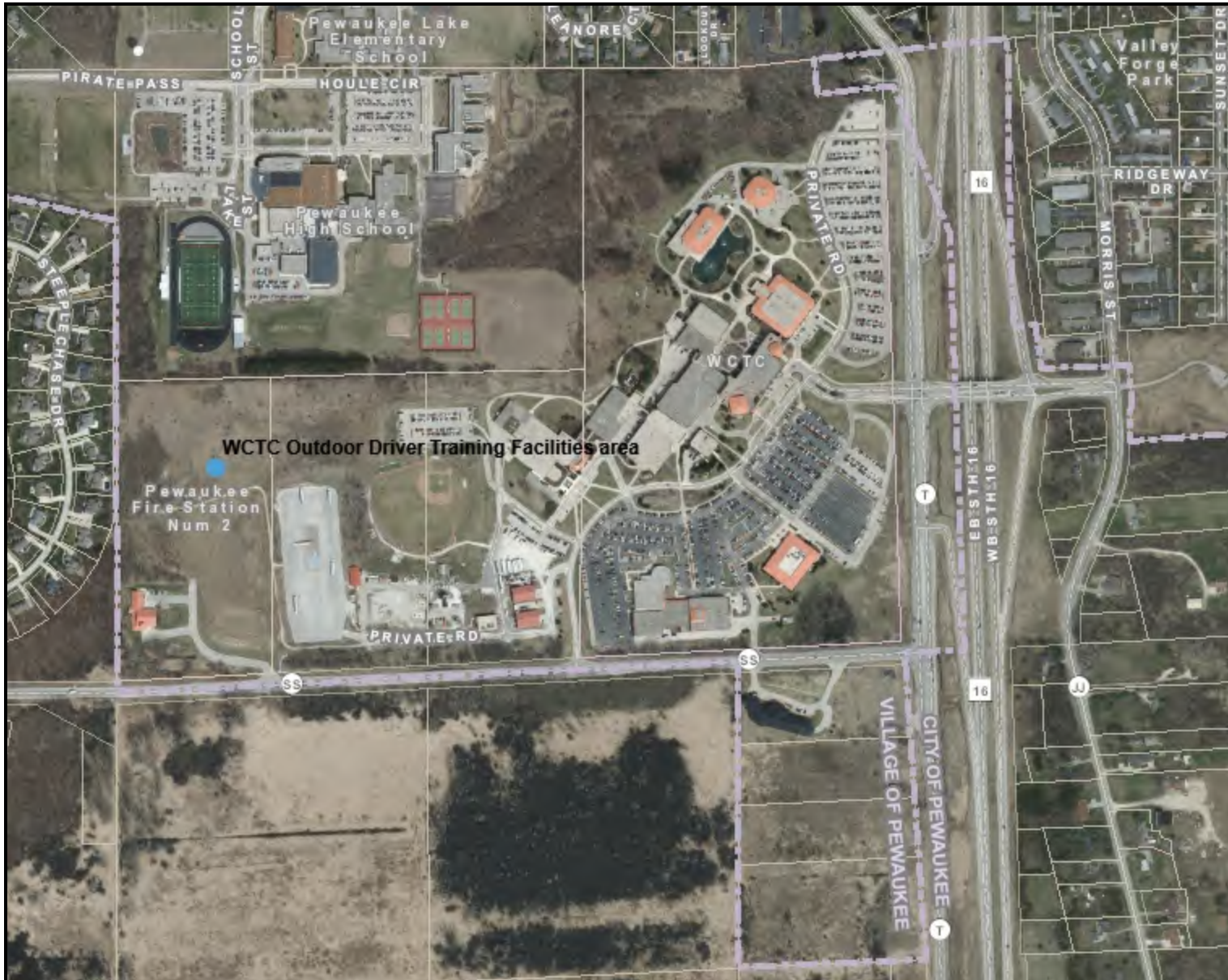
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Legend

Simultaneous Conveyance

- Assessor Plat
- CSM
- Condo Plat
- Subdivision Plat

0 666.67 Feet

The information and depictions herein are for informational purposes and Waukesha County specifically disclaims accuracy in this reproduction and specifically admonishes and advises that if specific and precise accuracy is required, the same should be determined by procurement of certified maps, surveys, plats, Flood Insurance Studies, or other official means. Waukesha County will not be responsible for any damages which result from third party use of the information and depictions herein, or for use which ignores this warning.

Notes:

Printed: 4/5/2017





Legend

- Municipal Boundary_2K
- Parcel_Dimension_2K
- Note_Text_2K
- Lots_2K
 - Lot
 - Unit
 - General Common Element
 - Outlot
- SimultaneousConveyance
 - Assessor Plat
 - CSM
 - Condominium
 - Subdivision
- Cartoline_2K
 - EA-Easement_Line
 - PL-DA
 - PL-Extended_Tie_line
 - PL-Meander_Line
 - PL-Note
 - PL-Tie
 - PL-Tie_Line
 - <all other values>
- Railroad_2K

0 382.42 Feet

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Notes:

Printed: 3/2/2023



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**EXISTING
35 YEAR OLD
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300'x200'
MOTORCYCLE
TRAINING

PHASE 1

4-WAY
STOP

STORMWATER BASIN

PROPOSED 12 FT HIGH BERM

PEWAUKEE
FIRE
STATION
No. 2

GATE

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PHASE 3
DEMOLITION
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BUILDING

BUILDING

S

T

SCALE IN FEET
0 30 60

PRELIMINARY - NOT FOR CONSTRUCTION

- PHASE 1**
- OVERALL MASS GRADING
 - MOTORCYCLE PAD
 - PAD LIGHTING
 - ROUNDABOUT
 - STORMWATER BASIN
 - RR-XING
 - ROAD NETWORK AROUND CDL
 - ONE STORAGE BUILDING
 - BERM AND LANDSCAPING
 - LIGHTING

DRAWN BY: TJS				
DESIGNER: MAM				
CHECKED BY: #####				
DESIGN TEAM	NO.	BY	DATE	REVISIONS



PHONE: 414.949.8962
501 MAPLE AVENUE
DELAFIELD, WI 53018-9351
www.sehinc.com

**WCTC PROPOSED EVOC TRACK
PEWAUKEE, WI**

OVERALL CONCEPTUAL SITE PLAN

FILE NO. 145478	1
DATE 03/05/2018	OF 1

STAFF REPORT

To: Village of Pewaukee Plan Commission

By: Mary Censky

Date Prepared: March 9, 2023

General Information:

Agenda Item: **6.b.**

Applicant:

Kirkland Crossings, Inc. in c/o Anne O'Connor of Senior Housing Partners.

Requested Action:

Review, discussion, and possible recommendation to the Village Board to modify the language of the Housing for the Elderly Overlay (HEO) District as it relates to the percentage of units in a HEO project that may be allocated for independent (vs assisted) living.

Discussion:

At its February 9, 2023, meeting, the Planning Commission considered, in consultation, the applicants request for changes to the EHO District as would allow more than 50% of units within a project to be designated for independent vs assisted living. There was a general willingness expressed among Commissioners to consider a drafted revision for review and possible recommendation to the Village Board.

To that end, the following language is proposed for your consideration. This language takes cues from a proposal originally drafted by the applicant as a part of their consultation submittal:

Sec. 40.395. - Purpose.

This overlay district is intended to permit, in certain B-1 community business district and/or B-3 office and service district zoned locations, housing for the elderly (see definition below and at section 40.108 of this chapter) on the limited basis provided for below in order to support the long term/lifelong housing needs of the village residents and in light of the mutually beneficial relationships realized when elderly housing can be situated in near proximity to such uses as shopping, dining, financial services, entertainment, religious offerings, clinical/medical services and similar. Areas to be considered for this overlay district will be those that are adjacent to similar type projects or properties that do not have single-family residential abutting more than 50 percent of the perimeter of proposed project area.

Sec. 40.396. - General requirements.

General requirements in this housing for the elderly overlay district shall include:

- (1) Development shall be designed and sized in a manner that is architecturally, aesthetically and operationally harmonious with surrounding development.
- (2) All business, servicing, processing or storage related needs of the development, except for off-street parking and/or loading, shall be conducted within completely enclosed buildings unless otherwise specifically approved by the planning commission as a part of the development project plan.
- (3) The size and location of projects shall be based upon such factors as justifiable community need, satisfactory relationships between anticipated demands of the development physically, socially and economically versus available services and infrastructure and the potential contribution of the proposed development to the welfare of the community.
- (4) In approving or disapproving proposed locations for uses under this overlay district, the planning commission shall give due consideration to the character and suitability for development of the area in which any housing for the elderly use is proposed to be located and shall also base its decision on such evidence as may be presented to the planning commission regarding traffic generation, heavy vehicular traffic, ground water impact, impact upon existing sanitary sewage disposal system, existing roads, existing storm water management systems, and existing public water system, utilities limitations, soil limitations and the emission of noise, smoke, dust or dirt, odorous or noxious gases attributed to the proposed use. To this end, and unless specifically waived by the village administrator or planning commission, all applications shall include among the supporting materials at the time of submittal, specific, expert, detailed impact analysis demonstrating clearly that there will be no adverse impacts upon, or reductions in the levels of service, in the areas as listed above. If, in the course of more detailed project review, the village administrator and/or planning commission should subsequently determine that the unique characteristics of a particular project warrant specific, expert, detailed impact analysis of a sort that were either previously waived or not contemplated/listed here at the writing of this division, then the applicant shall, upon request, provide such analysis as well.
- (5) Building, site and operational plans shall be reviewed by the planning commission in accordance with article VI - divisions 1 and 2, article VIII and article IX - divisions 2 and 3 of this chapter 40.

Sec. 40.397. - Definitions.

For purposes of this housing for the elderly overlay district, the following definitions shall apply:

- (1) *Elderly housing* shall mean "housing for older persons" as defined by section 807(b)(2) and (3) of the Fair Housing Act (42 U.S.C. 3607 (b)(2)) as may be amended from time to time. At the time this overlay district is written, Section 807(b)(2)&(3) of the Fair Housing Act (42 U.S.C. 3607(b)(2)(C)) reads that:
"(2) As used in this section "housing for older persons" means housing-

(A) provided under any state or federal program that the secretary determines is specifically designed and operated to assist elderly persons (as defined in the state or federal program); or

(B) intended for, and solely occupied by, persons 62 years of age or older; or

(C) intended and operated for occupancy by persons 55 years of age or older, and-

(i) At least 80 percent of the occupied units are occupied by at least one person who is 55 years of age or older;

(ii) The housing facility or community publishes and adheres to policies and procedures that demonstrate the intent required under this subparagraph; and

(iii) The housing facility or community complies with rules issued by the secretary for verification of occupancy, which shall-

(I) Provide for verification by reliable surveys and affidavits; and

(II) Include examples of the types of policies and procedures relevant to a determination of compliance with the requirement of clause (ii). Such surveys and affidavits shall be admissible in administrative and judicial proceedings for the purposes of such verification.

(3) Housing shall not fail to meet the requirements for housing for older persons by reason of:

(A) persons residing in such housing as of the date of enactment of this Act who do not meet the age requirements of subsections (2)(B) or (C): Provided, That new occupants of such housing meet the age requirements of sections (2)(B) or (C); or

(B) Unoccupied units: Provided, That such units are reserved for occupancy by persons who meet the age requirements of subsections (2)(B) or (C)."

(2) *Assisted living facilities.* At the time this overlay district is written, the Wisconsin Department of Health Services defines assisted living as facilities for individuals who need some level of care monitoring services but choose to live in a setting without 24-hour access to nursing services and the state regulates four types of these; Adult Daycare, Adult Family Home (AFH), Community-Based Residential Facility (CBRF) and Residential Care Apartment Complex (RCAC). Assisted living facility units with 0—2 bedroom units shall be counted as one unit. Assisted living facility units with more than two bedrooms shall be considered two units.

(3) *Nursing home.* In the Village of Pewaukee, the term nursing home shall mean only those public or private residential institutions providing 24 hour onsite access to skilled nursing services and intended and equipped to provide long term in-patient care for persons unable to look after themselves such as the aged or chronically ill). 'Long term' shall, in this case, be defined as intending to remain in residence at the nursing home for not less than six months. For purposes of this section, skilled nursing services shall have the meaning set forth in Section 50.01(6V) of

the Wisconsin Statutes. Nursing home living units with 0—2 bedrooms shall be considered one unit. Nursing home living units with more than two bedrooms shall be considered two units.

- (4) *Independent living units* shall mean living units that are not assisted living and are not nursing home units and which may be owned, rented or otherwise occupied by individuals that require no nursing care/services or care monitoring services to live. Independent living units have an individual lockable entrance and exit, a kitchen including a stove, and individual bathroom, sleeping and living areas. Independent living units with 0—2 bedrooms shall be considered one unit. Independent living units with more than two bedrooms shall be considered two units.
- (5) *Skilled nursing services* shall have the meaning as set forth in Section 50.01(6V) of the Wisconsin Statutes, which, at the time this overlay district is written, defines skilled nursing services as those services, to which all of the following apply, that are provided to a resident under a physician's orders:
- (a) The services require the skills of and are provided directly by or under the supervision of a person who's licensed, registered, certified or permitted scope of practice is at least equivalent to that of a licensed practical nurse.
- (b) Any of the following circumstances exist:
1. The inherent complexity of a service prescribed for a resident is such that it can be safely and effectively performed only by or under the supervision of registered nurses or licensed practical nurses.
 2. The full recovery or medical improvement of the resident is not possible, but the services are needed to prevent, to the extent possible, deterioration of the resident's condition or to sustain current capacities of the resident.
 3. Because of special medical complications, performing or supervising a service that is generally unskilled or observing the resident necessitates the use of a person whose licensed, registered, certified or permitted scope of practice is at least equivalent to that of a licensed practical nurse.
- (6) *Abutting* means sharing a common lot line or located directly across the street where the ultimate right-of-way width is 66 feet or less. Parcels that touch at lot corners are also considered abutting.

Sec. 40.398. - Permitted uses.

Permitted uses in this housing for the elderly overlay district shall include:

- (1) Any permitted use in the underlying zoning district.

Sec. 40.399. - Permitted accessory uses.

Permitted accessory uses in this housing for the elderly overlay district shall include accessory buildings, structures and uses customarily incidental to the uses in section 40.398 above and 40.400 below, such as for instance, but not necessarily limited to, garages and dumpster storage facilities.

Sec. 40.400. - Conditional uses.

Conditional uses in this housing for the elderly overlay district shall include:

- (1) Any conditional use in the underlying zoning district;
- (2) Housing for the elderly as independent living units, assisted living facilities and/or nursing homes;
- (3) A mixing of multiple principal uses from among the uses listed in this overlay district as either permitted or conditional uses.

Sec. 40.400.1. - Site, bulk, density and spatial standards.

For purposes of this housing for the elderly overlay district, the following site bulk, density and spatial standards shall apply:

- (1) Development projects which include housing for the elderly:
 - a. Independent living units shall, unless otherwise approved by the Planning Commission pursuant to Section (i) below, be permitted only as a subordinate use within a development project that also includes assisted living and/or nursing home units and in that case, the number of independent living units shall not exceed 50 percent of the combined total number of units in the development.

(i) The Planning Commission may permit an increase, up to 100%, in the actual number of independent living units allowed, as a percentage of total units within a housing for the elderly development project, if the commission first determines that the applicant has provided a detailed and satisfactory plan to allow unlimited access for affiliated and/or unaffiliated, in-home health care service providers personally selected by the unit occupants, to provide onsite assistance to any tenant or owner occupant of the independent living units. Any such approved plan shall be memorialized as an exhibit to the conditional use permit and/or recorded as a unique deed restriction upon the property prior to any unit occupancy within the project.
 - b. Overall maximum permitted density for elderly housing use shall not exceed 20 units per buildable acre with up to a 150 percent increase based upon relief from the 20 units per buildable acre standard being granted by the plan commission. In considering whether to grant such relief, the plan commission may consider the following factors:

- (i) Unique site conditions including topography, road access, storm water management use constraints and essential services.
- (ii) Neighboring uses in proximity to single family residential property
- (iii) Parking managed through underground facilities.
- (iv) Proximity to and reliance upon arterials and limited use of collector streets. Said streets must have a sufficient cross section and turning radii to accommodate the intensity of the use.
- (v) Does not unreasonably burden existing public infrastructure and services.
- (vi) Is in conformity with the village's comprehensive plan.
- (vii) Must not conflict with the ambiance and character of the use of adjacent lands.
- (viii) The availability of on-site amenities and services to reduce the need for off-site trips.
- (ix) Such other project/development factors as the village plan commission may determine, in the exercise of its reasonable discretion, that may reduce the perceived negative secondary effects of an increase in density above 20 units per buildable acre.
- (x) Special conditions effecting the property which were not self-created and which make strict conformity with the density standards of this ordinance section unnecessary and burdensome or unreasonable in light of the purposes of this section.

The provisions of this section shall not be interpreted as guarantees of an achievable density. Other regulations within this Code may prevent increases in density levels being achieved due to the character of the land, location of natural features, access requirements or surrounding uses.

c. Elderly housing developments in this overlay district shall be situated upon a single, contiguous, underlying property, not less than two buildable acres in area, owned by a single individual, partnership or corporation or in common ownership under a registered condominium.

(2) Development projects in which the predominant use is housing for the elderly shall be subject to all the requirements of the underlying base zoning district except as may otherwise be provided for below and also to any extent that the planning commission may permit waivers/modifications to the extent provided for under section 40.153 of the Code:

- a. Building floor area ratio not exceed 40 percent;
- b. Height of any principal structure not to exceed 52 feet;
- c. All structures to be set back 50 feet from the abutting street right-of-way line;

d. Principal structures to be offset 20 feet from the side and rear lot lines unless the adjoining property is zoned or used for single-family residential purposes, in which case the offset must be 30 feet. Accessory structures shall be offset not less than ten feet;

e. Open space ratio not less than 35/30 percent;

f. Parking lot and drives shall be setback not less than 25 feet from the abutting street right of way line;

g. Parking lot and drives shall be offset not less than 20 feet from the side and rear lot lines.

(3) Development projects that do not include housing for the elderly shall be subject to all the requirements of the underlying base zoning district.

Recommendation:

The Planner feels there may be additional implications for the Commission to consider if there is a willingness to consider allowing more than 50% independent living units.

- Parking demands
- Density issues
- Shifting from continuum of care type model as when the EHO District ordinance was first drafted
- Among others possibly

STAFF REPORT

To: Village of Pewaukee Plan Commission

By: Mary Censky

Date Prepared: March 9, 2023

General Information:

Agenda Item: **6.C.**

Applicant/Property Owner:

Kirkland Crossings, Inc. in c/o Anne O'Connor of Senior Housing Partners.

Requested Action:

Review, discussion, and possible approval of a Conditional Use Grant (CUG) to develop an 84-unit Housing for the Elderly building project.

Current Zoning:

B-1 Community Business District with Housing for the Elderly Overlay (HEO).

Proposed Zoning:

Same

Current Master Plan Classification:

Community Commercial

Surrounding Zoning/Land Use:

North: B-1 Community Business zoning and use.

South: Multi-Family Residential use.

East: B-1 Community Business zoning.

West: IPS Institutional and Public Service District zoning and use.

Project Area:

2.49 acres

Property Location:

Northwest corner of Ryan Road and Quinlan Drive.

Discussion:

Housing for the elderly as independent living units, assisted living facilities and/or nursing homes is listed among the conditional uses that can be considered for approval in the B-1(HEO) zoning district.

The applicant seeks CUG approval from the Commission on the site plan, architecture, exterior lighting, landscaping and operating plan for an 84-unit, independent senior living development including a mix of 36 one-bedroom and 48 two-bedroom units. Many of the units also include a sunroom and all have patio or balcony space. Other amenities that space is set aside for within the building plans include a club room, wellness studio, resident storage areas, and lounge space.

This development is intended for occupancy by persons aged 55 and older. Under the Village Code this means that at least 80 percent of the occupied units must be occupied by at least one person who is 55 years of age or older; the development must publish and adhere to policies and procedures that demonstrate this intent; and that the development must provide for verification of compliance as to these age related restrictions by reliable surveys and affidavits including, for instance, examples of the types of policies and procedures relevant to a determination of compliance with the requirement of clause.

As compared to the Village's basic spatial, bulk and design requirements for a development of this sort:

- Maximum Permitted Overall Density = 20 units per buildable acre with up to a 150 percent increase based upon relief being granted by the Plan Commission if, in considering the following, such an increase is justifiable:
 - Unique site conditions including topography, road access, storm water management use constraints and essential services.
 - Neighboring uses in proximity to single family residential property.
 - Parking managed through underground facilities.
 - Proximity to and reliance upon arterials and limited use of collector streets. Said streets must have a sufficient cross section and turning radii to accommodate the intensity of the use.
 - Does not unreasonably burden existing public infrastructure and services.
 - Is in conformity with the Village's Comprehensive Plan.
 - Must not conflict with the ambiance and character of the use of adjacent lands.
 - The availability of on-site amenities and services to reduce the need for off-site trips.
 - Such other project/development factors as the Village Plan Commission may determine, in the exercise of its reasonable discretion, that may reduce the perceived negative secondary effects of an increase in density above 20 units per buildable acre.

As to this proposal specifically, permitted density at 20 units per buildable acre = 50

As to this proposal specifically, 150% of permitted density = 75. Proposed total units = 84 (i.e., noncompliant).

- Maximum Permitted Number of Independent Living Units = 50% of total units. ***As to this proposal specifically, 50% of total units = 42. Proposed independent living units = 84 (i.e., noncompliant).***
- Maximum Building Floor Area Ratio = 40 percent. ***Proposed = 29 percent (i.e., compliant).***
- Maximum Building Height = 52 feet allowed in HEO District. Maximum Building Height = 55 feet allowed in B-3 District. ***Proposed = ~54.5 feet as measured along the Ryan Road frontage and ~65.8 feet as measured along the Quinlan Drive frontage (i.e. noncompliant).***
- Minimum Building Setback from Street Right-of-Way/Front Property Lines = 50 feet. ***Proposed = compliant.***

- Minimum Building Setback from Side/Rear Lot Lines = 20 feet. ***Proposed = compliant.***
- Minimum Open space Ratio = 35/30 percent. ***Proposed = 44 percent (i.e., compliant).***
- Minimum Parking Lot and Drives Setback from Street Right-of-Way/Front Property Lines = 25 feet. ***Proposed plan = Compliant along Quinlan Drive; noncompliant along Ryan Road.***
- Minimum Parking Lot and Drives Setback from Side and Rear Lot Lines = 20 feet. ***Proposed plan = Compliant.***

Accounting for Sections 40.400.1(2) and 40.153 of the Code, the Planning Commission may, but is not compelled, to permit waivers/modifications to building location, floor area ratio, parking, landscaping, lot width, setback, offset, height, building size, lot size and open space regulations.

The building design calls for four occupied stories above grade and a below grade parking structure with space for up to 81 cars. Fifteen (15) parking spaces are provided on-site, on-grade. The stall sizes and aisle widths of the plan do comply with the Villages Code requirements. There is just one entry/exit point to the proposed project and it's located along the Quinlan Drive frontage of the site. This driveway point appears to line-up with one of the driveways serving the condominium building located across the street to the south.

Parking stalls required to serve this specific 'housing for the elderly' use-type isn't expressly identified in the Village Code: (i.e. Section 40.426(j) Required number of stalls)

"The following parking standards shall be applied unless deviations have been specifically approved by the planning commission:

(1)Residential uses.

a.Single-family dwellings and two-family dwellings. Two spaces per dwelling unit (excluding garages).

b.Multifamily dwellings.

1.One bedroom = 1.75 enclosed parking spaces per unit.

2.Two bedrooms = 2.0 enclosed parking spaces per unit.

3.Three bedrooms = 2.0 enclosed parking spaces per unit.

4.Guest parking requires one parking stall for every two units.

c.Housing for the elderly. Subject to planning commission approval on a case by case basis.

Architectural details are provided by the applicant. Section 40.447 of the Code provides the following as guidelines from which to consider the architectural qualities for new construction of multi-family (as well as commercial, industrial and institutional use) buildings:

- **Building scale and mass.** The relative proportion of a building to its neighboring existing buildings shall be maintained to the greatest extent possible when new buildings are built.
- **Building rooflines and roof shapes.** The visual continuity of roofs and their contributing elements (parapet walls, gables, coping, cornices, etc.) shall be maintained in building development or redevelopment. Heating, ventilation, air conditioning and other rooftop mechanical equipment must be appropriately screened from view.
- **Materials.** New retail and office building construction shall consist of quality materials such as brick, wood, stone and glass. New industrial building construction may also use decorative concrete block in addition to the above listed materials. The plan commission

may, however, allow the use of metal building components, exterior finish insulation systems, and concrete block if incidental to the primary building architecture, screened from public view, or if used to reflect existing building architecture.

- Colors. Buildings shall generally reflect earth tone colors. Awnings, trim and window colors are allowed greater color latitude subject to plan commission approval.
- Building design and compatibility. Proposed office and retail building design shall reflect traditional architectural styles with gabled rooflines, interesting fenestration and human scale. Proposed industrial building design shall reflect contemporary standards of quality building design (e.g., Fall's Business Park, Brookfield Lakes Corporate Center, Pewaukee Woods and the Mequon Business Park). Extended expanses of walls shall be broken up with the use of creative pilasters, fenestration, soldier courses or elevation offsets.

In approving or disapproving proposed locations for uses under this overlay district, the Code guides the Planning Commission to give due consideration to the following:

- Character and suitability of the development in relationship to the area;
- Evidence as may be presented regarding traffic generation, heavy vehicular traffic impacts, ground water impact, impact upon existing sanitary sewage disposal system, existing roads, existing storm water management systems, and existing public water system, utilities limitations, soil limitations and the emission of noise, smoke, dust or dirt, odorous or noxious gases attributed to the proposed use.

To this end, the Code goes on to say that unless specifically waived by the Village Administrator or Planning Commission, all applications shall include among the supporting materials at the time of submittal, specific, expert, detailed impact analysis demonstrating clearly that there will be no adverse impacts upon, or reductions in the levels of service, in the areas as listed above.

The landscaping plan submitted is thorough and well thought out. It generally meets, and in certain respects, exceeds the basic Code standards.

There is no outdoor dumpster or trash receptacle area. Rather, it is proposed to be located in the underground parking level of the building.

Exterior lighting fixtures proposed are generally compliant as to cutoff design. Overall light dispersion is Code compliant in that it does not exceed .5 footcandles on the ground at the lot lines except to a minimal extent in the area of drive entry/exit at Quinlan Drive, where it rises to .6 and .7 footcandles on the ground at limited few points.

HVAC location/screening plans are not given at this stage in the project.

The existing monument sign on this site is proposed to remain in it's current size and location with minor adjustments to the styling of the sign structure. Any new sign(s), reference landscaping plan for instance, will require separate review, approval, and issuance of a Sign Permit prior to placement at the site.

Recommendation:

The Planner recommends this matter be tabled until final resolution a pending matter – a possible Code amendment that would increase the maximum percent of independent living units in the EHO from 50% to 100% and also, until the Village would resolve to amend the current EHO district by raising the maximum permitted density increase that can be allowed by the Planning Commission from current 150% to at least 170% as *may* enable a project on this site to have 84

units. Until then, this plan, as presented, may not have standing for action. The following review comments/conditions are offered for the Planning Commissions consideration:

- 1) Fire Department review and approval as to the serviceable of this project from a public safety standpoint;
- 2) Village Engineer review and approval of all grading, drainage, stormwater management, erosion control, street access, and utility plans offered in support of this project prior to issuance of any permit to begin site preparation and/or construction work on this site;
- 3) Final determination as to the acceptable number of total parking stalls to be provided in support of this project plan;
- 4) Any new sign(s), reference landscaping plan for instance, will require separate review, approval, and issuance of a Sign Permit prior to placement at the site;
- 5) Village Staff review and approval of HVAC location and screening plans when the locations and fixtures have been settled upon by the developer and prior to placing the HVAC at the site;
- 6) Village Staff review and approval of the detailed schedule of building materials and colors, consistent with the renderings offered;
- 7) Planning Commission to provide express acknowledgement as to any areas where exception from the Code standards is requested and could ultimately be approved.

Village of Pewaukee Plan Commission Engineer's Report for March 9, 2023

Kirkland Crossing Phase 2

Report

Site Grading

The general topography of the existing vacant site indicates a slope from the northeast corner of the site at elevation of 883.5 to the west, southwest (el. 864) and southeast (el. 874) of the site. The proposed finished floor elevation for the building will be at elevation 880. The southerly portion of the building will have a full exposure to allow for underground parking. The elevation in Ryan Road at the center of the proposed building is approximately 880. The building grade on the northern exposure will be approximately 5 feet below the grade of the private road. The grade on the southern end of the building appears to fit well into the existing contours. Since stormwater management will be underground on the south end of the site, there will be no stormwater ponds.

An erosion control plan was included in the submitted package. Features include erosion mat over disturbed areas, silt fence, inlet protection and a tracking pad at the construction entrance. The construction entrance will be in the southwest corner of the site off of Quinlan Drive.

Stormwater Management

Stormwater management on this site will be an underground system located in the drive access area south of the building. Subject to the engineer addressing a number of technical comments, the proposed system will meet Village requirements.

Access

Access to this site will be via one entrance off of Quinlan Drive. I have requested additional information to assure that fire department vehicles can maneuver within the parking lot during emergencies.

Sanitary Sewer and Water

The site developer will be tapping into the water main located along Ryan Road and extending a 6-inch pipe into the building. All connection work to the public main will need to meet Village of Pewaukee requirements. Public sanitary sewer is located along the westerly property line. The contractor will need to connect into this line and meet all Village connection requirements.

Recommendation

I recommend approval of the Civil Engineering drawings shown on Sheets C001, C002, C100, C200, C300, and C400 through C403, plotted February 22, 2023, and the stormwater management plan dated February 22, 2023 subject to addressing any new information heard at the public hearing and satisfaction of all technical comments provided in the letter to Christopher Carr of The Sigma Group dated March 1, 2023.

Tim Barbeau, P.E.
Village Consulting Engineer
March 1, 2023



CONDITIONAL USE GRANT APPLICATION FORM

Complete all items entirely:

Property Address:	700 Quinlan Dr, Pewaukee, WI 53072
Property Tax Key:	PWV 0883992
Zoning of Property:	B1
Property Owner Name:	Kirkland Crossing Inc.
Property Owner Mailing Address:	700 Quinlan Dr., Pewaukee, WI 53072
Property Owner Phone:	763-274-9360
Property Owner Email:	mmeyer@preshomes.org
Applicant - Name:	Anne O'Connor
Applicant Mailing Address:	2823 Hamline Ave. N., Roseville, MN 55113
Applicant - Email:	aoconnor@seniorpartners.com
Applicant - Phone:	763-274-9360
Description of Request (Please be thorough and attach additional pages if needed)	



Provide detailed information with your application that addresses the following:

1. Development Plans of the proposed use in sufficient detail to enable the Commission to evaluate your application such as architectural & landscape treatment, proper placement of the building(s) on the lot, traffic generation & circulation, provision for parking, site grading and drainage, exterior lighting, dumpster location and screening, outside storage of any sort, and manner of control devices (when necessary) to eliminate noise, dust, odor, smoke or other objectionable operating conditions & ensure general compatibility of the proposed use within its surroundings.
2. It is the responsibility of the applicant/owner to ensure that the proposed project complies with the Village's Land Development Code. It is also highly recommended that the applicant/owner review the Village's adopted Land Use Plan to ensure a proper understanding of the Village's future vision for the area in question.

Mark Meyer

Property Owner Printed Name

Signature of Property Owner

The application will not be processed without the Owner's Signature regardless of who is listed as the Applicant. This signature authorizes the Village of Pewaukee to process the Conditional Use Approval Application proposed for my property and further authorizes the Village or its representatives to conduct reasonable and routine inspections of my property for the purposes of evaluating this application.

Anne O'Connor

Applicant's Printed Name

DocuSigned by:

Anne O'Connor

Signature of Applicant

Return the completed application forms along with the required attachments, \$100 application fee, and a digital copy of the submittal (plus paper copies if required) to Pewaukee Village Hall, 235 Hickory Street, Pewaukee, WI 53072.

If you have any questions, please call Village Hall at (262) 691-5660.



PROFESSIONAL SERVICES REIMBURSEMENT NOTICE

Pursuant to the Village of Pewaukee Code of Ordinances Sec 40.116(b), the Village Board has determined that whenever the services of the Village Attorney, Village Engineer, Village Planner, or any other of the Village's professional staff or other expert consultants are retained by the Village in order to complete a proper project review results in a charge to the Village for that professional's time and services and such service is not a service supplied to the Village as a whole, the Village Treasurer shall charge those service fees incurred by the Village to the applicant/property owner. Also, be advised that pursuant to the Village of Pewaukee Code of Ordinances, certain other fees, costs, and charges are the responsibility of the property owner or responsible party.

By signing this form, I, the undersigned, have been advised that pursuant to the Village of Pewaukee Code of Ordinances, if the Village Attorney, Village Engineer, Village Planner, or any other Village professional staff or other expert consultants retained by the Village in order to complete a proper project review provides services to the Village because of my activities, whether at my request or at the request of the Village, I shall be responsible for the fees incurred. In addition, I have been advised that pursuant to the Village of Pewaukee Code of Ordinances, certain other fees, costs, and charges are my responsibility.

The Village will place fees from unpaid invoices on the real estate tax bill of the property that corresponds to the incurred services.

Complete the information below:

Responsible Party Name	Anne O'Connor
Mailing Address	2823 Hamline Ave. N.
City, State and Zip	Roseville, MN 55113
Email:	aoconnor@seniorpartners.com
Phone:	763-274-9360

**ENTER EMAIL TO SEND
INVOICES:**

aoconnor@seniorpartners.com

Mark Meyer _____

Property Owner Printed Name

Anne O'Connor _____

Applicant Printed Name

[Handwritten Signature] 2/14/23

Signature of Property Owner/Date Signed

DocuSigned by:
Anne O'Connor 2/14/2023

5A03D79037AB41B...

Applicant Signature/Date Signed

Village Staff Acceptance – Date

Presbyterian Homes Kirkland Crossing Phase 2 Conditional Use Grant Application Project Narrative

Applicant: Senior Housing Partners (SHP)
Owner: Kirkland Crossing, Inc.
Project Name: Kirkland Crossing Phase 2
Project Address: Yet to be assigned.
Pewaukee, WI 53072
Date: February 14, 2023

Ownership: Presbyterian Homes and Services Inc. (PHS), is a non-profit senior housing provider based in St. Paul, MN. PHS is a faith-based organization providing a broad array of housing choices and service options for older adults. See Supplemental Information.

Project Location: Yet to be assigned Pewaukee, WI 53072

Project Status:

Phase 1 was built in 2001 and includes 22 Townhomes, 60 Senior Apartments (Independent Living), 40 Assisted Living Apartments and a 20 Memory Care Apartments. The town center provides connectivity within the campus and includes a community room, library, wellness center and restaurant style dining.

Project Information

The proposed Kirkland Crossing Phase 2 project is driven by the increased demand for senior housing and the growing waiting list at Kirkland Crossing accompanied by our vision for older adults to have more choices to live well. The proposed expansion will be 4 stories over underground parking. The underground parking is designed as if all residents had a vehicle; however, some residents may have care needs which reduce the need or desire to own and drive a vehicle.

The 84 apartments will be a mix of 1 bedroom, 1-bedroom plus sunroom, 2-bedroom, and 2-bedroom plus sunroom. Common areas to support the residents' leisure include a club room, wellness studio and lounge area created with maximum flexibility to become variation in resident uses. Exterior materials will complement the existing building. Proposed are an additional 15 surface parking spots for visitors or employees in the parking lot at the main building entrance.

Building Area:

Garage	32,510 square feet
1 st Floor	32,469square feet
2 nd Floor	32,571 square feet
3 rd Floor	32,466 square feet
4 th Floor	27,279square feet

Total addition is 157,195 square feet.

Civil Design:

The site has been designed to best utilize the existing topography and location of the site. The primary access to the site will be Quinlan Drive and will provide access to both the lower-level parking and the

main entrance. The site topography falls approximately 17 feet from north to south, which allows access to the lower level to the south without a steep ramp. The access drive is designed for fire truck access to the front door and provides ADA parking near the front entrance.

Utility service will be provided by existing sanitary, water, and storm in the adjacent public roadways.

The site improvements will provide storm water rates and volume controls that meet or exceed current Village requirements.

Independent/Assisted Living Apartments:

The apartment styles for the 84 apartments were developed based on market demand and current design trends. The proposed project contains 34 one-bedroom apartments ranging from approximately 833 sq ft to over 1,000 sq ft. and 52 two-bedroom apartments ranging from approximately 1,100 to 1,466 sq ft. Each apartment features open kitchen designs with eat-at islands or peninsulas and solid surface countertops, pantries, and stainless-steel appliances. Open great room designs take advantage of large windows from the exterior emphasizing natural light. All apartments are designed with patios or balconies and several feature a sunroom which further enhance access to outdoor space. Aside from ample living space, each residence will include side by side washer and dryer, walk-in closet, en suite bathrooms, individual controlled heating and cooling and ceiling fan lights in the bedrooms and sunrooms.

Building Presentation and Architecture:

The proposed building design creates a four-story structure that steps down to three stories at strategic end conditions. Sitting over an underground parking garage the building takes advantage of the grade change on site to allow for direct parking access to the south while having at grade access to the primary building entry and courtyards on the buildings Ryan Road elevations. While the zoning allows for a 55' maximum height, the elderly resident overlay lowers that maximum height to 52' which would require a flat roof or lower pitch design to meet. Intended to compliment the neighboring developments and village context the design team proceeded with a 8/12 pitch roof that brings the building height to 54'8". The pitched roof design provides architectural details to be more prominently displayed within gables and shed roof elements that sit atop a formal tripartite designed building anchored by stone and brick at its base. The balconies and large window provide increased interest to the exterior design while also complimenting the 9' ceilings within resident units to increase natural daylight and a healthy connection to the outdoors that is important to senior residents.

Landscape Design:

The proposed project is designed to create an outdoor courtyard that includes shaded seating, space for outdoor games and a dedicated grilling area. The shaded structure is designed to provide protection from the sun, allowing residents to enjoy the outdoor spaces comfortably. The landscaping design include similar species of trees, shrubs, and perennial plants that complement the landscaping at the existing campus. Selections include species that will provide color during all four seasons, ensuring there is visual outdoor interest all year. Enhanced landscaping is used throughout the site to achieve the increased density.

Density:

Following the current ordinance, the density would be 20 units per acre with up to a 150% increase based upon fulfilling special conditions listed below. We have plans to address all potential items

considered for review by the Planning Commission, which will result in our request for 84 apartments, rather than the 75, which is the current maximum under the ordinance.

- Unique site conditions including topography, road access, storm water management use constraints and essential services.
 - The small site and sloped condition present a difficult topography; however, we have worked within these challenges to create a sustainable and efficient site that blends the underground parking and building entrance into the lower elevation of the parcel.
- Neighboring uses in proximity to single family residential property.
 - The neighboring parcel is the first phase of Kirkland Crossings, already serving seniors in assisted living, memory care and independent living. The closest neighbors across the street are in multi-family housing as well. Invitations for a neighborhood meeting were sent to over 100 of the surrounding neighbors and no one attended to express concerns about the development.
- Parking managed through underground facilities.
 - We will have nearly 1:1 parking underground in addition to surface parking for visitors and limited staff.
- Proximity to and reliance upon arterials and limited use of collector streets.
 - Property is located at the corner of Ryan Rd, an arterial and Quinlan Drive, a collector
- Does not unreasonably burden existing public infrastructure and services.
 - There are not any foreseen burdens to public infrastructure and services based on the development of Phase 2 at Kirkland Crossings.
- Is in conformity with the village's comprehensive plan.
 - See additional information previously submitted to the Planning Commission for review related to current care requirements for Housing for the Elderly Overlay.
- Must not conflict with the ambiance and character of the use of adjacent lands.
- The availability of on-site amenities and services to reduce the need for off-site trips.
 - Phase 2 of Kirkland Crossings will have a fitness room, wellness space, lounge and outdoor amenities which will provide entertainment, leisure and wellness needs on site. The proximity to the adjacent campus will provide additional opportunities for engagement including spiritual care and dining.

Staffing:

Limited staffing will be required for this site as it will serve an independent senior population. Staff will be provided for engineering and housekeeping to ensure we provide a welcoming environment with well-maintained apartments.

Project Development Team

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Our team looks forward to working with the Village of Pewaukee on our requested Phase II.

Supplemental Information

Presbyterian Homes & Services (PHS) is based in St. Paul, MN is a faith-based organization providing a broad array of housing choices and service options for older adults. As of 2022, more than 7,400 employees and over 3,000 volunteers serve over 27,000 older adults through 64 PHS-affiliated senior living communities in Wisconsin, Minnesota and Iowa, and through Optage the home and community-based service division of PHS. Established in 1955, PHS has earned a reputation as an innovative leader dedicated to promoting independence, vitality and well-being for those they serve. For a complete list and information about PHS sites visit www.preshomes.org

Senior Housing Partners: Senior Housing Partners serves as the development arm of Presbyterian Homes & Services and development consultant to other not-for-profit sponsors of senior housing, assisted living and nursing homes. As a full-service organization, Senior Housing Partners (SHP) provides turn-key project development. From strategic planning and product positioning to site selection, entitlements and regulatory review, SHP works through all the details. SHP's Marketing team is available to complete pre-leasing and fill of the projects units once construction is complete. Formed in 1995 SHP has developed 74 projects and been in the capital market for more than 3.1 billion of development. SHP services include developing new campuses and repositioning senior living communities across the

country. Each project is designed to be highly competitive in the market place for years to come. For more information visit www.seniorhousingpartners.com

PHS Mission and Objectives:

Mission: To honor God by enriching the lives and touching the hearts of older adults.

Vision: To provide more choices and opportunities for more older adults to live well.

Our Values: Christian Ministry, Ready and Engaged People, Operational Integrity, Service Excellence and Stewardship.

Project Objectives:

- Provide more area senior residents with additional opportunities to continue living in the Village of Pewaukee.
- Build community identity and connectivity for residents in all housing types.
- Provide options for seniors to live active independent lifestyles with options for care services as physical needs change.
- Create inviting accessible outdoor spaces that naturally transition from indoor common areas.
- Demonstrate good stewardship of entrusted resources.



KIRKLAND CROSSINGS

Pewaukee, Wisconsin

Presbyterian Homes
& Services

Senior Housing Partners
2823 Hamlin Avenue North
Roseville, Minnesota 55113

**PRELIMINARY DRAFT
NOT FOR CONSTRUCTION**

THIS SET OF DOCUMENTS IS INTENDED TO ESTABLISH THE SCOPE OF THE PROJECT AND THE QUALITY AND QUANTITY OF THE PRODUCTS BEING USED.

IT DOES NOT ADDRESS ALL STRUCTURAL AND CONSTRUCTION MATERIALS AND DETAILS, NOR DOES IT INCLUDE IN-DEPTH REQUIREMENTS FOR THE FABRICATION AND INSTALLATION. THESE ARE ASSUMED TO BE STANDARD MATERIALS AND CONSTRUCTION PRACTICES.

ALL WORK IS ASSUMED TO BE DONE IN A WORKMANLIKE MANNER CONSISTENT WITH THE HIGHEST LEVEL OF QUALITY.

PRODUCTS ARE IDENTIFIED BOTH IN PLANS AND IN THE SPECIFICATIONS AND IT IS NECESSARY TO USE EACH IN CONJUNCTION WITH THE OTHER.

222501
FEBRUARY 15, 2023

AG
AG ARCHITECTURE
Bright Vision. Bold Communities.



SITE STATISTICS

Floor Area Ratio (FAR) - 1.44
 Floor Area Ratio (FAR)
 (Building Footprint) - .29

BUILDING AREA

LOWER LEVEL - 32,510 SF
 FIRST FLOOR - 32,469 SF
 SECOND FLOOR - 32,471
 THIRD FLOOR - 32,466
 FOURTH FLOOR - 27,279

UNIT COUNT

LOWER LEVEL - 0
 FIRST FLOOR - 19
 SECOND FLOOR - 23
 THIRD FLOOR - 23
 FOURTH FLOOR - 19

TOTAL - 84

UNIT MIX

1 BEDROOM - 36 (43%)
 2 BEDROOM - 48 (57%)

TOTAL - 84

PARKING

LOWER LEVEL - 81
 SURFACE - 17

TOTAL - 98

SCALE : 1" = 50' - 0"

KIRKLAND CROSSINGS
 PEWAUKEE, WISCONSIN

PRELIMINARY DRAFT -
 NOT FOR CONSTRUCTION

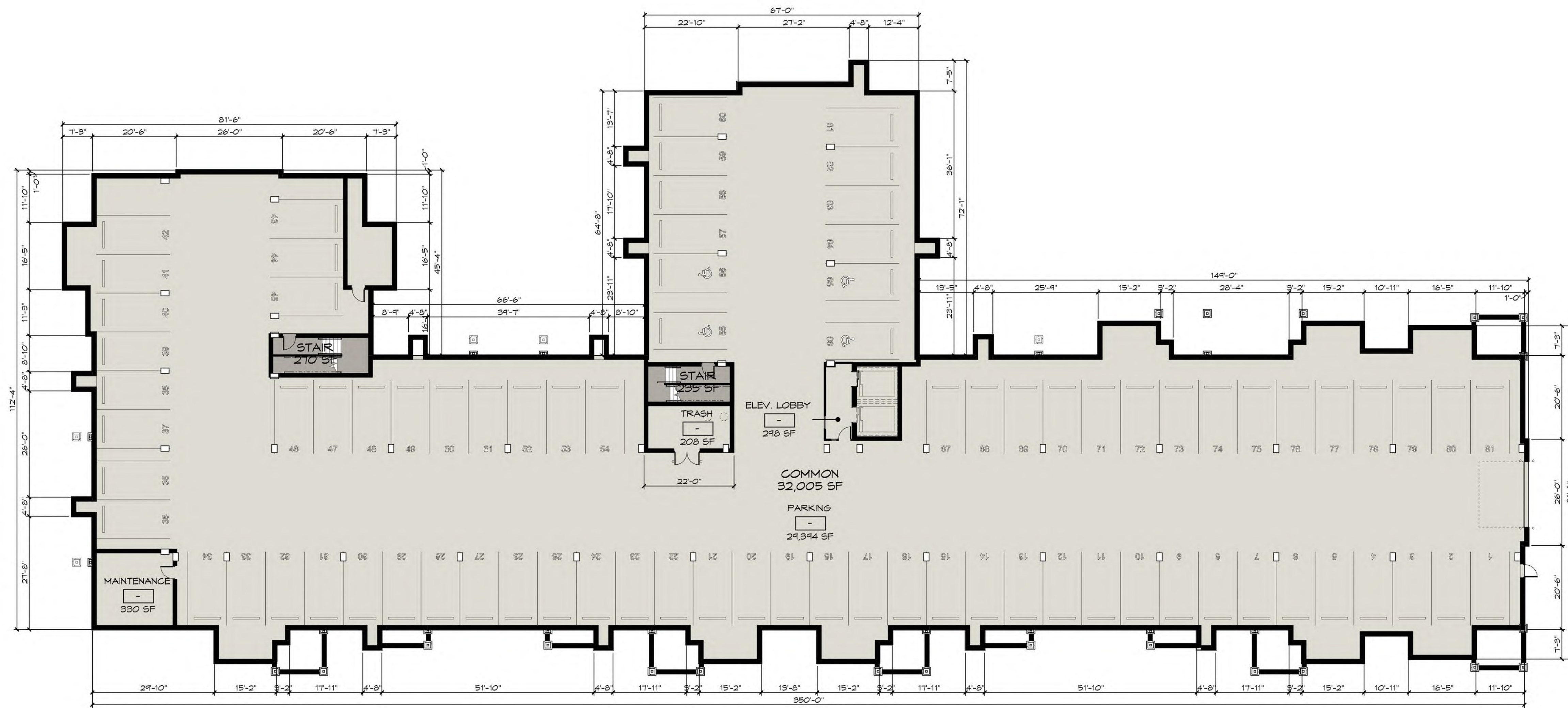
FEBRUARY 15, 2023

SITE PLAN



COLOR FILL LEGEND

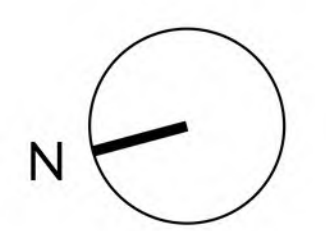
- COMMON
- STAIR



BUILDING STATISTICS

LEVEL	UNIT TYPE	QUANTITY	AREA (S.F.)	
LOWER LEVEL	PARKING	-	31,005 S.F.	
	STAIRS	-	505 S.F.	
	TOTAL	-	32,510 S.F.	
FIRST FLOOR	COMMON	-	9,198 S.F.	
	STAIRS	-	426 S.F.	
	1 BEDROOM	1	833 S.F.	
	1 BEDROOM +	6	982 S.F.	
	1 BEDROOM A	1	1,071 S.F.	
	2 BEDROOM	4	1,193 S.F.	
	2 BEDROOM +	4	1,416 S.F.	
	2 BEDROOM A	1	1,409 S.F.	
	2 BEDROOM B	1	1,494 S.F.	
	2 BEDROOM CORNER	1	1,352 S.F.	
	TOTAL	19	32,464 S.F.	
	SECOND FLOOR	COMMON	-	5,066 S.F.
		STAIRS	-	833 S.F.
		1 BEDROOM	1	833 S.F.
		1 BEDROOM - END NORTH	1	921 S.F.
		1 BEDROOM - END SOUTH	1	943 S.F.
		1 BEDROOM +	6	982 S.F.
		1 BEDROOM A	1	1,071 S.F.
		2 BEDROOM	6	1,193 S.F.
2 BEDROOM +		4	1,416 S.F.	
2 BEDROOM A		1	1,409 S.F.	
2 BEDROOM B		1	1,494 S.F.	
2 BEDROOM CORNER		1	1,352 S.F.	
TOTAL		23	32,471 S.F.	
THIRD FLOOR		COMMON	-	5,061 S.F.
		STAIRS	-	833 S.F.
		1 BEDROOM	1	833 S.F.
		1 BEDROOM - END NORTH	1	921 S.F.
		1 BEDROOM - END SOUTH	1	943 S.F.
		1 BEDROOM +	6	982 S.F.
	1 BEDROOM A	1	1,071 S.F.	
	2 BEDROOM	6	1,193 S.F.	
	2 BEDROOM +	4	1,416 S.F.	
	2 BEDROOM A	1	1,409 S.F.	
	2 BEDROOM B	1	1,494 S.F.	
	2 BEDROOM CORNER	1	1,352 S.F.	
	TOTAL	23	32,466 S.F.	
	FOURTH FLOOR	COMMON	-	4,360 S.F.
		STAIRS	-	833 S.F.
		1 BEDROOM	1	833 S.F.
		1 BEDROOM +	4	982 S.F.
		1 BEDROOM END +	2	1,004 S.F.
		1 BEDROOM A	1	1,071 S.F.
2 BEDROOM		4	1,193 S.F.	
2 BEDROOM +		2	1,416 S.F.	
2 BEDROOM A		1	1,409 S.F.	
2 BEDROOM B		1	1,494 S.F.	
2 BEDROOM C		2	1,246 S.F.	
2 BEDROOM CORNER		1	1,352 S.F.	
TOTAL		19	27,274 S.F.	

LEVEL	UNITS	FLOOR AREA	RENTABLE AREA	RATIO
LOWER LEVEL	-	32,510 S.F.	-	-
FIRST FLOOR	19	32,464 S.F.	22,272 S.F.	69%
SECOND FLOOR	23	32,471 S.F.	26,522 S.F.	82%
THIRD FLOOR	23	32,466 S.F.	26,522 S.F.	82%
FOURTH FLOOR	19	27,274 S.F.	22,036 S.F.	81%
TOTAL	84	151,181 S.F.	97,352 S.F.	62%



SCALE : 1/16" = 1' - 0"

KIRKLAND CROSSINGS
PEWAUKEE, WISCONSIN

PRELIMINARY DRAFT -
NOT FOR CONSTRUCTION

FEBRUARY 15, 2023

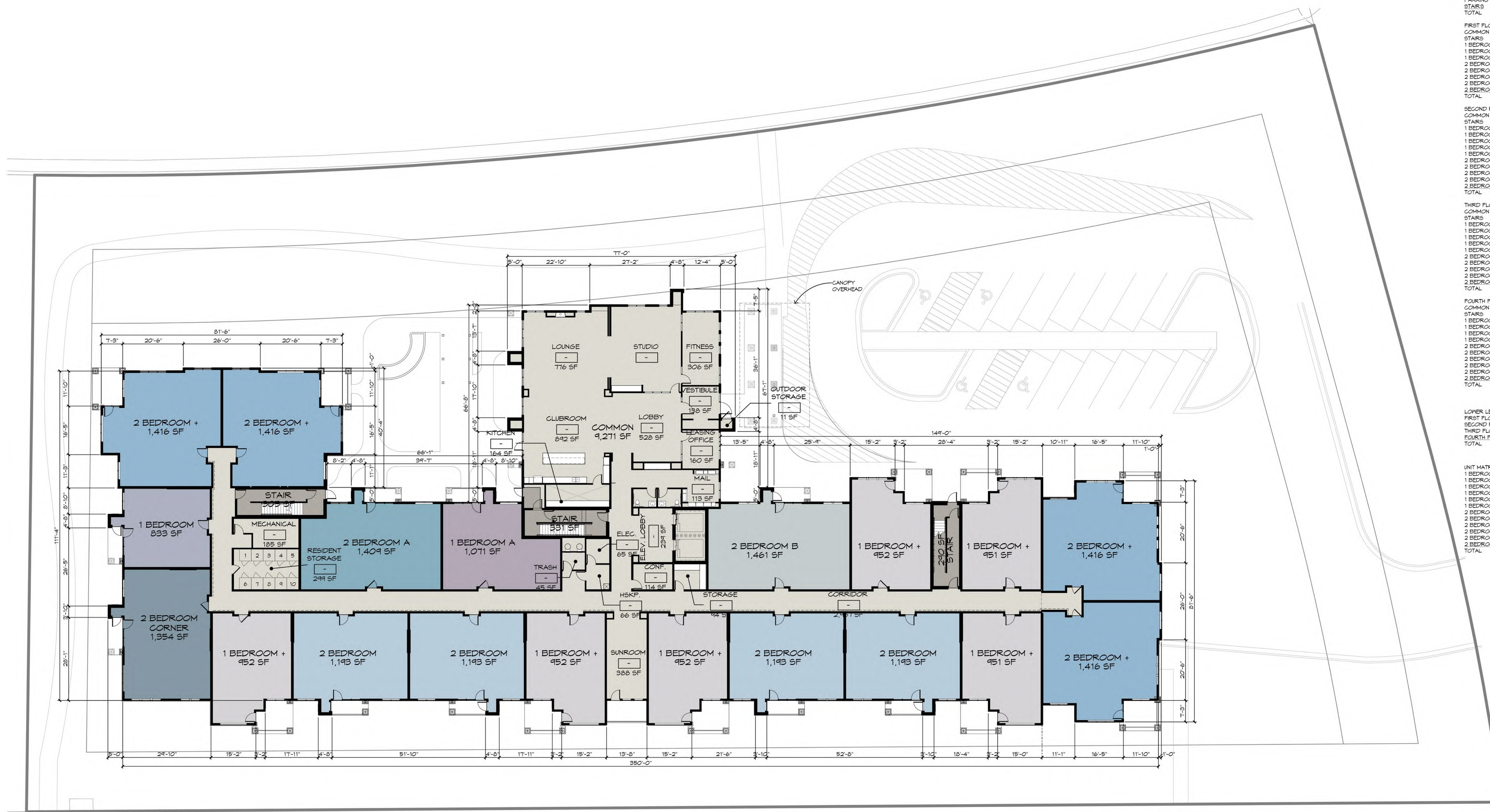
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LOWER LEVEL PLAN

COLOR FILL LEGEND

- 1 BEDROOM
- 1 BEDROOM +
- 1 BEDROOM A
- 2 BEDROOM
- 2 BEDROOM +
- 2 BEDROOM A
- 2 BEDROOM B
- 2 BEDROOM CORNER
- COMMON
- STAIR

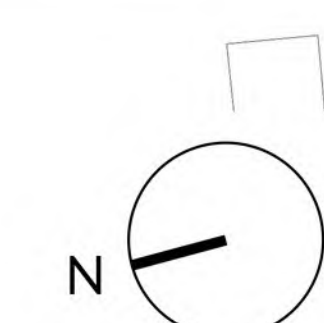


BUILDING STATISTICS

FLOOR	COMMON	STAIRS	TOTAL
LOWER LEVEL			31,009 S.F.
PARKING			805 S.F.
TOTAL			32,814 S.F.
FIRST FLOOR			9,198 S.F.
COMMON			926 S.F.
STAIRS			426 S.F.
1 BEDROOM	1	833 S.F.	833 S.F.
1 BEDROOM +	6	952 S.F.	5,712 S.F.
1 BEDROOM A	1	1,071 S.F.	1,071 S.F.
2 BEDROOM	4	1,193 S.F.	4,772 S.F.
2 BEDROOM +	4	1,416 S.F.	5,664 S.F.
2 BEDROOM A	1	1,409 S.F.	1,409 S.F.
2 BEDROOM B	1	1,494 S.F.	1,494 S.F.
2 BEDROOM CORNER	1	1,352 S.F.	1,352 S.F.
TOTAL	19		32,464 S.F.
SECOND FLOOR			9,066 S.F.
COMMON			833 S.F.
STAIRS			833 S.F.
1 BEDROOM	1	833 S.F.	833 S.F.
1 BEDROOM - END NORTH	1	921 S.F.	921 S.F.
1 BEDROOM - END SOUTH	1	943 S.F.	943 S.F.
1 BEDROOM +	6	952 S.F.	5,712 S.F.
1 BEDROOM A	1	1,071 S.F.	1,071 S.F.
2 BEDROOM	6	1,193 S.F.	7,158 S.F.
2 BEDROOM +	4	1,416 S.F.	5,664 S.F.
2 BEDROOM A	1	1,409 S.F.	1,409 S.F.
2 BEDROOM B	1	1,494 S.F.	1,494 S.F.
2 BEDROOM CORNER	1	1,352 S.F.	1,352 S.F.
TOTAL	29		32,471 S.F.
THIRD FLOOR			9,061 S.F.
COMMON			833 S.F.
STAIRS			833 S.F.
1 BEDROOM	1	833 S.F.	833 S.F.
1 BEDROOM - END NORTH	1	921 S.F.	921 S.F.
1 BEDROOM - END SOUTH	1	943 S.F.	943 S.F.
1 BEDROOM +	6	952 S.F.	5,712 S.F.
1 BEDROOM A	1	1,071 S.F.	1,071 S.F.
2 BEDROOM	6	1,193 S.F.	7,158 S.F.
2 BEDROOM +	4	1,416 S.F.	5,664 S.F.
2 BEDROOM A	1	1,409 S.F.	1,409 S.F.
2 BEDROOM B	1	1,494 S.F.	1,494 S.F.
2 BEDROOM CORNER	1	1,352 S.F.	1,352 S.F.
TOTAL	29		32,466 S.F.
FOURTH FLOOR			4,360 S.F.
COMMON			833 S.F.
STAIRS			833 S.F.
1 BEDROOM	1	833 S.F.	833 S.F.
1 BEDROOM +	4	952 S.F.	3,808 S.F.
1 BEDROOM END +	2	1,004 S.F.	2,008 S.F.
1 BEDROOM A	1	1,071 S.F.	1,071 S.F.
1 BEDROOM +	4	1,193 S.F.	4,772 S.F.
2 BEDROOM +	2	1,416 S.F.	2,832 S.F.
2 BEDROOM A	1	1,409 S.F.	1,409 S.F.
2 BEDROOM B	1	1,494 S.F.	1,494 S.F.
2 BEDROOM C	2	1,246 S.F.	2,492 S.F.
2 BEDROOM CORNER	1	1,352 S.F.	1,352 S.F.
TOTAL	19		21,274 S.F.

LOWER LEVEL	UNITS	FLOOR AREA	RENTABLE AREA	RATIO
FIRST FLOOR	19	32,464 S.F.	22,272 S.F.	69%
SECOND FLOOR	29	32,471 S.F.	26,522 S.F.	82%
THIRD FLOOR	29	32,466 S.F.	26,522 S.F.	82%
FOURTH FLOOR	19	21,278 S.F.	22,036 S.F.	104%
TOTAL	84	151,179 S.F.	97,352 S.F.	62%

UNIT MATRIX	UNITS	FLOOR AREA
1 BEDROOM	4	833 S.F.
1 BEDROOM +	22	952 S.F.
1 BEDROOM - END NORTH	2	921 S.F.
1 BEDROOM - END SOUTH	2	943 S.F.
1 BEDROOM +	2	1,004 S.F.
1 BEDROOM A	4	1,071 S.F.
2 BEDROOM	20	1,193 S.F.
2 BEDROOM +	14	1,416 S.F.
2 BEDROOM A	4	1,409 S.F.
2 BEDROOM B	4	1,494 S.F.
2 BEDROOM C	2	1,246 S.F.
2 BEDROOM CORNER	4	1,352 S.F.
TOTAL	84	



SCALE : 1/16" = 1' - 0"

KIRKLAND CROSSINGS
PEWAUKEE, WISCONSIN

PRELIMINARY DRAFT -
NOT FOR CONSTRUCTION

FIRST FLOOR PLAN

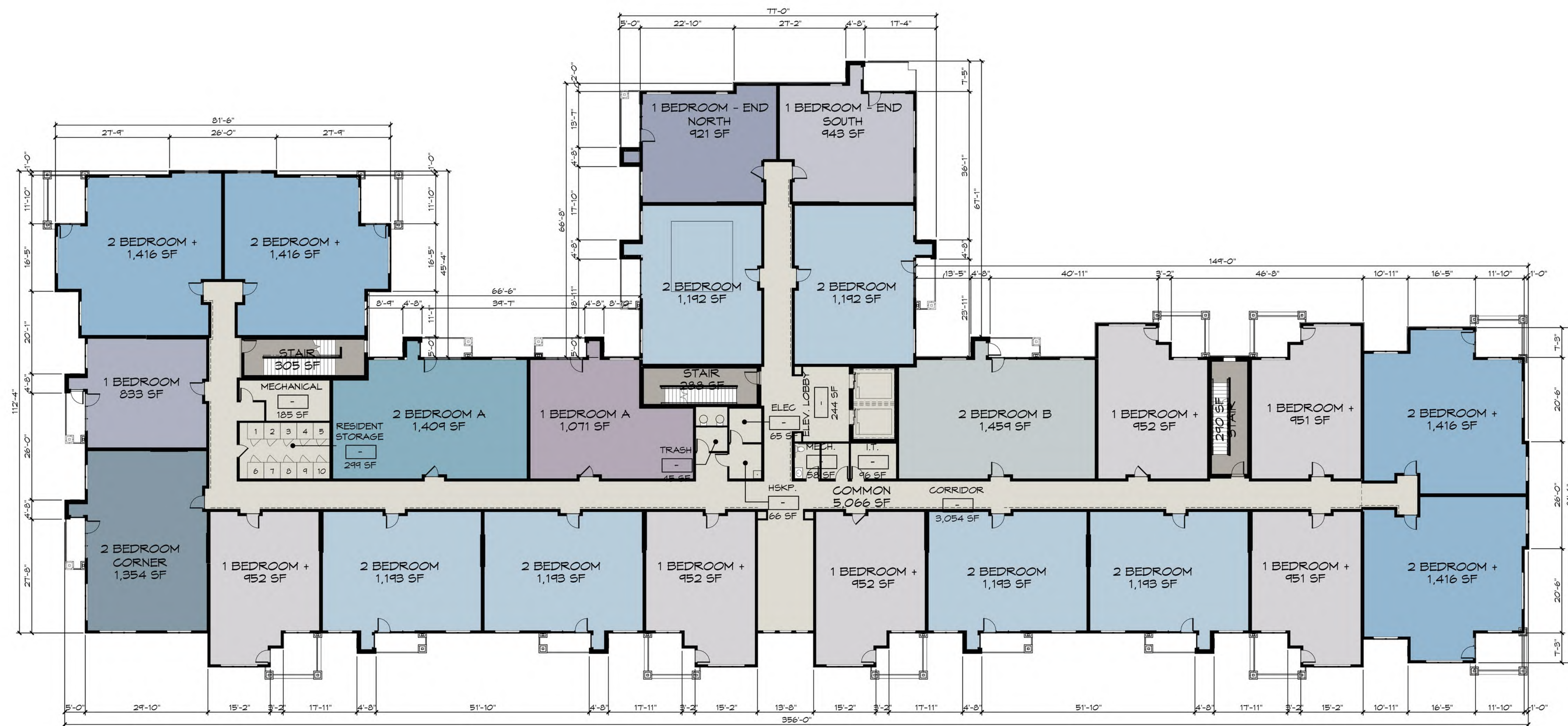
FEBRUARY 15, 2023

A201



COLOR FILL LEGEND

- 1 BEDROOM
- 1 BEDROOM +
- 1 BEDROOM - END NORTH
- 1 BEDROOM - END SOUTH
- 1 BEDROOM A
- 2 BEDROOM
- 2 BEDROOM +
- 2 BEDROOM A
- 2 BEDROOM B
- 2 BEDROOM CORNER
- COMMON
- STAIR



BUILDING STATISTICS

LEVEL	COMMON	STAIRS	TOTAL
LOWER LEVEL			31,009 S.F.
PARKING			805 S.F.
STAIRS			32,814 S.F.
FIRST FLOOR			9,198 S.F.
COMMON			926 S.F.
STAIRS			833 S.F.
1 BEDROOM	1	833 S.F.	833 S.F.
1 BEDROOM +	6	952 S.F.	5,712 S.F.
1 BEDROOM - END NORTH	1	1,071 S.F.	1,071 S.F.
1 BEDROOM - END SOUTH	4	1,193 S.F.	4,772 S.F.
2 BEDROOM	4	1,416 S.F.	5,664 S.F.
2 BEDROOM +	4	1,409 S.F.	5,636 S.F.
2 BEDROOM A	1	1,459 S.F.	1,459 S.F.
2 BEDROOM B	1	1,459 S.F.	1,459 S.F.
2 BEDROOM CORNER	1	1,352 S.F.	1,352 S.F.
TOTAL	19	32,464 S.F.	32,464 S.F.
SECOND FLOOR			5,066 S.F.
COMMON			5,066 S.F.
STAIRS			305 S.F.
1 BEDROOM	1	833 S.F.	833 S.F.
1 BEDROOM - END NORTH	1	921 S.F.	921 S.F.
1 BEDROOM - END SOUTH	1	943 S.F.	943 S.F.
1 BEDROOM +	6	952 S.F.	5,712 S.F.
1 BEDROOM A	1	1,071 S.F.	1,071 S.F.
2 BEDROOM	6	1,193 S.F.	7,158 S.F.
2 BEDROOM +	4	1,416 S.F.	5,664 S.F.
2 BEDROOM A	1	1,409 S.F.	1,409 S.F.
2 BEDROOM B	1	1,459 S.F.	1,459 S.F.
2 BEDROOM CORNER	1	1,352 S.F.	1,352 S.F.
TOTAL	29	32,471 S.F.	32,471 S.F.
THIRD FLOOR			5,061 S.F.
COMMON			5,061 S.F.
STAIRS			305 S.F.
1 BEDROOM	1	833 S.F.	833 S.F.
1 BEDROOM - END NORTH	1	921 S.F.	921 S.F.
1 BEDROOM - END SOUTH	1	943 S.F.	943 S.F.
1 BEDROOM +	1	1,071 S.F.	1,071 S.F.
2 BEDROOM	6	1,193 S.F.	7,158 S.F.
2 BEDROOM +	4	1,416 S.F.	5,664 S.F.
2 BEDROOM A	1	1,409 S.F.	1,409 S.F.
2 BEDROOM B	1	1,459 S.F.	1,459 S.F.
2 BEDROOM CORNER	1	1,352 S.F.	1,352 S.F.
TOTAL	29	32,466 S.F.	32,466 S.F.
FOURTH FLOOR			4,360 S.F.
COMMON			4,360 S.F.
STAIRS			305 S.F.
1 BEDROOM	1	833 S.F.	833 S.F.
1 BEDROOM +	4	952 S.F.	3,808 S.F.
1 BEDROOM - END NORTH	1	1,004 S.F.	1,004 S.F.
1 BEDROOM - END SOUTH	2	1,004 S.F.	2,008 S.F.
1 BEDROOM A	1	1,071 S.F.	1,071 S.F.
2 BEDROOM	4	1,193 S.F.	4,772 S.F.
2 BEDROOM +	2	1,416 S.F.	2,832 S.F.
2 BEDROOM A	1	1,409 S.F.	1,409 S.F.
2 BEDROOM B	1	1,459 S.F.	1,459 S.F.
2 BEDROOM C	1	1,246 S.F.	1,246 S.F.
2 BEDROOM CORNER	1	1,352 S.F.	1,352 S.F.
TOTAL	19	27,274 S.F.	27,274 S.F.

LEVEL	UNITS	FLOOR AREA	RENTABLE AREA	RATIO
LOWER LEVEL	19	32,814 S.F.	22,272 S.F.	69%
FIRST FLOOR	29	32,471 S.F.	26,522 S.F.	82%
SECOND FLOOR	29	32,466 S.F.	26,522 S.F.	82%
THIRD FLOOR	29	32,466 S.F.	26,522 S.F.	82%
FOURTH FLOOR	19	27,274 S.F.	22,036 S.F.	81%
TOTAL	84	151,191 S.F.	97,854 S.F.	65%

UNIT MATRIX

1 BEDROOM	4	833 S.F.
1 BEDROOM +	22	952 S.F.
1 BEDROOM - END NORTH	2	921 S.F.
1 BEDROOM - END SOUTH	2	943 S.F.
1 BEDROOM A	2	1,071 S.F.
2 BEDROOM	20	1,193 S.F.
2 BEDROOM +	14	1,416 S.F.
2 BEDROOM A	4	1,409 S.F.
2 BEDROOM B	4	1,459 S.F.
2 BEDROOM C	2	1,246 S.F.
2 BEDROOM CORNER	4	1,352 S.F.
TOTAL	84	

SCALE : 1/16" = 1' - 0"

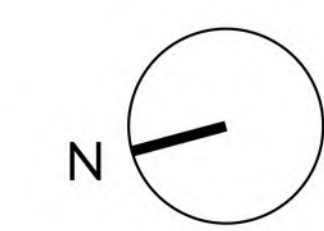
KIRKLAND CROSSINGS
PEWAUKEE, WISCONSIN

SECOND FLOOR PLAN

PRELIMINARY DRAFT -
NOT FOR CONSTRUCTION

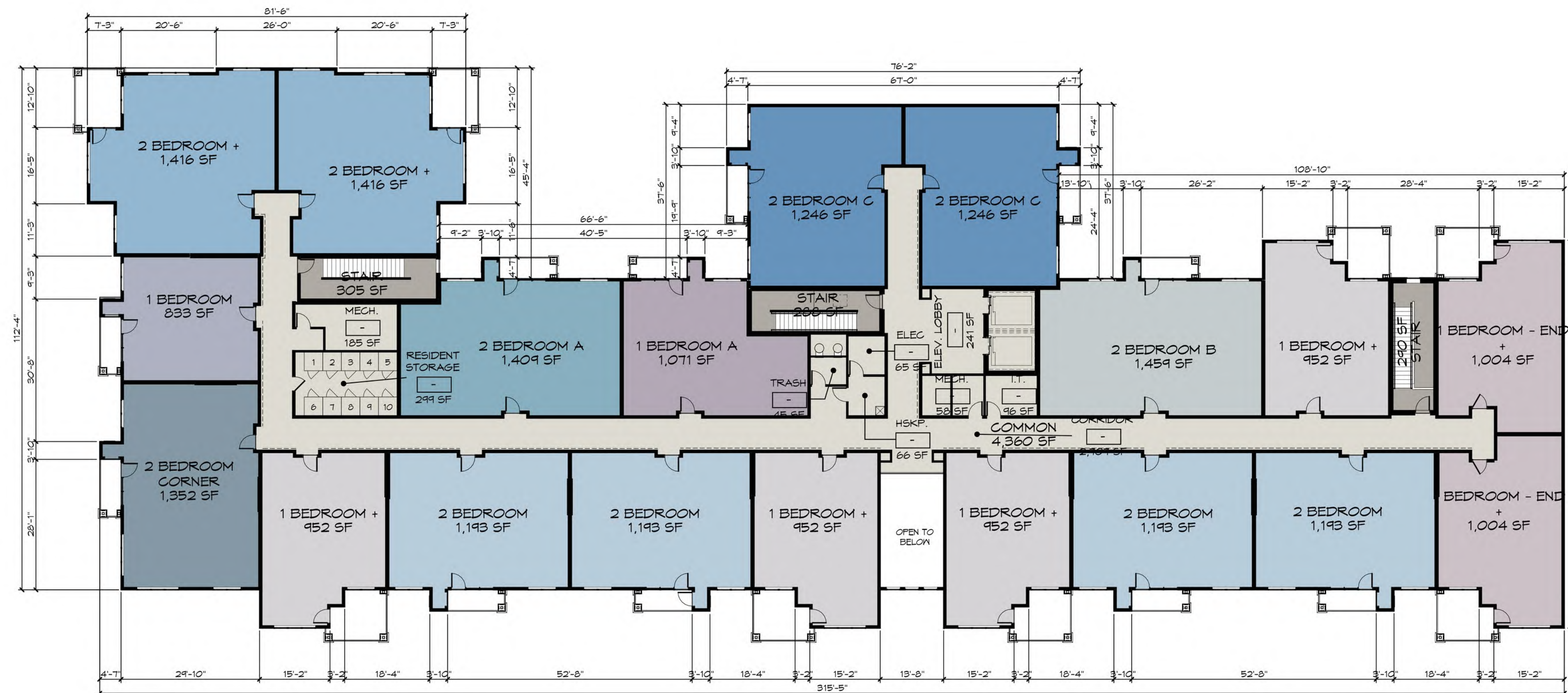
FEBRUARY 15, 2023

A202



COLOR FILL LEGEND

- 1 BEDROOM
- 1 BEDROOM +
- 1 BEDROOM - END +
- 1 BEDROOM A
- 2 BEDROOM
- 2 BEDROOM +
- 2 BEDROOM A
- 2 BEDROOM B
- 2 BEDROOM C
- 2 BEDROOM CORNER
- COMMON
- STAIR

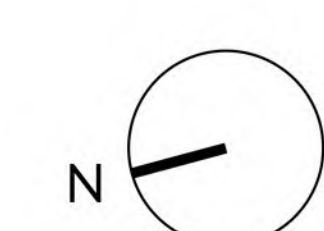


BUILDING STATISTICS

FLOOR	UNIT TYPE	COUNT	AREA (SF)	
LOWER LEVEL	COMMON	1	31,009 S.F.	
	PARKING	1	805 S.F.	
	STAIRS	1	32,810 S.F.	
FIRST FLOOR	COMMON	1	9,198 S.F.	
	STAIRS	1	926 S.F.	
	1 BEDROOM	1	833 S.F.	
	1 BEDROOM +	6	5,712 S.F.	
	1 BEDROOM A	1	1,071 S.F.	
	2 BEDROOM	4	4,772 S.F.	
	2 BEDROOM +	4	5,664 S.F.	
	2 BEDROOM A	1	1,409 S.F.	
	2 BEDROOM B	1	1,459 S.F.	
	2 BEDROOM CORNER	1	1,352 S.F.	
	TOTAL	19	32,464 S.F.	
	SECOND FLOOR	COMMON	1	5,066 S.F.
		STAIRS	1	833 S.F.
		1 BEDROOM	1	833 S.F.
		1 BEDROOM - END NORTH	1	921 S.F.
		1 BEDROOM - END SOUTH	1	943 S.F.
		1 BEDROOM +	6	5,712 S.F.
		1 BEDROOM A	1	1,071 S.F.
		2 BEDROOM	6	7,158 S.F.
2 BEDROOM +		4	5,664 S.F.	
2 BEDROOM A		1	1,409 S.F.	
2 BEDROOM B		1	1,459 S.F.	
2 BEDROOM CORNER		1	1,352 S.F.	
TOTAL		23	32,471 S.F.	
THIRD FLOOR		COMMON	1	5,061 S.F.
		STAIRS	1	833 S.F.
		1 BEDROOM	1	833 S.F.
		1 BEDROOM - END NORTH	1	921 S.F.
		1 BEDROOM - END SOUTH	1	943 S.F.
		1 BEDROOM +	6	5,712 S.F.
	1 BEDROOM A	1	1,071 S.F.	
	2 BEDROOM	6	7,158 S.F.	
	2 BEDROOM +	4	5,664 S.F.	
	2 BEDROOM A	1	1,409 S.F.	
	2 BEDROOM B	1	1,459 S.F.	
	2 BEDROOM CORNER	1	1,352 S.F.	
	TOTAL	23	32,466 S.F.	
	FOURTH FLOOR	COMMON	1	4,360 S.F.
		STAIRS	1	833 S.F.
		1 BEDROOM	1	833 S.F.
		1 BEDROOM +	4	3,732 S.F.
		1 BEDROOM - END +	2	1,004 S.F.
		1 BEDROOM A	1	1,071 S.F.
2 BEDROOM		4	4,772 S.F.	
2 BEDROOM +		2	2,832 S.F.	
2 BEDROOM A		1	1,409 S.F.	
2 BEDROOM B		1	1,459 S.F.	
2 BEDROOM C		1	2,442 S.F.	
2 BEDROOM CORNER		1	1,352 S.F.	
TOTAL		19	27,274 S.F.	

FLOOR	UNIT TYPE	COUNT	AREA (SF)	RENTABLE AREA	RATIO
LOWER LEVEL	UNITS	1	32,810 S.F.		
FIRST FLOOR	19	32,464 S.F.	22,272 S.F.	69%	
SECOND FLOOR	23	32,471 S.F.	26,522 S.F.	82%	
THIRD FLOOR	23	32,466 S.F.	26,522 S.F.	82%	
FOURTH FLOOR	19	27,274 S.F.	22,036 S.F.	81%	
TOTAL	84	151,181 S.F.	97,856 S.F.	65%	

UNIT MATRIX	COUNT	AREA (SF)
1 BEDROOM	4	3,332 S.F.
1 BEDROOM +	22	18,228 S.F.
1 BEDROOM - END NORTH	2	921 S.F.
1 BEDROOM - END SOUTH	2	943 S.F.
1 BEDROOM - END +	2	1,004 S.F.
1 BEDROOM A	4	4,142 S.F.
2 BEDROOM	20	14,316 S.F.
2 BEDROOM +	14	10,128 S.F.
2 BEDROOM A	4	1,409 S.F.
2 BEDROOM B	4	1,459 S.F.
2 BEDROOM C	2	2,442 S.F.
2 BEDROOM CORNER	4	5,408 S.F.
TOTAL	84	97,856 S.F.



SCALE : 1/16" = 1' - 0"

KIRKLAND CROSSINGS
PEWAUKEE, WISCONSIN

PRELIMINARY DRAFT -
NOT FOR CONSTRUCTION

FEBRUARY 15, 2023

A204



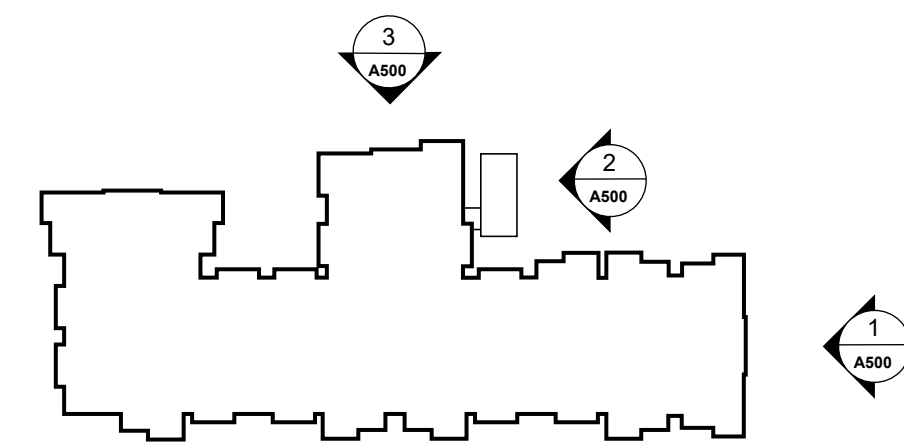
FOURTH FLOOR PLAN

MATERIAL LEGEND

- A - ASPHALT SHINGLE
- CS - CULTURED STONE
- B - BRICK
- MR - METAL ROOF

- FP1 - FIBER CEMENT PANEL - NIGHT GREY
- FP2 - FIBER CEMENT PANEL - AGED PEWTER

- FS1 - FIBER CEMENT SIDING - PEARL GREY
- FS2 - FIBER CEMENT SIDING - NIGHT GREY
- FS3 - FIBER CEMENT SIDING - AGED PEWTER

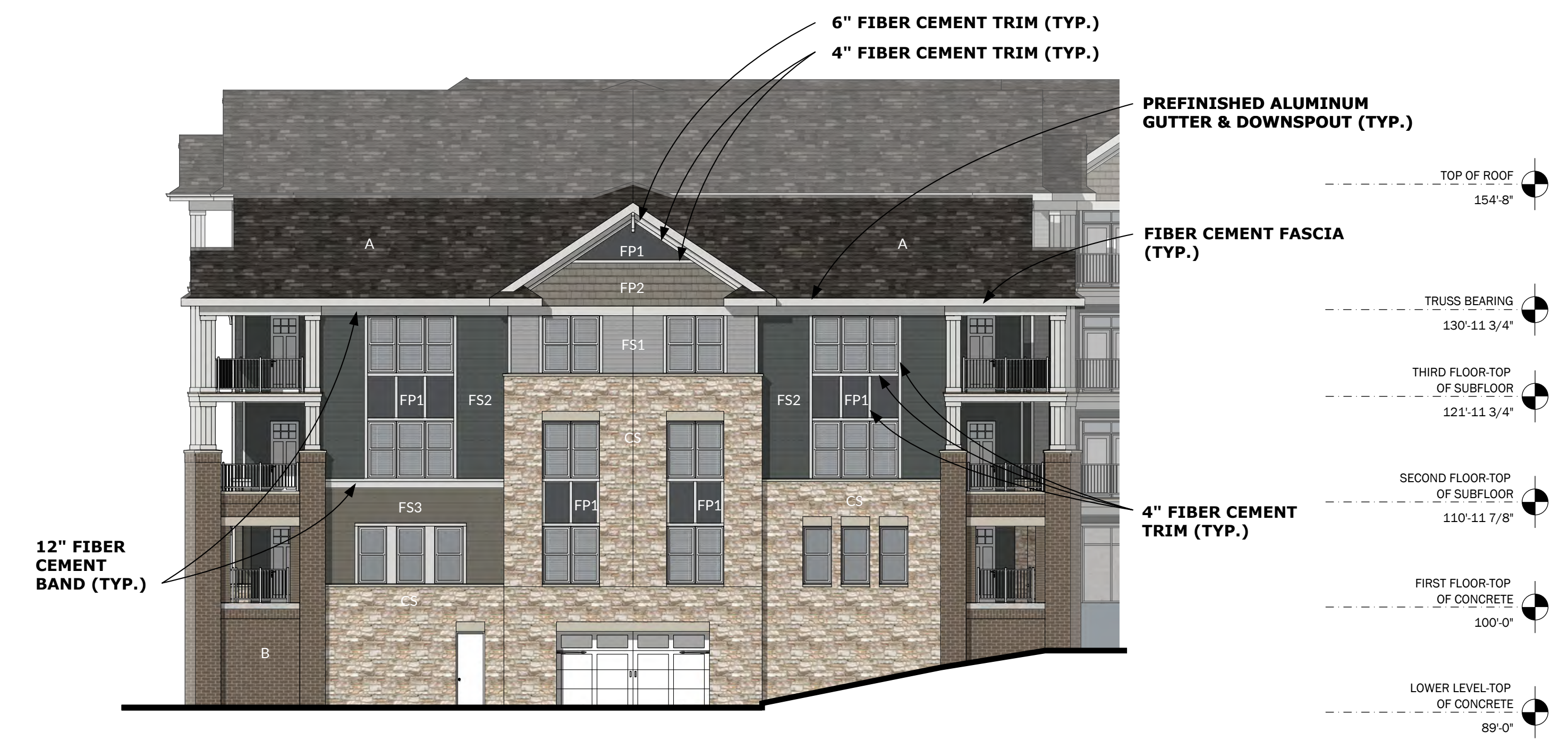
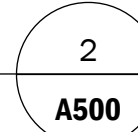


KEY PLAN



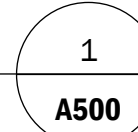
MAIN ENTRY | SOUTH ELEVATION

Scale: 3/32"=1'-0"



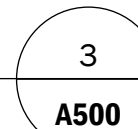
QUINLAN DRIVE | SOUTH ELEVATION

Scale: 3/32"=1'-0"



RYAN STREET | EAST ELEVATION

Scale: 3/32"=1'-0"



SCALE : 3/32" = 1' - 0"

KIRKLAND CROSSINGS
PEWAUKEE, WISCONSIN

EXTERIOR ELEVATIONS

PRELIMINARY DRAFT -
NOT FOR CONSTRUCTION

FEBRUARY 15, 2023

A500

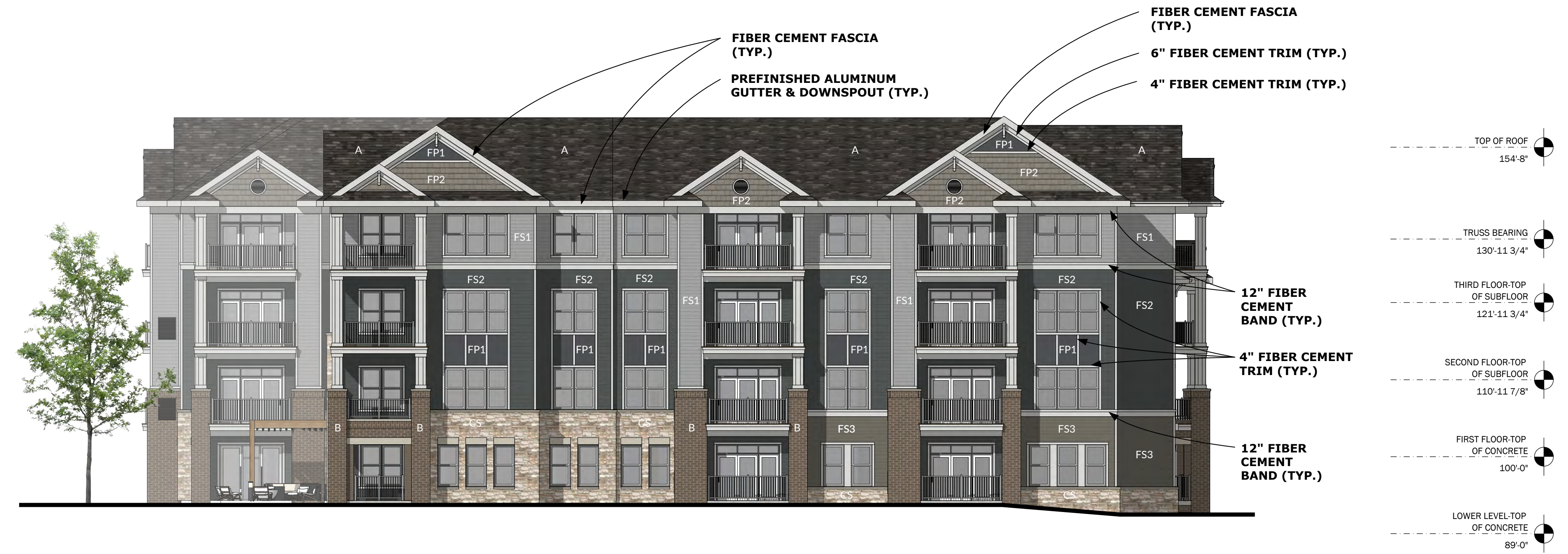
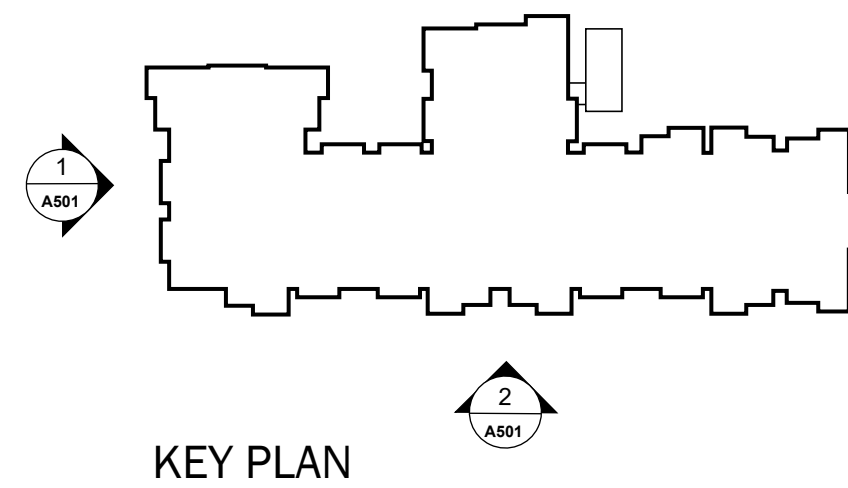


MATERIAL LEGEND

- A - ASPHALT SHINGLE
- CS - CULTURED STONE
- B - BRICK
- MR - METAL ROOF

- FP1 - FIBER CEMENT PANEL - NIGHT GREY
- FP2 - FIBER CEMENT PANEL - AGED PEWTER

- FS1 - FIBER CEMENT SIDING - PEARL GREY
- FS2 - FIBER CEMENT SIDING - NIGHT GREY
- FS3 - FIBER CEMENT SIDING - AGED PEWTER



NORTH ELEVATION

Scale: 3/32"=1'-0" 1
A501



WEST ELEVATION

Scale: 3/32"=1'-0" 2
A501

SCALE : 3/32" = 1' - 0"

KIRKLAND CROSSINGS
PEWAUKEE, WISCONSIN

PRELIMINARY DRAFT -
NOT FOR CONSTRUCTION

FEBRUARY 15, 2023

A501



EXTERIOR ELEVATIONS



EXISTING MONUMENT SIGN

2

Scale: 1"=1'-0"

G232



NEW MONUMENT SIGN

1

Scale: 1"=1'-0"

G232

SCALE : 1" = 1' - 0"

KIRKLAND CROSSINGS
PEWAUKEE, WISCONSIN

PRELIMINARY DRAFT -
NOT FOR CONSTRUCTION

FEBRUARY 15, 2023

G232
ARCHITECTURE

SITE DETAILS



Kirkland Crossings | PRELIMINARY DRAFT

EXTERIOR



Kirkland Crossings | PRELIMINARY DRAFT

EXTERIOR | ENTRY



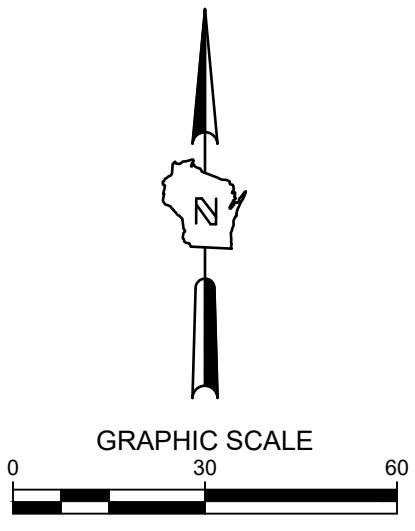
Kirkland Crossings | PRELIMINARY DRAFT

EXTERIOR | COURTYARD



Kirkland Crossings | PRELIMINARY DRAFT

EXTERIOR | COURTYARD



LEGEND:

---	SECTION 1/4 SECTION LINE
---	PROPERTY LINE
---	EASEMENT
X-X	CHAIN LINK FENCE
○-○	GUARD RAIL
□-□	METAL FENCE
□-□	WOOD FENCE
~~~~~	TREE LINE
OH	OVERHEAD UTILITY LINE
E	ELECTRIC
T	TELEPHONE
FO	FIBER OPTIC
CTV	CABLE TV
SAN	SANITARY SEWER
FS	FORCE MAIN
ST	STORM SEWER
W	WATER MAIN
G	GAS
670	EXISTING CONTOUR
WET	WETLAND
FP	FLOODPLAIN
⊕	UNKNOWN MANHOLE
⊕	SANITARY MANHOLE
⊕	STORM MANHOLE
⊕	ELECTRIC MANHOLE
⊕	MMSD MANHOLE
⊕	TELEPHONE MANHOLE
⊕	CLEANOUT
⊕	CATCH BASIN
⊕	CATCH BASIN (ROUND)
⊕	ROOF DRAIN
⊕	CULVERT END
⊕	HYDRANT
⊕	WATER VALVE
⊕	GAS VALVE
⊕	GAS METER
⊕	ELECTRIC METER
⊕	UTILITY PEDESTAL
⊕	HANDHOLE
⊕	VENT
⊕	MONITORING WELL
⊕	IRON PIPE FOUND/SET
⊕	REBAR FOUND/SET
⊕	CHISELED CROSS FOUND/SET
⊕	PK NAIL FOUND/SET
⊕	SPIKE/NAIL
⊕	MONUMENT SIGN
⊕	BENCHMARK
⊕	SIGN
⊕	PARKING METER
⊕	FLAG POLE
⊕	DECIDUOUS TREE
⊕	CONIFEROUS TREE
⊕	BUSH
⊕	POST
⊕	SOIL BORING
⊕	TRAFFIC SIGNAL
⊕	LIGHT POLE
⊕	UTILITY POLE
⊕	GUY WIRE
⊕	GUY POLE

KIRKLAND CROSSING  
 PEWAUKEE, WI  
 SITE SURVEY

PRELIMINARY  
 NOT FOR  
 CONSTRUCTION

ISSUANCE	DATE
CITY SUBMITTAL	02-15-2023

NO. REVISION	DATE

- GENERAL NOTES:**
1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
  2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
  3. DRAWING IS BASED ON FIELD SURVEY COMPLETED BY THE SIGMA GROUP ON NOVEMBER 19, 2022.
  4. DATUM FOR THE PROJECT SURVEY IS USGS NAVD88. BENCHMARK FOR THE PROJECT SURVEY IS THE SOUTH 1/4 CORNER OF SECTION 5-7-19, ELEVATION 864.16.
  5. CONTRACTOR TO VERIFY EXISTING CONDITIONS, CONTACT ENGINEER WITH DISCREPANCIES.

PROJECT NO:	21471
DESIGN DATE:	---
PLOT DATE:	2023.02.14
DRAWN BY:	---
CHECKED BY:	---
APPROVED BY:	---
SHEET NO:	C001

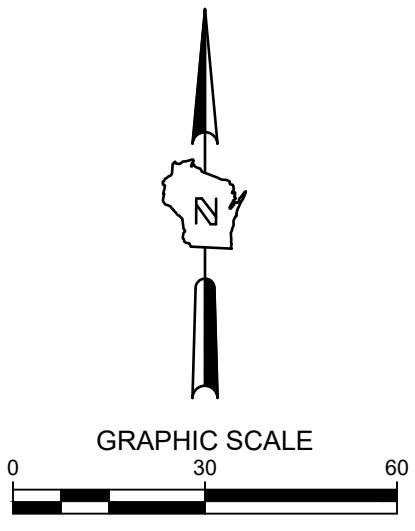
TO OBTAIN LOCATIONS OF PARTICIPATING UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE  
 1-800-242-8511  
 TOLL FREE

WE STATUTE 182.07(2)(97A) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.





- LEGEND:**
- PROPOSED SILT FENCE
  - PROPOSED INLET PROTECTION
  - PROPOSED TRACKING PAD
  - PROPOSED EROSION MATTING WISDOT APPROVED CLASS 1 TYPE B
  - 5 — EXISTING CONTOUR
  - 5 — PROPOSED CONTOUR
  - XXXXXXX CURB REMOVAL

**KIRKLAND CROSSING**  
**PEWAUKEE, WI**  
**EROSION CONTROL AND DEMOLITION PLAN**

**PRELIMINARY**  
**NOT FOR**  
**CONSTRUCTION**

- GENERAL NOTES:**
- THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
  - VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
  - WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
  - ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
  - SEE SHEET C401 FOR A COMPLETE LIST OF EROSION CONTROL NOTES AND DETAILS. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO START OF LAND DISTURBING ACTIVITIES.
  - DO NOT BEGIN LAND DISTURBING ACTIVITIES UNTIL AN EROSION CONTROL PERMIT IS OBTAINED FROM LOCAL JURISDICTION.

ISSUANCE	DATE
CITY SUBMITTAL	02-15-2023

NO. REVISION	DATE

PROJECT NO:	21471
DESIGN DATE:	----
PLOT DATE:	2023.02.14
DRAWN BY:	----
CHECKED BY:	----
APPROVED BY:	----
SHEET NO:	C002

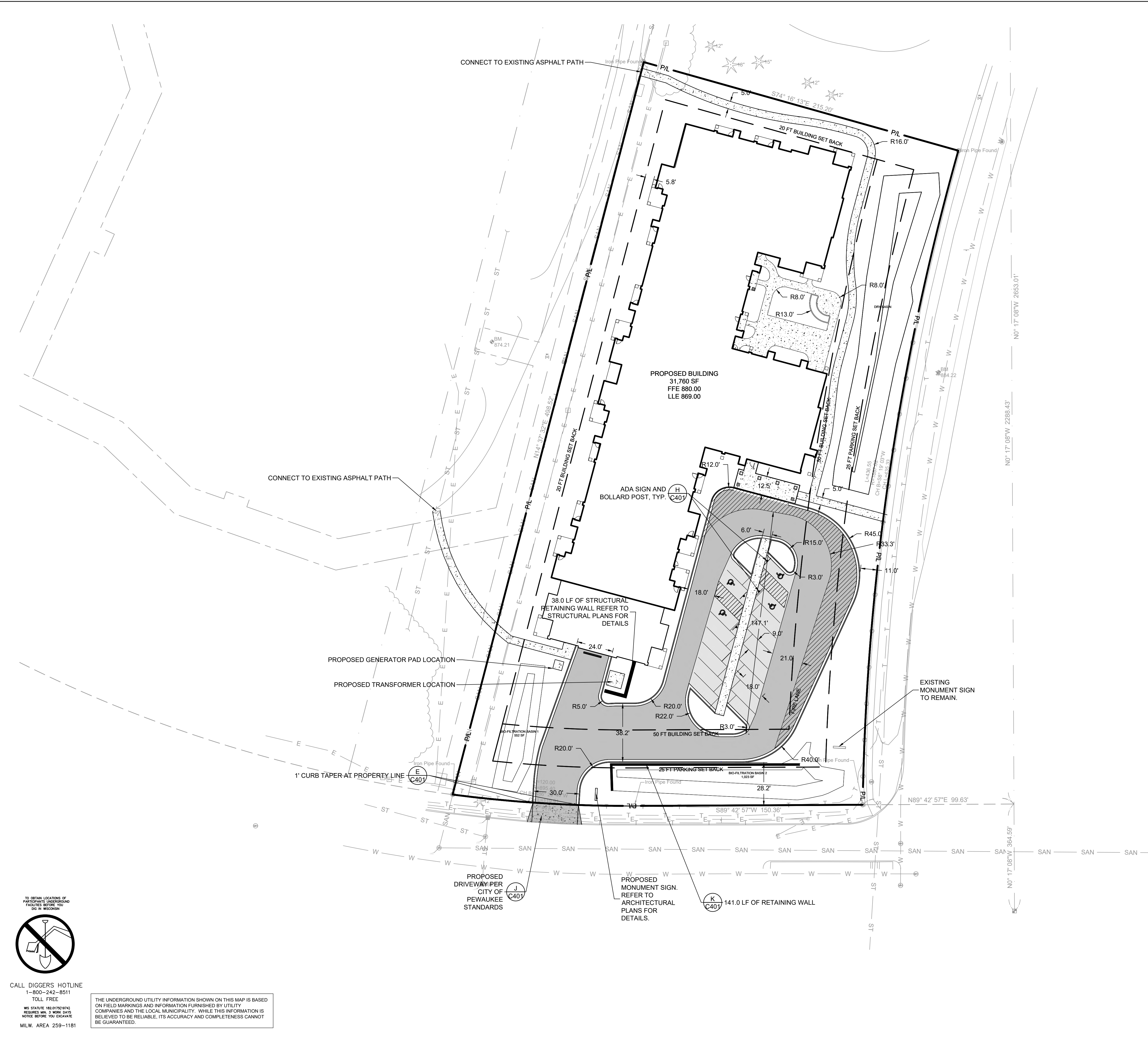
TO OBTAIN LOCATIONS OF PARTICIPATING UNDERGROUND UTILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE  
 1-800-242-8511  
 TOLL FREE

MS STATUTE 182.07(2)(PM)  
 REQUIRES MIN. 3 WORK DAYS  
 NOTICE BEFORE YOU EXCAVATE  
 MILW. AREA 259-1181

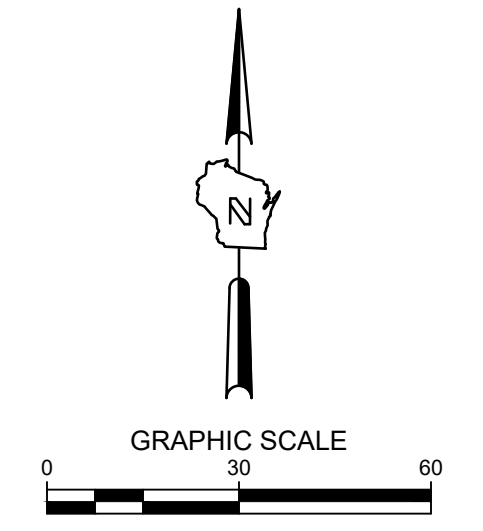
THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.





SITE INFORMATION			
SITE AREA	108676.71	2.495 AC	
SITE DISTURBED AREA	108676.71	2.495 AC	
EXISTING IMPERVIOUS AREA	0	0.000 AC	0.0 %
PROPOSED IMPERVIOUS AREA	60237	1.383 AC	55.4 %
TOTAL PARKING SPACES	13		
ADA PARKING SPACES	4		

**THE SIGMA GROUP**  
 Single Source. Sound Solutions.  
 www.thesigmagroup.com  
 1300 West Canal Street  
 Milwaukee, WI 53233  
 Phone: 414-643-4200  
 Fax: 414-643-4210



KIRKLAND CROSSING  
 PEWAUKEE, WI  
 SITE PLAN

**LEGEND:**

	(C C401) 5' THICK CONCRETE WALK
	(B C401) ASPHALT SURFACE
	(D C401) HEAVY-DUTY ASPHALT SURFACE
	(L C401) CONCRETE PAVEMENT
	(A C401) 24" CURB & GUTTER (ACCEPT)
	(A C401) 24" CURB & GUTTER (REJECT)

PRELIMINARY  
 NOT FOR  
 CONSTRUCTION

- GENERAL NOTES:**
1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
  2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
  3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
  4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
  5. DIMENSIONS ARE FROM FACE OF CURB OR EDGE OF PAVEMENT.
  6. WORK WITHIN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO DRIVEWAY OPENINGS, SIDEWALK AND RAMPS, PAVING, AND CURB AND GUTTER SHALL BE COMPLETED PER MUNICIPAL AND/OR COUNTY REQUIREMENTS AND STANDARDS.
  7. EARTHWORK SHALL BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

ISSUANCE	DATE
CITY SUBMITTAL	02-15-2023
NO. REVISION	DATE

PROJECT NO:	21471
DESIGN DATE:	----
PLOT DATE:	2023.02.14
DRAWN BY:	----
CHECKED BY:	----
APPROVED BY:	----
SHEET NO:	C100

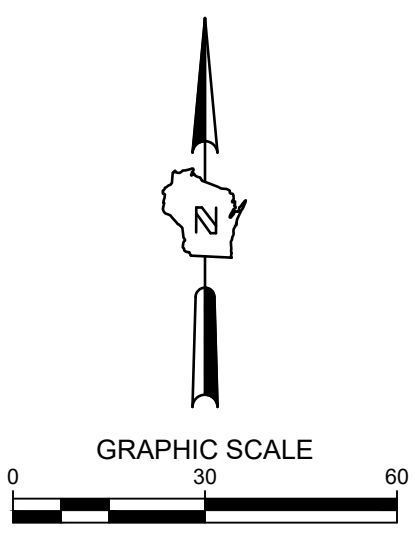
TO OBTAIN LOCATIONS OF PARTICIPATING UNDERGROUND UTILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE  
 1-800-242-8511  
 TOLL FREE

MS STATUTE 182.07(2)(PM) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.





- LEGEND:**
- 5' THICK CONCRETE WALK
  - ASPHALT SURFACE
  - HEAVY-DUTY ASPHALT SURFACE
  - CONCRETE PAVEMENT
  - 
  - 
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - PROPOSED CURB & GUTTER SPOT GRADE  
T/C: TOP OF CURB GRADE  
FL: FLOW LINE CURB GRADE
  - PROPOSED SURFACE SPOT GRADE
  - EXISTING SURFACE SPOT GRADE (MATCH)

- GENERAL NOTES:**
- THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
  - VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
  - WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
  - ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
  - DIMENSIONS ARE FROM FACE OF CURB OR EDGE OF PAVEMENT.
  - WORK WITHIN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO DRIVEWAY OPENINGS, SIDEWALK AND RAMPS, PAVING, AND CURB AND GUTTER SHALL BE COMPLETED PER MUNICIPAL AND/OR COUNTY REQUIREMENTS AND STANDARDS.
  - EARTHWORK SHALL BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

KIRKLAND CROSSING  
PEWAUKEE, WI  
GRADING PLAN

PRELIMINARY  
NOT FOR  
CONSTRUCTION

ISSUANCE	DATE
CITY SUBMITTAL	02-15-2023

NO. REVISION	DATE

PROJECT NO:	21471
DESIGN DATE:	---
PLOT DATE:	2023.02.14
DRAWN BY:	---
CHECKED BY:	---
APPROVED BY:	---
SHEET NO:	C200

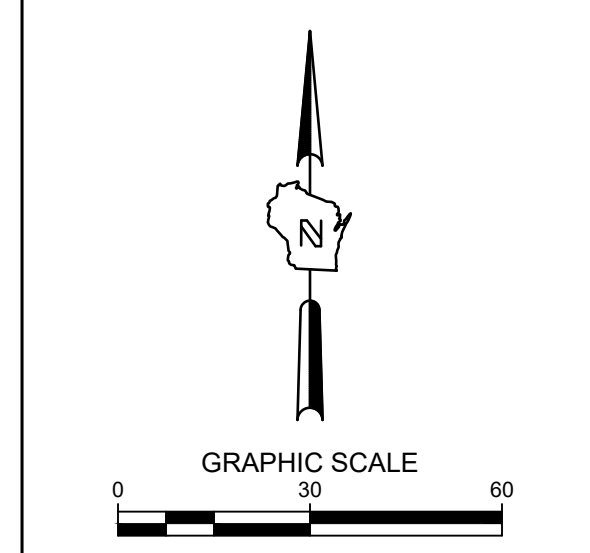
TO OBTAIN LOCATIONS OF  
 ADJACENT LANDSCAPING  
 FACILITIES BEFORE YOU  
 DIG IN WISCONSIN

CALL DIGGERS' HOTLINE  
 1-800-242-8511  
 TOLL FREE

MS STATUTE 182.07(2)(97A)  
 REQUIRES MIN. 3 WORK DAYS  
 NOTICE BEFORE YOU EXCAVATE  
 MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

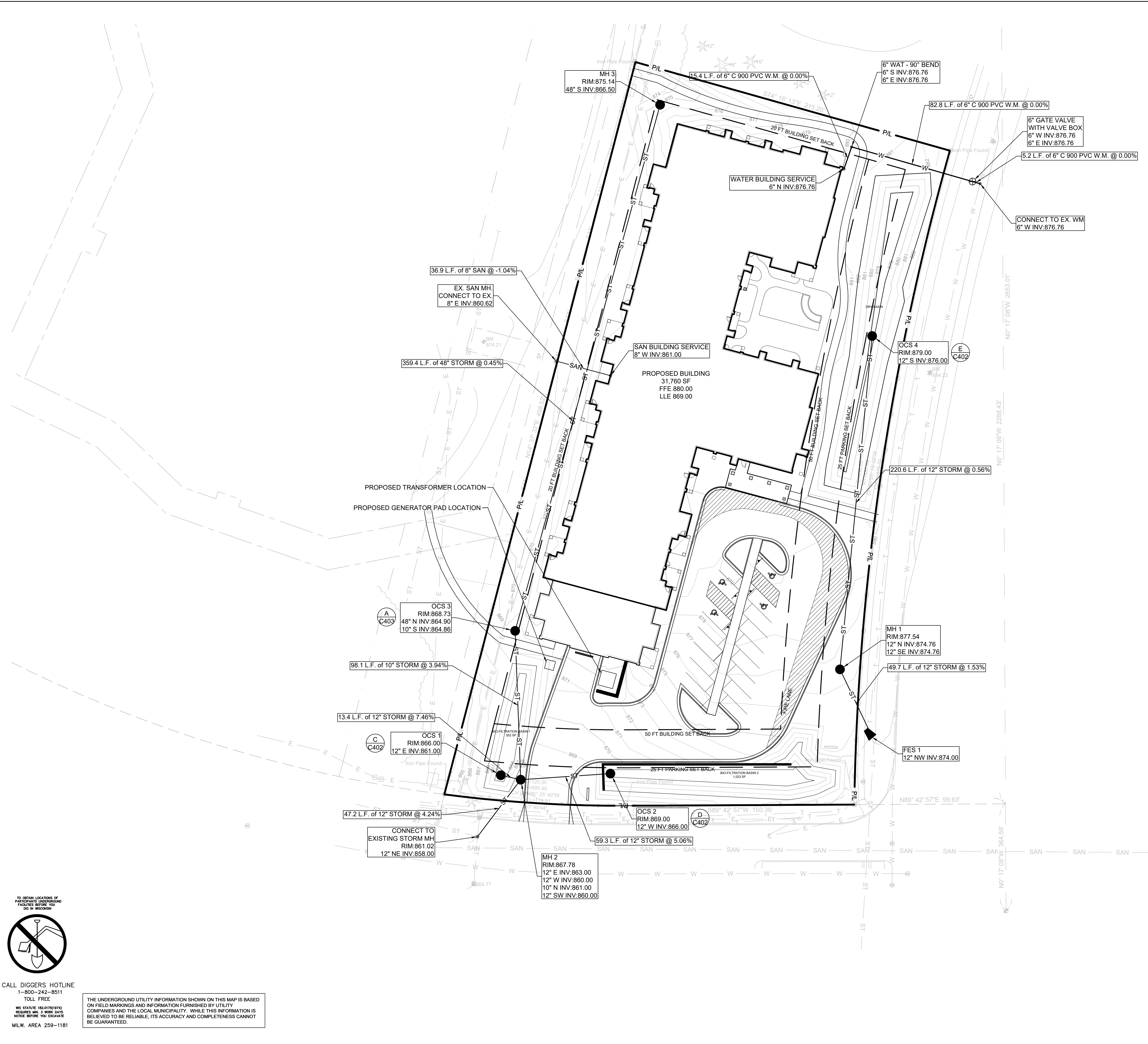




**KIRKLAND CROSSING  
PEWAUKEE, WI  
UTILITY PLAN**

**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

ISSUANCE	DATE
CITY SUBMITTAL	02-15-2023
NO. REVISION	DATE
PROJECT NO:	21471
DESIGN DATE:	---
PLOT DATE:	2023.02.14
DRAWN BY:	---
CHECKED BY:	---
APPROVED BY:	---
SHEET NO:	<b>C300</b>



- LEGEND:**
- W— PROPOSED WATER SERVICE
  - SAN— PROPOSED SANITARY SERVICE
  - ST— PROPOSED STORM SEWER
  - DT— PROPOSED DRAIN TILE (UNDERDRAIN)
  - (B) PROPOSED STORM MANHOLE/ OUTLET CONTROL STRUCTURE
  - ▲ (C) PROPOSED FLARED END SECTION

- GENERAL NOTES:**
- THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
  - VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
  - WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
  - ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
  - ALL UTILITIES WITHIN 5 FEET OF PAVED AREAS SHALL REQUIRE GRANULAR BACKFILL. SLURRY BACKFILL IS REQUIRED FOR ALL WORK IN PUBLIC RIGHT OF WAY.
  - PRIVATE STORM INLETS IN PAVEMENT SHALL REQUIRE DRAIN TILE STUBS OF 10 FEET IN TWO DIRECTIONS FOR SUBDRAINAGE. RIM GRADE FOR STORM INLETS IN CURB AND GUTTER ARE FLOW LINE GRADES.
  - WORK IN PUBLIC RIGHT OF WAY SHALL FOLLOW MATERIAL AND INSTALLATION REQUIREMENTS PER MUNICIPAL AND/OR COUNTY.
  - PRIVATE STORM SEWER 12-INCH DIAMETER OR LARGER SHALL BE HDPE. BELOW 12-INCH DIAMETER SHALL BE PVC SDR-35 ASTM D3034. PRIVATE WATER MAIN SHALL BE CLASS 235 DR 18 PVC CONFORMING TO AWWA C-900. PRIVATE SANITARY SEWER SHALL BE PVC SDR-35 ASTM D3034.
  - COORDINATE FINAL LOCATION AND DESIGN OF PRIVATE UTILITY SERVICES (ELECTRIC, GAS, PHONE, CABLE) WITH UTILITY COMPANIES.
  - IF PROJECT IS DESIGN BUILD MEP, THE GENERAL CONTRACTOR IS REQUIRED TO PROVIDE FINAL SEWER AND WATER DESIGN SHOWING LOCATION, INVERTS AND SIZES TO THE ENGINEER FOR FINAL REVIEW AND VERIFICATION PRIOR TO STARTING UNDERGROUND UTILITY CONSTRUCTION.
  - WATER MAIN CONNECTION: TAP WATER MAIN WITH SIZE AND LOCATION INDICATED ON PLAN IN ACCORDANCE WITH LOCAL WATER UTILITY REQUIREMENTS. COORDINATE CONNECTION WITH LOCAL WATER UTILITY. ALL JOINTS SHALL BE RESTRAINED FROM CONNECTION OF WATER MAIN TO BUILDING WALL. SUBMIT JOINT RESTRAINT DETAILS FOR ALL JOINT TYPES INCLUDING PUSH-ON AND MECHANICAL CONNECTIONS. INSTALL MEGA-LUG OR APPROVED EQUAL TIGHT TO WALL FOR RESTRAINT FOR ALL BUILDING WALL PENETRATIONS AS APPROVED BY LOCAL PLUMBING INSPECTOR AND WATER UTILITY. INSTALL THRUST BLOCKING AND MEGA-LUG AT BEND BELOW FLOOR FOR ALL FLOOR PENETRATIONS.
  - INSTALL JOINT RESTRAINT AND CONCRETE THRUST BLOCKS AT ALL OFFSET FITTINGS (TEES, BENDS, DEAD ENDS, VALVES, REDUCERS) USING MEGA-LUG OR APPROVED EQUAL. CONCRETE THRUST BLOCKS SHALL BE INSTALLED PER FILE NO'S: 44.45.46 FROM THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. SEE DETAIL FOR MINIMUM LENGTH OF RESTRAINED JOINT REQUIRED. SUBMIT JOINT RESTRAINT DETAILS FOR ALL JOINT TYPES INCLUDING PUSH-ON AND MECHANICAL CONNECTIONS.

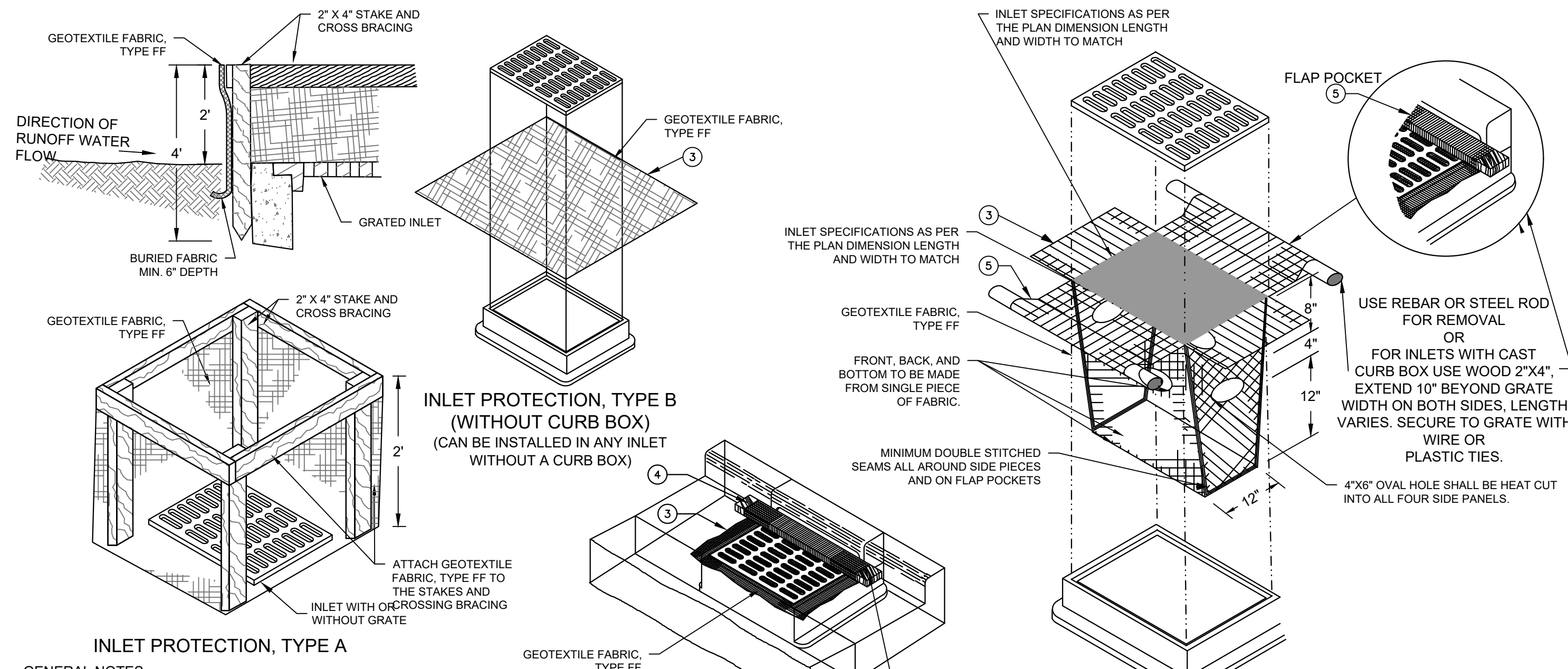
TO OBTAIN LOCATIONS OF FACILITIES UNDERGROUND REQUIRE MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE OR BE RESPONSIBLE

CALL DIGGERS HOTLINE  
 1-800-242-8511  
 TOLL FREE

WE STATUTE 182.07(2)(F) NOTICE BEFORE YOU EXCAVATE MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



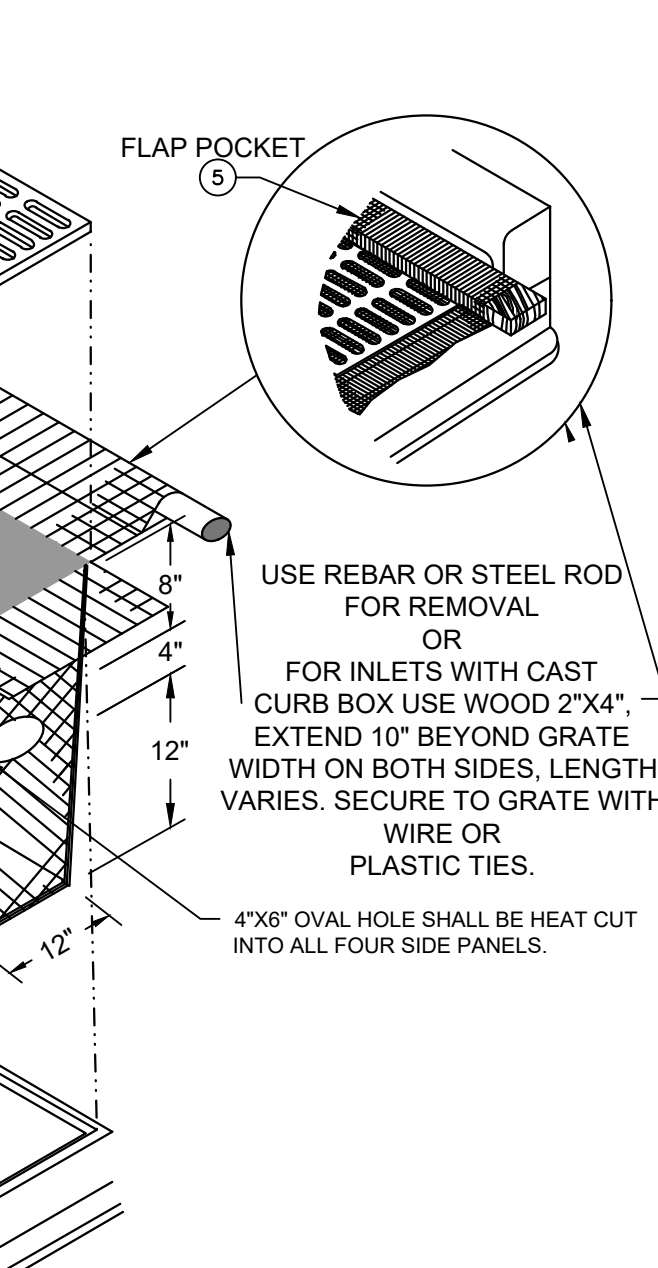


- INLET PROTECTION, TYPE A**
- GENERAL NOTES:**
- MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.
  - WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
  - FINISHED FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10' AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL 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.
  - FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

**A INLET PROTECTION - WDNR TS-1060**  
SCALE: NTS

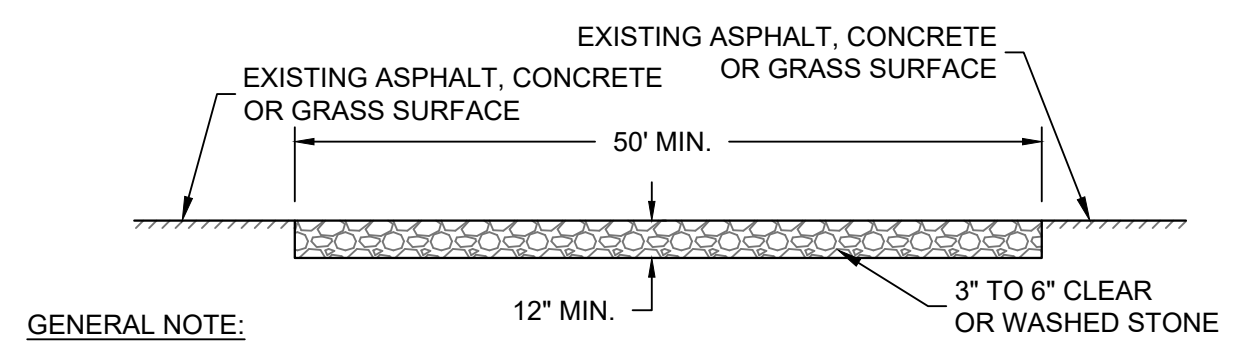
- INLET PROTECTION, TYPE B (WITHOUT CURB BOX)**  
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)
- INLET PROTECTION, TYPE C (WITH CURB BOX)**
- INSTALLATION NOTES**
- TYPE B & C  
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, 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.

**B INLET PROTECTION - WDNR TS-1057**  
SCALE: NTS



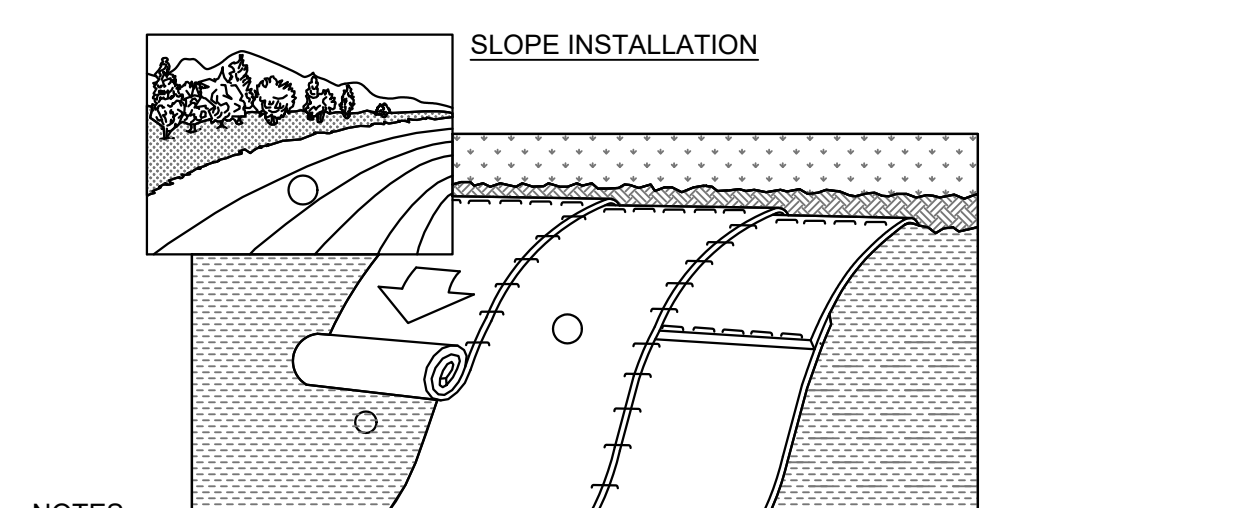
- INLET PROTECTION, TYPE D**  
(CAN BE INSTALLED IN ANY INLET WITH OR WITHOUT A CURB BOX AS PER NOTE)
- GENERAL NOTE**  
INLET PROTECTION SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1060
- THIS DRAWING IS BASED ON**  
WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD DETAIL DRAWING 8 E 10-2

**D EROSION MATTING - WDNR TS-1052**  
SCALE: NTS



- GENERAL NOTE:**
- STONE TRACKING PAD SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1057
  - AN APPROVED MANUFACTURED TRACKOUT CONTROL DEVICE SYSTEM CONFORMING TO WDNR TECHNICAL STANDARD #1057 MAY BE USED AS AN ALTERNATIVE TO A STONE TRACKING PAD

**B CONSTRUCTION ENTRANCE - WDNR TS-1057**  
SCALE: NTS



- NOTES:**
- ECRMs (EROSION CONTROL REVEGATIVE MATS) SHALL BE INSTALLED AFTER ALL TOPSOILING, FERTILIZING, LIMING, AND SEEDING IS COMPLETE.
  - THE MAT SHALL BE IN FIRM AND INTIMATE CONTACT WITH THE SOIL. IT SHALL BE INSTALLED AND ANCHORED PER THE MANUFACTURER'S RECOMMENDATION.
  - TRMs (TURF-REINFORCEMENT MAT) SHALL BE INSTALLED IN CONJUNCTION WITH THE TOPSOILING OPERATION AND SHALL BE FOLLOWED BY ECRM INSTALLATION.
  - AT TIME OF INSTALLATION, DOCUMENT THE MANUFACTURER AND MAT TYPE BY RETENTION OF MATERIAL LABELS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS. RETAIN THIS DOCUMENTATION UNTIL THE SITE HAS BEEN STABILIZED.
  - EROSION MATTING SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1052.
  - INSTALL PER MANUFACTURER'S SPECIFICATIONS.
  - WHERE A TRM IS INSTALLED, THE TRM LOCATION SHALL BE AS-BUILT PRIOR TO PLACEMENT OF TOPSOIL AND ECRM PLACEMENT. PROVIDE AS-BUILT LOCATION TO THE ENGINEER.

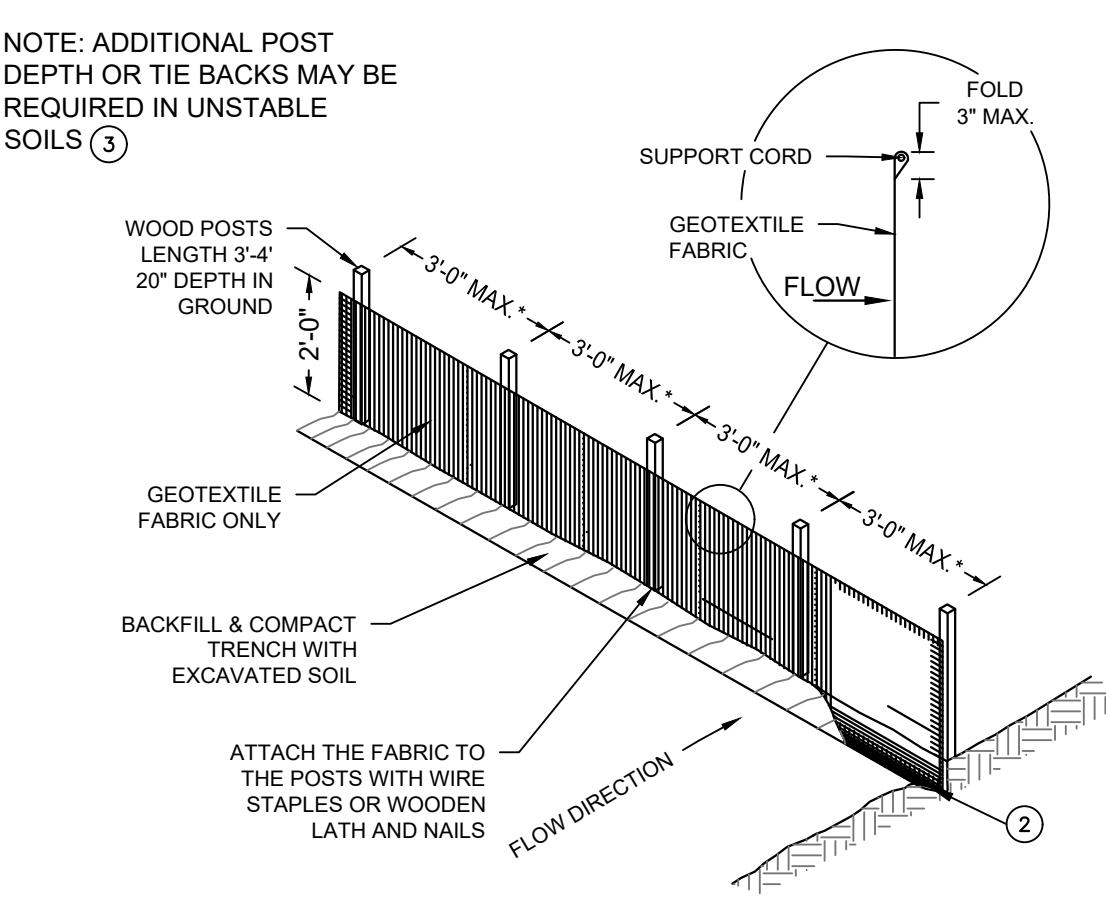
**D EROSION MATTING - WDNR TS-1052**  
SCALE: NTS

**CONSTRUCTION SEQUENCE FOR EROSION CONTROL INCLUDES:**

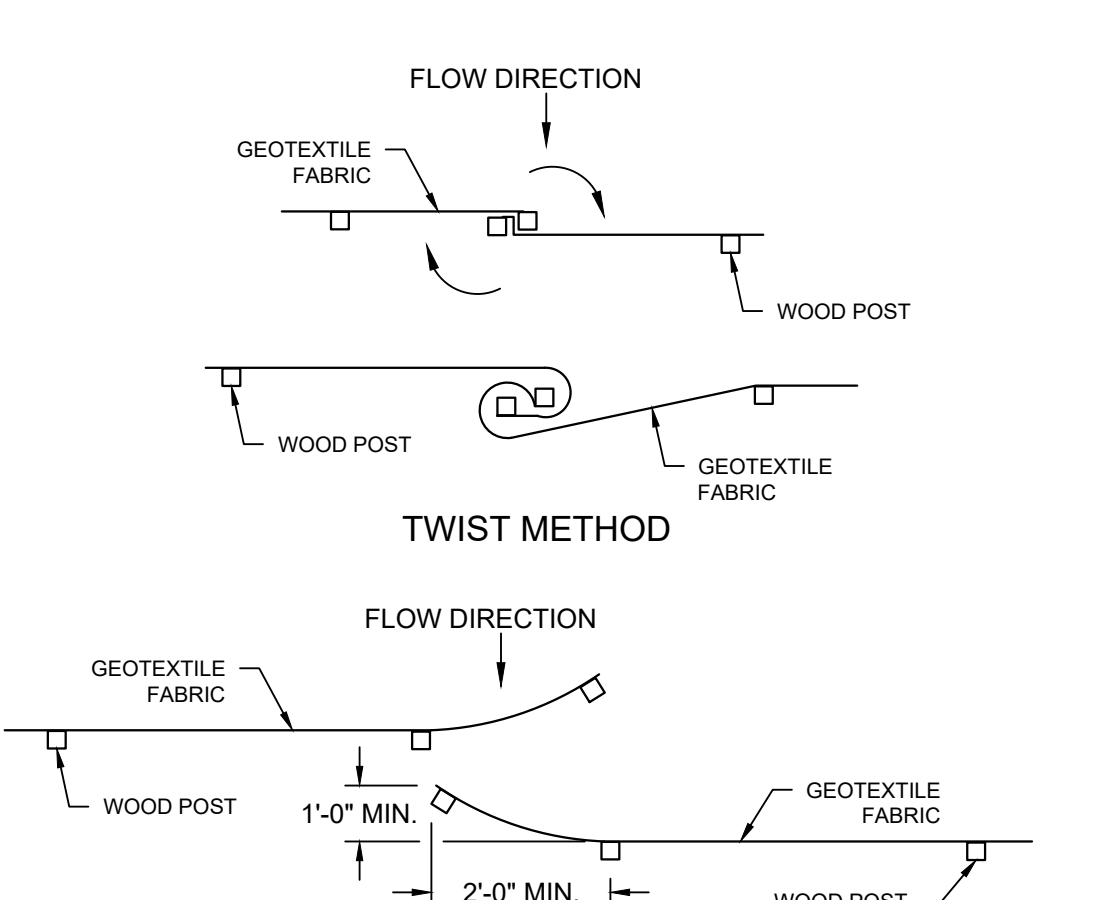
- INSTALL STABILIZED CONSTRUCTION ENTRANCE.
- INSTALL SILT FENCING AND INLET PROTECTION.
- INITIATE STOCKPILING OF IMPORTED MATERIAL. PLACE SILT FENCE AROUND STOCKPILE(S).
- STRIP TOPSOIL FROM STORM WATER BASIN LOCATION AND STOCKPILE.
- CONSTRUCT STORM WATER BASIN AND INSTALL TEMPORARY OUTLET AND EMERGENCY OVERFLOW. BASIN IS TO BE USED AS A SEDIMENTATION BASIN DURING THE COURSE OF CONSTRUCTION.
- CONSTRUCT DIVERSION SWALES. DIRECT RUNOFF TO STORM BASIN. INSTALL ASSOCIATED DITCH CHECKS.
- INSTALL RIP-RAP AT STORM WATER BASIN AS SHOWN ON THE PLANS.
- STRIP TOPSOIL FROM REMAINDER OF SITE IN A PROGRESSIVE MANNER, AND STOCKPILE.
- PERFORM FINISH SITE GRADING. STABILIZE FINISHED AREAS AS THE WORK PROGRESSES. USE EROSION MATTING WHERE CALLED FOR ON THE PLANS. PER WDNR TECHNICAL STANDARD 1059: AREAS THAT RECEIVE TEMPORARY SEEDING SHALL HAVE A MINIMUM TOPSOIL DEPTH OF 2 INCHES. AREAS THAT RECEIVE PERMANENT SEEDING SHALL HAVE A MINIMAL TOPSOIL DEPTH OF 4 INCHES.
- PREPARE BUILDING PAD AND BEGIN FOUNDATIONS WORK FOR BUILDING.
- INSTALL UTILITIES. INSTALL ANY ADDITIONAL INLET PROTECTION ON NEW STORM SEWER AND INSTALL RIP-RAP AT NEW STORM SEWER OUTFALLS.
- REMOVE TEMPORARY OUTLET CONTROL STRUCTURE ON BASIN AND INSTALL PAVEMENTS.
- STABILIZE AREAS REMAINING AREAS WITHIN 7 DAYS OF COMPLETION OF FINAL GRADING AND TOPSOILING.
- REMOVE EXCESS SEDIMENT FROM STORMWATER BASINS AND RETURN BASINS TO THEIR DESIGN DIMENSIONS AND VOLUMES.
- REMOVE EROSION CONTROL MEASURES ONLY WHEN SITE IS FULLY STABILIZED.

**EROSION CONTROL NOTES:**

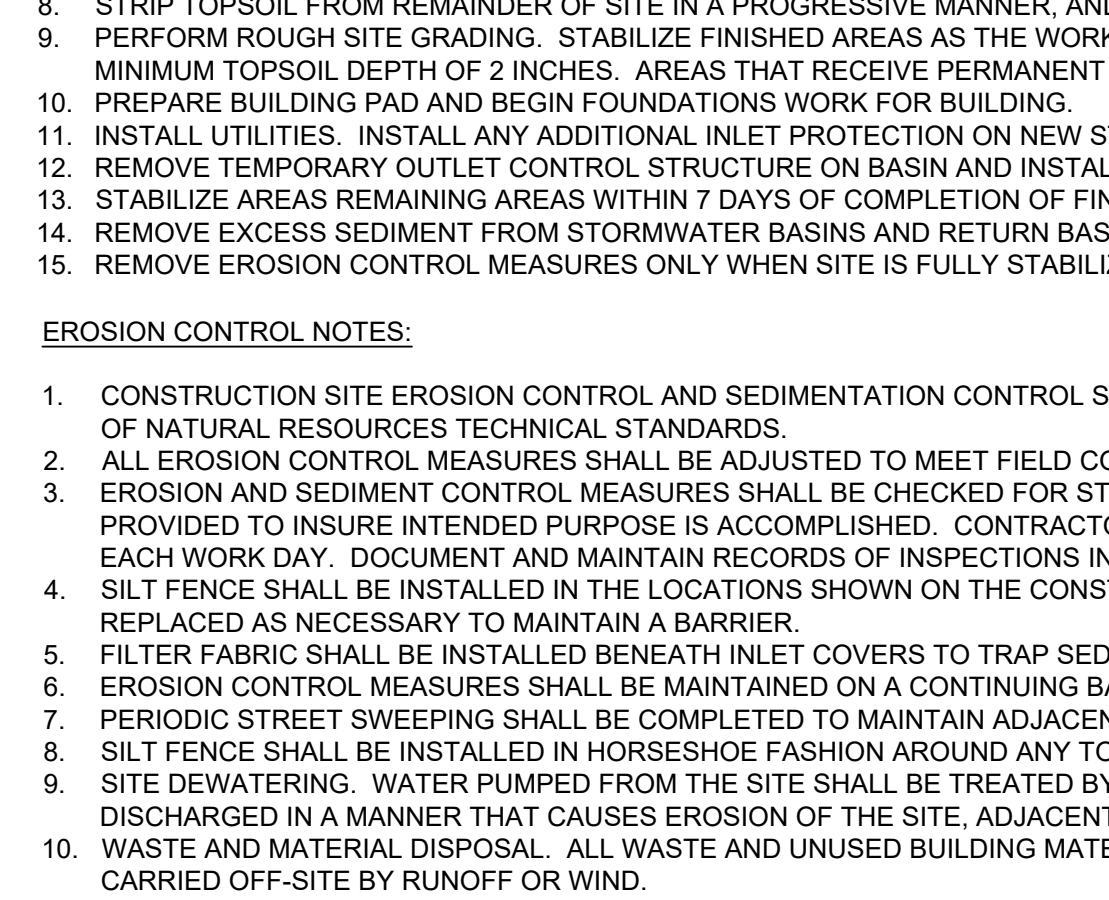
- CONSTRUCTION SITE EROSION CONTROL AND SEDIMENTATION CONTROL SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL MUNICIPALITY AND SHALL EMPLOY EROSION CONTROL METHODS AS SHOWN AND SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
- ALL EROSION CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON THE SITE.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED FOR STABILITY AND OPERATION AFTER A RAINFALL OF 0.5 INCHES OR MORE, BUT NO LESS THAN ONCE EVERY WEEK. MAINTENANCE OF ALL EROSION CONTROL STRUCTURES SHALL BE PROVIDED TO INSURE INTENDED PURPOSE IS ACCOMPLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP AND REMOVAL OF ALL SEDIMENT WHEN LEAVING PROPERTY. EROSION CONTROL MEASURES MUST BE IN WORKING CONDITION AT END OF EACH WORK DAY. DOCUMENT AND MAINTAIN RECORDS OF INSPECTIONS IN ACCORDANCE WITH WDNR NR216 REQUIREMENTS.
- SILT FENCE SHALL BE INSTALLED IN THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS. SEDIMENT DEPOSITS SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN DEPOSITS REACH A DEPTH OF 6 INCHES. THE SILT FENCE SHALL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
- FILTER FABRIC SHALL BE INSTALLED BENEATH INLET COVERS TO TRAP SEDIMENT PER INLET PROTECTION DETAIL IN THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS.
- EROSION CONTROL MEASURES SHALL BE MAINTAINED ON A CONTINUING BASIS UNTIL SITE IS FULLY STABILIZED.
- PERIODIC STREET SWEEPING SHALL BE COMPLETED TO MAINTAIN ADJACENT STREETS FREE OF DUST AND DIRT.
- SILT FENCE SHALL BE INSTALLED IN HORSESHOE FASHION AROUND ANY TOPSOIL AND FILL STOCKPILES.
- SITE DEWATERING. WATER PUMPED FROM THE SITE SHALL BE TREATED BY SEDIMENT BASINS OR OTHER APPROPRIATE MEASURES SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS. WATER MAY NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION OF THE SITE, ADJACENT SITES, OR RECEIVING CHANNELS.
- WASTE AND MATERIAL DISPOSAL. ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, WASTEWATER, TOXIC MATERIALS, OR HAZARDOUS MATERIALS) SHALL BE PROPERLY DISPOSED AND NOT ALLOWED TO BE CARRIED OFF-SITE BY RUNOFF OR WIND.
- TRACKING. EACH SITE SHALL HAVE GRAVELED ROADS, ACCESS DRIVES AND PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING, TO THE SATISFACTION OF THE CITY OF PEWAUKEE, BEFORE THE END OF EACH WORKDAY. FLUSHING MAY NOT BE USED UNLESS SEDIMENT WILL BE CONTROLLED BY A SEDIMENT BASIN OR PRACTICE SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS. NOTIFY MUNICIPALITY OF ANY CHANGES IN STABILIZED CONSTRUCTION ENTRANCE LOCATION.
- SEDIMENT CLEANUP. ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF A STORM EVENT SHALL BE CLEANED UP BY THE END OF THE NEXT WORKDAY. ALL OTHER OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE CLEANED UP BY THE END OF THE WORKDAY.
- ALL DISTURBED GROUND LEFT INACTIVE FOR SEVEN OR MORE DAYS SHALL BE STABILIZED BY TEMPORARY OR PERMANENT SEEDING, MULCHING, SODDING, COVERING WITH TARPS, OR EQUIVALENT PRACTICE FOUND IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARD. IF TEMPORARY SEEDING IS USED, A PERMANENT COVER SHALL ALSO BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION. SEEDING OR SODDING SHALL BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION.
- SOIL OR DIRT STORAGE PILES SHALL BE LOCATED A MINIMUM OF TWENTY-FIVE FEET FROM ANY DOWNSLOPE ROAD, LAKE, STREAM, WETLAND, OR DRAINAGE CHANNEL. STRAW BALE OR FILTER FABRIC FENCES SHALL BE PLACED ON THE DOWN SLOPE SIDE OF THE PILES. IF REMAINING FOR MORE THAN THIRTY DAYS, PILES SHALL BE STABILIZED BY MULCHING, VEGETATIVE COVER, TARPS OR OTHER MEANS.
- WHEN THE DISTURBED AREA HAS BEEN STABILIZED BY PERMANENT VEGETATION OR OTHER MEANS, TEMPORARY PRACTICES, SUCH AS FILTER FABRIC FENCES, STRAW BALES, SEDIMENT AND SEDIMENT TRAPS, FOUND IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS SHALL BE REMOVED.
- NOTIFY THE LOCAL MUNICIPALITY HAVING JURISDICTION WITHIN TWO WORKING DAYS OF COMMENCING ANY LAND DEVELOPMENT OR LAND DISTURBING ACTIVITY.
- OBTAIN PERMISSION FROM THE LOCAL MUNICIPALITY HAVING JURISDICTION PRIOR TO MODIFYING THE EROSION CONTROL PLAN.
- REPAIR ANY SILTATION OR EROSION DAMAGE TO ADJOINING SURFACES AND DRAINAGE WAYS RESULTING FROM LAND DEVELOPMENT OR LAND DISTURBING ACTIVITIES.
- KEEP A COPY OF THE EROSION CONTROL PLAN ON SITE.
- CONTRACTOR SHALL, TO THE EXTENT POSSIBLE, MINIMIZE DISTURBANCE OF EXISTING VEGETATION DURING CONSTRUCTION.
- CONTRACTOR SHALL, TO THE EXTENT POSSIBLE, MINIMIZE COMPACTION OF TOPSOIL AND PRESERVE TOPSOIL IN GREENSPACE AREAS.
- WASH WATER FROM VEHICLES AND WHEEL WASHING SHALL BE CONTAINED AND TREATED PRIOR TO DISCHARGE.
- CONTRACTOR SHALL MAINTAIN SPILL KITS ON-SITE.
- PERMANENT TURF SEEDING OF DISTURBED AREA MUST OCCUR PRIOR TO SEPTEMBER 15TH. IF ADEQUATE TIME IS NOT AVAILABLE TO APPLY PERMANENT SEEDING PRIOR TO SEPTEMBER 15TH, THEN DISTURBED AREAS SHALL BE TEMPORARILY SEEDED WITH AN ANNUAL RYE GRASS PER WDNR TECHNICAL STANDARD 1059, WHERE THE TEMPORARY SEEDING MUST OCCUR PRIOR TO OCTOBER 15TH.
- IF TEMPORARY SEEDING IS NOT COMPLETED BY OCTOBER 15TH, APPLY SOIL STABILIZERS AND DORMANT SEED TO DISTURBED AREA PER WDNR TECHNICAL STANDARD 1050. INSPECT ANIONIC PAM APPLICATION AT A MINIMUM FREQUENCY OF EVERY TWO MONTHS AND REAPPLY AS NECESSARY.



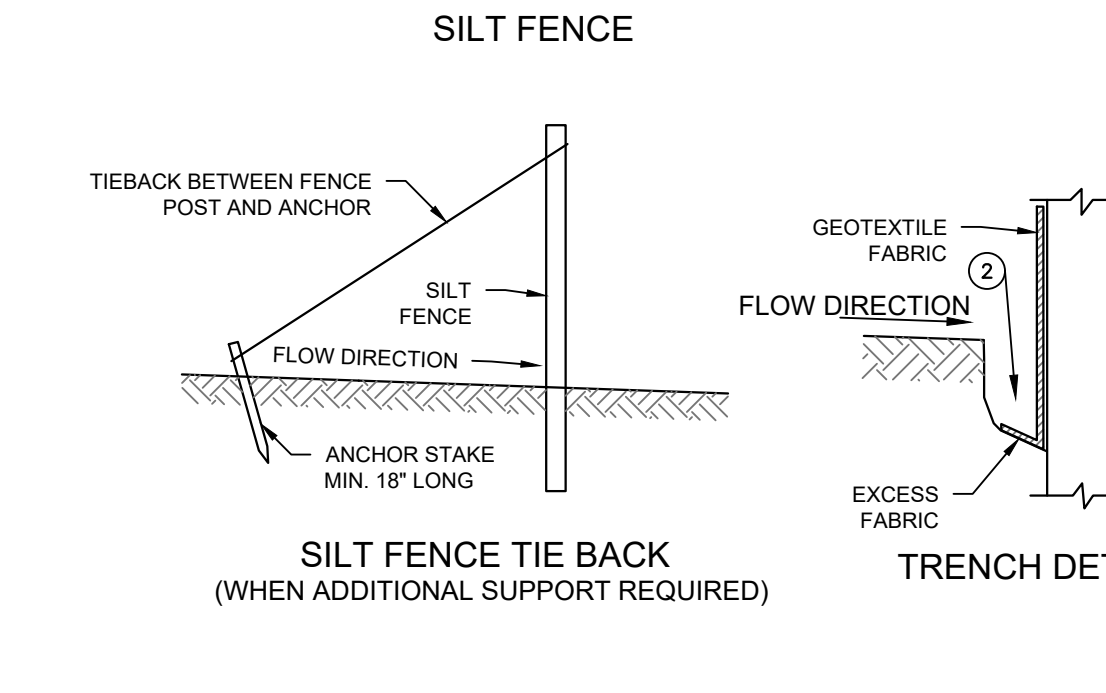
**SILT FENCE**



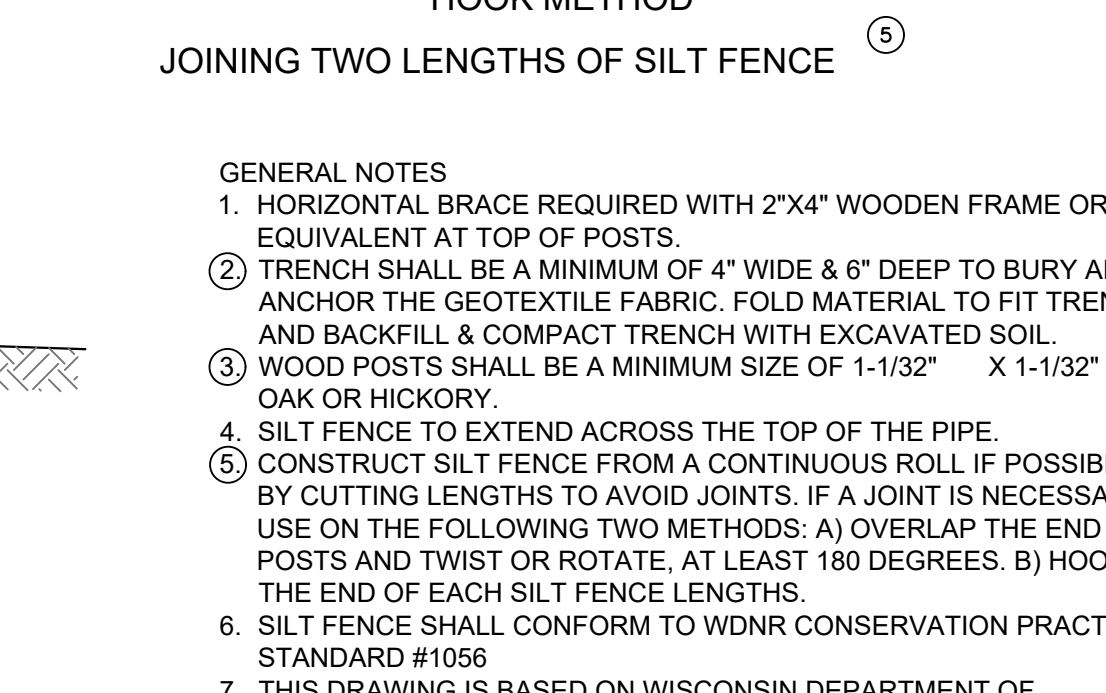
**TWIST METHOD**



**HOOK METHOD**



**SILT FENCE TIE BACK**  
(WHEN ADDITIONAL SUPPORT REQUIRED)



**TRENCH DETAIL**

- GENERAL NOTES**
- HORIZONTAL BRACE REQUIRED WITH 2"x4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
  - 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.
  - WOOD POSTS SHALL BE A MINIMUM SIZE OF 1-1/32" X 1-1/32" OF OAK OR HICKORY.
  - SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
  - CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ON 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 LENGTHS.
  - SILT FENCE SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1056
  - THIS DRAWING IS BASED ON WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD DETAIL DRAWING 8 E 9-6

**C SILT FENCE - WDNR TS-1056**  
SCALE: NTS

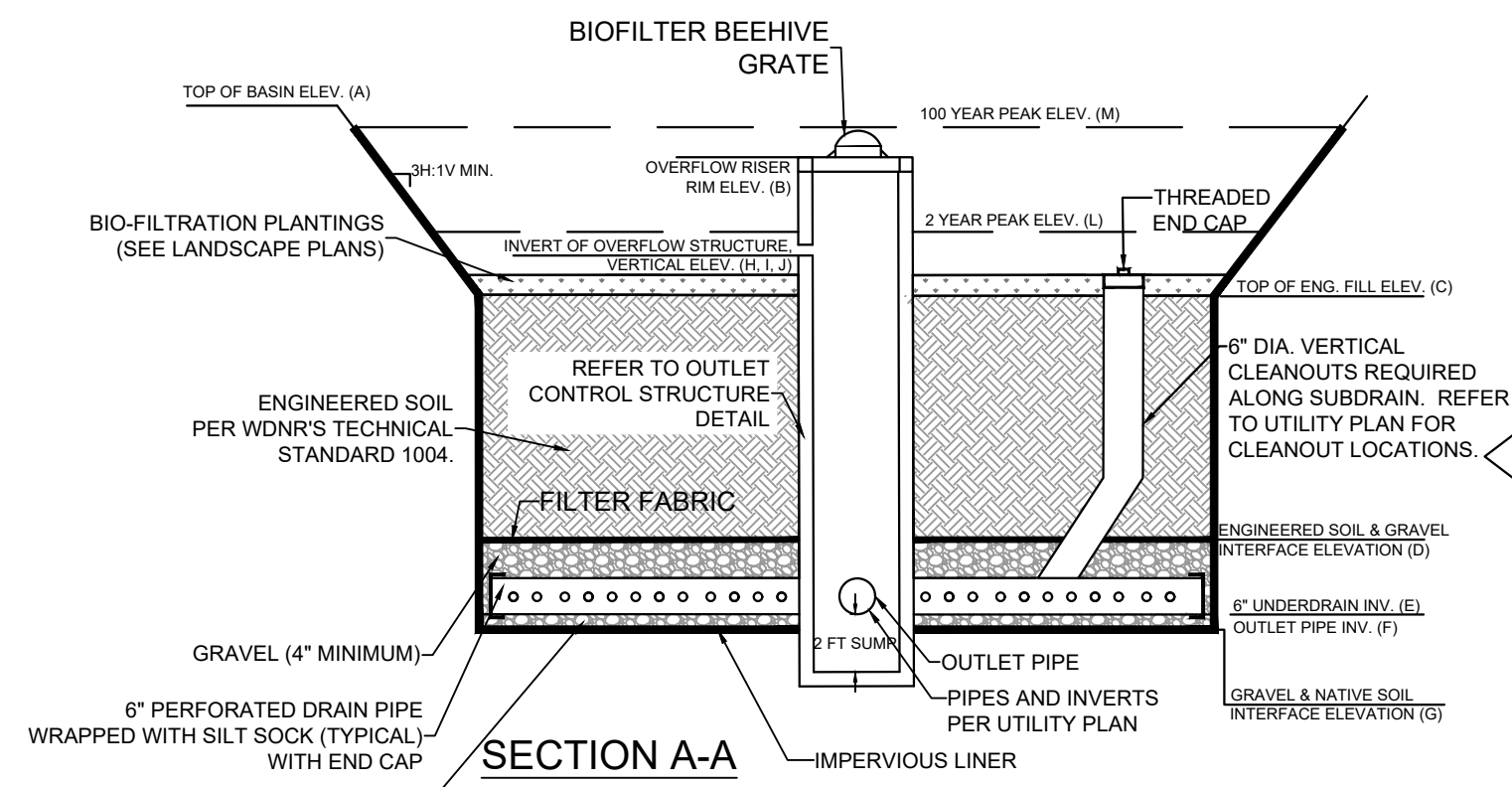
**PRELIMINARY**  
**NOT FOR**  
**CONSTRUCTION**

ISSUANCE DATE	DATE
CITY SUBMITTAL 02-15-2023	
NO. REVISION	DATE
PROJECT NO:	21471
DESIGN DATE:	---
PLOT DATE:	2023.02.14
DRAWN BY:	---
CHECKED BY:	---
APPROVED BY:	---
SHEET NO:	<b>C400</b>

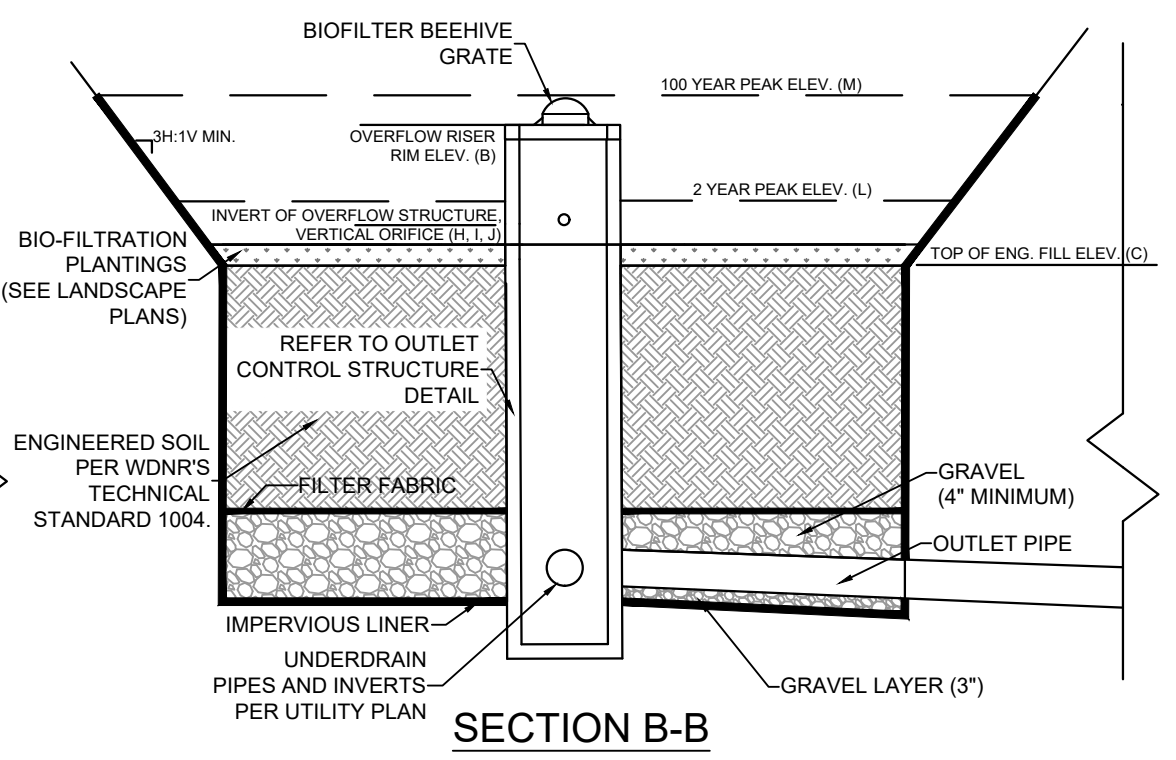




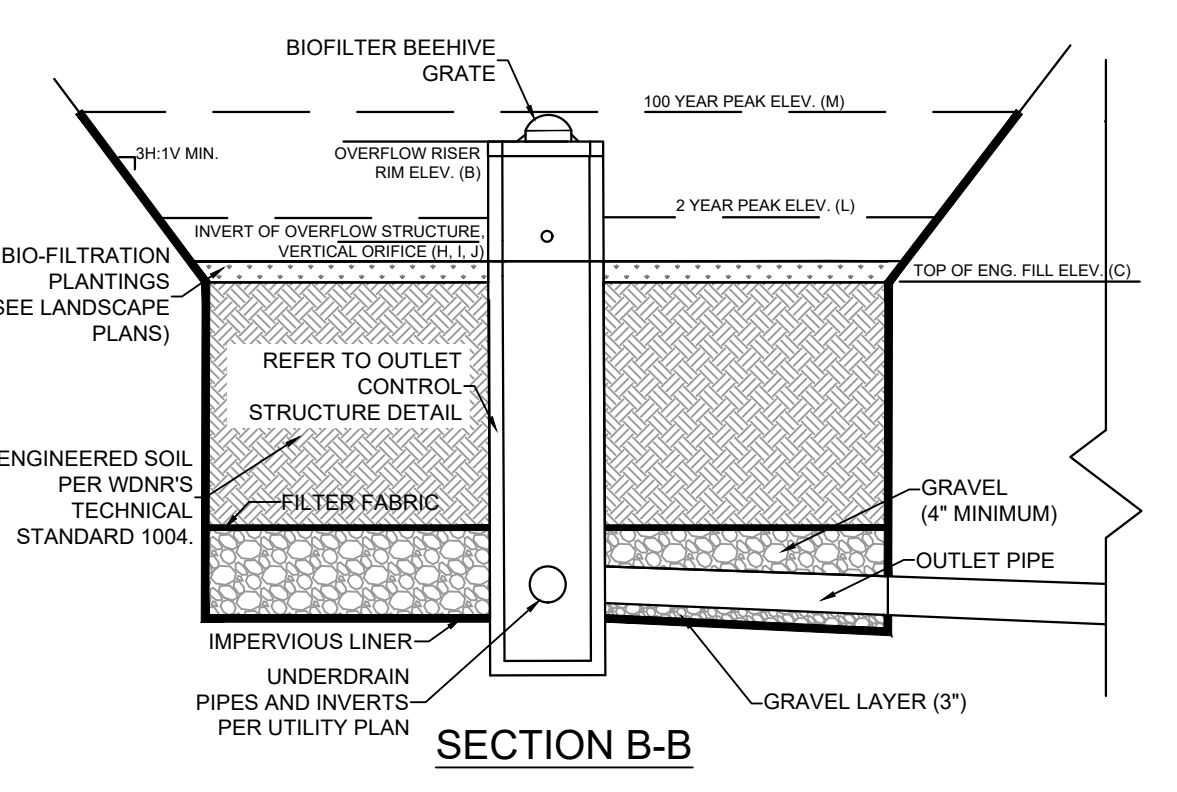
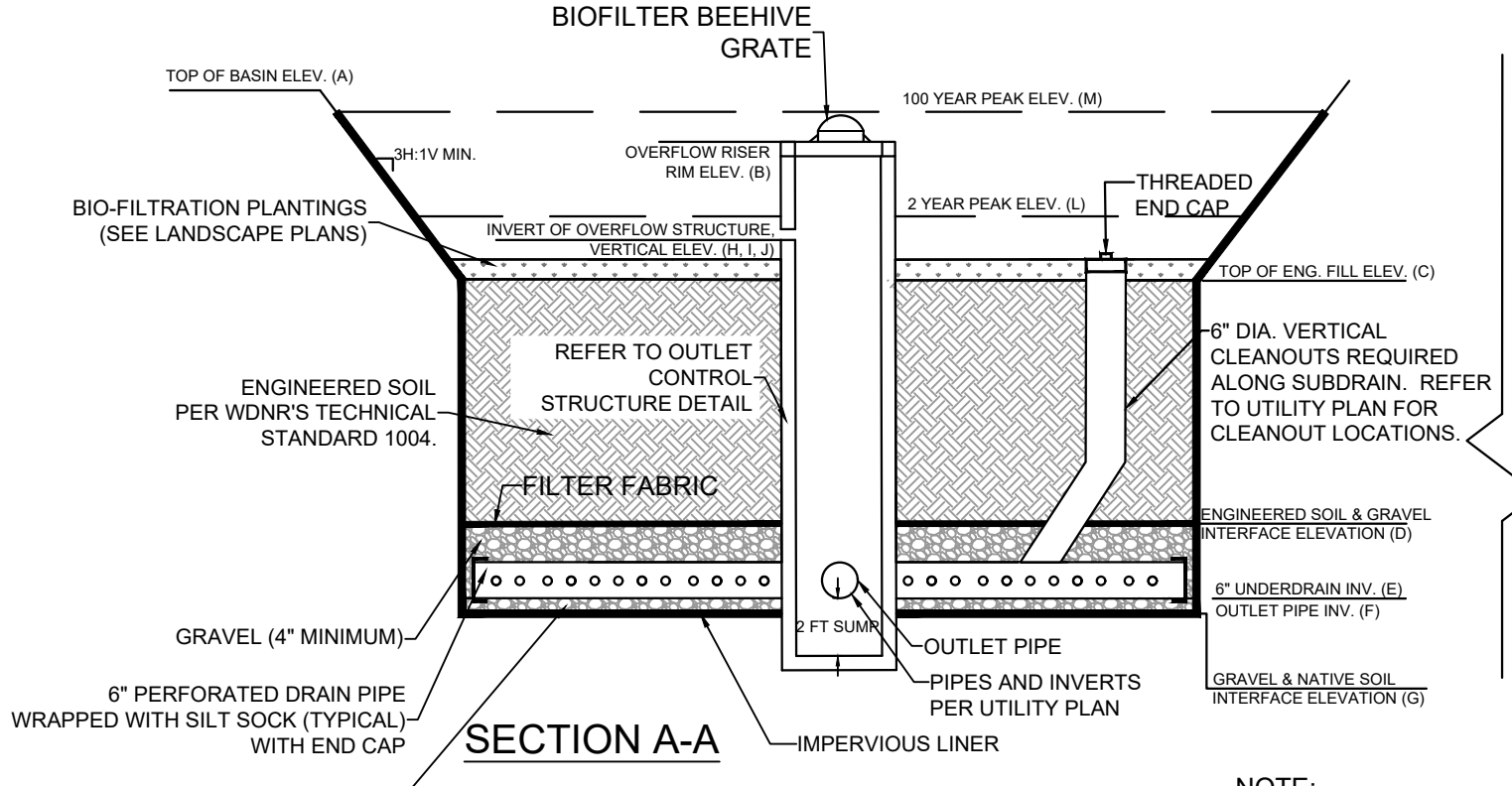




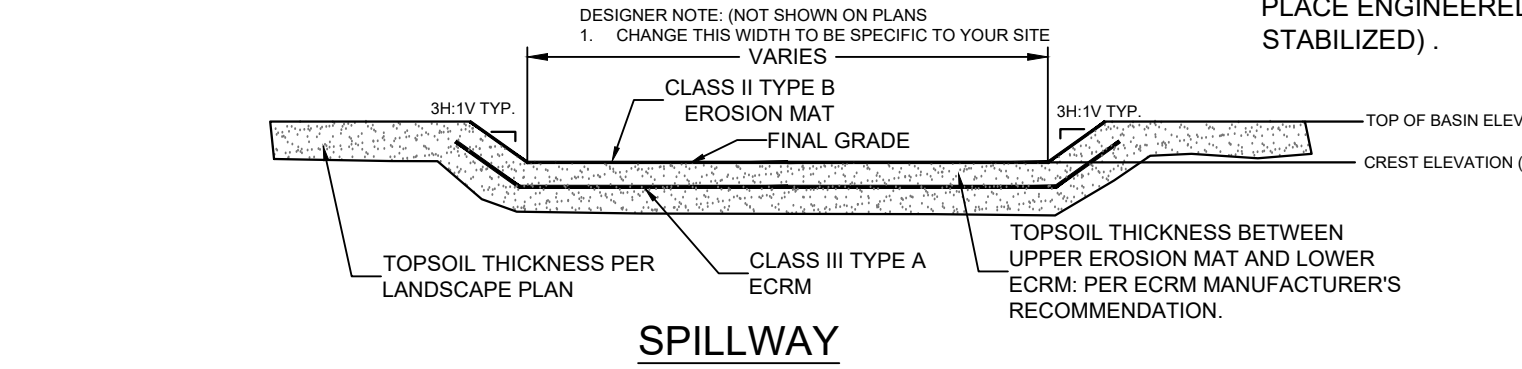
**TYPICAL BIO-FILTRATION DETAILS (BIO-FILTRATION BASIN WEST)**



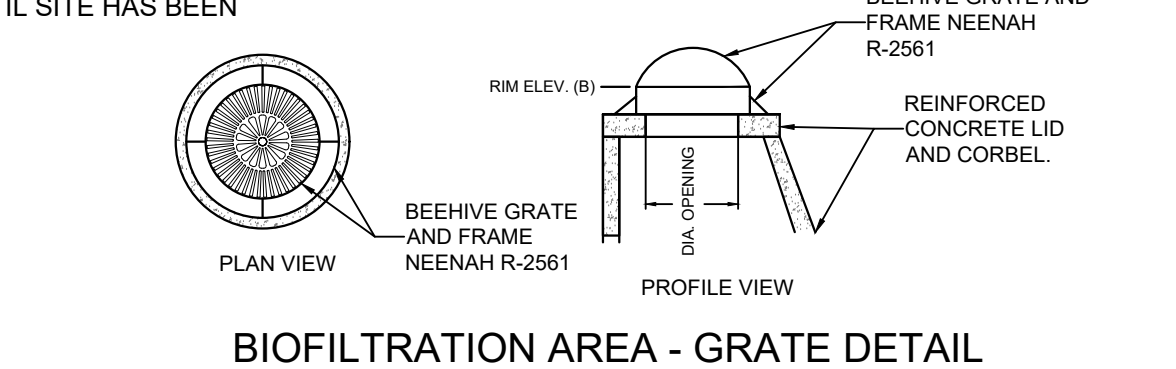
**TYPICAL BIO-FILTRATION DETAILS (BIO-FILTRATION BASIN EAST)**



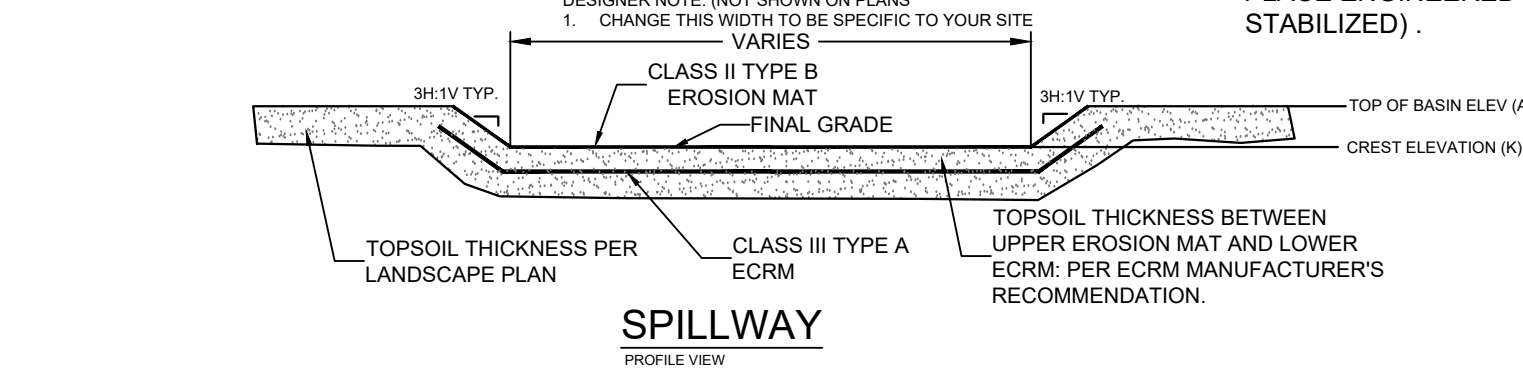
**TYPICAL BIO-FILTRATION DETAILS (BIO-FILTRATION BASIN EAST)**



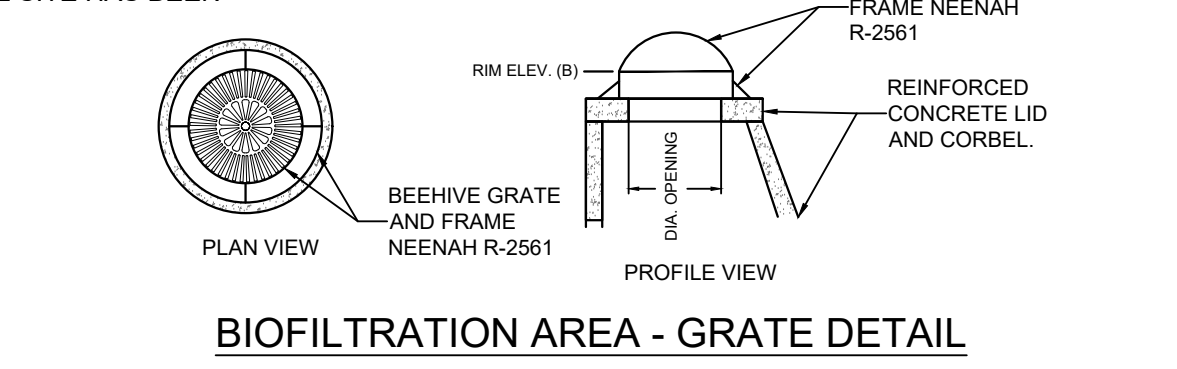
**SPILLWAY**



**BIOFILTRATION AREA - GRATE DETAIL**



**SPILLWAY**



**BIOFILTRATION AREA - GRATE DETAIL**

NOTE:

- BIO-FILTRATION BASINS THAT HAVE MULTIPLE VERTICAL ORIFICES SHALL BE INSTALLED AT THE SAME ELEVATION AS IDENTIFIED IN THE TABLE.
- MULTIPLE VERTICAL ORIFICES SHALL HAVE A MINIMUM OF 12 INCHES HORIZONTAL SEPARATION.

BIO-FILTRATION SUMMARY TABLE														
BIO-FILTRATION AREA	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	
	TOP OF POND (CURB FLOW LINE)	OVERFLOW RIM ELEVATION	TOP OF ENGINEERED FILL ELEVATION	ENGINEERED SOIL AND GRAVEL INTERFACE ELEVATION	4" DIAMETER UNDERDRAIN ELEVATION	OUTLET PIPE SIZE	OUTLET PIPE ELEVATION	GRAVEL AND NATIVE SOIL INTERFACE ELEVATION	VERTICAL ORIFICE DIAMETER (INCH)	VERTICAL ORIFICE ELEVATION	# OF VERTICAL ORIFICES	SPILLWAY CREST ELEVATION	2 YR WATER ELEVATION	100 YR WATER ELEVATION
BIO WEST	868	867.50	866	863	861	12	861	861	3	866	1	867.75	861.59	863.18

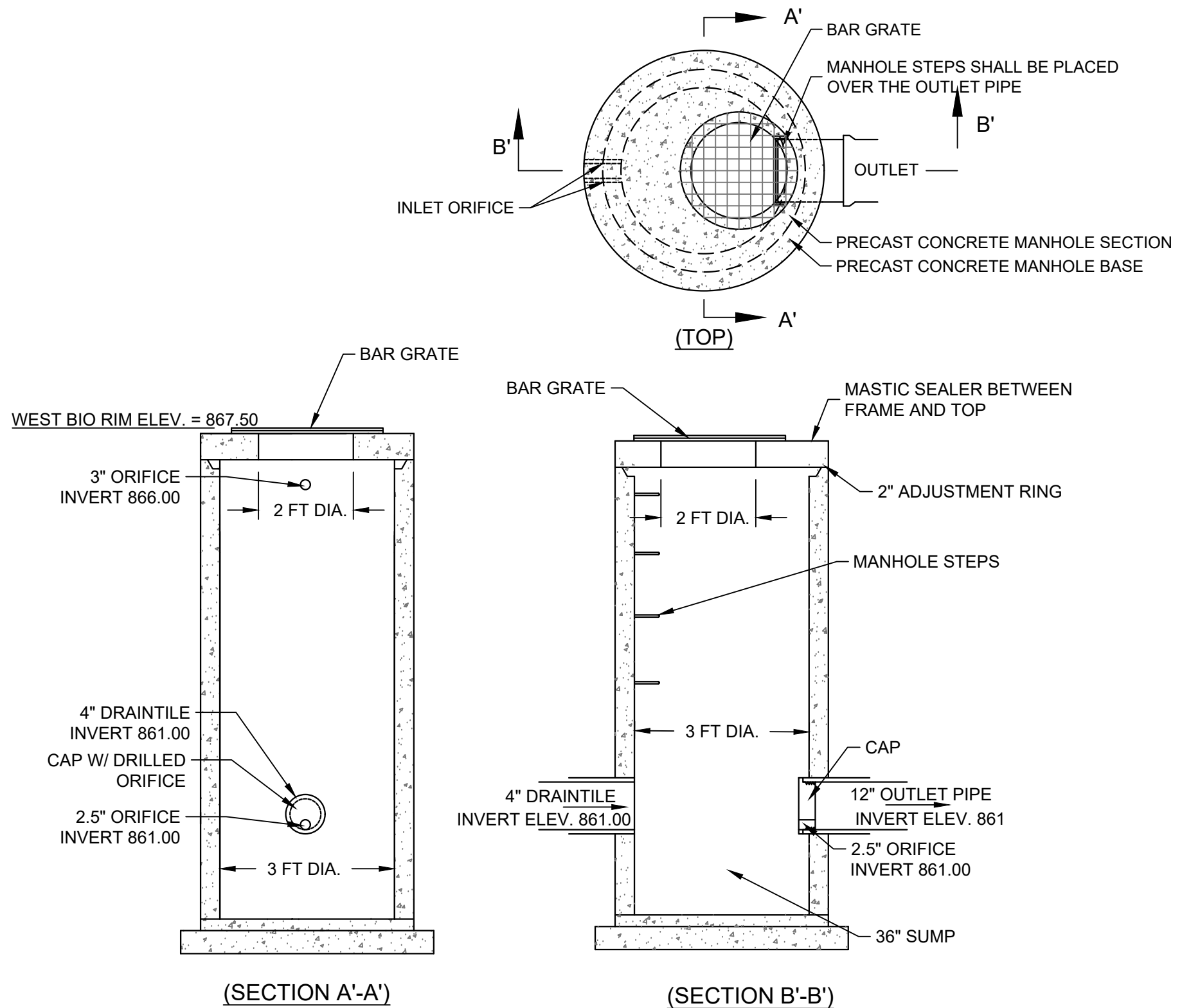
**A BIOFILTRATION BASIN (WEST)**  
SCALE:NTS

NOTE:

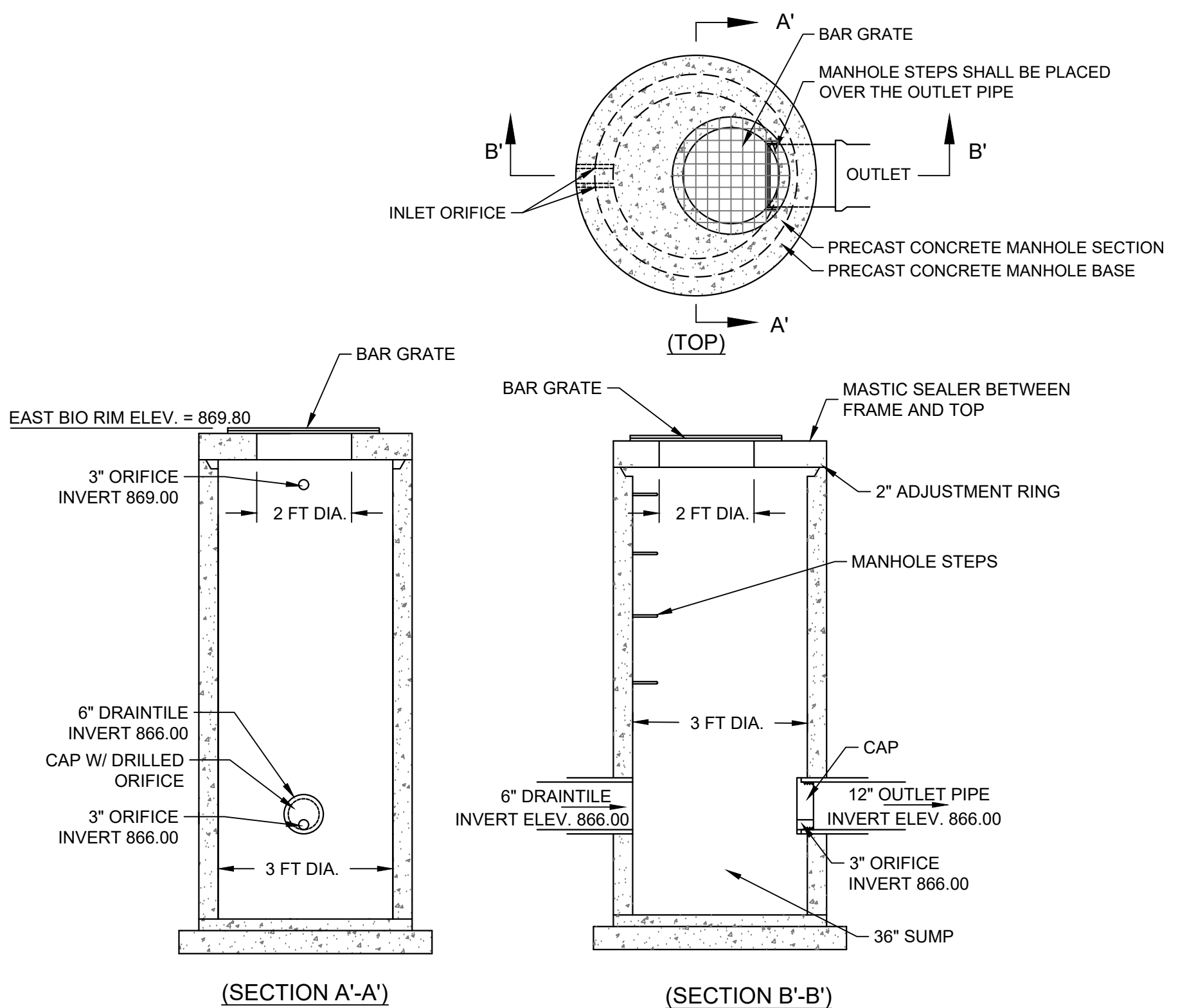
- BIO-FILTRATION BASINS THAT HAVE MULTIPLE VERTICAL ORIFICES SHALL BE INSTALLED AT THE SAME ELEVATION AS IDENTIFIED IN THE TABLE.
- MULTIPLE VERTICAL ORIFICES SHALL HAVE A MINIMUM OF 12 INCHES HORIZONTAL SEPARATION.

BIO-FILTRATION SUMMARY TABLE														
BIO-FILTRATION AREA	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	
	TOP OF POND (CURB FLOW LINE)	OVERFLOW RIM ELEVATION	TOP OF ENGINEERED FILL ELEVATION	ENGINEERED SOIL AND GRAVEL INTERFACE ELEVATION	6" DIAMETER UNDERDRAIN ELEVATION	OUTLET PIPE SIZE	OUTLET PIPE ELEVATION	GRAVEL AND NATIVE SOIL INTERFACE ELEVATION	VERTICAL ORIFICE DIAMETER (INCH)	VERTICAL ORIFICE ELEVATION	# OF VERTICAL ORIFICES	SPILLWAY CREST ELEVATION	2 YR WATER ELEVATION	100 YR WATER ELEVATION
BIO EAST	871	869.80	869	867	866	12	866	866	3	869	1	870	867.65	869.95

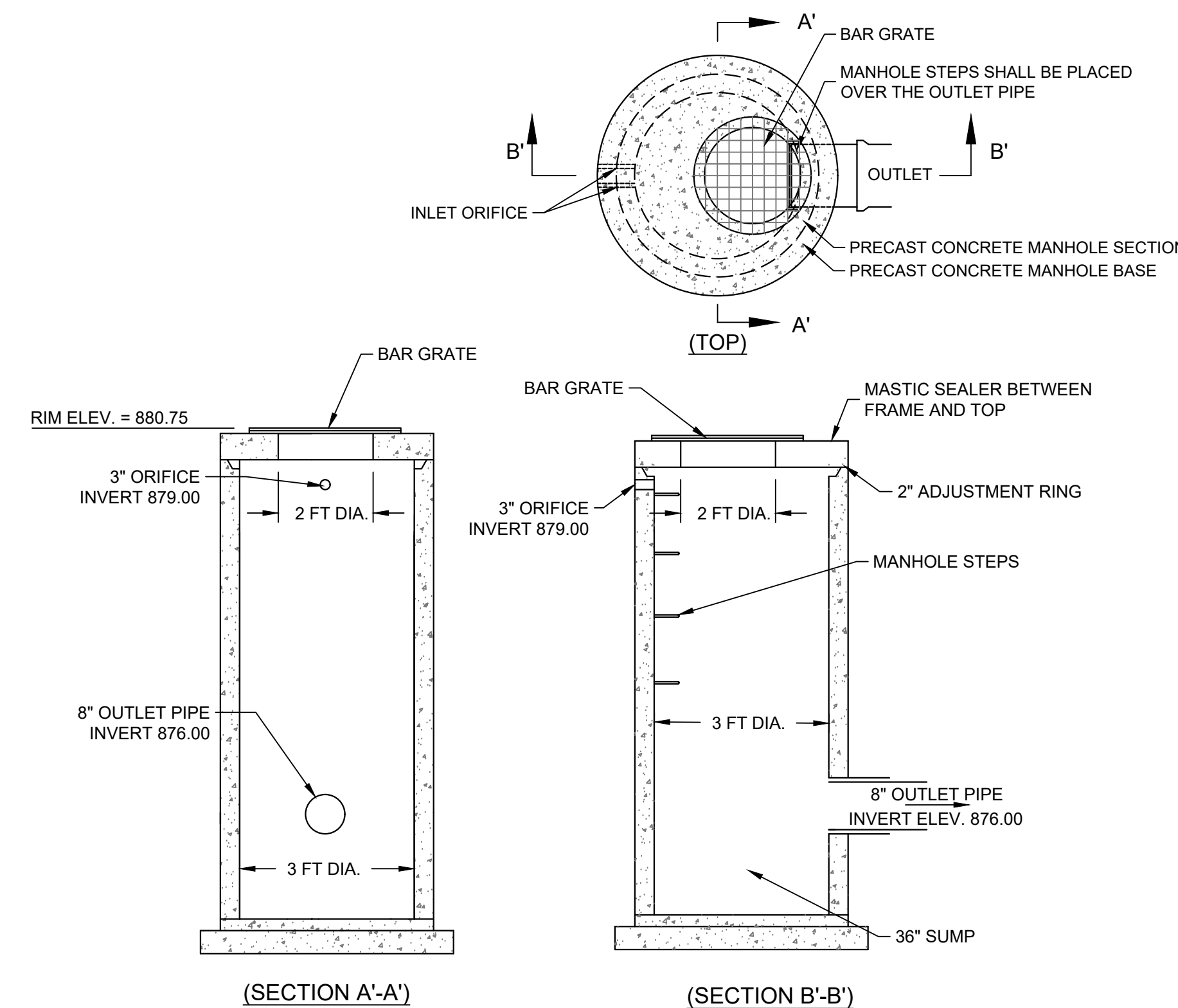
**B BIOFILTRATION BASIN (EAST)**  
SCALE:NTS



**C OUTLET CONTROL STRUCTURE - WEST BIO**  
SCALE:NTS



**D OUTLET CONTROL STRUCTURE - EAST BIO**  
SCALE:NTS



**E OUTLET CONTROL STRUCTURE - DRY BASIN**  
SCALE:NTS

KIRKLAND CROSSING

PEWAUKEE, WI

DETAILS

PRELIMINARY  
NOT FOR  
CONSTRUCTION

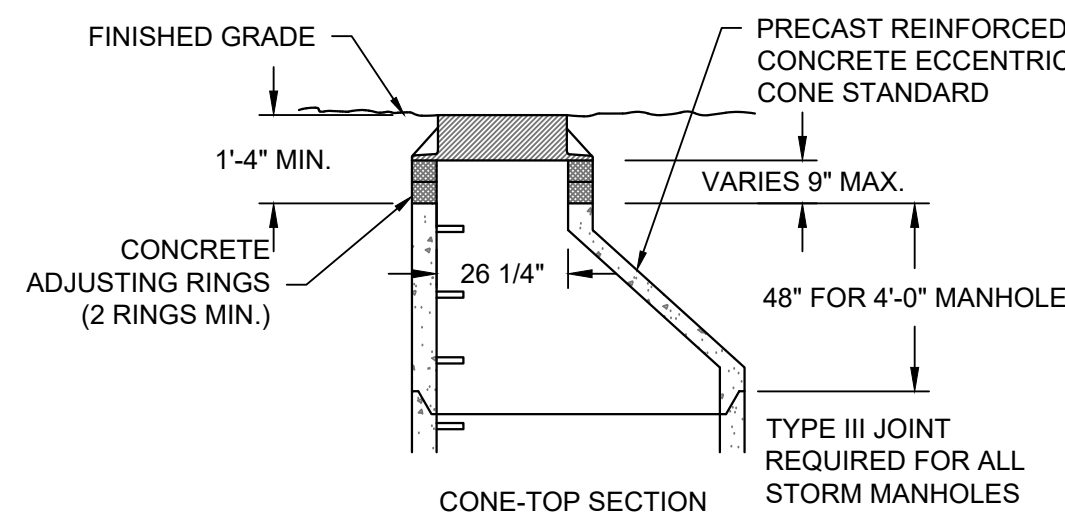
ISSUANCE DATE  
CITY SUBMITTAL 02-15-2023

NO. REVISION DATE

PROJECT NO: 21471  
 DESIGN DATE: ---  
 PLOT DATE: 2023.02.14  
 DRAWN BY: ---  
 CHECKED BY: ---  
 APPROVED BY: ---

SHEET NO: **C402**



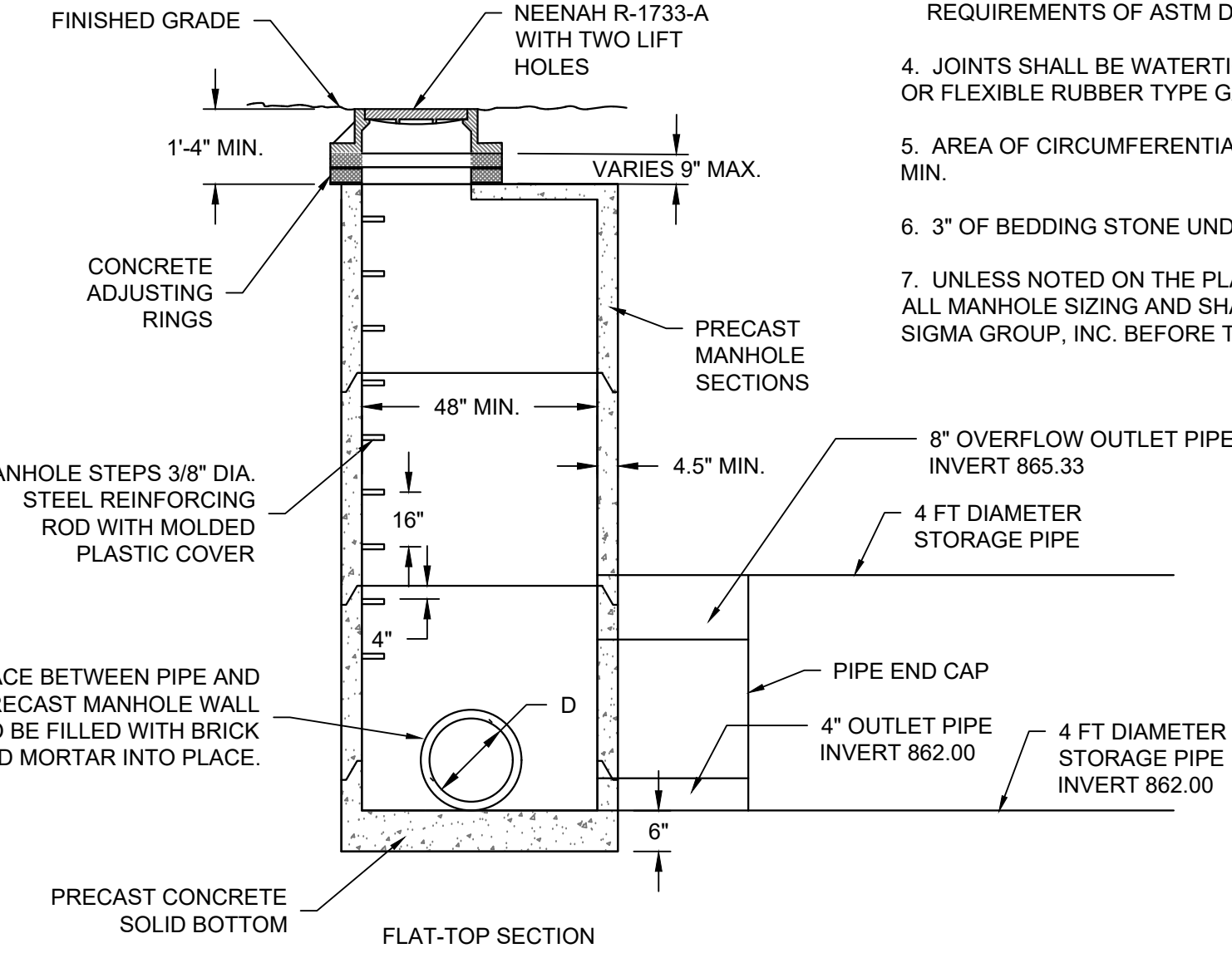


**A**

PIPE STORAGE OUTLET CONTROL STRUCTURE

SCALE: NTS

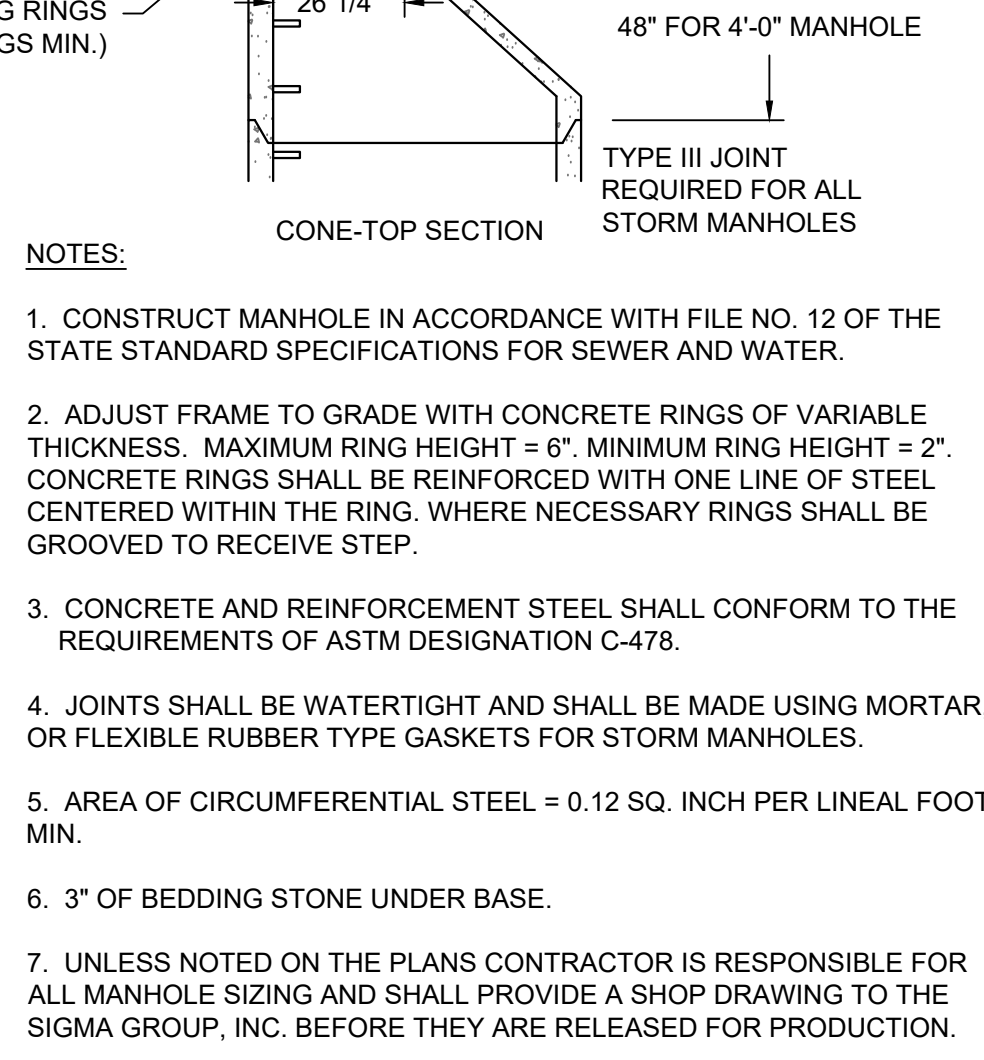
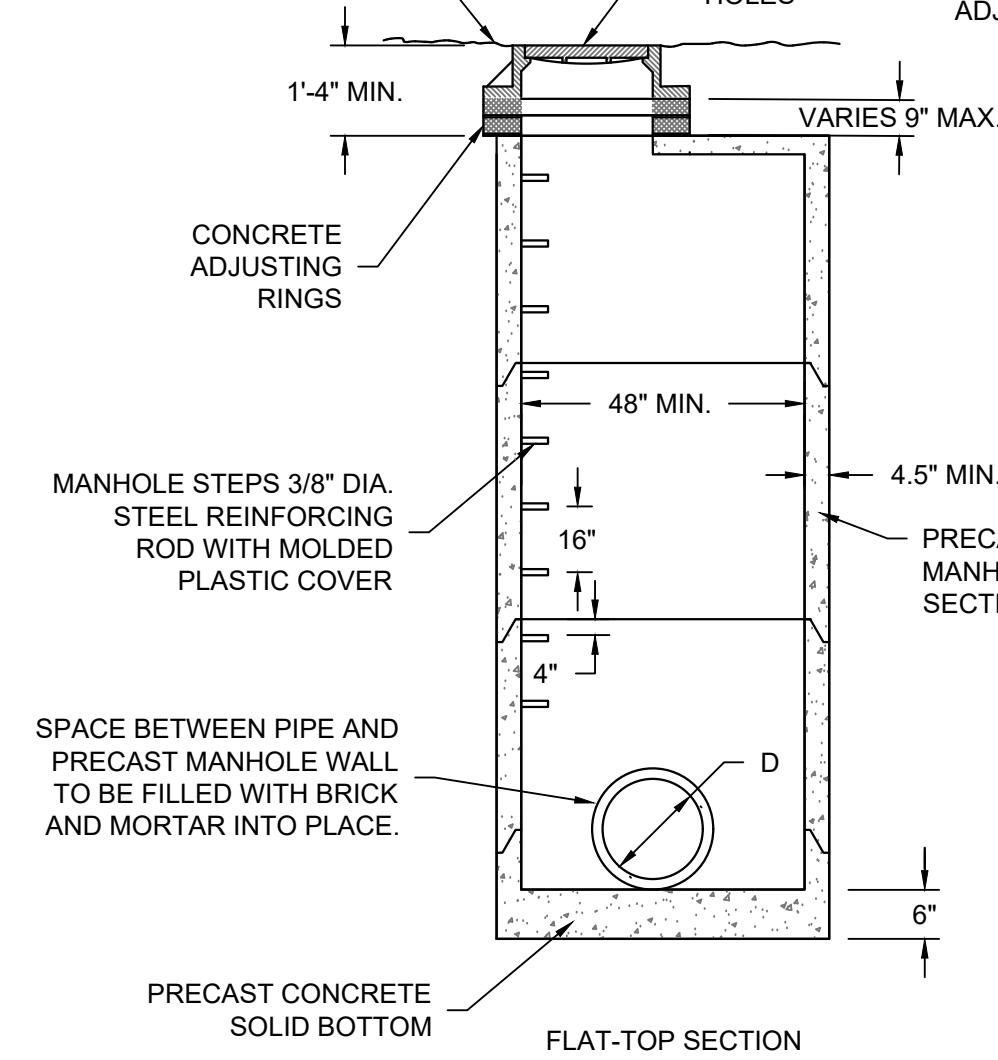
- NOTES:**
1. CONSTRUCT MANHOLE IN ACCORDANCE WITH FILE NO. 12 OF THE STATE STANDARD SPECIFICATIONS FOR SEWER AND WATER.
  2. ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 8". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY RINGS SHALL BE GROOVED TO RECEIVE STEP.
  3. CONCRETE AND REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION C-478.
  4. JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING MORTAR, OR FLEXIBLE RUBBER TYPE GASKETS FOR STORM MANHOLES.
  5. AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ. INCH PER LINEAL FOOT MIN.
  6. 3" OF BEDDING STONE UNDER BASE.
  7. UNLESS NOTED ON THE PLANS CONTRACTOR IS RESPONSIBLE FOR ALL MANHOLE SIZING AND SHALL PROVIDE A SHOP DRAWING TO THE SIGMA GROUP, INC. BEFORE THEY ARE RELEASED FOR PRODUCTION.



**B**

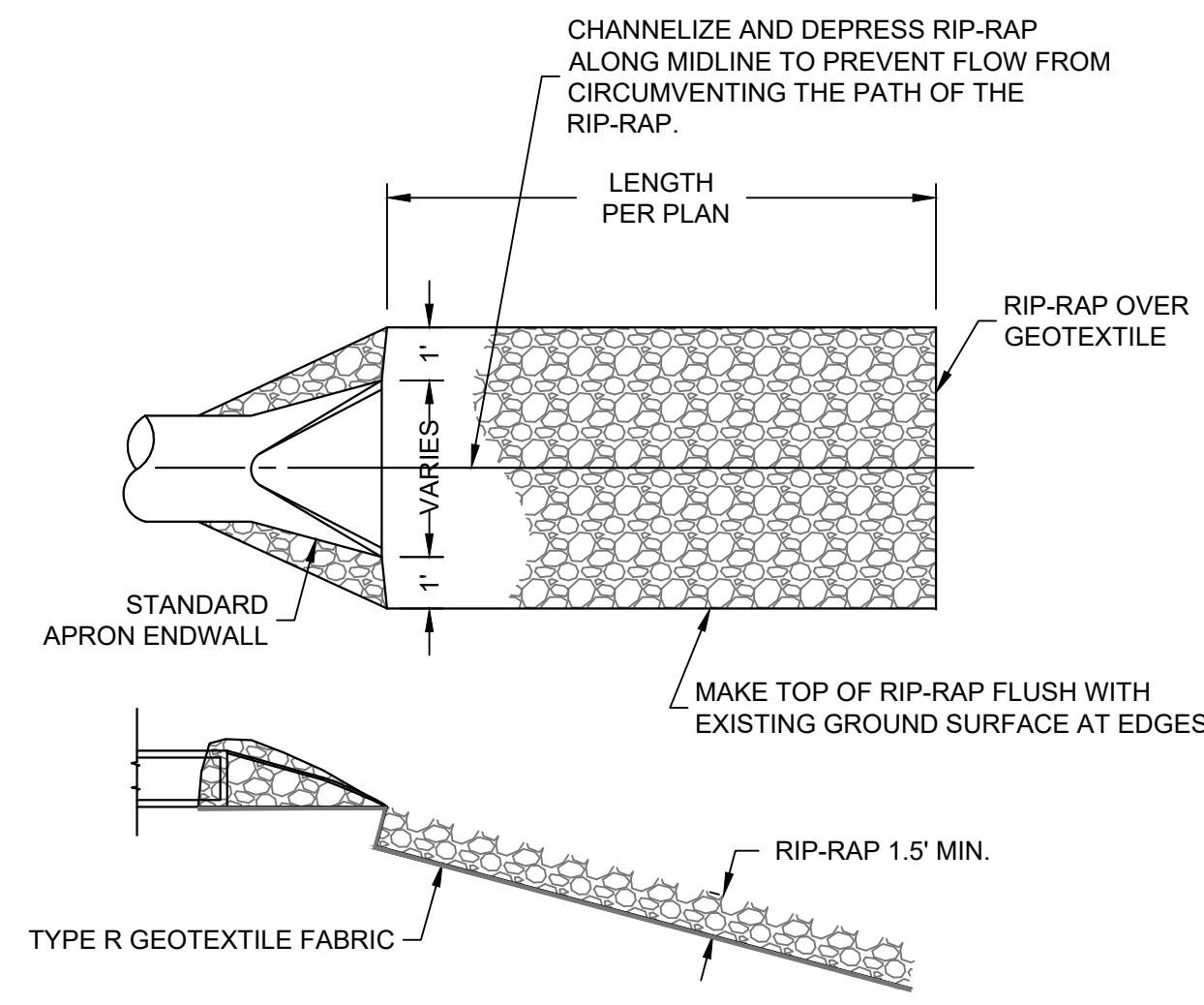
PRECAST STORM MANHOLE

SCALE: NTS



**NOTES:**

1. CONSTRUCT MANHOLE IN ACCORDANCE WITH FILE NO. 12 OF THE STATE STANDARD SPECIFICATIONS FOR SEWER AND WATER.
2. ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY RINGS SHALL BE GROOVED TO RECEIVE STEP.
3. CONCRETE AND REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION C-478.
4. JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING MORTAR, OR FLEXIBLE RUBBER TYPE GASKETS FOR STORM MANHOLES.
5. AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ. INCH PER LINEAL FOOT MIN.
6. 3" OF BEDDING STONE UNDER BASE.
7. UNLESS NOTED ON THE PLANS CONTRACTOR IS RESPONSIBLE FOR ALL MANHOLE SIZING AND SHALL PROVIDE A SHOP DRAWING TO THE SIGMA GROUP, INC. BEFORE THEY ARE RELEASED FOR PRODUCTION.



**NOTES:**

1. INSTALL RIP-RAP WHERE SHOWN ON PLANS.
2. FOR PERMANENT POOL (WET) DETENTION BASINS: EXTEND RIP-RAP FROM OUTFALL TO AT LEAST 10 FEET BEYOND THE NORMAL WATER LEVEL.
3. RIP-RAP SHALL BE MEDIUM RIP-RAP PER WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION
4. GEOTEXTILE FABRIC SHALL BE TYPE R PER WISDOT STANDARD SPECIFICATIONS PER HIGHWAY AND STRUCTURE CONSTRUCTION.

**STRM RIP-RAP DISCHARGE APRON**

SCALE: NTS

KIRKLAND CROSSING

PEWAUKEE, WI

DETAILS

PRELIMINARY  
NOT FOR  
CONSTRUCTION

ISSUANCE	DATE
CITY SUBMITTAL	02-15-2023
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NO. REVISION	DATE
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PROJECT NO:	21471
DESIGN DATE:	---
PLOT DATE:	2023.02.14
DRAWN BY:	---
CHECKED BY:	---
APPROVED BY:	---

SHEET NO: **C403**



GENERAL:

- 1. EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, AND NO RESPONSIBILITY IS ASSUMED BY THE OWNER OR ENGINEER FOR THEIR ACCURACY OR COMPLETENESS.
- 2. CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR SHALL HAVE SITE MARKED BY DIGGER'S HOTLINE AND SHALL HAVE PRIVATE UTILITIES MARKED BY A PRIVATE UTILITY LOCATOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL ELEVATIONS, LOCATIONS, AND SIZES OF EXISTING UTILITIES AND SHALL CHECK ALL UTILITY CROSSINGS AND PROPOSED CONNECTIONS FOR CONFLICTS/DISCREPANCIES PRIOR TO INITIATING CONSTRUCTION. REPORT ANY CONFLICTS OR DISCREPANCIES TO THE ENGINEER SO REDESIGN MAY OCCUR IF NEEDED.
- 3. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLANS. LENGTHS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

SITE CLEARING:

- 1. EXCEPT FOR STRIPPED TOPSOIL OR OTHER MATERIALS INDICATED TO REMAIN ON OWNER'S PROPERTY, CLEARED MATERIALS SHALL BECOME CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM PROJECT SITE.
- 2. MINIMIZE INTERFERENCE WITH ADJOINING ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING SITE-CLEARING OPERATIONS.
- 3. SALVAGE IMPROVEMENTS: CAREFULLY REMOVE ITEMS INDICATED TO BE SALVAGED AND STORE ON OWNER'S PREMISES WHERE INDICATED.
- 4. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE SITE CLEARING.
- 5. DO NOT COMMENCE SITE CLEARING OPERATIONS UNTIL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE.
- 6. PROTECT AND MAINTAIN BENCHMARKS AND SURVEY CONTROL POINTS FROM DISTURBANCE DURING CONSTRUCTION.
- 7. LOCATE AND CLEARLY FLAG TREES AND VEGETATION TO REMAIN OR TO BE RELOCATED.
- 8. PROTECT EXISTING SITE IMPROVEMENTS TO REMAIN FROM DAMAGE DURING CONSTRUCTION; RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO OWNER.
- 9. LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF UTILITIES INDICATED TO BE REMOVED; ARRANGE WITH UTILITY COMPANIES TO SHUT OFF INDICATED UTILITIES.
- 10. EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED BY THE OWNER AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES.
- 11. FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIAL UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED; PLACE FILL MATERIAL IN HORIZONTAL LAYERS NOT EXCEEDING A LOOSE DEPTH OF 8 INCHES, AND COMPACT EACH LAYER TO A DENSITY EQUAL TO ADJACENT ORIGINAL GROUND.
- 12. REMOVE SOD AND GRASS BEFORE STRIPPING TOPSOIL.
- 13. STRIP TOPSOIL TO WHATEVER DEPTHS ARE ENCOUNTERED IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL OR OTHER WASTE MATERIALS.
- 14. STOCKPILE TOPSOIL MATERIALS AWAY FROM EDGE OF EXCAVATIONS WITHOUT INTERMIXING WITH SUBSOIL. GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.
- 15. REMOVE EXISTING ABOVE- AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION.
- 16. SAWCUT ALL PAVEMENTS FULL DEPTH PRIOR TO REMOVAL; SAWCUTS SHALL BE IN STRAIGHT LINES PERPENDICULAR AND/OR PARALLEL TO EXISTING PAVEMENT JOINTS AND PAVEMENT EDGES.
- 17. REMOVE SURPLUS SOIL MATERIAL, UNSUITABLE TOPSOIL, OBSTRUCTIONS, DEMOLISHED MATERIALS, AND WASTE MATERIALS INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
- 18. SEPARATE RECYCLABLE MATERIALS PRODUCED DURING SITE CLEARING FROM OTHER NONRECYCLABLE MATERIALS. STORE OR STOCKPILE WITHOUT INTERMIXING WITH OTHER MATERIALS AND TRANSPORT THEM TO RECYCLING FACILITIES.

SITE WATER SERVICE:

- 1. COMPLY WITH STANDARDS OF STATE PLUMBING CODE (SPS CH. 382, 384), LOCAL WATER UTILITY REQUIREMENTS AND STANDARDS OF AUTHORITIES HAVING JURISDICTION FOR FIRE-SUPPRESSION AND WATER SERVICE PIPING INCLUDING MATERIALS, FITTINGS, APPURTENANCES, INSTALLATION, TESTING, SERVICE TAPS, ETC. IN CASE OF CONFLICT BETWEEN THESE SPECIFICATIONS AND STATE PLUMBING CODE OR LOCAL JURISDICTIONAL AUTHORITY, STATE PLUMBING CODE AND LOCAL JURISDICTIONAL AUTHORITY REQUIREMENTS GOVERN.
- 2. DO NOT INTERRUPT SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED BY OWNERS OF SUCH FACILITIES AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY WATER-DISTRIBUTION SERVICE.
- 3. WATER SERVICE PIPING MAY BE EITHER DUCTILE IRON WATER PIPE OR PVC WATER PIPE AS ALLOWED BY THE LOCAL WATER UTILITY.
- 4. DUCTILE IRON WATER PIPE CONFORMING TO THE REQUIREMENTS OF THE AMERICAN NATIONAL STANDARD FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST, AWWA C151/A21.51 - LATEST REVISION AND REQUIREMENTS OF CHAPTER 8.18.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
  - a. CLASS 52
  - b. CEMENT MORTAR LINING AND INTERNAL AND EXTERNAL BITUMINOUS COATS IN ACCORDANCE WITH SECTION 51.8 OF AWWA C151.
  - c. PUSH-ON GASKET PIPE
  - d. PLAIN RUBBER GASKETS
  - e. BONDING STRAPS TO PROVIDE ELECTRICAL CONDUCTIVITY WITHOUT FIELD TESTING
- 5. JOINTS FOR DUCTILE IRON PIPE: JOINTS SHALL BE RUBBER GASKET JOINTS; CONFORM TO THE REQUIREMENTS OF AMERICAN NATIONAL STANDARD FOR RUBBER GASKET JOINTS FOR DUCTILE IRON PRESSURE PIPE AND FITTINGS (ANSI/AWWA C111/A21.11, LATEST EDITION)
- 6. FITTINGS FOR DUCTILE IRON PIPE: CONFORM TO THE REQUIREMENTS OF AMERICAN NATIONAL STANDARD FOR DUCTILE IRON AND GRAY IRON FITTINGS, 3" THROUGH 48" FOR WATER ANSI/AWWA C110/A21.10, LATEST EDITION; CLASS 250 MECHANICAL JOINT PIPE FITTINGS: CEMENT LINED; ALL BELLS; ENTIRE FITTING TAPPED; CONDUCTIVE MECHANICAL JOINT (NO LEAD) RUBBER GASKETS, FLANGES, AND BOLTS.
- 7. PVC AWWA PIPE: AWWA C900, CLASS 235 WITH BELL END WITH GASKET AND WITH SPIGOT END AND MEETING REQUIREMENTS OF CHAPTER 8.20.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. FITTINGS SHALL BE IN ACCORDANCE WITH CHAPTER 8.22.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. MECHANICAL JOINT, DUCTILE IRON FITTINGS: AWWA C163, DUCTILE-IRON COMPACT PATTERN. GLANDS, GASKETS AND BOLTS: AWWA C111, DUCTILE IRON GLANDS, RUBBER GASKETS AND STEEL BOLTS.
- 8. GATE VALVES: CONFORM TO AWWA C-500 AND STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN SUITABLE FOR DIRECT BURY.
- 9. VALVE BOXES: CAST IRON CONFORMING TO ASTM DESIGNATION A-48, CLASS 20 AND STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- 10. FIRE HYDRANTS: TO MEET LOCAL STANDARDS.
- 11. WATER MAIN CONNECTIONS: TAP WATER MAIN WITH SIZE AND LOCATION INDICATED ON PLAN IN ACCORDANCE WITH LOCAL WATER UTILITY REQUIREMENTS. COORDINATE CONNECTION WITH LOCAL WATER UTILITY. ALL JOINTS SHALL BE RESTRAINED FROM CONNECTION OF WATER MAIN TO BUILDING WALL. SUBMIT JOINT RESTRAINT DETAILS FOR ALL JOINT TYPES INCLUDING PUSH-ON AND MECHANICAL CONNECTIONS. INSTALL MEGA-LUG OR APPROVED EQUAL TIGHT TO WALL FOR RESTRAINT FOR ALL BUILDING WALL PENETRATIONS AS APPROVED BY LOCAL PLUMBING INSPECTOR AND WATER UTILITY. INSTALL THRUST BLOCKING AND MEGA-LUG AT BEND BELOW FLOOR FOR ALL FLOOR PENETRATIONS
- 12. GENERAL WATER PIPE INSTALLATION: IN ACCORDANCE WITH CHAPTER 4.3.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- 13. INSTALL DUCTILE-IRON, WATER-SERVICE PIPING ACCORDING TO AWWA C600 AND CHAPTER 4.4.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- 14. ALL DUCTILE IRON PIPE SHALL BE ENCASED IN POLYETHYLENE PER AWWA C105, LATEST EDITION AND IN ACCORDANCE WITH CHAPTER 4.4.4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. ALL JOINTS AND FITTINGS SHALL HAVE POLYETHYLENE ENCASEMENT INSTALLED PER MANUFACTURER'S REQUIREMENTS AND PROCEDURES.
- 15. INSTALL PVC AWWA PIPE ACCORDING TO ASTM F645 AND AWWA M23 AND CHAPTER 4.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- 16. INSTALL JOINT RESTRAINT AND CONCRETE THRUST BLOCKS AT ALL OFFSET FITTINGS (TEES, BENDS, DEAD ENDS, VALVES, REDUCERS) USING MEGA-LUG OR APPROVED EQUAL. CONCRETE THRUST BLOCKS SHALL BE INSTALLED PER FILE NOS:44,45,46 FROM THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. SEE DETAIL FOR MINIMUM LENGTH OF RESTRAINED JOINT REQUIRED. SUBMIT JOINT RESTRAINT DETAILS FOR ALL JOINT TYPES INCLUDING PUSH-ON AND MECHANICAL CONNECTIONS. INSTALL WATER SERVICE PIPING SUCH THAT THERE IS A MINIMUM OF 6" OF COVER OVER THE TOP OF THE WATER SERVICE PIPING.

SITE WATER SERVICE CONT.:

- 17. BEDDING AND COVER FOR WATER SERVICE PIPING SHALL BE IN ACCORDANCE WITH SECTION 4.3.3 AND FILE NO. 36 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. TRENCH BACKFILL SHALL BE GRANULAR B BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION ON-SITE.
- 18. INSTALL TRACER WIRE FOR NON-METALLIC WATER SERVICES IN ACCORDANCE WITH SPS SECTION 382.40(8)(K). TRACER WIRE INSULATION COLOR SHALL BE BLUE FOR POTABLE WATER SERVICE PIPING.
- 19. DUCTILE-IRON PIPING, RUBBER GASKETED JOINTS IN ACCORDANCE WITH SECTION 4.4.2 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- 20. PVC PIPING GASKETED JOINTS: USING JOINING MATERIALS ACCORDING TO AWWA C900. CONSTRUCT JOINTS WITH ELASTOMERIC SEALS AND LUBRICANTS ACCORDING TO ASTM D2774 OR ASTM D3139 AND PIPE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 21. CONDUCT HYDROSTATIC TESTS IN ACCORDANCE WITH CHAPTER 4.15.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
- 22. CLEAN AND DISINFECT WATER SERVICE PIPING IN ACCORDANCE WITH SPS CHAPTER 82.40(8)(I) AND AWWA C651.

SANITARY SEWERAGE:

- 1. ALL PRIVATE SANITARY SEWER WORK SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES (DSPS) PLUMBING CODE - CHAPTERS SPS 382 AND SPS 384 AND LOCAL MUNICIPAL REQUIREMENTS.
- 2. ALL PUBLIC SANITARY SEWER WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION (STANDARD SPECIFICATIONS) AND LOCAL MUNICIPAL REQUIREMENTS.
- 3. PVC SEWER PIPE AND FITTINGS: ASTM D 3034, SDR 35, WITH BELL-AND-SPIGOT ENDS WITH RUBBER GASKETED JOINTS IN ACCORDANCE WITH CHAPTER 8.10.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. JOINTS SHALL CONFORM TO ASTM D-3212.
- 4. MANHOLES: STANDARD PRECAST REINFORCED CONCRETE MANHOLES CONFORMING TO ASTM C478, SECTION 8.39.0 OF THE STANDARD SPECIFICATIONS AND CONFORMING TO FILE NOS. 12, 13 AND 15 OF THE STANDARD SPECIFICATIONS. DIAMETER AND DEPTH AS INDICATED ON PLANS. MANHOLE SIZES TO BE VERIFIED BY CONTRACTOR AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING STRUCTURES.
- 5. MANHOLES DEEPER THAN FOUR FEET SHALL BE PROVIDED WITH MANHOLE STEPS CONFORMING TO SECTION 8.40.0 OF THE STANDARD SPECIFICATIONS.
- 6. SEWERS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 3.2.0 OF THE STANDARD SPECIFICATIONS. INSTALL PROPER SIZE INCREASERS, REDUCERS AND COUPLINGS WHERE DIFFERENT SIZES OR MATERIALS OF PIPES AND FITTINGS ARE CONNECTED. INSTALL TRACER PIPE OVER NON-METALLIC PIPING IN ACCORDANCE WITH SPS SECTION 382.30(11)(H) AND 382.36(7)(D).
- 7. PIPE JOINT CONSTRUCTION: FOLLOW PIPING MANUFACTURER'S RECOMMENDATIONS; JOIN PVC SEWER PIPE ACCORDING TO ASTM D2321 AND ASTM D 3212 FOR ELASTOMERIC GASKET JOINTS. JOIN DISSIMILAR PIPE MATERIALS WITH NONPRESSURE-TYPE, FLEXIBLE COUPLINGS
- 7. PROVIDE AND INSTALL CLEANOUTS IN ACCORDANCE WITH SPS CHAPTER 382.35. INSTALL CLEANOUTS AND RISER EXTENSIONS FORM SEWER PIPES TO PROPOSED GRADE. INSTALL PIPING SO CLEANOUTS OPEN IN DIRECTION OF FLOW IN SEWER PIPE. USE LIGHT DUTY, TOP LOADING CLASSIFICATION CLEANOUTS IN EARTH OR UNPAVED FOOT TRAFFIC AREAS; USE MEDIUM DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN PAVED FOOT TRAFFIC AREAS; USE HEAVY DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN VEHICULAR TRAFFIC AREAS. SET CLEANOUT FRAMES AND COVERS IN PAVEMENT AREAS FLUSH WITH PAVEMENT SURFACE.
- 8. CLASS B COMPACTED TRENCH SECTION (FILE NO. 4 OF STANDARD SPECIFICATIONS) SHALL BE UTILIZED. BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF THE STANDARD SPECIFICATIONS.
- 9. TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
- 10. MANHOLE INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS. SET MANHOLE RIMS TO ELEVATIONS INDICATED ON PLANS.
- 11. AFTER INSTALLATION OF SEWER PIPE CLEAN ALL DEBRIS FROM SEWER AND INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED. CONDUCT DEFLECTION TESTING OF INSTALLED PIPE IN ACCORDANCE WITH SECTION 3.2.6(I)(H) OF THE STANDARD SPECIFICATIONS; REPLACE ANY PIPE SECTION NOT PASSING THE DEFLECTION TESTING USING NEW PIPE MATERIALS. TEST NEW BUILDING SEWER IN ACCORDANCE WITH SECTION 5.4.0 OF THE STANDARD SPECIFICATIONS. REPLACE LEAKING PIPE USING NEW PIPE MATERIALS AND REPEAT TESTING UNTIL LEAKAGE IS WITHIN ALLOWANCES SPECIFIED.

STORM DRAINAGE:

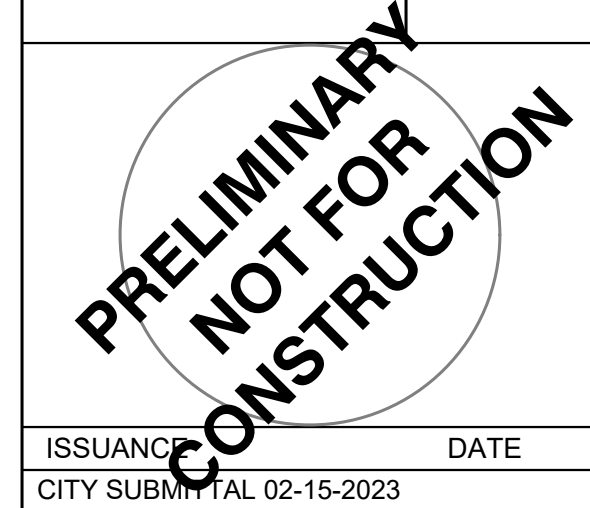
- 1. ALL PRIVATE STORM SEWER WORK SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES (DPS) PLUMBING CODE - CHAPTERS SPS 382 AND SPS 384 AND LOCAL MUNICIPAL REQUIREMENTS.
- 2. ALL PUBLIC STORM SEWER WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION (STANDARD SPECIFICATIONS) AND LOCAL MUNICIPAL REQUIREMENTS.
- 3. PVC SEWER PIPE AND FITTINGS: ASTM D 3034, SDR 35, WITH BELL-AND-SPIGOT ENDS WITH RUBBER GASKETED JOINTS IN ACCORDANCE WITH CHAPTER 8.10.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. JOINTS SHALL CONFORM TO ASTM D-3212.
- 4. REINFORCED CONCRETE PIPE: ASTM C76 WITH BELL AND SPIGOT ENDS AND GASKETED JOINTS WITH ASTM C443 RUBBER GASKETS IN ACCORDANCE WITH CHAPTER 8.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- 5. HDPE PIPE: ADS N12 PIPE AS APPROVED ON THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES PLUMBING PRODUCT REGISTER.
- 6. CATCH BASINS: STANDARD PRECAST CONCRETE CATCH BASINS CONFORMING TO CHAPTER 3.6.0 OF THE STANDARD SPECIFICATIONS AND IN GENERAL CONFORMANCE WITH FILE NO. 28 OF THE STANDARD SPECIFICATIONS. DEPTH AND DIAMETER AS INDICATED ON PLANS. CATCH BASIN SIZES TO BE VERIFIED BY CONTRACTOR AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING STRUCTURES.
- 7. FRAMES AND GRATES: AS INDICATED ON PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING SPECIFIED FRAME/GRATE IS COMPATIBLE WITH STRUCTURE; IF NOT, NOTIFY ENGINEER.
- 8. MANHOLES: STANDARD PRECAST REINFORCED CONCRETE MANHOLES CONFORMING TO ASTM C478, SECTION 8.39.0 OF THE STANDARD SPECIFICATIONS AND CONFORMING TO FILE NOS. 12, 13 AND 15 OF THE STANDARD SPECIFICATIONS. DIAMETER AND DEPTH AS INDICATED ON PLANS. MANHOLE SIZES TO BE VERIFIED BY CONTRACTOR AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING STRUCTURES.
- 9. MANHOLES AND CATCH BASINS DEEPER THAN FOUR FEET SHALL BE PROVIDED WITH MANHOLE STEPS CONFORMING TO SECTION 8.40.0 OF THE STANDARD SPECIFICATIONS.
- 10. SEWERS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 3.2.0 OF THE STANDARD SPECIFICATIONS. INSTALL PROPER SIZE INCREASERS, REDUCERS AND COUPLINGS WHERE DIFFERENT SIZES OR MATERIALS OF PIPES AND FITTINGS ARE CONNECTED. INSTALL TRACER PIPE OVER NON-METALLIC PIPING IN ACCORDANCE WITH SPS SECTION 382.30(11)(H) AND 382.36(7)(D).
- 11. PROVIDE AND INSTALL CLEANOUTS IN ACCORDANCE WITH SPS CHAPTER 382.35. INSTALL CLEANOUTS AND RISER EXTENSIONS FORM SEWER PIPES TO PROPOSED GRADE. INSTALL PIPING SO CLEANOUTS OPEN IN DIRECTION OF FLOW IN SEWER PIPE. USE LIGHT DUTY, TOP LOADING CLASSIFICATION CLEANOUTS IN EARTH OR UNPAVED FOOT TRAFFIC AREAS; USE MEDIUM DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN PAVED FOOT TRAFFIC AREAS; USE HEAVY DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN VEHICULAR TRAFFIC AREAS. SET CLEANOUT FRAMES AND COVERS IN PAVEMENT AREAS FLUSH WITH PAVEMENT SURFACE.
- 12. CLASS B COMPACTED TRENCH SECTION (FILE NO. 4 OF STANDARD SPECIFICATIONS) SHALL BE UTILIZED. BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF THE STANDARD SPECIFICATIONS.
- 13. TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
- 14. MANHOLE INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS. SET MANHOLE RIMS TO ELEVATIONS INDICATED ON PLANS.
- 15. CATCH BASIN INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.6 OF THE STANDARD SPECIFICATIONS. CATCH BASIN EXCAVATION AND PREPARATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.4(A) AND (B) OF THE STANDARD SPECIFICATIONS. FRAMES AND GRATES SHALL BE SET TO THE ELEVATIONS SHOWN ON THE PLANS.
- 16. AFTER INSTALLATION OF SEWER PIPE CLEAN ALL DEBRIS FROM SEWER AND INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED. CONDUCT DEFLECTION TESTING OF INSTALLED PIPE IN ACCORDANCE WITH SECTION 3.2.6(I)(J) OF THE STANDARD SPECIFICATIONS; REPLACE ANY PIPE SECTION NOT PASSING THE DEFLECTION TESTING USING NEW PIPE MATERIALS.

EARTH MOVING:

- 1. ALL EARTH WORK SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER PRESENTED IN THE SITE GEOTECHNICAL REPORT, GEOTECHNICAL ENGINEER RECOMMENDATIONS MADE IN THE FIELD AND THESE SPECIFICATIONS. IN CASE OF CONFLICT BETWEEN THESE SPECIFICATIONS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER, THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER SHALL GOVERN.
- 2. CONTRACTOR SHALL PROVIDE MATERIAL TEST REPORTS FROM A QUALIFIED TESTING AGENCY INDICATING TEST RESULTS FOR CLASSIFICATION ACCORDING TO ASTM D2487 AND LABORATORY COMPACTION CURVES ACCORDING TO ASTM D 1557 FOR EACH ON-SITE AND OFF-SITE SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
- 3. CONTRACTOR SHALL PROVIDE PREEXCAVATION PHOTOS OR VIDEOS SHOWING EXISTING CONDITIONS OF ADJOINING STRUCTURES AND SITE IMPROVEMENTS THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY EARTHWORK OPERATIONS.
- 4. OLD BUILDING FOUNDATIONS, BUILDING REMNANTS OR UNSUITABLE BACKFILL MATERIAL SHALL BE COMPLETELY REMOVED FROM WITHIN AND A MINIMUM OF 10 FEET BEYOND THE NEW BUILDING PAD AREAS. THE RESULTING EXCAVATION SHALL BE BACKFILLED WITH COMPACTED ENGINEERED FILL.
- 5. FOUNDATIONS, FOUNDATION WALLS OR CONCRETE FLOOR SLABS SHALL BE REMOVED TO A MINIMUM OF TWO FEET BELOW PROPOSED SUBGRADE WITHIN PROPOSED PARKING AND GREENSPACE AREAS. BASEMENT SLABS LOCATED BELOW 2 FEET FROM PLANNED SUBGRADE ELEVATION MAY BE LEFT IN PLACE BUT SHALL BE BROKEN INTO MAXIMUM 6 INCH PIECES TO FACILITATE DRAINAGE.
- 6. SATISFACTORY SOILS FOR FILL: ASTM D 2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, SW, SP, AND SM OR A COMBINATION OF THESE GROUPS; FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER OR ANY SOIL GROUP OR COMBINATION OF GROUPS APPROVED OF BY THE PROJECT GEOTECHNICAL ENGINEER.
- 7. UNSATISFACTORY SOILS FOR FILL: SOIL CLASSIFICATION GROUPS GC, SC, CL, ML, OL, CH, MH, OH, AND PT ACCORDING TO ASTM D 2487 OR A COMBINATION OF THESE GROUPS UNLESS DEEMED SATISFACTORY BY THE PROJECT GEOTECHNICAL ENGINEER. UNSATISFACTORY SOILS ALSO INCLUDE SOILS NOT MAINTAINED WITHIN 3 PERCENT OF OPTIMUM SOIL MOISTURE CONTENT AT THE TIME OF COMPACTION.
- 8. AGGREGATE BASE COURSE BENEATH PAVEMENTS: SHALL BE 1-1/4" DENSE GRADED BASE COURSE CONFORMING TO SECTION 305 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.
- 9. ENGINEERED FILL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D 2940, WITH AT LEAST 90 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND NOT MORE THAN 12 PERCENT PASSING A NO. 200 SIEVE OR ANY SOIL DEEMED ACCEPTABLE FOR ENGINEERED FILL BY THE PROJECT GEOTECHNICAL ENGINEER. ENGINEERED FILL SHALL BE FREE OF ORGANIC, FROZEN, OR OTHER DELETERIOUS MATERIAL AND HAVE A MAXIMUM PARTICLE SIZE LESS THAN 3 INCHES. CLAY FILLS SHALL HAVE A LIQUID LIMIT OF LESS THAN 49 AND PLASTICITY INDEX BETWEEN 11 AND 25.
- 10. BEDDING COURSE FOR SEWERS AND WATER SERVICE: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND CONFORMING TO THE REQUIREMENTS OF SECTION 8.43.2 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- 11. DRAINAGE COURSE BENEATH BUILDING SLABS: NARROWLY GRADED MIXTURE OF WASHED, CRUSHED STONE, OR CRUSHED OR UNCRUSHED GRAVEL; ASTM D 448; COARSE-AGGREGATE GRADING SIZE 57; WITH 100 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND 0 TO 5 PERCENT PASSING A NO. 8 SIEVE.
- 12. TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
- 13. PIPE COVER MATERIAL: CONFORM TO SECTION 8.43.3 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- 14. PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
- 15. SHORING, SHEETING AND BRACING: SHORE, BRACE OR SLOPE BANKS OF EXCAVATION TO PROTECT WORKMEN, BANKS, ADJACENT PAVING, STRUCTURES, AND UTILITIES TO MEET OSHA REQUIREMENTS. DESIGN OF TEMPORARY SUPPORT OF EXCAVATION IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 16. EXCAVATE TO SUBGRADE ELEVATIONS REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED. UNCLASSIFIED EXCAVATED MATERIALS MAY INCLUDE ROCK, SOIL MATERIALS, AND OBSTRUCTIONS. NO CHANGES IN THE CONTRACT SUM OR THE CONTRACT TIME WILL BE AUTHORIZED FOR ROCK EXCAVATION OR REMOVAL OF OBSTRUCTIONS.
- 17. PROOF-ROLL SUBGRADE BELOW THE BUILDING SLABS AND PAVEMENTS WITH FULLY LOADED TANDEM AXLE DUMP TRUCK OR RUBBER Tired VEHICLE OF SIMILAR SIZE AND WEIGHT, TYPICALLY 9 TONS/AXLE, WHERE COHESIVE SOILS ARE ENCOUNTERED OR WITH A SMOOTH DRUMMED VIBRATORY ROLLER WHERE GRANULAR SOILS ARE PRESENT. DO NOT PROOF-ROLL WET OR SATURATED SUBGRADES AND PROOFROLL IN DRY WEATHER. PROOF ROLL IN PRESENCE OF PROJECT GEOTECHNICAL ENGINEER OR TECHNICIAN. SOILS THAT ARE OBSERVED TO RUT OR DEFLECT EXCESSIVELY UNDER THE MOVING LOAD (TYPICALLY >1") SHALL BE UNDERCUT AND REPLACED WITH PROPERLY COMPACTED ENGINEERED FILL. IN PAVEMENT AREAS WHERE UNDERCUTS ARE PERFORMED, THE EDGES OF THE OVEREXCAVATIONS SHALL BE FEATHERED INOT THE SURROUNDING SUITABLE SOIL SO THAT EDGE FAILURE OF THE OVEREXCAVATED AREA DOES NOT OCCUR.
- 18. DUE TO CLAYEY SOILS, IF UNDERCUTS OCCUR WITHIN PAVEMENT AREAS AND THEY ARE BACKFILLED WITH GRANULAR SOILS, THE BOTTOM OF THE OVEREXCAVATION SHALL BE SLOPED TO A DRAINILE THAT IS IN KIND SLOPED TOWARD THE NEAREST STORM SEWER. MINIMUM SLOPES OF SUCH DRAINILES SHALL BE 0.5%.
- 19. CONVENTIONAL DISKING AND AERATION TECHNIQUES SHALL BE USED TO DRY SOILS BEFORE PROOF ROLLING. ALLOT FOR PROPER DRYING TIME IN PROJECT SCHEDULE.
- 20. ENGINEERED FILL SHALL BE PLACED IN MAXIMUM LIFTS OF EIGHT INCHES OF LOOSE MATERIAL AND COMPACTED WITHIN 3% OF OPTIMUM SOIL MOISTURE CONTENT VALUE AND A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST ASTM D1557. EACH LIFT OF COMPACTED ENGINEERED FILL SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
- 21. EXISTING OLD FILL MATERIAL SHALL BE REMOVED BELOW FOOTINGS OR FOUNDATION SUPPORTING FILL. ENGINEERED FILL BELOW FOOTINGS SHOULD HAVE AN IN-PLACE DENSITY OF 95% OF THE MAXIMUM DRY DENSITY AND A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. ENGINEERED FILL BELOW FOOTINGS SHALL BE EVALUATED BY IN-FIELD DENSITY TESTS DURING CONSTRUCTION.
- 22. WHERE UNSUITABLE BEARING SOILS ARE ENCOUNTERED IN A FOOTING EXCAVATION, THE EXCAVATION SHALL BE DEEPENED TO COMPETENT BEARING SOIL AND THE FOOTING LOWERED OR AN OVEREXCAVATION AND BACKFILL PROCEDURE PERFORMED. OVEREXCAVATION AND BACKFILL TREATMENT REQUIRES WIDENING THE DEEPENED EXCAVATION IN ALL DIRECTIONS AT LEAST 6 INCHES BEYOND THE EDGE OF THE FOOTING FOR EACH 12 INCHES OF OVEREXCAVATION DEPTH. THE OVEREXCAVATION SHALL BE BACKFILLED UP TO FOOTING BASE ELEVATION IN MAXIMUM 8 INCH LOOSE LIFTS WITH SUITABLE GRANULAR FILL MATERIAL AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AND A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. SOILS AT FOUNDATION BEARING ELEVATION IN THE FOOTING EXCAVATIONS SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
- 23. A MINIMUM OF FOUR INCHES OF DRAINAGE COURSE MAT SHALL BE PLACED BELOW BUILDING FLOOR SLABS. DRAINAGE COURSE SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION WITH RESPECT TO THE MODIFIED PROCTOR (ASTM D1557)
- 24. UTILITY TRENCHES FOR SEWER AND WATER SHALL CONFORM TO CLASS B COMPACTED TRENCH SECTION IN ACCORDANCE WITH FILE NO. 4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- 25. BACKFILL UTILITY TRENCHES IN 4 TO 8 INCH LOOSE LIFTS COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557. BACKFILL SHALL BE MOISTURE CONDITIONED TO BE WITH 3% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D1557.
- 26. UTILITY BEDDING PLACEMENT: CONFORM TO SECTION 3.2.6 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. BEDDING MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% COMPACTION WITH RESPECT TO THE MODIFIED PROCTOR (ASTM D1557).
- 27. COMPACTION TESTING OF UTILITY TRENCHES SHALL BE PERFORMED ONE FOR EVERY 200 CUBIC YARDS OF BACKFILL PLACED OR ONE FOR TEST PER 200 LINEAR FEET OF TRENCH FOR EACH LIFT, WHICHEVER IS LESS.
- 28. AGGREGATE BASE COURSE BENEATH PAVEMENTS SHALL BE PLACED AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. AGGREGATE BASE SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
- 29. GRADING GENERAL: UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE. FREE OF IRREGULAR SURFACE CHANGES. COMPLY WITH COMPACTION REQUIREMENTS AND GRADE TO CROSS SECTIONS, LINES, AND ELEVATIONS INDICATED. SLOPE GRADES TO DIRECT WATER AWAY FROM BUILDINGS AND TO PREVENT PONDING.
- 30. TESTING AGENCY: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM FIELD QUALITY-CONTROL TESTING.
- 31. FOOTING SUBGRADE TESTING: EACH ISOLATED FOOTING SHALL INCLUDE AT LEAST ONE TEST PROBE. TEST PROBES SHALL BE PERFORMED EVERY 20 LINEAR FEET IN CONTINUOUS FOOTINGS.
- 32. BUILDING SLAB AREA TESTING: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST 1 TEST PER LIFT FOR EVERY 2500 SQ. FT. OR LESS OF BUILDING SLAB, BUT IN NO CASE FEWER THAN 3 TESTS.
- 33. PAVEMENT AREA TESTING: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST ONE TEST FOR EVERY LIFT FOR EVERY 2,500 SQUARE FEET OF PAVEMENT AREA, BUT IN NO CASES FEWER THAN 3 TESTS.
- 34. FOUNDATION WALL BACKFILL: AT EACH COMPACTED BACKFILL LAYER, AT LEAST 1 TEST PER LIFT FOR EACH 50 FEET OR LESS OF WALL LENGTH, BUT NO FEWER THAN 2 TESTS.
- 35. WHEN TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.
- 36. DISPOSAL: REMOVE SURPLUS SOIL AND WASTE MATERIAL, INCLUDING UNSATISFACTORY SOIL, TRASH, AND DEBRIS, AND LEGALLY DISPOSE OF IT OFF OWNER'S PROPERTY.



KIRKLAND CROSSING  
PEWAUKEE, WI  
SPECIFICATIONS



ISSUANCE DATE	DATE
CITY SUBMITTAL	02-15-2023
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NO. REVISION	DATE
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PROJECT NO.:	21471
DESIGN DATE:	---
PLOT DATE:	2023.02.14
DRAWN BY:	---
CHECKED BY:	---
APPROVED BY:	---

SHEET NO:  
**C500**



**CONCRETE PAVING:**

- THE COMPOSITION, PLACING AND CONSTRUCTION OF CONCRETE PAVEMENTS SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF SECTIONS 415, 416, 501, 601, AND 602 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION (WISDOT STANDARD SPECIFICATIONS) AND LOCAL MUNICIPAL REQUIREMENTS AND SPECIFICATIONS.
- CONTRACTOR SHALL PROVIDE PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED - INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES; JOB-MIX DESIGNS: CERTIFICATION THAT MIX MEETS OR EXCEEDS WISDOT STANDARD SPECIFICATIONS; AND MATERIAL CERTIFICATES CERTIFYING COMPLIANCE WITH WISDOT STANDARD SPECIFICATIONS.
- MANUFACTURER QUALIFICATIONS: MANUFACTURER OF READY-MIXED CONCRETE PRODUCTS WHO COMPLIES WITH ASTM C 94/C 94M REQUIREMENTS FOR PRODUCTION FACILITIES AND EQUIPMENT AND APPROVED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.
- CONCRETE GRADE: GRADE A, GRADE A-2, OR A-FA CONFORMING TO SECTION 501.3.1.3 OF THE WISDOT STANDARD SPECIFICATIONS
- AGGREGATES: CONFORM TO SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS. PROVIDE AGGREGATES FROM A SINGLE SOURCE.
- WATER: ASTM C 94/C 94M AND SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
- AIR-ENTRAINING ADMIXTURE: ASTM C 260 AND SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
- CHEMICAL ADMIXTURES: PER SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
- CURING MATERIALS IN ACCORDANCE WITH SECTION 415.3.12 OF THE WISDOT STANDARD SPECIFICATIONS.
- EXPANSION JOINT MATERIAL: CONFORM TO SECTION 415.2.3 OF THE WISDOT STANDARD SPECIFICATIONS.
- MEASURE, BATCH, AND MIX CONCRETE MATERIALS AND CONCRETE IN ACCORDANCE WITH SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
- GENERAL EXECUTION: CONFORM TO SECTION 415 OF THE WISDOT STANDARD SPECIFICATIONS.
- PROOFROLL SUBGRADE AND AGGREGATE BASE AS OUTLINED IN EARTH MOVING SPECIFICATION PRIOR TO PLACEMENT OF PAVEMENTS.
- SET, BRACE, AND SECURE EDGE FORMS, BULKHEADS, AND INTERMEDIATE SCREED GUIDES FOR PAVEMENT TO REQUIRED LINES, GRADES, AND ELEVATIONS. INSTALL FORMS TO ALLOW CONTINUOUS PROGRESS OF WORK AND SO FORMS CAN REMAIN IN PLACE AT LEAST 24 HOURS AFTER CONCRETE PLACEMENT.
- CLEAN FORMS AFTER EACH USE AND COAT WITH FORM-RELEASE AGENT TO ENSURE SEPARATION FROM CONCRETE WITHOUT DAMAGE.
- JOINTS GENERAL: FORM CONSTRUCTION, ISOLATION, AND CONTRACTION JOINTS AND TOOL EDGINGS TRUE TO LINE WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT TRANSVERSE JOINTS AT RIGHT ANGLES TO CENTERLINE, UNLESS OTHERWISE INDICATED. CONFORM TO SECTION 415 OF THE WISDOT STANDARD SPECIFICATIONS
- CONSTRUCTION JOINTS: SET CONSTRUCTION JOINTS AT SIDE AND END TERMINATIONS OF PAVEMENT AND AT LOCATIONS WHERE PAVEMENT OPERATIONS ARE STOPPED FOR MORE THAN ONE-HALF HOUR UNLESS PAVEMENT TERMINATES AT ISOLATION JOINTS.
- ISOLATION JOINTS: FORM ISOLATION JOINTS OF PREFORMED JOINT-FILLER STRIPS ABUTTING CONCRETE CURBS, CATCH BASINS, MANHOLES, INLETS, STRUCTURES, WALKS, OTHER FIXED OBJECTS, AND WHERE INDICATED.
- CONTRACTION JOINTS: FORM WEAKENED-PLANE CONTRACTION JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED. CONSTRUCT CONTRACTION JOINTS FOR A DEPTH EQUAL TO AT LEAST ONE-FOURTH OF THE CONCRETE THICKNESS TO MATCH JOINTING OF EXISTING ADJACENT CONCRETE PAVEMENT.
- EDGING: TOOL EDGES OF PAVEMENT, GUTTERS, CURBS, AND JOINTS IN CONCRETE AFTER INITIAL FLOATING WITH AN EDGING TOOL TO A 1/4-INCH RADIUS. REPEAT TOOLING OF EDGES AFTER APPLYING SURFACE FINISHES. ELIMINATE TOOL MARKS ON CONCRETE SURFACES.
- CURBING: COMPLY WITH SECTION 601 OF THE WISDOT STANDARD SPECIFICATIONS.
- SIDEWALKS: COMPLY WITH SECTION 602 OF THE WISDOT STANDARD SPECIFICATIONS.
- MOISTEN AGGREGATE TO PROVIDE A UNIFORM DAMPENED CONDITION AT TIME CONCRETE IS PLACED.
- FINISH CURBING IN ACCORDANCE WITH SECTION 601.3.5 OF THE WISDOT STANDARD SPECIFICATIONS.
- FINISH SIDEWALK AND PATIO IN ACCORDANCE WITH SECTION 602.3.2.3 OF THE WISDOT STANDARD SPECIFICATIONS (LIGHT BROOM FINISH).
- FINISH CONCRETE VEHICULAR PAVEMENTS AND PADS IN ACCORDANCE WITH SECTION 415.3.8 OF THE WISDOT STANDARD SPECIFICATIONS (ARTIFICIAL TURF DRAG FINISH).
- PROTECT AND CURE SIDEWALK IN ACCORDANCE WITH SECTION 602.3.2.6 OF THE WISDOT STANDARD SPECIFICATIONS.
- PROTECT AND CURE CURBING IN ACCORDANCE WITH SECTION 601.3.7 OF THE WISDOT STANDARD SPECIFICATIONS.
- PROTECT AND CURE VEHICULAR CONCRETE PAVING IN ACCORDANCE WITH SECTION 415.3.12 OF THE WISDOT STANDARD SPECIFICATIONS.
- REMOVE AND REPLACE CONCRETE PAVEMENT THAT IS BROKEN, DAMAGED, OR DEFECTIVE OR THAT DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION.
- PROTECT CONCRETE FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVEMENT FOR AT LEAST 7 DAYS AFTER PLACEMENT.
- MAINTAIN CONCRETE PAVEMENT FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP CONCRETE PAVEMENT NOT MORE THAN TWO DAYS BEFORE DATE SCHEDULED FOR SUBSTANTIAL COMPLETION INSPECTIONS.

**ASPHALTIC PAVING:**

- THE COMPOSITION, PLACING AND CONSTRUCTION OF ASPHALTIC PAVEMENTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 450, 455, 460, 465, AND 475 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION (WISDOT STANDARD SPECIFICATIONS).
- CONTRACTOR SHALL PROVIDE PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED - INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES; JOB-MIX DESIGNS: CERTIFICATION THAT MIX MEETS OR EXCEEDS WISDOT STANDARD SPECIFICATIONS; AND MATERIAL CERTIFICATES CERTIFYING COMPLIANCE WITH WISDOT STANDARD SPECIFICATIONS.
- MANUFACTURER QUALIFICATIONS: MANUFACTURER SHALL BE REGISTERED WITH AND APPROVED BY THE DOT OF THE STATE IN WHICH PROJECT IS LOCATED.
- ENVIRONMENTAL LIMITATIONS: DO NOT APPLY ASPHALT MATERIALS IF BASE COURSE IS WET OR EXCESSIVELY DAMP OR IF THE FOLLOWING CONDITIONS ARE NOT MET: APPLY TACK COAT WHEN AMBIENT TEMPERATURE IS ABOVE 50 DEGREES FAHRENHEIT AND WHEN TEMPERATURE HAS NOT BEEN BELOW 35 DEGREES FAHRENHEIT FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION, PLACE ASPHALTIC CONCRETE SURFACE COURSE WHEN TEMPERATURE IS ABOVE 40 DEGREES FAHRENHEIT, BASE COURSE MAY BE PLACED WHEN AIR TEMPERATURE IS ABOVE 30 DEGREES FAHRENHEIT AND RISING. PROCEED WITH PAVEMENT MARKING ONLY ON CLEAN, DRY SURFACES. DO NOT APPLY BELOW THE MINIMUM PAVEMENT TEMPERATURE AS RECOMMENDED BY THE MANUFACTURER.
- AGGREGATES SHALL BE IN ACCORDANCE WITH SECTION 460.2.2 OF THE WISDOT STANDARD SPECIFICATIONS.
- ASPHALT MATERIALS SHALL BE IN ACCORDANCE WITH CHAPTER 455 OF THE WISDOT STANDARD SPECIFICATIONS.
- PAVEMENT MARKING PAINT: PROVIDE PAINT FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCTS LIST. COLOR SHALL BE WHITE UNLESS INDICATED OTHERWISE ON PLANS.
- HOT-MIX ASPHALT: ASPHALTIC BINDER COURSE AND SURFACE COURSE SHALL BE MIXTURE LT FOR REGULAR DUTY PAVEMENT AND LT FOR HEAVY DUTY PAVEMENT COMPLYING WITH THE WISDOT STANDARD SPECIFICATIONS. ASPHALTIC BINDER SHALL BE 58-28 S UNLESS NOTED.
- AGGREGATE BASE COURSE BENEATH PAVEMENTS: SHALL BE 1-1/4" DENSE GRADED BASE COURSE CONFORMING TO SECTION 305 OF THE WISDOT STANDARD SPECIFICATIONS.
- PAVEMENT PLACEMENT GENERAL: ASPHALT CONCRETE PAVING EQUIPMENT, WEATHER LIMITATIONS, JOB-MIX FORMULA, MIXING, CONSTRUCTION METHODS, COMPACTION, FINISHING, TOLERANCE AND PROTECTION SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE SECTIONS OF THE WISDOT STANDARD SPECIFICATIONS.
- PREPARE AND PROOFROLL SUBGRADES AND AGGREGATE BASE COURSE AS OUTLINED IN EARTH MOVING SPECIFICATIONS PRIOR TO PLACEMENT OF ASPHALT PAVEMENTS.
- SWEEP LOOSE GRANULAR PARTICLES FROM SURFACE OF AGGREGATE BASE COURSE PRIOR TO PAVEMENT PLACEMENT. DO NOT DISLODGE OR DISTURB AGGREGATE EMBEDDED IN COMPACTED SURFACE OF BASE COURSE.
- SPREAD AND FINISH ASPHALTIC MIXTURE IN ACCORDANCE WITH SECTION 450.3.2.5 OF THE WISDOT STANDARD SPECIFICATIONS. PAVEMENT THICKNESSES SHALL BE AS INDICATED ON THE PLANS.
- PROMPTLY CORRECT SURFACE IRREGULARITIES IN PAVING COURSE BEHIND PAVER. USE SUITABLE HAND TOOLS TO REMOVE EXCESS MATERIAL FORMING HIGH SPOTS. FILL DEPRESSIONS WITH HOT-MIX ASPHALT TO PREVENT SEGREGATION OF MIX; USE SUITABLE HAND TOOLS TO SMOOTH SURFACE.
- COMPACT ASPHALTIC PAVEMENT IN ACCORDANCE WITH SECTION 450.3.2.6 OF THE WISDOT STANDARD SPECIFICATIONS.
- PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.
- THICKNESS TOLERANCE: COMPACT EACH COURSE TO PRODUCE THE THICKNESS INDICATED WITHIN PLUS/MINUS 1/4 INCH FOR BINDER COURSE AND PLUS 1/4 INCH FOR SURFACE COURSE, NO MINUS.
- SURFACE SMOOTHNESS TOLERANCE: COMPACT EACH COURSE TO PRODUCE A SURFACE SMOOTHNESS WITHIN THE FOLLOWING TOLERANCES AS DETERMINED BY USING A 10-FOOT STRAIGHTEDGE APPLIED TRANSVERSELY OR LONGITUDINALLY TO PAVED AREAS: BINDER COURSE: 1/4 INCH; SURFACE COURSE: 1/8 INCH. REMOVE AND REPLACE ALL HUMPS OR DEPRESSIONS EXCEEDING THE SPECIFIED TOLERANCES.
- DO NOT APPLY PAVEMENT-MARKING PAINT UNTIL LAYOUT, COLORS, AND PLACEMENT HAVE BEEN VERIFIED WITH ENGINEER.
- APPLY MARKINGS TO A DRY SURFACE FREE FROM FROST. REMOVE DUST, DIRT, OIL, GREASE, GRAVEL, DEBRIS OR OTHER MATERIAL THAT MAY PREVENT BONDING TO THE PAVEMENT.
- APPLY PAINT AS THE MANUFACTURER SPECIFIES WITH MECHANICAL EQUIPMENT TO PRODUCE PAVEMENT MARKINGS, OF DIMENSIONS INDICATED, WITH UNIFORM, STRAIGHT EDGES. APPLY AT MANUFACTURER'S RECOMMENDED RATES AT A MINIMUM RATE OF 17.6 GALLONS/MILE FOR A CONTINUOUS 4" LINE.
- TESTING AGENCY: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS AND TO PREPARE TEST REPORTS.

**SEGMENTAL RETAINING WALL:**

- WORK SHALL CONSIST OF FURNISHING DETAILED DESIGN, MATERIALS, LABOR, EQUIPMENT AND SUPERVISION TO INSTALL A SEGMENTAL RETAINING WALL SYSTEM IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN AND DIMENSIONS SHOWN ON PLANS.
- MATERIALS SUBMITTALS: THE CONTRACTOR SHALL SUBMIT MANUFACTURERS' CERTIFICATIONS TWO WEEKS PRIOR TO START OF WORK STATING THAT THE SRW UNITS AND GEOSYNTHETIC REINFORCEMENT MEET THE REQUIREMENTS OF THE DESIGN.
- DESIGN SUBMITTAL: THE CONTRACTOR SHALL SUBMIT TWO SETS OF DETAILED DESIGN CALCULATIONS AND FINAL RETAINING WALL PLANS FOR APPROVAL AT LEAST TWO WEEKS PRIOR TO THE BEGINNING OF WALL CONSTRUCTION. ALL CALCULATIONS AND DRAWINGS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL CIVIL ENGINEER (P.E.) (WALL DESIGN ENGINEER) EXPERIENCED IN SRW DESIGN AND LICENSED IN THE STATE WHERE THE WALL IS TO BE BUILT.
- SEGMENTAL RETAINING WALL (SRW) UNITS SHALL BE MACHINE FORMED, PORTLAND CEMENT CONCRETE BLOCKS SPECIFICALLY DESIGNED FOR RETAINING WALL APPLICATIONS. SRW UNITS SHALL BE VERSA-LOK STANDARD RETAINING WALL UNITS, KEYSTONE RETAINING WALL UNITS, ROCKWOOD RETAINING WALL UNITS OR APPROVED EQUAL.
- COLOR AND STYLE OF SRW UNITS SHALL BE AS SELECTED BY ARCHITECT AND OWNER FROM MANUFACTURER'S FULL RANGE.
- SRW UNITS SHALL BE CAPABLE OF BEING ERECTED WITH THE HORIZONTAL GAP BETWEEN ADJACENT UNITS NOT EXCEEDING 1/8 INCH.
- SRW UNITS SHALL BE SOUND AND FREE OF CRACKS OR OTHER DEFECTS THAT WOULD INTERFERE WITH THE PROPER PLACING OF THE UNIT OR SIGNIFICANTLY IMPAIR THE STRENGTH OR PERMANENCE OF THE STRUCTURE. ANY CRACKS OR CHIPS OBSERVED DURING CONSTRUCTION SHALL FALL WITHIN THE GUIDELINES OUTLINED IN ASTM C 1372.
- CONCRETE SRW UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM 1372 AND HAVE A MINIMUM NET AVERAGE 28 DAYS COMPRESSIVE STRENGTH OF 3000 PSI. COMPRESSIVE STRENGTH TEST SPECIMENS SHALL CONFORM TO THE SAW-CUT COUPON PROVISIONS OF ASTM C140.
- SRW UNITS MOLDED DIMENSIONS SHALL NOT DIFFER MORE THAN + 1/8 INCH FROM THAT SPECIFIED, AS MEASURED IN ACCORDANCE WITH ASTM C 140. THIS TOLERANCE DOES NOT APPLY TO ARCHITECTURAL SURFACES, SUCH AS SPLIT FACES.
- SRW UNITS SHALL BE INTERLOCKED WITH CONNECTION PINS. THE PINS SHALL CONSIST OF GLASS-REINFORCED NYLON MADE FOR THE EXPRESSED USE WITH THE SRW UNITS SUPPLIED.
- GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF HIGH-TENACITY PET GEOGRIDS, HDPE GEOGRIDS, OR GEOTEXTILES MANUFACTURED FOR SOIL REINFORCEMENT APPLICATIONS. THE TYPE, STRENGTH AND PLACEMENT OF THE GEOSYNTHETIC REINFORCEMENT SHALL BE DETERMINED BY PROCEDURES OUTLINED IN THIS SPECIFICATION AND THE NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS (3RD EDITION 2009) AND MATERIALS SHALL BE SPECIFIED BY WALL DESIGN ENGINEER IN THEIR FINAL WALL PLANS AND SPECIFICATIONS. THE MANUFACTURER/SUPPLIERS OF THE GEOSYNTHETIC REINFORCEMENT SHALL HAVE DEMONSTRATED CONSTRUCTION OF SIMILAR SIZE AND TYPES OF SEGMENTAL RETAINING WALLS ON PREVIOUS PROJECTS.
- THE TYPE, STRENGTH AND PLACEMENT OF THE REINFORCING GEOSYNTHETIC SHALL BE AS DETERMINED BY THE WALL DESIGN ENGINEER, AS SHOWN ON THE FINAL, P.E.-STAMPED RETAINING WALL PLANS.
- MATERIAL FOR LEVELING PAD SHALL CONSIST OF COMPACTED SAND, GRAVEL, OR COMBINATION THEREOF (USCS SOIL TYPES GP, GW, SP, & SW) AND SHALL BE A MINIMUM OF 6 INCHES IN DEPTH. LEAN CONCRETE WITH A STRENGTH OF 200-300 PSI AND 3 INCHES THICK MAXIMUM MAY ALSO BE USED AS A LEVELING PAD MATERIAL. THE LEVELING PAD SHOULD EXTEND LATERALLY AT LEAST A DISTANCE OF 6 INCHES FROM THE TOE AND HEEL OF THE LOWERMOST SRW UNIT.
- DRAINAGE AGGREGATE SHALL BE ANGULAR, CLEAN STONE OR GRANULAR FILL MEETING THE FOLLOWING GRADATION AS DETERMINED IN ACCORDANCE WITH ASTM D422:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
3/4 INCH	75-100
NO. 4	0-60
NO. 40	0-50
NO. 200	0-5
- THE DRAINAGE COLLECTION PIPE SHALL BE A PERFORATED OR SLOTTED PVC, OR CORRUGATED HDPE PIPE. THE DRAINAGE PIPE MAY BE WRAPPED WITH A GEOTEXTILE TO FUNCTION AS A FILTER. DRAINAGE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F 405 OR ASTM F 758.
- THE REINFORCED SOIL MATERIAL SHALL BE FREE OF DEBRIS. UNLESS OTHERWISE NOTED ON THE FINAL, P.E.-SEALED, RETAINING WALL PLANS PREPARED BY THE WALL DESIGN ENGINEER, THE REINFORCED MATERIAL SHALL CONSIST OF THE INORGANIC USCS SOIL TYPES GP, GW, SW, SP, SM, MEETING THE FOLLOWING GRADATION, AS DETERMINED IN ACCORDANCE WITH ASTM D422:

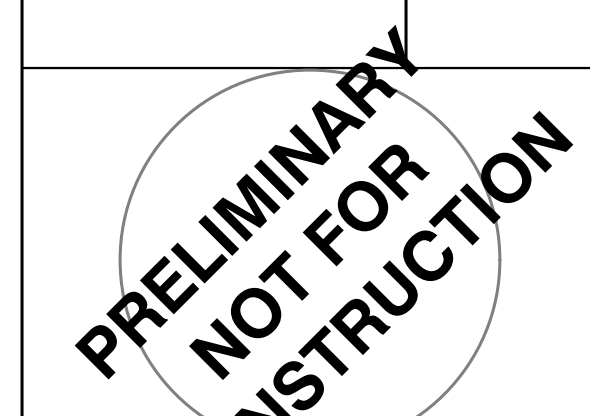
SIEVE SIZE	PERCENT PASSING
1 INCH	100
NO. 4	20-100
NO. 40	0-60
NO. 200	0-35
- THE MAXIMUM PARTICLE SIZE OF POORLY-GRADED GRAVELS (GP) (NO FINES) SHOULD NOT EXCEED 3/4 INCH UNLESS EXPRESSLY APPROVED BY THE WALL DESIGN ENGINEER AND THE LONG-TERM DESIGN STRENGTH (LTD)S OF THE GEOSYNTHETIC IS REDUCED TO ACCOUNT FOR ADDITIONAL INSTALLATION DAMAGE FROM PARTICLES LARGER THAN THIS MAXIMUM.
- THE PLASTICITY OF THE FINE FRACTION SHALL BE LESS THAN 20.
- THE PH OF THE BACKFILL MATERIAL SHALL BE BETWEEN 3 AND 9 WHEN TESTED IN ACCORDANCE WITH ASTM G 51.
- DRAINAGE GEOTEXTILE SHALL CONSIST OF GEOSYNTHETIC SPECIFICALLY MANUFACTURED FOR USE AS A PERMEABLE SOIL FILTER THAT RETAINS SOIL WHILE STILL ALLOWING WATER TO PASS THROUGHOUT THE LIFE OF THE STRUCTURE. THE TYPE AND PLACEMENT OF THE GEOTEXTILE FILTER MATERIAL SHALL BE AS REQUIRED BY THE WALL DESIGN ENGINEER IN THEIR FINAL WALL PLANS AND SPECIFICATIONS.
- THE DESIGN ANALYSIS FOR THE FINAL, P.E.-STAMPED RETAINING WALL PLANS PREPARED BY THE WALL DESIGN ENGINEER SHALL CONSIDER THE EXTERNAL STABILITY AGAINST SLIDING AND OVERTURNING, INTERNAL STABILITY AND FACIAL STABILITY OF THE REINFORCED SOIL MASS, AND SHALL BE IN ACCORDANCE WITH ACCEPTABLE ENGINEERING PRACTICE AND THESE SPECIFICATIONS. THE INTERNAL AND EXTERNAL STABILITY ANALYSIS SHALL BE PERFORMED IN ACCORDANCE WITH THE "NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS, 3RD EDITION" USING THE RECOMMENDED MINIMUM FACTORS OF SAFETY IN THIS MANUAL.
- EXTERNAL STABILITY ANALYSIS FOR BEARING CAPACITY, GLOBAL STABILITY, AND TOTAL AND DIFFERENTIAL SETTLEMENT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE OWNER'S GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL PERFORM BEARING CAPACITY, SETTLEMENT ESTIMATES, AND GLOBAL STABILITY ANALYSIS BASED ON THE FINAL WALL DESIGN PROVIDED BY THE WALL DESIGN ENGINEER AND COORDINATE ANY REQUIRED CHANGES WITH THE WALL DESIGN ENGINEER.
- THE GEOSYNTHETIC PLACEMENT IN THE WALL DESIGN SHALL HAVE 100% CONTINUOUS COVERAGE PARALLEL TO THE WALL FACE. GAPPING BETWEEN HORIZONTALLY ADJACENT LAYERS OF GEOSYNTHETIC (PARTIAL COVERAGE) WILL NOT BE ALLOWED.
- CONTRACTOR'S FIELD CONSTRUCTION SUPERVISOR SHALL HAVE DEMONSTRATED EXPERIENCE AND BE QUALIFIED TO DIRECT ALL WORK AT THE SITE.
- CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE PROJECT GRADING PLANS. CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE OVER-EXCAVATION. OVER-EXCAVATION SHALL BE FILLED WITH COMPACTED INFILL MATERIAL, OR AS DIRECTED BY THE WALL DESIGN ENGINEER, AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL VERIFY LOCATION OF EXISTING STRUCTURES AND UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL ENSURE ALL SURROUNDING STRUCTURES ARE PROTECTED FROM THE EFFECTS OF WALL EXCAVATION. EXCAVATION SUPPORT, IF REQUIRED, IS THE RESPONSIBILITY OF THE CONTRACTOR.
- FOLLOWING THE EXCAVATION, THE FOUNDATION SOIL SHALL BE EXAMINED BY THE OWNER'S ENGINEER TO ASSURE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THE ASSUMED DESIGN BEARING STRENGTH. SOILS NOT MEETING THE REQUIRED STRENGTH SHALL BE REMOVED AND REPLACED WITH INFILL SOILS, AS DIRECTED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER.
- FOUNDATION SOIL SHALL BE PROOF-ROLLED AND COMPACTED TO 95% STANDARD PROCTOR DENSITY AND INSPECTED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF LEVELING PAD MATERIALS.
- LEVELING PAD SHALL BE PLACED AS SHOWN ON THE FINAL, P.E.-SEALED RETAINING WALL PLANS WITH A MINIMUM THICKNESS OF 6 INCHES. THE LEVELING PAD SHOULD EXTEND LATERALLY AT LEAST A DISTANCE OF 6 INCHES FROM THE TOE AND HEEL OF THE LOWERMOST SRW UNIT.
- GRANULAR LEVELING PAD MATERIAL SHALL BE COMPACTED TO PROVIDE A FIRM, LEVEL BEARING SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. WELL-GRADED SAND CAN BE USED TO SMOOTH THE TOP 1/4 INCH TO 1/2 INCH OF THE LEVELING PAD. COMPACTION WILL BE WITH MECHANICAL PLATE COMPACTORS TO ACHIEVE 95% OF MAXIMUM STANDARD PROCTOR DENSITY (ASTM D 698).
- ALL SRW UNITS SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL, P.E.-SEALED WALL PLANS AND DETAILS OR AS DIRECTED BY THE WALL DESIGN ENGINEER. THE SRW UNITS SHALL BE INSTALLED IN GENERAL ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE SPECIFICATIONS AND DRAWINGS SHALL GOVERN IN ANY CONFLICT BETWEEN THE TWO REQUIREMENTS.
- FIRST COURSE OF SRW UNITS SHALL BE PLACED ON THE LEVELING PAD. THE UNITS SHALL BE LEVELED SIDE-TO-SIDE, FRONT-TO-REAR AND WITH ADJACENT UNITS, AND ALIGNED TO ENSURE INTIMATE CONTACT WITH THE LEVELING PAD. THE FIRST COURSE IS THE MOST IMPORTANT TO ENSURE ACCURATE AND ACCEPTABLE RESULTS. NO GAPS SHALL BE LEFT BETWEEN THE FRONT OF ADJACENT UNITS. ALIGNMENT MAY BE DONE BY MEANS OF A STRING LINE OR OFFSET FROM BASE LINE TO THE BACK OF THE UNITS.
- ALL EXCESS DEBRIS SHALL BE CLEANED FROM TOP OF UNITS AND THE NEXT COURSE OF UNITS INSTALLED ON TOP OF THE UNITS BELOW.

**SEGMENTAL RETAINING WALL CONT.:**

- CONNECTION PINS SHALL BE INSERTED THROUGH THE PIN HOLES OF EACH UPPER-COURSE UNIT INTO RECEIVING SLOTS IN LOWER-COURSE UNITS. PINS SHALL BE FULLY SEATED IN THE PIN SLOT BELOW. UNITS SHALL BE PUSHED FORWARD TO REMOVE ANY LOOSENESS IN THE UNIT-TO-UNIT CONNECTION.
  - PRIOR TO PLACEMENT OF NEXT COURSE, THE LEVEL AND ALIGNMENT OF THE UNITS SHALL BE CHECKED AND CORRECTED WHERE NEEDED.
  - LAYOUT OF CURVES AND CORNERS SHALL BE INSTALLED IN ACCORDANCE WITH THE WALL PLAN DETAILS OR IN GENERAL ACCORDANCE WITH SRW MANUFACTURER'S INSTALLATION GUIDELINES. WALLS MEETING AT CORNERS SHALL BE INTERLOCKED BY OVERLAPPING SUCCESSIVE COURSES.
  - PROCEDURES ABOVE SHALL BE REPEATED UNTIL REACHING TOP OF WALL UNITS, JUST BELOW THE HEIGHT OF THE CAP UNITS. GEOSYNTHETIC REINFORCEMENT, DRAINAGE MATERIALS, AND REINFORCED BACKFILL SHALL BE PLACED IN SEQUENCE WITH UNIT INSTALLATION.
  - ALL GEOSYNTHETIC REINFORCEMENT SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL P.E.-SEALED RETAINING WALL PLAN PROFILES AND DETAILS, OR AS DIRECTED BY THE WALL DESIGN ENGINEER.
  - AT THE ELEVATIONS SHOWN ON THE FINAL PLANS, (AFTER THE UNITS, DRAINAGE MATERIAL AND BACKFILL HAVE BEEN PLACED TO THIS ELEVATION) THE GEOSYNTHETIC REINFORCEMENT SHALL BE LAID HORIZONTALLY ON COMPACTED INFILL AND ON TOP OF THE CONCRETE SRW UNITS, TO WITHIN 1 INCH OF THE FRONT FACE OF THE UNIT BELOW. EMBEDMENT OF THE GEOSYNTHETIC IN THE SRW UNITS SHALL BE CONSISTENT WITH SRW MANUFACTURER'S RECOMMENDATIONS. CORRECT ORIENTATION OF THE GEOSYNTHETIC REINFORCEMENT SHALL BE VERIFIED BY THE CONTRACTOR TO BE IN ACCORDANCE WITH THE GEOSYNTHETIC MANUFACTURER'S RECOMMENDATIONS. THE HIGHEST-STRENGTH DIRECTION OF THE GEOSYNTHETIC MUST BE PERPENDICULAR TO THE WALL FACE.
  - GEOSYNTHETIC REINFORCEMENT LAYERS SHALL BE ONE CONTINUOUS PIECE FOR THEIR ENTIRE EMBEDMENT LENGTH. SPLICING OF THE GEOSYNTHETIC IN THE DESIGN-STRENGTH DIRECTION (PERPENDICULAR TO THE WALL FACE) SHALL NOT BE PERMITTED. ALONG THE LENGTH OF THE WALL, HORIZONTALLY ADJACENT SECTIONS OF GEOSYNTHETIC REINFORCEMENT SHALL BE BUTTED IN A MANNER TO ASSURE 100% COVERAGE PARALLEL TO THE WALL FACE.
  - TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOSYNTHETIC REINFORCEMENT. A MINIMUM OF 6 INCHES OF BACKFILL IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOSYNTHETIC. TURNING SHOULD BE KEPT TO A MINIMUM. RUBBER-TIRED EQUIPMENT MAY PASS OVER THE GEOSYNTHETIC REINFORCEMENT AT SLOW SPEEDS (LESS THAN 5 MPH).
  - THE GEOSYNTHETIC REINFORCEMENT SHALL BE FREE OF WRINKLES PRIOR TO PLACEMENT OF SOIL FILL. THE NOMINAL TENSION SHALL BE APPLIED TO THE REINFORCEMENT AND SECURED IN PLACE WITH STAPLES, STAKES OR BY HAND TENSIONING UNTIL REINFORCEMENT IS COVERED BY 6 INCHES OF FILL.
  - DRAINAGE AGGREGATE SHALL BE INSTALLED TO THE LINE, GRADES AND SECTIONS SHOWN ON THE FINAL P.E.-SEALED RETAINING WALL PLANS. DRAINAGE AGGREGATE SHALL BE PLACED TO THE MINIMUM THICKNESS SHOWN ON THE CONSTRUCTION PLANS BETWEEN AND BEHIND UNITS (A MINIMUM OF 1 CUBIC FOOT FOR EACH EXPOSED SQUARE FOOT OF WALL FACE UNLESS OTHERWISE NOTED ON THE FINAL WALL PLANS).
  - DRAINAGE COLLECTION PIPES SHALL BE INSTALLED TO MAINTAIN GRAVITY FLOW OF WATER OUTSIDE THE REINFORCED-SOIL ZONE. THE DRAINAGE COLLECTION PIPE SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE FINAL CONSTRUCTION DRAWINGS. THE DRAINAGE COLLECTION PIPE SHALL DAYLIGHT INTO A STORM SEWER OR ALONG A SLOPE, AT AN ELEVATION BELOW THE LOWEST POINT OF THE PIPE WITHIN THE AGGREGATE DRAIN. DRAINAGE LATERALS SHALL BE SPACED AT A MAXIMUM 50-FOOT SPACING ALONG THE WALL FACE.
  - THE REINFORCED BACKFILL SHALL BE PLACED AS SHOWN IN THE FINAL WALL PLANS IN THE MAXIMUM COMPACTED LIFT THICKNESS OF 8 INCHES AND SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D 698) AT A MOISTURE CONTENT WITHIN -1% POINT TO +3% POINTS OF OPTIMUM. THE BACKFILL SHALL BE PLACED AND SPREAD IN SUCH A MANNER AS TO ELIMINATE WRINKLES OR MOVEMENT OF THE GEOSYNTHETIC REINFORCEMENT AND THE SRW UNITS.
  - ONLY HAND-OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET OF THE BACK OF THE WALL UNITS. COMPACTION WITHIN THE 3 FEET BEHIND THE WALL UNITS SHALL BE ACHIEVED BY AT LEAST THREE PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, PLATE, OR ROLLER.
  - AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LEVEL OF BACKFILL AWAY FROM THE WALL FACING AND REINFORCED BACKFILL TO DIRECT WATER RUNOFF AWAY FROM THE WALL FACE.
  - AT COMPLETION OF WALL CONSTRUCTION, BACKFILL SHALL BE PLACED LEVEL WITH FINAL TOP OF WALL ELEVATION. IF FINAL GRADING, PAVING, LANDSCAPING AND/OR STORM DRAINAGE INSTALLATION ADJACENT TO THE WALL IS NOT PLACED IMMEDIATELY AFTER WALL COMPLETION, TEMPORARY GRADING AND DRAINAGE SHALL BE PROVIDED TO ENSURE WATER RUNOFF IS NOT DIRECTED AT THE WALL NOR ALLOWED TO COLLECT OR POND BEHIND THE WALL UNTIL FINAL CONSTRUCTION ADJACENT TO THE WALL IS COMPLETED.
  - SRW CAPS SHALL BE PROPERLY ALIGNED AND GLUED TO UNDERLYING UNITS WITH VERSA-LOK ADHESIVE. A FLEXIBLE, HIGH-STRENGTH CONCRETE ADHESIVE. RIGID ADHESIVE OR MORTAR ARE NOT ACCEPTABLE.
  - CAPS SHALL OVERHANG THE TOP COURSE OF UNITS BY 3/4 INCH TO 1 INCH. SLIGHT VARIATION IN OVERHANG IS ALLOWED TO CORRECT ALIGNMENT AT THE TOP OF THE WALL.
  - THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION BY OTHERS ADJACENT TO THE WALL DOES NOT DISTURB THE WALL OR PLACE TEMPORARY CONSTRUCTION LOADS ON THE WALL THAT EXCEED DESIGN LOADS. INCLUDING LOADS SUCH AS WATER PRESSURE, TEMPORARY GRADES, OR EQUIPMENT LOADING. HEAVY PAVING OR GRADING EQUIPMENT SHALL BE KEPT A MINIMUM OF 3 FEET BEHIND THE BACK OF THE WALL FACE. EQUIPMENT WITH WHEEL LOADS IN EXCESS OF 150 PSF LIFE LOAD SHALL NOT BE OPERATED WITHIN 10 FEET OF THE FACE OF THE RETAINING WALL DURING CONSTRUCTION ADJACENT TO THE WALL. CARE SHOULD BE TAKEN BY THE GENERAL CONTRACTOR TO ENSURE WATER RUNOFF IS DIRECTED AWAY FROM THE WALL STRUCTURE UNTIL FINAL GRADING AND SURFACE DRAINAGE COLLECTION SYSTEMS ARE COMPLETED.
- BIOFILTRATION BASIN:**
- BIOFILTRATION BASIN SHALL BE CONSTRUCTED IN GENERAL ACCORDANCE WITH WDNR TECHNICAL STANDARD 1004: BIORETENTION FOR INFILTRATION AND THESE SPECIFICATIONS.
  - ENGINEERED SOIL MIX SHALL CONSIST OF A MIX OF 70 TO 85% SAND AND 15 TO 30% COMPOST BASED ON VOLUME. SAND SHALL MEET THE REQUIREMENTS FOR FINE AGGREGATE SAND SPECIFIED SECTION 501.2.5.3.4 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION OR MEET ASTM C33 (FINE AGGREGATE CONCRETE SAND).
  - PRIOR TO PLACEMENT IN THE BIOFILTRATION BASIN, THE ENGINEERED SOIL SHALL BE PREMIXED AND THE MOISTURE CONTENT SHALL BE LOW ENOUGH TO PREVENT CLUMPING AND COMPACTION DURING PLACEMENT.
  - THE ENGINEERED SOIL SHALL BE PLACED IN MULTIPLE LIFTS, EACH APPROXIMATELY 12 INCHES IN DEPTH.
  - ENGINEERED SOIL MIX SHALL BE FREE OF ROCKS, STUMPS, ROOTS, BRUSH OR OTHER MATERIAL OVER ONE INCH IN DIAMETER. NO OTHER MATERIALS SHALL BE MIXED WITH THESE PLANTING SOIL THAT MAY BE HARMFUL TO PLANT GROWTH OR BE A HINDRANCE TO PLANTING OR MAINTENANCE.
  - ENGINEERED SOIL AND GRAVEL SHALL BE IN ACCORDANCE WITH THE LATEST WDNR TECHNICAL STANDARD 1004.
  - PEA GRAVEL SHALL BE GRADED SUCH THAT MINIMUM PARTICLE SIZE IS LARGE ENOUGH TO PREVENT FALLING THROUGH PERFORATIONS OF THE UNDERDRAIN PIPE.
  - BIOFILTRATION BASIN DRAIN PIPE: 6-INCH SCHEDULE 40 PVC PIPE MEETING PERFORATION REQUIREMENTS OF AASHTO M278 HIGHWAY UNDERDRAIN SPECIFICATIONS WITH 3/8" PERFORATIONS ON 6" CENTERS WITH 4 HOLES PER ROW.
  - BEEHIVE INLET: NEENAH R-256I, OR EQUAL
  - RISER STRUCTURE: 36" DIAMETER PRECAST CATCH BASIN STRUCTURE WITH 24" TOP OPENING TO ACCOMMODATE BEEHIVE INLET. IN GENERAL ACCORDANCE WITH FILE NO. 26 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
  - GRAVEL STORAGE LAYER (IF INDICATED ON PLANS): COURSE AGGREGATE #2 IN ACCORDANCE WITH SECTION 501.2.5.4.4 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
  - FILTER FABRIC: GEOTEXTILE FABRIC IN ACCORDANCE WITH SECTION 645.2.2.4 OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
  - EXCAVATE TO GRADES AS INDICATED ON PLANS.
  - CONSTRUCT TEMPORARY DIVERSION SWALES OR PROVIDE OTHER MEANS AS NECESSARY TO PREVENT CONSTRUCTION SITE RUNOFF FROM DISTURBED AREAS, AND RUNOFF FROM PVIOUS AREAS WHICH HAVE NOT YET BEEN STABILIZED, FROM ENTERING THE BIORETENTION AREA.
  - CONSTRUCTION SHALL BE SUSPENDED DURING PERIODS OF RAINFALL OR SNOWMELT. CONSTRUCTION SHALL REMAIN SUSPENDED IF PONDED WATER IS PRESENT OR IF RESIDUAL SOIL MOISTURE CONTRIBUTES SIGNIFICANTLY TO THE POTENTIAL FOR SOIL SMEARING, CLUMPING OR OTHER FORMS OF COMPACTION.
  - COMPACTION AND SMEARING OF THE ENGINEERED SOIL AND TOP SOIL BENEATH THE FLOORS, IN THE SOIL PLANTING BED, AND THE SIDE SLOPES OF THE BASIN, AND COMPACTION OF THE ENGINEERED SOILS IN THE BASIN SHALL BE MINIMIZED. DURING SITE DEVELOPMENT, THE AREA DEDICATED TO THE BIOFILTRATION BASIN SHALL BE CORDED OFF TO PREVENT ACCESS BY HEAVY EQUIPMENT. ACCEPTABLE EQUIPMENT FOR CONSTRUCTING THE BIOFILTRATION BASIN INCLUDES EXCAVATION HOES, LIGHT EQUIPMENT WITH TURF TYPE TIRES, MARSH EQUIPMENT OR WIDE-TRACK LOADERS.
  - IF COMPACTION OCCURS AT THE BASE OF THE BIOFILTRATION BASIN, THE SOIL SHALL BE REFRACTURED TO A DEPTH OF AT LEAST 12 INCHES. IF SMEARING OCCURS, THE SMEARED AREAS OF THE INTERFACE SHALL BE CORRECTED BY RAKING OR ROTO-TILLING.
  - STEPS MAY BE TAKEN TO INDUCE MILD SETTLING OF THE ENGINEERED SOIL BED AS NEEDED TO PREPARE A STABLE PLANTING MEDIUM AND TO STABILIZE THE PONDING DEPTH. VIBRATING PLATE-STYLE COMPACTORS SHALL NOT BE UTILIZED.
  - ANY SEDIMENT ACCUMULATED IN THE BASIN DUE TO CONSTRUCTION ACTIVITIES SHOULD BE REMOVED AND THE ENGINEERED SOIL SHALL BE DEEP TILLED PRIOR TO PLANTING.
  - IMPERVIOUS LINER SHALL BE 45 MIL FIRESTONE EPDM (GSI PRODUCTS), OR 30 MIL PVC (GSI PRODUCTS), OR EQUAL.



KIRKLAND CROSSING  
PEWAUKEE, WI  
C501 SPECIFICATIONS

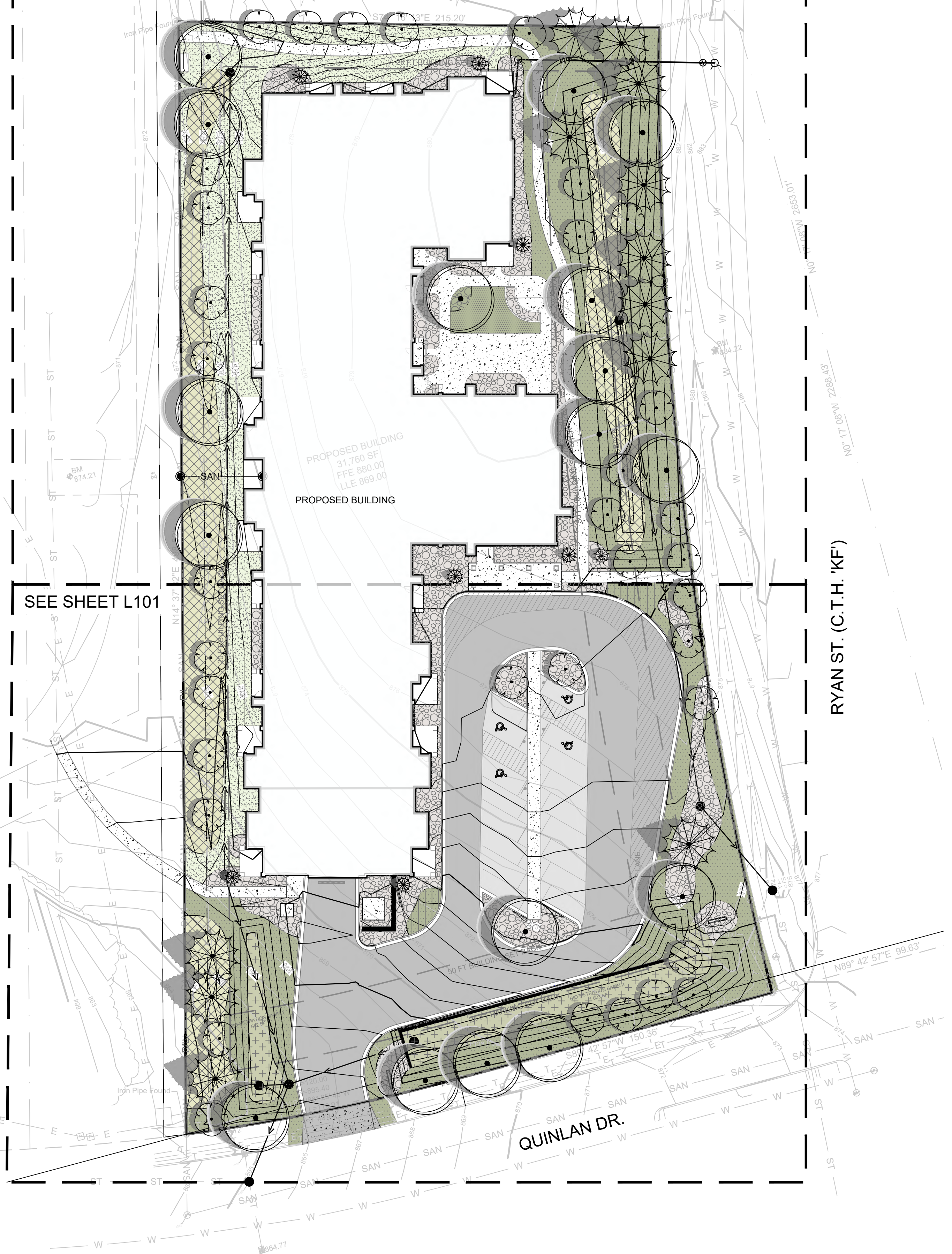


ISSUANCE DATE	
CITY SUBMITTAL	02-15-2023
NO. REVISION	
PROJECT NO:	21471
DESIGN DATE:	---
PLOT DATE:	2023.02.14
DRAWN BY:	---
CHECKED BY:	---
APPROVED BY:	---
SHEET NO:	C501



SEE SHEET L102

SEE SHEET L101

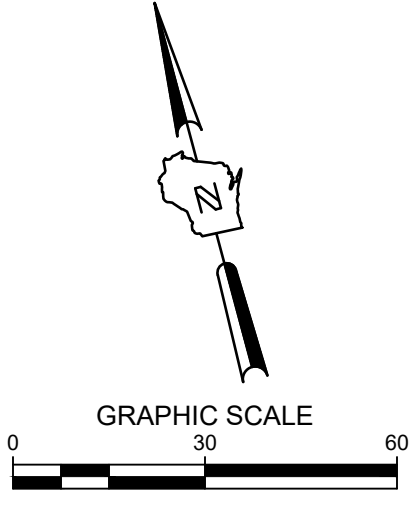


LANDSCAPE LEGEND:

- TURFGRASS SEED
- TURFGRASS SOD
- STRAW MULCH PLANT BED
- STONE MULCH
- BIRD AND BUTTERFLY SEED MIX
- PROPERTY LINE
- PLANT EDGING
- SHEET MATCHLINE

Village of Pewaukee Landscaping Ordinance	
<b>Parking Lot Landscaping</b>	
Required Landscaping	
Low Hedge or Berm	
10% Interior Landscape Area	
Provided Landscape	
Hedge	
11.5% Interior Landscape	
<b>Site Open Space Landscaping</b>	
Required Landscaping	
1 Tree and 2 Shrubs per 1,000 SF Landscape Area (Elderly Overlay District 150% Required Landscape)	
Landscape Area	48,035 SF
Required Trees (150%)	72
Required Shrubs (150%)	144
Provided Landscape	
Provided Trees	72
Provided Shrubs	256

**THE SIGMA GROUP**  
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 Fax: 414-643-4210



CONCEPT PLANT SCHEDULE

	<b>DECIDUOUS TREE</b> Acer x freemanii 'DTR 102' / Autumn Fantasy® Freeman Maple Betula nigra / River Birch Cercidiphyllum japonicum / Katsura Tree Quercus x schuettei / Swamp Bur Oak	17	2.5" Cal., B&B 2.5" Cal. (Multi-Stem), B&B 2.5" Cal., B&B 2.5" Cal., B&B
	<b>EVERGREEN TREE</b> Abies concolor / White Fir Juniperus chinensis 'Iowa' / Iowa Juniper Picea abies / Norway Spruce Picea glauca 'Densata' / Black Hills White Spruce	20	6' Ht., B&B 6' Ht., B&B 6' Ht., B&B 6' Ht., B&B
	<b>ORNAMENTAL TREE</b> Amelanchier x grandiflora 'Autumn Brilliance' / Autumn Brilliance Apple Serviceberry Carpinus caroliniana / American Hornbeam Cercis canadensis / Eastern Redbud Malus x 'Spring Snow' / Spring Snow Crabapple	35	2.5" Cal. (Multi-Stem), B&B 2.5" Cal., B&B 2.5" Cal. (Multi-Stem), B&B 2.5" Cal., B&B
	<b>SMALL DECIDUOUS SHRUB</b> Hydrangea paniculata 'L'VBOB' / Bobo® Panicle Hydrangea Physocarpus opulifolius 'Dona May'™ / Little Devil Ninebark Spiraea x bumalda 'Goldmound' / Gold Mound Spirea	57	1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>MEDIUM DECIDUOUS SHRUB</b> Aronia melanocarpa elata / Glossy Black Chokeberry Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood Forsythia x 'Happy Centennial' / Happy Centennial Forsythia Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac Rosa rugosa 'Purple Pavement' / Purple Pavement Rose	68	1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>LARGE DECIDUOUS SHRUB</b> Cotinus coggygria 'Royal Purple' / Royal Purple Smoke Tree Hydrangea paniculata 'SMHPFL' / Fire Light® Panicle Hydrangea Rhus typhina 'Baltiger' / Tiger Eyes® Staghorn Sumac Salix integra 'Hakuro-nishiki' / Hakuro-nishiki Willow	24	1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>SMALL EVERGREEN SHRUB</b> Juniperus horizontalis 'Youngstown' / Creeping Juniper Pinus mugo 'Slowmound' / Slowmound Mugo Pine Taxus x media 'Everlow' / Everlow Anglo-Japanese Yew	51	1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>MEDIUM EVERGREEN SHRUB</b> Juniperus chinensis 'Kallays Compact' / Kallay Compact Pfitzer Juniper Juniperus horizontalis 'Wiltonii' / Blue Rug Juniper Taxus x media 'Densiformis' / Dense Anglo-Japanese Yew	42	1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>LARGE EVERGREEN SHRUB</b> Juniperus chinensis 'Mountbatten' / Mountbatten Juniper Taxus x media 'Tauntonii' / Taunton's Anglo-Japanese Yew	14	1 gal., Cont. 1 gal., Cont.
	<b>ORNAMENTAL GRASSES</b> Calamagrostis x acutiflora 'Karl Foerster' / Karl Foerster Feather Reed Grass Miscanthus sinensis 'Purpureusens' / Purple Eulalia Grass Panicum virgatum 'Heavy Metal' / Heavy Metal Switch Grass Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	222	1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>BIORETENTION PERENNIAL</b> Asclepias incarnata / Swamp Milkweed Caltha palustris / Marsh Marigold Carex vulpinoidea / Fox Sedge Echinacea angustifolia / Narrow Leaf Coneflower Eupatorium maculatum / Joe Pye Weed Lobelia cardinalis / Cardinal Flower Rudbeckia laciniata / Cutleaf Coneflower Symphyotrichum novae-angliae / New England Aster	150	4", Flat 4", Flat 4", Flat 4", Flat 4", Flat 4", Flat 4", Flat
	<b>PERENNIALS</b> Amsonia x 'Blue Ice' / Blue Ice Bluestar Astilbe chinensis 'Visions' / Visions Chinese Astilbe Calamintha nepeta nepeta / Lesser Calamint Hemerocallis x 'Rosy Returns' / Rosy Returns Daylily Hemerocallis x 'Stella de Oro' / Stella de Oro Daylily Heuchera x 'Plum Pudding' / Plum Pudding Coral Bells Hosta x 'Hadsphen Blue' / Hadsphen Blue Hosta Hosta x 'Praying Hands' / Praying Hands Hosta Nepeta x faassenii 'Early Bird' / Early Bird Catmint Stachys byzantina 'Big Ears' / Big Ears Lamb's Ear	179	1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont.

LANDSCAPE GENERAL NOTES:

- VERIFY EXISTING AND PROPOSED CONDITIONS, UTILITIES, PIPES, AND STRUCTURES, ETC. PRIOR TO BIDDING AND CONSTRUCTION.
- INSPECT THE SITE PRIOR TO COMMENCING WORK. DOCUMENT IN WRITING AND PHOTOGRAPH EXISTING CONDITIONS WITHIN, AND IN AREAS ADJACENT TO THE LIMITS OF CONSTRUCTION. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES NOT DOCUMENTED IN THE PHOTOGRAPHS PRIOR TO COMMENCEMENT OF DEMOLITION ACTIVITIES.
- COORDINATE THE INSTALLATION OF PLANT MATERIAL WITH INSTALLATION OF ADJACENT PAVEMENTS, DRAINAGE, CURB RELATED STRUCTURES WITH OTHER TRADES.
- RESTORE AREAS OF THE SITE, OR ADJACENT AREAS, WHERE DISTURBED. DAMAGE CAUSED DURING LANDSCAPE INSTALLATION TO EXISTING CONDITIONS AND IMPROVEMENTS IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
- CONTRACTOR SHALL THOROUGHLY REVIEW ALL SPECIFICATIONS RELATED TO TREE PROTECTION, SOIL PREPARATION, TURF, GRASSES AND PLANTS. THESE SECTIONS PROVIDE ADDITIONAL INFORMATION ON MATERIALS AND SET STANDARDS FOR QUALITY AND INSTALLATION REQUIREMENTS.
- PROVIDE 3" DOUBLE SHREDDED BARK MULCH FOR ALL PLANTED TREES, SHRUBS AND LANDSCAPE BEDS.

KIRKLAND CROSSING

PEWAUKEE, WI

OVERALL LANDSCAPE PLAN

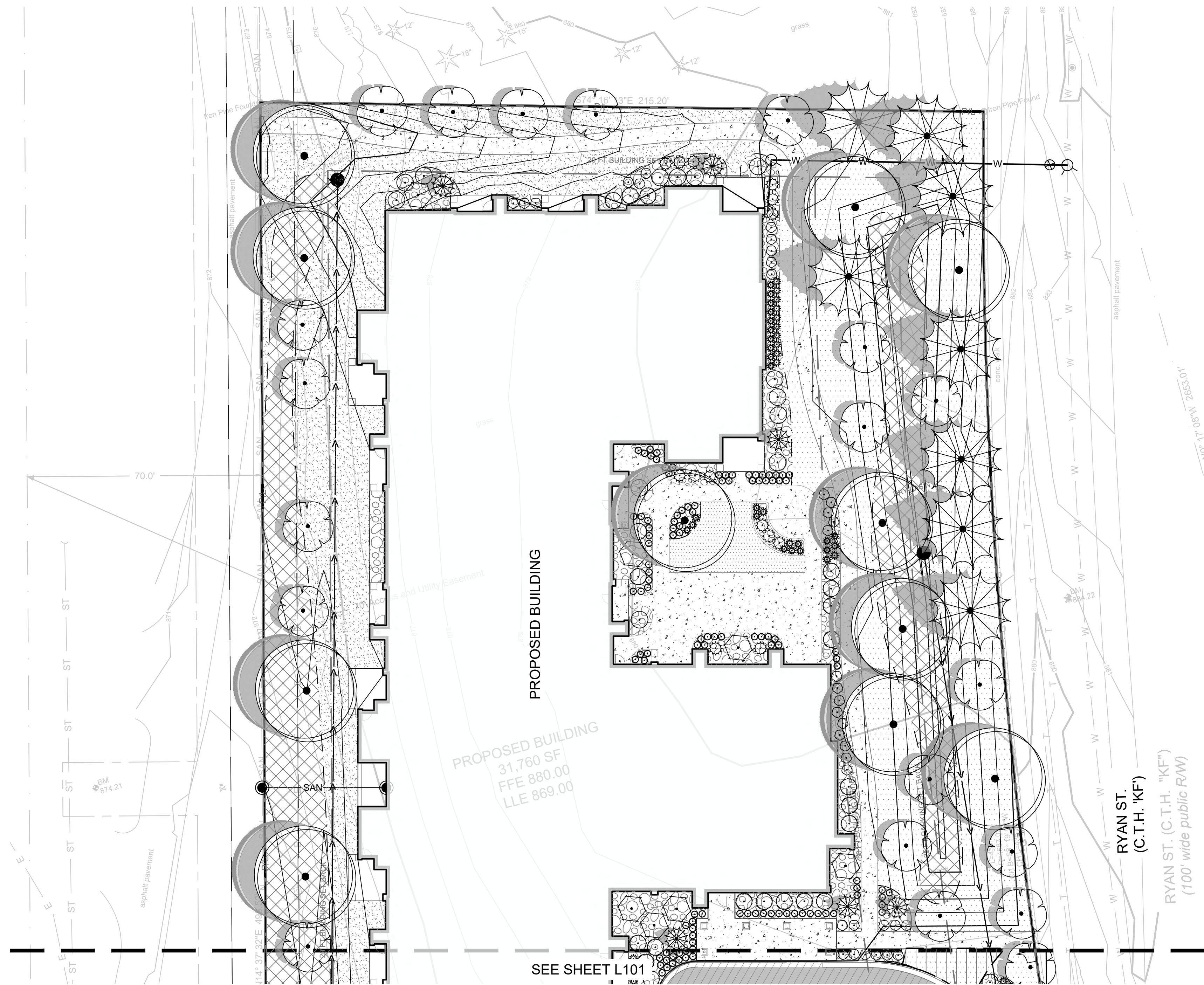
PRELIMINARY NOT FOR CONSTRUCTION

SCALE:	1"=30'
PROJECT NO:	21471
DESIGN DATE:	----
PLOT DATE:	2/14/2023
DRAWN BY:	----
CHECKED BY:	----
APPROVED BY:	----
SHEET NO:	L100









LANDSCAPE LEGEND:

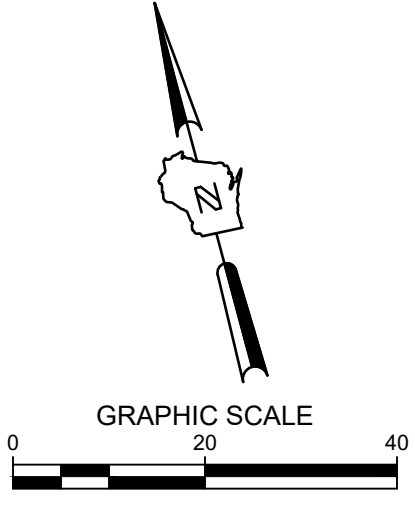
- TURFGRASS SEED
- TURFGRASS SOD
- STRAW MULCH PLANT BED
- STONE MULCH
- BIRD AND BUTTERFLY SEED MIX
- PROPERTY LINE
- PLANT EDGING
- SHEET MATCHLINE

CONCEPT PLANT KEY

- DECIDUOUS TREE**  
Acer x freemanii 'DTR 102' / Autumn Fantasy® Freeman Maple  
Betula nigra / River Birch  
Cercidiphyllum japonicum / Katsura Tree  
Quercus x schuettei / Swamp Bur Oak
- EVERGREEN TREE**  
Abies concolor / White Fir  
Juniperus chinensis 'Iowa' / Iowa Juniper  
Picea abies / Norway Spruce  
Picea glauca 'Densata' / Black Hills White Spruce
- ORNAMENTAL TREE**  
Amelanchier x grandiflora 'Autumn Brilliance' / Autumn Brilliance Apple Serviceberry  
Carpinus caroliniana / American Hornbeam  
Cercis canadensis / Eastern Redbud  
Malus x 'Spring Snow' / Spring Snow Crabapple
- SMALL DECIDUOUS SHRUB**  
Hydrangea paniculata 'ILVOBO' / Bobo® Panicle Hydrangea  
Physocarpus opulifolius 'Donna May'™ / Little Devil Ninebark  
Spiraea x bumalda 'Goldmound' / Gold Mound Spiraea
- MEDIUM DECIDUOUS SHRUB**  
Aronia melanocarpa elata / Glossy Black Chokeberry  
Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood  
Forsythia x 'Happy Centennial' / Happy Centennial Forsythia  
Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac  
Rosa rugosa 'Purple Pavement' / Purple Pavement Rose
- LARGE DECIDUOUS SHRUB**  
Cotinus coggygria 'Royal Purple' / Royal Purple Smoke Tree  
Hydrangea paniculata 'SMHPFL' / Fire Light® Panicle Hydrangea  
Rhus typhina 'Baltiger' / Tiger Eyes® Staghorn Sumac  
Salix integra 'Hakuro-nishiki' / Hakuro-nishiki Willow
- SMALL EVERGREEN SHRUB**  
Juniperus horizontalis 'Youngstown' / Creeping Juniper  
Pinus mugo 'Slowmound' / Slowmound Mugo Pine  
Taxus x media 'Everlow' / Everlow Anglo-Japanese Yew
- MEDIUM EVERGREEN SHRUB**  
Juniperus chinensis 'Kallays Compact' / Kallay Compact Pfitzer Juniper  
Juniperus horizontalis 'Wiltonii' / Blue Rug Juniper  
Taxus x media 'Densiflora' / Dense Anglo-Japanese Yew
- LARGE EVERGREEN SHRUB**  
Juniperus chinensis 'Mounbatten' / Mounbatten Juniper  
Taxus x media 'Tauntonii' / Taunton's Anglo-Japanese Yew
- ORNAMENTAL GRASSES**  
Calamagrostis x acutiflora 'Karl Foerster' / Karl Foerster Feather Reed Grass  
Miscanthus sinensis 'Purpureus' / Purple Eulalia Grass  
Panicum virgatum 'Heavy Metal' / Heavy Metal Switch Grass  
Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass
- BIORETENTION PERENNIAL**  
Asclepias incarnata / Swamp Milkweed  
Caltha palustris / Marsh Marigold  
Carex vulpinoidea / Fox Sedge  
Echinacea angustifolia / Narrow Leaf Coneflower  
Eupatorium maculatum / Joe Pye Weed  
Lobelia cardinalis / Cardinal Flower  
Rudbeckia laciniata / Cutleaf Coneflower  
Symphyotrichum novae-angliae / New England Aster
- PERENNIALS**  
Amsonia x 'Blue Ice' / Blue Ice Bluestar  
Astilbe chinensis 'Visions' / Visions Chinese Astilbe  
Calamintha nepeta nepeta / Lesser Calamint  
Hemerocallis x 'Stella de Oro' / Stella de Oro Daylily  
Hemerocallis x 'Rosy Returns' / Rosy Returns Daylily  
Heuchera x 'Plum Pudding' / Plum Pudding Coral Bells  
Hosta x 'Hadsphen Blue' / Hadsphen Blue Hosta  
Hosta x 'Praying Hands' / Praying Hands Hosta  
Nepeta x faassenii 'Early Bird' / Early Bird Catmint  
Stachys byzantina 'Big Ears' / Big Ears Lamb's Ear

LANDSCAPE GENERAL NOTES:

1. VERIFY EXISTING AND PROPOSED CONDITIONS, UTILITIES, PIPES, AND STRUCTURES, ETC. PRIOR TO BIDDING AND CONSTRUCTION.
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3. COORDINATE THE INSTALLATION OF PLANT MATERIAL WITH INSTALLATION OF ADJACENT PAVEMENTS, DRAINAGE, CURB RELATED STRUCTURES WITH OTHER TRADES.
4. RESTORE AREAS OF THE SITE, OR ADJACENT AREAS, WHERE DISTURBED. DAMAGE CAUSED DURING LANDSCAPE INSTALLATION TO EXISTING CONDITIONS AND IMPROVEMENTS IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
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6. PROVIDE 3" DOUBLE SHREDDED BARK MULCH FOR ALL PLANTED TREES, SHRUBS AND LANDSCAPE BEDS.

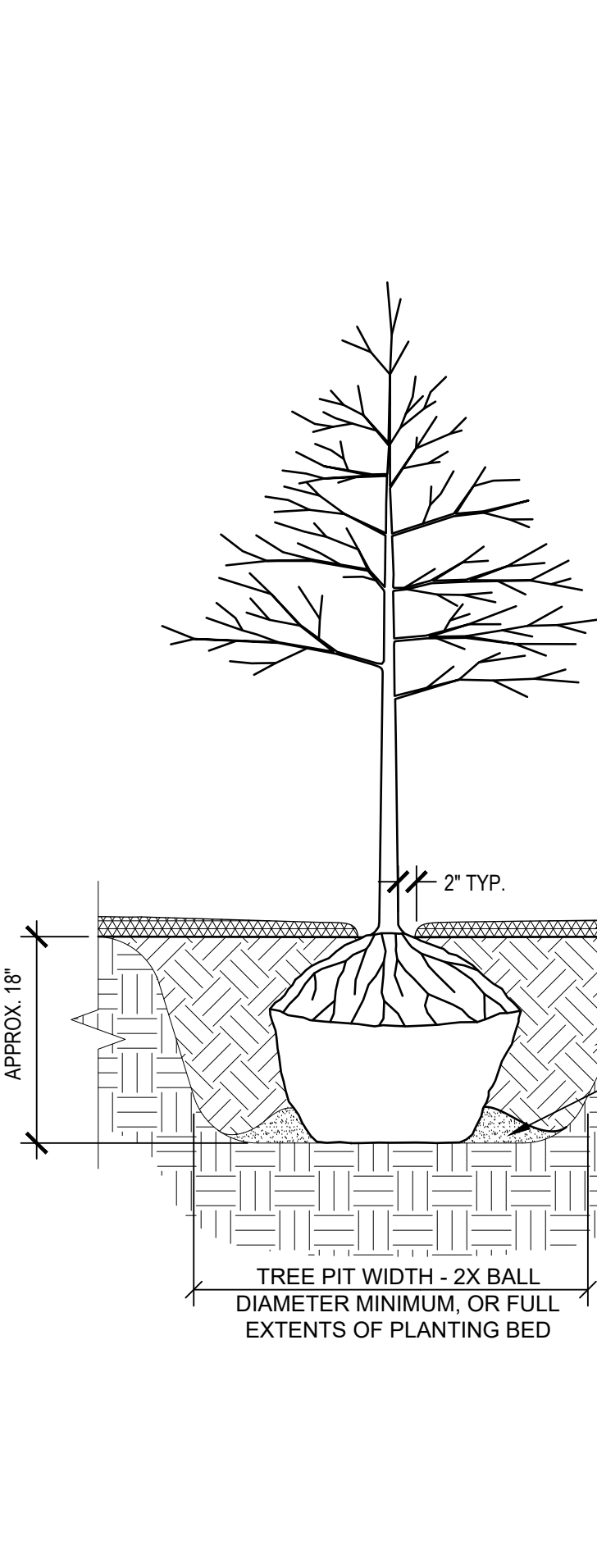


KIRKLAND CROSSING  
 -----  
 PEWAUKEE, WI  
 LANDSCAPE ENLARGEMENT

**PRELIMINARY  
 NOT FOR  
 CONSTRUCTION**

SCALE:	1"=20'
PROJECT NO:	21471
DESIGN DATE:	----
PLOT DATE:	2/14/2023
DRAWN BY:	----
CHECKED BY:	----
APPROVED BY:	----
SHEET NO:	L102

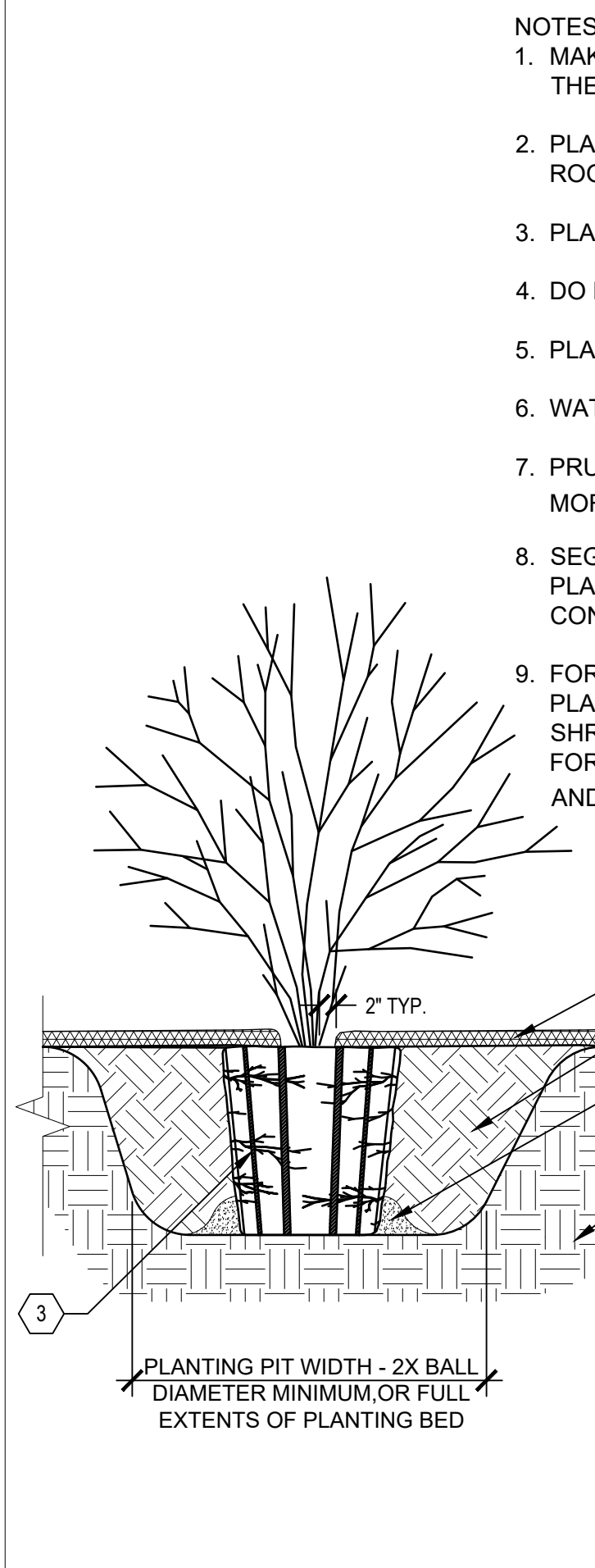




- NOTES:
1. PLANT EACH TREE SUCH THAT THE ROOT FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.
  2. DEPTH OF THE PLANTING HOLE SHOULD BE DETERMINED AND DUG AFTER THE ROOT FLARE IS LOCATED. PLANTING HOLE MUST BE NO DEEPER THAN THE HEIGHT OF THE ROOT BALL.
  3. IF PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, CUT AND REMOVE THE WIRE BASKET ENTIRELY. REMOVE ALL TWINE, ROPE, AND BURLAP COMPLETELY FROM ALL ROOT BALLS.
  4. PLACE ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.
  5. DO NOT PLACE MULCH IN CONTACT WITH STEMS.
  6. WATER ALL PLANTS WITHIN 2 HOURS OF INSTALLATION.
  7. PRUNE ONLY AS NECESSARY TO REMOVE UNHEALTHY BRANCHES. DO NOT REMOVE MORE THAN 1/3 OF THE ORIGINAL PLANT MASS.

- KEYED LEGEND**
- 1 3" DEPTH SHREDDED HARDWOOD BARK MULCH. PROVIDE 4'-0" DIAMETER MULCH RINGS AT THE BASE OF ANY TREES PLANTED IN LAWN.
  - 2 PROVIDE SPADED EDGE, 2" WIDE, 6" DEEP FOR ENTIRE PERIMETER OF BARK MULCH RINGS AT BASE OF TREES PLANTED IN LAWNS
  - 3 PLANTING SOIL, PLANTING SOIL SHALL BE PLACED IN ONE CONTINUOUS VOLUME FOR THE ENTIRE AREA OF ANY GIVEN PLANT BED.
  - 4 PREPARED SUBGRADE
  - 5 TAMP SOIL AROUND BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT BALL DOES NOT SHIFT

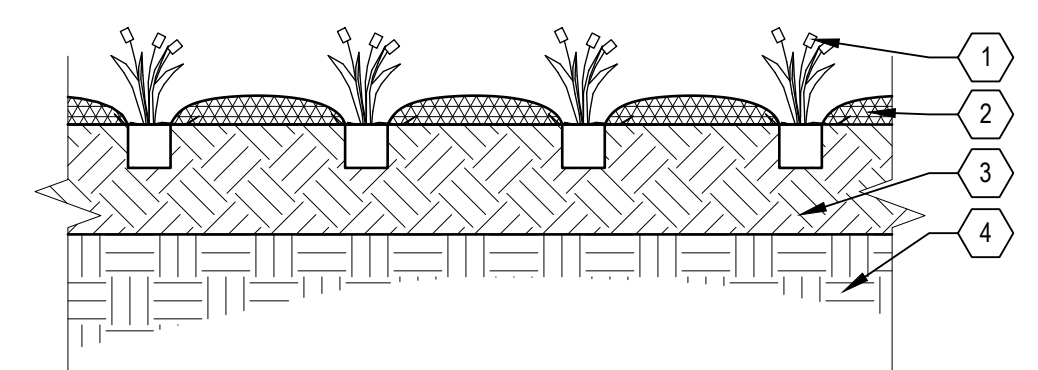
1 TREE PLANTING SCALE: NTS



- NOTES:
1. MAKE 1" TO 2" DEEP VERTICAL CUTS EVERY 6" AROUND THE CIRCUMFERENCE OF THE ROOT BALL BEFORE PLANTING TO LOOSEN POT-BOUND ROOTS.
  2. PLANT EACH SHRUB SUCH THAT THE ROOT FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.
  3. PLANTING HOLE MUST NOT BE DEEPER THAN THE HEIGHT OF THE ROOT BALL.
  4. DO NOT PLACE MULCH IN CONTACT WITH STEMS.
  5. PLACE ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.
  6. WATER ALL PLANTS WITHIN 2 HOURS OF INSTALLATION.
  7. PRUNE ONLY AS NECESSARY TO REMOVE UNHEALTHY BRANCHES. DO NOT REMOVE MORE THAN 1/3 OF THE ORIGINAL PLANT MASS.
  8. SEGREGATE ANY SOIL FROM BELOW WARNING LAYER EXCAVATED DURING PLANTING FOR OFF-SITE DISPOSAL. COORDINATE DISPOSAL WITH ENVIRONMENTAL CONSULTANT.
  9. FOR SHRUBS PLANTED WITHIN PLANTING BEDS, CONTRACTOR SHALL PROVIDE PLANTING SOIL CONTINUOUSLY FOR THE ENTIRE PLANTING BED AND INDIVIDUAL SHRUBS SHALL BE PLANTED INTO THE PREPARED PLANTING SOIL. MULCH SURFACE FOR PLANTING BEDS SHALL ALSO BE CONTINUOUS ACROSS THE ENTIRE SURFACE AND HELD 1/2" MIN. TO 1" MAX. BELOW ADJACENT PAVEMENTS.

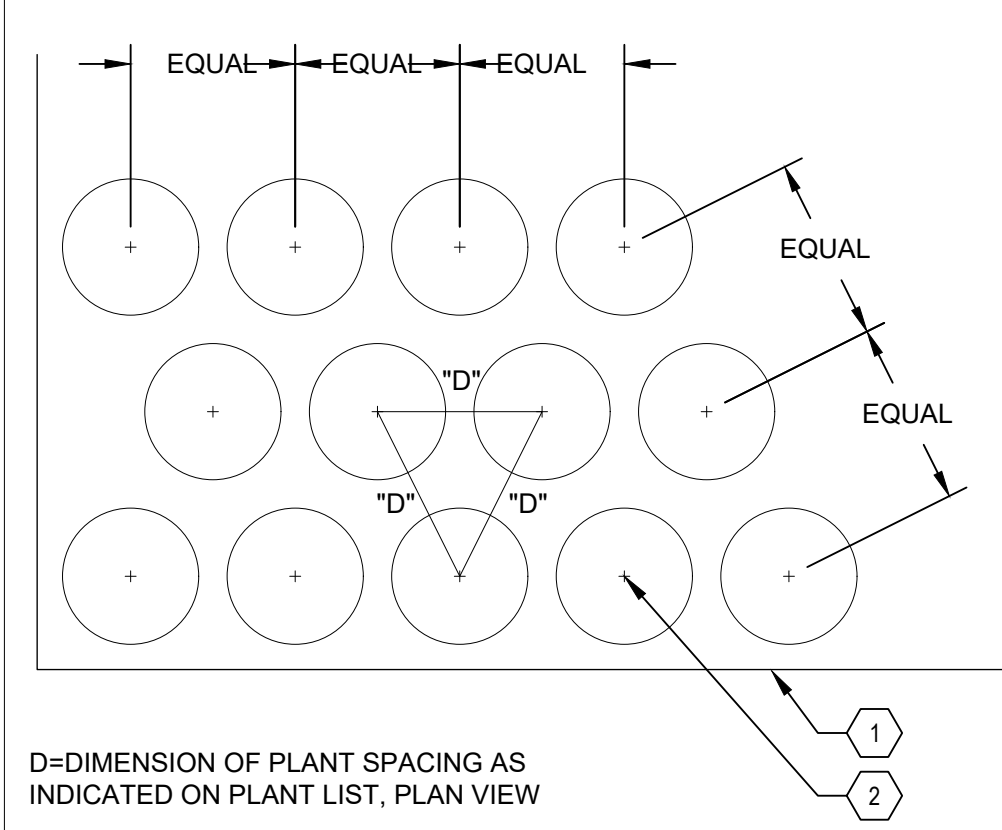
- KEYED LEGEND**
- 1 3" DEPTH TWICE-SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE INDICATED, KEEP 2" CLEAR OF STEMS
  - 2 PLANTING SOIL AS SPECIFIED, PLANTING SOIL SHALL BE PLACED IN ONE CONTINUOUS VOLUME FOR THE ENTIRE AREA OF ANY GIVEN PLANT BED
  - 3 1" TO 2" DEEP VERTICAL CUTS EVERY 6" AROUND PERIMETER
  - 4 PREPARED SUBGRADE
  - 5 TAMP SOIL AROUND BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT BALL DOES NOT SHIFT

2 SHRUB PLANTING SCALE: NTS



- KEYED LEGEND**
- 1 PERENNIAL, ORNAMENTAL GRASS, OR GROUNDCOVER PLUG, SEE LANDSCAPE PLAN SHEETS L100-L103
  - 2 3" DEPTH TWICE-SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE INDICATED, KEEP 3" CLEAR OF STEMS
  - 3 PLANTING SOIL, PLANTING SOIL SHALL BE PLACED IN ONE CONTINUOUS VOLUME FOR THE ENTIRE AREA OF ANY GIVEN PLANT BED
  - 4 PREPARED SUBGRADE

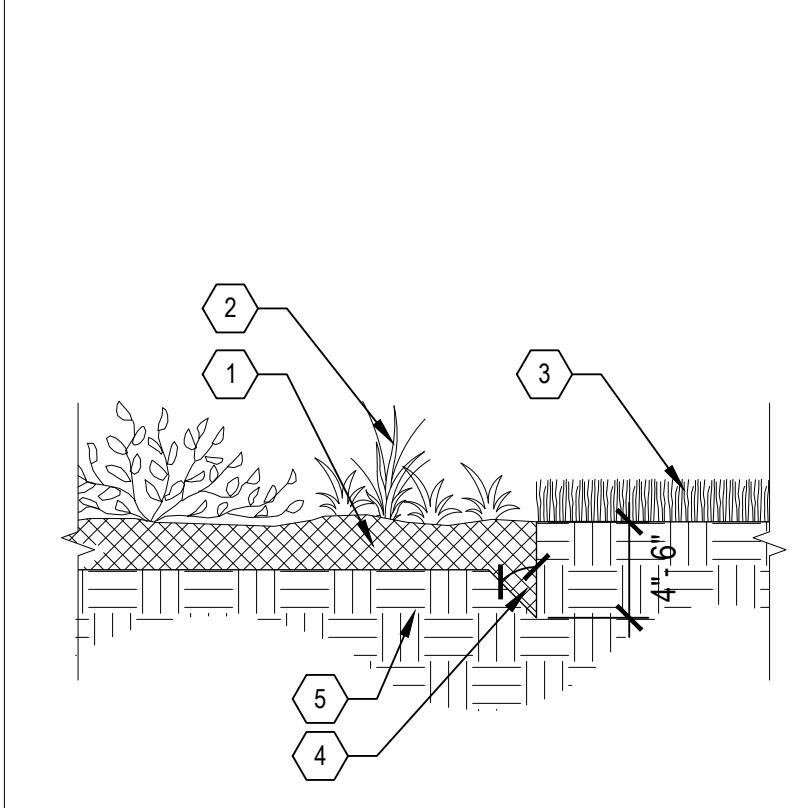
3 PERENNIAL PLANTING SCALE: NTS



- NOTES
- SET FINISH GRADE OF PLANTING AREA 2" BELOW FINISH SURFACE OF PAVING, CURB, OR HEADER
  - SEE PLANTING SCHEDULE FOR SPACING OF ALL SHRUBS AND GROUNDCOVERS
  - ALL SHRUBS / GROUNDCOVER TO BE PLANTED AT EQUAL SPACING (TRIANGULAR) UNLESS OTHERWISE INDICATED ON PLANS.
  - TO DETERMINE APPROPRIATE PLANT QUANTITIES REFER TO THE PLANTING SCHEDULE OR PLAN.

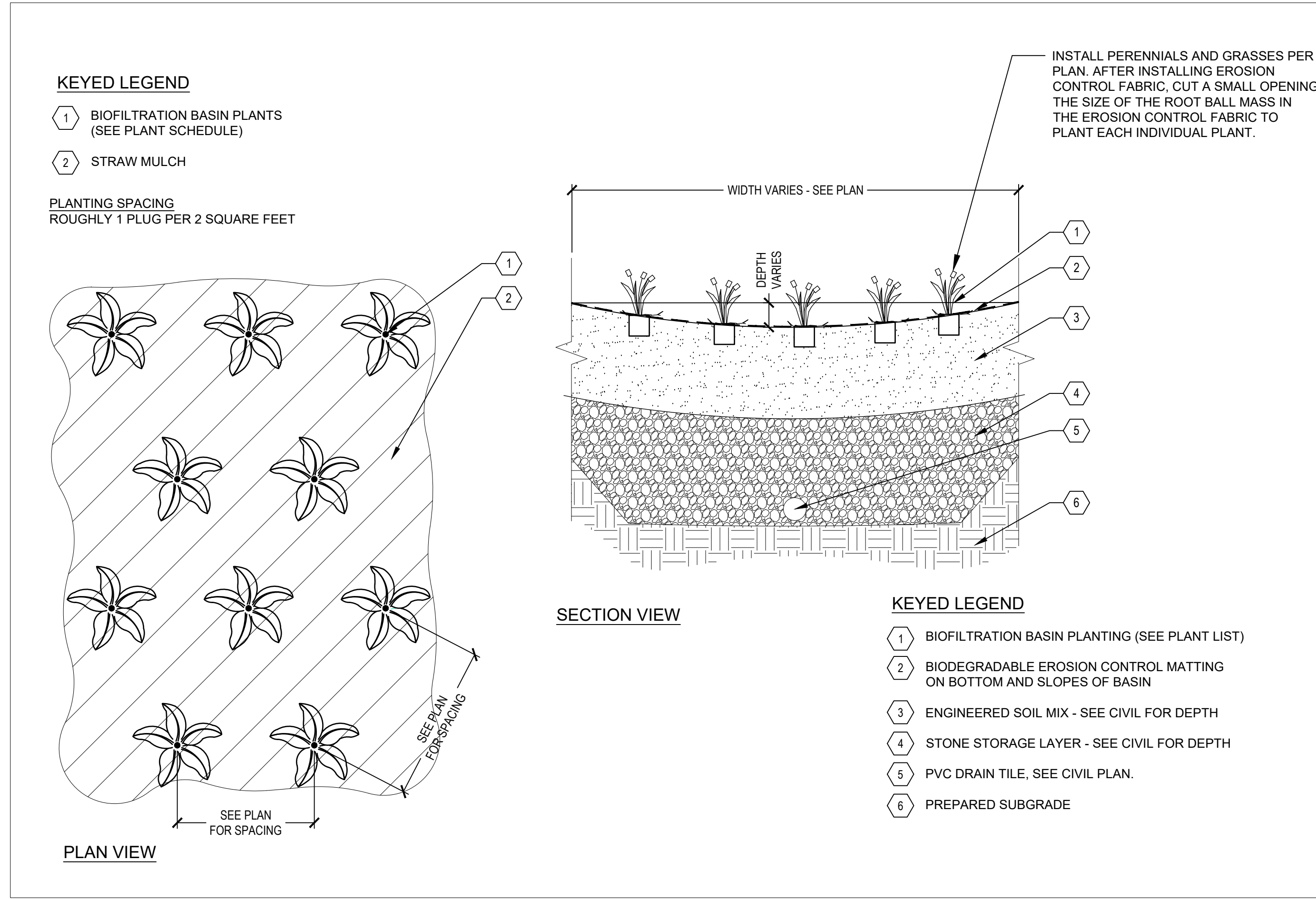
- KEYED LEGEND**
- 1 EDGE OF ADJACENT PAVEMENT
  - 2 SHRUB, PERENNIAL OR ORNAMENTAL GRASS PLANT CENTER LOCATION

5 PLANT SPACING SCALE: NTS



- KEYED LEGEND**
- 1 3" DEPTH OF MULCH LAYER
  - 2 SHRUB PLANTING BED
  - 3 LAWN ADJACENT TO PLANTING BED
  - 4 45 DEGREE ANGLE SHOVEL CUT EDGE TOWARD PLANTING BED
  - 5 COMPACTED SUBGRADE

6 SHOVEL CUT EDGE SCALE: NTS



- KEYED LEGEND**
- 1 BIOFILTRATION BASIN PLANTS (SEE PLANT SCHEDULE)
  - 2 STRAW MULCH
- PLANTING SPACING  
ROUGHLY 1 PLUG PER 2 SQUARE FEET

- KEYED LEGEND**
- 1 BIOFILTRATION BASIN PLANTING (SEE PLANT LIST)
  - 2 BIODEGRADABLE EROSION CONTROL MATTING ON BOTTOM AND SLOPES OF BASIN
  - 3 ENGINEERED SOIL MIX - SEE CIVIL FOR DEPTH
  - 4 STONE STORAGE LAYER - SEE CIVIL FOR DEPTH
  - 5 PVC DRAIN TILE, SEE CIVIL PLAN.
  - 6 PREPARED SUBGRADE

4 PLUG PLANTING SCALE: 1" = 1'

**PRELIMINARY  
 NOT FOR  
 CONSTRUCTION**

SCALE:	
PROJECT NO:	21471
DESIGN DATE:	---
PLOT DATE:	2/14/2023
DRAWN BY:	---
CHECKED BY:	---
APPROVED BY:	---
SHEET NO:	



PLANTING QUALITY ASSURANCE

- 1. PLANTS ARE TO BE INSPECTED UPON DELIVERY TO PROJECT SITE AND THE LANDSCAPE ARCHITECT OR OWNER'S PROJECT REPRESENTATIVE MAY REJECT ANY SPECIMENS NO LONGER MEETING THE SPECIFIED STANDARDS OR THAT HAVE BEEN DAMAGED IN TRANSIT.
2. ALL PLANT MATERIAL SHALL BE TRUE TO SPECIES AND VARIETY/HYBRID/CULTIVAR SPECIFIED, AND NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES, AND UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE OF THE SITE LOCATION. SPECIMENS NURSERY-DUG TO BE REPLANTED SHALL HAVE BEEN FRESHLY DUG AND PROPERLY PREPARED FOR PLANTING.
3. TREES:
3.1. SHALL BE TRAINED IN DEVELOPMENT AND APPEARANCE AS TO BE SUPERIOR IN FORM, COMPACTNESS AND SYMMETRY. TREES WITH MULTIPLE LEADERS, UNLESS SPECIFIED OTHERWISE, AND SHRUBS WITH DAMAGED OR CUT MAINSTEM(S), WILL BE REJECTED.
3.2. WITH A DAMAGED, CUT OR CROOKED LEADER, ABRASION OF BARK, SUNSCALD, FROST CRACK, DISFIGURING KNOTS, INSECTS (INCLUDING EGGS AND LARVAE) OR INSECT DAMAGE, CANKERS/CANKEROUS LESIONS OR FUNGAL MATS, MOLD, PREMATURELY-OPENED BUDS, OR CUTS OF LIMBS OVER 1/2" DIAMETER THAT ARE NOT COMPLETELY CALUSED WILL BE REJECTED.
3.3. SHALL HAVE HEALTHY, WELL-DEVELOPED ROOT SYSTEMS, AND BE FREE FROM PHYSICAL DAMAGE OR OTHER HINDRANCES TO HEALTHY GROWTH.
3.4. BALLED AND BURLAPPED PLANTS SHALL BE DUG WITH SOLID BALLS OF A DIAMETER NOT LESS THAN THAT RECOMMENDED BY THE AMERICAN STANDARDS FOR NURSERY STOCK, AND OF SUFFICIENT DEPTH TO INCLUDE BOTH FIBROUS AND FEEDING ROOTS. BALLS SHALL BE SECURELY WRAPPED WITH BURLAP, AND TIGHTLY BOUND WITH ROPE OR TWINE. NO PLANTS SHALL BE BOUND WITH ROPE OR WIRE IN SUCH A MANNER AS TO DAMAGE BARK OR BREAK BRANCHES. THE ROOT FLARE SHOULD BE WITHIN THE TOP 2" OF THE SOIL BALL. BALLED AND BURLAPPED PLANTS WILL NOT BE ACCEPTED IF THE BALL IS DRY, CRACKED, OR BROKEN BEFORE OR DURING PLANTING.
4. PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED WITHIN THE PLANT SCHEDULE.

PLANTING PROJECT CONDITIONS:

- 1. VERIFY SERVICE AND UTILITY LOCATIONS, AND DIMENSIONS OF CONSTRUCTION CONTIGUOUS WITH NEW PLANTINGS BY FIELD MEASUREMENTS BEFORE PROCEEDING WITH PLANTING WORK.
2. INTERRUPTION OF EXISTING SERVICES OR UTILITIES: DO NOT INTERRUPT SERVICES OR UTILITIES UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY SERVICES OR UTILITIES ACCORDING TO REQUIREMENTS INDICATED.
2.1. NOTIFY OWNER'S PROJECT REPRESENTATIVE NO FEWER THAN TWO DAYS IN ADVANCE OF PROPOSED INTERRUPTION OF EACH SERVICE OR UTILITY.
2.2. DO NOT PROCEED WITH INTERRUPTION OF SERVICES OR UTILITIES WITHOUT REPRESENTATIVE'S WRITTEN PERMISSION.
3. PLANTING RESTRICTIONS: PLANTING SHALL OCCUR DURING THE FOLLOWING ACCEPTABLE INSTALLATION PERIODS:
3.1. DECIDUOUS TREES AND SHRUBS - APRIL 1 TO OCTOBER 15.
4. WEATHER LIMITATIONS: PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT PLANTING TO BE PERFORMED WHEN BENEFICIAL AND OPTIMUM RESULTS MAY BE OBTAINED. APPLY PRODUCTS DURING FAVORABLE WEATHER CONDITIONS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND WARRANTY REQUIREMENTS.
5. CONTRACTOR SHALL PROTECT ALL EXISTING AND/OR NEWLY INSTALLED PLANTS, LAWNS, AND GRASS AREAS FROM DAMAGE AT ALL TIMES. DAMAGED PLANTS, LAWNS OR GRASS AREAS SHALL BE REPLACED OR TREATED AS REQUIRED TO CONFORM TO SPECIFICATIONS HEREIN FOR FRESH STOCK. WORK AREA SHALL BE KEPT CLEAN AND ORDERLY DURING THE INSTALLATION PERIOD. UNDER NO CONDITION SHALL DEBRIS FROM PLANTING ACTIVITIES RESULT IN A SAFETY HAZARD ON-SITE OR ADJACENT OFF-SITE PROPERTY, DAMAGE TO SITE IMPROVEMENTS OR ADJACENT LANDSCAPES INCURRED AS A RESULT OF PLANTING OR REPLACEMENT OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR THAT CAUSES THE DAMAGE AT NO COST TO THE OWNER.
6. EXAMINE AREAS TO RECEIVE PLANTS FOR COMPLIANCE WITH REQUIREMENTS AND CONDITIONS AFFECTING INSTALLATION AND PERFORMANCE. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
6.1. VERIFY THAT NO FOREIGN OR DELETERIOUS MATERIAL OR LIQUID SUCH AS PAINT, PAINT WASHOUT, CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, OR ACID HAS BEEN DEPOSITED IN SOIL WITHIN PLANTING AREAS.
6.2. DO NOT MIX OR PLACE SOILS IN FROZEN, WET, OR MUDDY CONDITIONS.

PLANTING DELIVERY, STORAGE, & HANDLING:

- 1. BULK MATERIALS;
1.1. DO NOT DUMP OR STORE BULK MATERIALS NEAR STRUCTURES, UTILITIES, WALKWAYS AND PAVEMENTS, OR ON EXISTING TURF AREAS OR PLANTS.
2. DO NOT PRUNE TREES AND SHRUBS BEFORE DELIVERY. PROTECT BARK, BRANCHES, AND ROOT SYSTEMS FROM SUN SCALD, DRYING, WIND BURN, SWEATING, WHIPPING, AND OTHER HANDLING AND TYING DAMAGE. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DESTROY THEIR NATURAL SHAPE. PROVIDE PROTECTIVE COVERING OF PLANTS DURING SHIPPING AND DELIVERY. DO NOT DROP PLANTS DURING DELIVERY AND HANDLING.
3. HANDLE PLANTING STOCK BY ROOT BALL.
4. DELIVER PLANTS AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND INSTALL IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN SIX HOURS AFTER DELIVERY, SET PLANTS AND TREES IN SHADED LOCATION, PROTECT FROM WEATHER AND MECHANICAL DAMAGE, AND KEEP ROOTS MOIST.
4.1. SET BALLED STOCK ON GROUND AND COVER BALL WITH SOIL, PEAT MOSS, SAWDUST, OR OTHER ACCEPTABLE MATERIAL.
4.2. WATER ROOT SYSTEMS OF PLANTS STORED ON-SITE DEEPLY AND THOROUGHLY WITH A FINE-MIST SPRAY. WATER AS OFTEN AS NECESSARY TO MAINTAIN ROOT SYSTEMS IN A MOIST, BUT NOT OVERLY WET CONDITION.

EXCAVATION FOR TREES & SHRUBS

- 1. EXCAVATE CIRCULAR PLANTING PITS AS INDICATED IN DRAWINGS. TRIM PERIMETER OF BOTTOM LEAVING CENTER AREA OF BOTTOM RAISED SLIGHTLY TO SUPPORT ROOT BALL AND ASSIST IN DRAINAGE AWAY FROM CENTER. DO NOT FURTHER DISTURB BASE. ENSURE THAT ROOT BALL WILL SIT ON UNDISTURBED BASE SOIL TO PREVENT SETTLING. SCARIFY SIDES OF PLANTING PIT SMEARED OR SMOOTHED DURING EXCAVATION.
1.1. EXCAVATE APPROXIMATELY THREE TIMES AS WIDE AS BALL DIAMETER FOR BALLED AND BURLAPPED STOCK.
1.2. DO NOT EXCAVATE DEEPER THAN DEPTH OF THE ROOT BALL, MEASURED FROM THE ROOT FLARE TO THE BOTTOM OF THE ROOT BALL.
1.3. IF AREA UNDER THE PLANT WAS INITIALLY DUG TOO DEEP, ADD SOIL TO RAISE IT TO CORRECT LEVEL AND THOROUGHLY TAMP THE ADDED SOIL TO PREVENT SETTLING.
1.4. MAINTAIN REQUIRED ANGLES OF REPOSE OF ADJACENT MATERIALS AS SHOWN IN DRAWINGS. DO NOT EXCAVATE SUBGRADES OF ADJACENT PAVING, STRUCTURES, HARDSCAPES, OR OTHER NEW OR EXISTING IMPROVEMENTS.
1.5. MAINTAIN SUPERVISION OF EXCAVATIONS DURING WORKING HOURS.
1.6. KEEP EXCAVATIONS COVERED OR OTHERWISE PROTECTED WHEN UNATTENDED BY INSTALLER'S PERSONNEL.
2. SUBSOIL AND TOPSOIL REMOVED FROM EXCAVATIONS MAY BE USED AS PLANTING SOIL IF THEY CONFORM TO THE REQUIREMENTS LISTED IN THESE SPECIFICATIONS.
3. NOTIFY OWNER'S PROJECT REPRESENTATIVE IF UNEXPECTED ROCK OR OBSTRUCTIONS DETRIMENTAL TO TREES OR SHRUBS ARE ENCOUNTERED IN EXCAVATIONS.
4. NOTIFY OWNER'S PROJECT REPRESENTATIVE IF SUBSOIL CONDITIONS EVIDENCE UNEXPECTED WATER SEEPAGE OR RETENTION IN TREE OR SHRUB PLANTING PITS.

TREE & SHRUB PLANTING

- 1. BEFORE PLANTING VERIFY THAT ROOT FLARE IS VISIBLE AT TOP OF ROOT BALL. IF ROOT FLARE IS NOT VISIBLE, REMOVE SOIL IN A LEVEL MANNER FROM THE ROOT BALL TO WHERE THE TOP-MOST ROOT EMERGES FROM THE TRUNK. AFTER SOIL REMOVAL TO EXPOSE ROOT FLARE, VERIFY THAT ROOT BALL STILL MEETS SIZE REQUIREMENTS. PLANT MATERIAL WITHOUT ROOT FLARE VISIBLE OR PLANTED TOO LOW WILL BE RE-PLANTED AT THE REQUEST OF THE LANDSCAPE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
2. PLANTS FOUND TO HAVE STEM GIRDLING ROOTS AND/OR KINKED ROOTS AT THE TIME OF PLANTING WILL BE REJECTED AND REPLACEMENTS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
3. REMOVE ALL TWINE, STRING, WIRE, AND ALL OTHER NON-BIODEGRADABLE MATERIAL ENTIRELY FROM ROOT BALL AREA.
4. REMOVE ONLY DEAD, DYING, OR BROKEN BRANCHES. DO NOT PRUNE FOR SHAPE. DO CUT TREE LEADERS.
5. SET BALLED AND BURLAPPED STOCK PLUMB AND IN CENTER OF PLANTING PIT OR TRENCH WITH ROOT FLARE 2 INCHES ABOVE ADJACENT FINISH GRADES.
5.1. USE SOIL MATERIALS FROM EXCAVATION FOR BACKFILL.
5.2. CAREFULLY CUT AND REMOVE BURLAP, ROPE, AND WIRE BASKETS FROM THE ENTIRE ROOT BALL. REMOVE PALLETS, IF ANY, BEFORE SETTING. DO NOT USE PLANTING STOCK IF ROOT BALL IS CRACKED OR BROKEN BEFORE OR DURING PLANTING OPERATION.
5.3. BACKFILL AROUND ROOT BALL IN LAYERS, TAMPING TO SETTLE SOIL AND ELIMINATE VOIDS AND AIR POCKETS. WHEN PLANTING PIT IS APPROXIMATELY ONE-HALF FILLED, WATER THOROUGHLY BEFORE PLACING REMAINDER OF BACKFILL. REPEAT WATERING UNTIL NO MORE WATER IS ABSORBED.
5.4. CONTINUE BACKFILLING PROCESS. WATER AGAIN AFTER PLACING AND TAMPING FINAL LAYER OF SOIL.

TREE & SHRUB MATERIAL:

- 1. GENERAL: FURNISH NURSERY-GROWN PLANTS TRUE TO GENUS, SPECIES, VARIETY, CULTIVAR, STEM FORM, SHEARING, AND OTHER FEATURES INDICATED IN PLANT SCHEDULE SHOWN AND DRAWINGS; AND WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPANTING OR ROOT PRUNING. PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK, DENSELY FOLIATED WHEN IN LEAF AND FREE OF DISEASE, PESTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT.
1.1. TREES WITH DAMAGED, CROOKED, OR MULTIPLE LEADERS; TIGHT VERTICAL BRANCHES WHERE BARK IS SQUEEZED BETWEEN TWO BRANCHES OR BETWEEN BRANCH AND TRUNK ("INCLUDED BARK"); CROSSING TRUNKS; CUT-OFF LIMBS MORE THAN 3/8" IN DIAMETER; OR WITH STEM GIRDLING ROOTS WILL BE REJECTED.
1.2. COLLECTED STOCK: DO NOT USE PLANTS HARVESTED FROM THE WILD, FROM NATIVE STANDS, FROM AN ESTABLISHED LANDSCAPE PLANTING, OR NOT GROWN IN A STATE CERTIFIED NURSERY.
1.3. PLANT MATERIAL SHALL BE PROVIDED IN THE CONTAINER TYPE INDICATED IN THE DRAWINGS (B&B, CONTAINER, BARE ROOT, ETC.), UNLESS THE CONTRACTOR RECEIVES WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT THAT SUBSTITUTION OF CONTAINER TYPE IS ACCEPTABLE.
2. FURNISH TREES WITH ROOT BALLS MEASURED FROM TOP OF ROOT BALL. ROOT FLARE SHALL BE VISIBLE BEFORE PLANTING.
3. SELECT STOCK FOR UNIFORM HEIGHT AND SPREAD.

PLANTING SOIL:

- PLANTING SOIL SHALL BE PLACED IN ONE CONTINUOUS VOLUME FOR THE WIDTH OF LANDSCAPE AREAS, AND A MINIMUM OF 3X THE DIAMETER OF THE ROOT BALL LENGTHWISE
1. INSTALL PLANTING SOIL FOR PLANT BEDS IN 6" LIFTS, MINIMUM 18" DEPTH.
2. DO NOT APPLY PLANTING SOIL TO SATURATED OR FROZEN SUBGRADES.
3. PLANTING SOIL SHALL BE A MIX OF 6-PARTS TOPSOIL, 1-PART COMPOST (APPROVED FOR USE ON THE PROJECT), THOROUGHLY BLEND PLANTING SOIL OFF-SITE BEFORE SPREADING.
3.1. THE PROJECT WILL ACCEPT ONLY CLEAN, SALVAGED OR IMPORTED TOPSOIL CAPABLE OF PASSING THE 1" SIEVE, FREE OF ROCKS, DEBRIS, AND OF NOXIOUS WEEDS.
3.2. STRIPPED, SALVAGED, OR MINED TOPSOIL MUST BE TAKEN FROM THE TOP 6-INCHES OF THE A-HORIZON, HAVING A DARK BROWN TO BLACK COLOR WITH A GRANULAR STRUCTURE AND CLAY CONTENT OF LESS THAN 25%, VERIFIED WITH A RIBBON TEST THAT YIELDS NO MORE THAN 1-INCH.
4. DRILL SEEDER OR DROP SEEDER/SPREADER.

METAL EDGING

- 1. STANDARD PROFILE, COMMERCIAL-GRADE, EXTRUDED ALUMINUM EDGING, FABRICATED IN STANDARD LENGTHS WITH INTERLOCKING SECTIONS WITH LOOPS STAMPED FROM FACE OF SECTIONS TO RECEIVE STAKES.
1.1. BASIS OF DESIGN: CLEANLINE XL BY PERMALOC OR APPROVED EQUAL.
1.2. EDGING SIZE: 3/16-INCH-WIDE BY 5 INCHES DEEP
1.3. STAKES: ALUMINUM, ASTM 221, ALLOY 6061-T6, 18-INCHES LONG.
1.4. FINISH: MILL (NATURAL ALUMINUM)
1.5. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING: CURV-RITE, INC., PERMALOC CORPORATION, RUSSELL, J.D. COMPANY (THE), SURE-LOC EDGING CORPORATION
2. INSTALL METAL EDGE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. ENSURE THAT METAL EDGING IS PROPERLY INSTALLED AND SECURED BEFORE INSTALLING STONE MULCH.

STONE MULCH MATERIAL & INSTALLATION:

- 1. SHALL BE HARD, DURABLE, STONE, WASHED FREE OF LOAM, SAND, CLAY, AND OTHER FOREIGN SUBSTANCES, OF THE FOLLOWING TYPE, SIZE RANGE, AND COLOR:
1.1. MATERIAL: RIVER ROCK.
1.2. SIZE: 3/4"
1.3. COLOR RANGE: BLEND OF CREAM TONES
1.4. BASIS OF DESIGN: 3/4" ALPINE/ AGGREGATE BY HALQUIST STONE.
2. LIGHTLY COMPACT AREAS TO RECEIVE STONE MULCH
3. INSTALL WEED BARRIER FABRIC IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS; COMPLETELY COVER AREA TO BE MULCHED, OVERLAPPING EDGES OF FABRIC LENGTHS A MINIMUM OF 6-INCHES AND SECURING SEAMS WITH GALVANIZED PINS. WEED BARRIER FABRIC SHALL BE WRAPPED VERTICALLY UP THE OUTSIDE EDGES OF SURROUNDING CONCRETE FLATWORK OR CURB AND SECURED IN PLACE. HOLD FABRIC 2" CLEAR OF TOP OF ADJACENT CURB AND CONCRETE FLATWORK SO IT IS NOT VISIBLE FROM SURFACE.
4. PLACE AND FINISH STONE MULCH AS INDICATED IN DRAWINGS, ENSURING A SMOOTH, LEVEL TOP SURFACE FOR ALL STONE MULCH AREAS HELD APPROXIMATELY 1/2" BELOW THE TOP SURFACE OF ADJACENT PAVED AREAS.

CLEAN-UP AND PROTECTION

- 1. DURING PLANTING, KEEP ADJACENT PAVING AND CONSTRUCTION CLEAN AND WORK AREA IN AN ORDERLY CONDITION.
2. PROTECT PLANTS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS AND OPERATIONS OF OTHER CONTRACTORS AND TRADES. MAINTAIN PROTECTION DURING INSTALLATION. TREAT, REPAIR, OR REPLACE DAMAGED PLANTINGS.
3. AFTER INSTALLATION REMOVE ALL NURSERY TAGS, NURSERY STAKES, TIE TAPE, LABELS, WIRE, STRING, AND OTHER DEBRIS FROM PLANT MATERIAL, PLANTING AREAS, AND PROJECT SITE.

BIRD AND BUTTERFLY SEEDING

- 1. PROVIDE THE FOLLOWING SEED TYPES FROM: AGRECOL LLC 10101 N. CASEY ROAD EVANSVILLE, WISCONSIN 53536:
1.1. AGRECOL'S 'BIRD AND BUTTERFLY' SEED MIX' FOR AREAS SHOWN AS 'BIRD AND BUTTERFLY' SEED MIX'
1.2. REFER TO DETAILS 1 ON SHEET L101 AND L102, FOR SEED MIX COMPOSITION.
2. REFER TO CIVIL PLANS FOR LOCATIONS AND EXTENTS OF EROSION CONTROL MAT. IN GENERAL, PROVIDE CURLEX NET FREE FOR SEEDED AREAS WITH SLOPES OF 4:1 OR LESS AND CURLEX II EROSION CONTROL MAT IN ALL OTHER SEEDED AREAS. PROVIDE MANUFACTURER'S STANDARD BIODEGRADABLE ANCHORING STAKES (OR ALTERNATIVE SOURCE FOR BIODEGRADABLE STAKES, IF APPROVED IN WRITING BY OWNER'S REPRESENTATIVE). INSTALL PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
3. WITHIN 4 WEEKS FOLLOWING THE ISSUANCE OF THE NOTICE TO PROCEED, SUBMIT NAME AND LOCATION OF SEED SUPPLIER(S) AND A COMPLETE LIST OF EACH SEED MIX BY WEIGHT AND PROPORTION THAT IS BEING SUPPLIED BEFORE THE SEED MIX IS ORDERED. SUBSTITUTIONS WILL NOT BE PERMITTED. PROVIDE GEOGRAPHIC ORIGINS OF EACH SEED SPECIES.
4. ALL SEED MATERIAL SHALL ORIGINATE FROM LOCAL SOURCES TO THE EXTENT POSSIBLE, SPECIFICALLY FROM USDA PLANT HARDINESS ZONE 4 OR LOWER.
5. ALL SEEDING ZONE BOUNDARIES SHALL BE SURVEYED AND STAKED ON THE PROJECT SITE BY THE CONTRACTOR. NO SEED MIX SHALL BE INSTALLED UNTIL THE GRADE PREPARATION AND LAYOUT HAVE BEEN APPROVED.
6. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST SEED LIMITS WITHOUT ADJUSTING TOTAL SEEDED AREAS, TO MEET FIELD CONDITIONS, AT NO ADDITIONAL COST TO THE OWNER.
7. COORDINATION IS REQUIRED TO ENSURE RAINFALL/GROUNDWATER SEEPAGE DOES NOT RESULT IN SOIL MOISTURE CONDITIONS THAT WILL CAUSE EXCESSIVE RUTTING DURING SEEDING AND MULCHING OPERATIONS. FAILURE TO MEET THIS REQUIREMENT WILL NOT BE AN ACCEPTABLE REASON FOR NOT INSTALLING THE SEED AS SPECIFIED.
8. WHERE SEEDING OCCURS IN CLOSE PROXIMITY TO OTHER SITE IMPROVEMENTS OR AREAS TO REMAIN UNDISTURBED SUCH AS EXISTING WETLANDS AND UPLANDS AREAS, CARE SHALL BE TAKEN TO NOT DISTURB THE EXISTING CONDITIONS. ANY AREAS DAMAGED DURING PLANTING OPERATIONS SHALL BE PROMPTLY RESTORED TO THEIR ORIGINAL CONDITION AT NO COST TO THE OWNER.
9. FOLLOWING NATIVE SEED MIX INSTALLATION, THE LANDSCAPE ARCHITECT AND CONTRACTOR SHALL CONDUCT A SUBSTANTIAL COMPLETION INSPECTION ON ALL SEEDED AREAS. (SEE WARRANTY, MAINTENANCE AND ACCEPTANCE PERIOD)
10. GENERAL INSTALLATION:
10.1. SEEDING OF NATIVE SEED MIXES SHALL OCCUR IN THE EARLY SPRING:
10.1.1. APRIL 15 THROUGH MAY 31.
10.2. DO NOT SOW SEED DURING ADVERSE WEATHER OR WHEN WIND SPEEDS EXCEED TEN MILES PER HOUR.
10.3. DO NOT SOW SEED IN AREAS WHERE STANDING WATER IS PRESENT.
11. GRADE PREPARATION:
11.1. SUBGRADE AND FINISH GRADE PREPARATION SHALL BE IN ACCORDANCE WITH SITE EARTHWORK REQUIREMENTS, AND TOPSOIL SHALL BE A MINIMUM 4 INCHES DEEP IN NON-BIORETENTION AREAS AFTER LIGHT COMPACTION TO PREVENT SETTLEMENT. BIORETENTION AREAS SHALL HAVE SOIL MIX PLACED PER DETAIL.
11.2. PRIOR TO SEEDING, REPAIR ANY RUTS, RILLS, OR GULLIES GREATER THAN 2 INCHES IN DEPTH TO CREATE SMOOTH CONTINUOUS GRADES.
11.3. IF THE PREPARED GRADE IS ERODED OR COMPACTED BY RAINFALL OR OTHER REASONS, REWORK THE TOPSOIL TO THE FULL 4-INCH DEPTH.
11.4. IMMEDIATELY BEFORE SEEDING, SCARIFY, LOOSEN, FLOAT, AND DRAG TOPSOIL, AS NECESSARY TO BRING IT TO THE PROPER CONDITION. REMOVE FOREIGN MATTER LARGER THAN 1-INCH DIAMETER.
11.5. NO FURTHER GRADE PREPARATION IS REQUIRED.
12. IF REQUIRED DUE TO CONSTRUCTION SEQUENCING, SEED THE SITE WITH A TEMPORARY COVER CROP TO HOLD IT FOR SPRING SEEDING AS FOLLOWS:
12.1. IF SEEDED MAY 15 THROUGH SEPTEMBER 1: MIX OF 32 POUNDS PER ACRE OF SEED OATS (AVENA SATIVA) AND 5 POUNDS PER ACRE OF ANNUAL RYE (LOLIUM MULTIFLORUM).
12.2. IF SEEDED SEPTEMBER 1 THROUGH OCTOBER 15: 20 POUNDS PER ACRE WINTER WHEAT (TRITICUM AESTIVUM) OR REGREEN STERILE WHEAT/WHEATGRASS HYBRID (TRITICUM AESTIVUM X ELYTRIGIA BLONGATIFLORUM).
13. BROADCASTING:
13.1. FOR SPRING SEEDING OF NATIVE SEED, SOW SEED DIRECTLY ONTO BARE GROUND OR GROUND WHERE THE PREVIOUS YEAR'S PLANT STUBBLE HAS BEEN CUT TO 2-INCH HEIGHT.
13.2. INCREASE THE VOLUME OF THE BROADCASTED SEED MIX BY MIXING IT WITH AN APPROVED CARRIER ACCEPTABLE CARRIER MATERIAL INCLUDES MOISTENED COMPOST, PEAT MOSS, CORN COB BLAST MEDIA, OR COARSE-GRADE VERMICULITE. SAND AND SAWDUST ARE UNACCEPTABLE CARRIER MATERIALS. USE ONE BUSHEL BASKET OF CARRIER PER 1,000 SQUARE FEET OF AREA TO BE SEEDDED (A BUSHEL EQUALS 8 GALLONS OR 1.24 CUBIC FEET).
13.2.1. USE HALF OF THE TOTAL SEED QUANTITY AND CROSS THE ENTIRE AREA TO BE SEEDDED, EVENLY SPREADING THE SEED, WALK PERPENDICULAR TO THE ORIGINAL SEEDING AND EVENLY BROADCAST THE SECOND HALF OF THE SEED.
13.2.2. LIGHT SEEDS, AWNEED SEEDS, OR BEARDED SEEDS TEND TO RISE TO THE TOP OF THE SPREADER, THEREFORE, MIX SEED ACCORDINGLY AS PLANTING COMMENCES.
13.2.3. RAKE OR DRAG THE SEED INTO THE SOIL, BUT NOT MORE THAN 1/4-INCH DEEP. ROLL THE AREA WITH A ROLLER TO FIRM THE SEED INTO THE SOIL. ROLLING IS NOT NECESSARY ON DORMANT SEEDINGS.
14. DRILL SEEDER OR DROP SEEDER/SPREADER:
14.1. FOR SPRING DRILL SEEDING, SOW SEED DIRECTLY ONTO BARE GROUND OR GROUND WHERE THE PREVIOUS YEAR'S PLANT STUBBLE HAS BEEN CUT TO 2-INCH HEIGHT; FOR SPRING DROP SEEDING, CULTIVATE THE GROUND BEFORE INSTALLING SEED MIX.
14.2. CHECK THE EQUIPMENT FREQUENTLY TO ENSURE THE SEED IS DISPERSING EVENLY AND IS NOT CLOGGING.
14.3. IF THE EQUIPMENT IS NOT EQUIPPED WITH A ROLLER, PASS OVER THE SEEDED AREA WITH A ROLLER TO FIRM THE SEED INTO THE SOIL. ROLLING IS NOT NECESSARY WITH DORMANT SEEDING.
14.3.1. DO NOT MIX THE NATIVE SEED WITH ANY CARRIER MATERIAL.
14.3.2. EVENLY DISTRIBUTE THE SEED ACROSS THE ENTIRE SITE TO BE SEEDDED.
14.4. KEEP THE TOPSOIL MOIST (TO A DEPTH OF 3 INCHES) FOR 3-6 WEEKS FOLLOWING SEEDING; AFTERWARD, APPLY ONE INCH OF WATER DURING THE GROWING SEASON IF RAIN HAS NOT OCCURRED FOR MORE THAN ONE WEEK. DO NOT APPLY WATER WITH SUCH A FORCE AS TO DISTURB SEED, SEEDLINGS, AND/OR TOPSOIL, OR THAT WOULD RUN OFF SOIL SURFACE.
15. ALL AREAS OVER WHICH HAULING OPERATIONS HAVE BEEN CONDUCTED SHALL BE KEPT CLEAN ON A DAILY BASIS. PROMPTLY REMOVE ALL MATERIALS SPILLED ON PAVEMENT.
16. UPON COMPLETION OF SEED INSTALLATION, REMOVE FROM THE SITE AND LEGALLY DISPOSE OF ALL TRASH AND DEBRIS INCLUDING ANY MATERIAL REMOVED DURING GRADE PREPARATION.
17. RESTORE ANY EXISTING AREAS DAMAGED BY OPERATIONS UNDER THE CONTRACT. RESTORATION SHALL INCLUDE FINISH GRADING AND SEEDING AS REQUIRED TO MATCH EXISTING GRADE AND/OR WETLANDS, AND MAINTENANCE OF RESTORED AREAS.
18. ANY DAMAGE BY THE CONTRACTOR TO ESTABLISHED OR NEWLY SEEDDED AREAS NOT WITHIN THE PROJECT SCOPE OF WORK SHALL BE REPAIRED AND RESEDED AT NO COST TO THE OWNER.

VEGETATION MONITORING AND MANAGMENT

NATIVE SEED INSTALLATION:
NATIVE SEED SHALL BE MIXED THOROUGHLY BY VENDOR OR SEED INSTALLATION CONTRACTOR. SEED SHALL BE INSTALLED BY MEANS OF MECHANICAL AND/OR BROADCAST METHODS TO ASSURE EVEN DISTRIBUTION OF SEEDS THROUGHOUT ALL DESIGNATED SEEDING AREAS. IMMEDIATELY AFTER SEED PLACEMENT, SEED SHALL BE SOWN INTO THE SOIL'S SURFACE BY MEANS OF LIGHT RAKING OR HARROWING AND THEN LIGHTLY MULCHED WITH CLEAN, WEED-FREE STRAW. A COVER CROP OF ANNUAL RYE GRASS SHALL BE USED TO COMPLIMENT NATIVE SEEDING AREAS AT THE RATE OF FIVE (5) POUNDS PER ACRE.

MANAGEMENT AND MONITORING:
THE MANAGEMENT AND MONITORING OF NATIVE PLANTINGS (INCLUDING SEED MIXES, FORBS AND PLUGS) SHOULD BE DIRECTED TOWARD THE GOAL OF CREATING A STABLE, NATIVE PLANT COMMUNITY. INVASIVE AND WEEDY PLANT SPECIES WILL NEED TO BE CONTROLLED UNTIL THE DESIRED NATIVE PLANT COMMUNITIES ARE ESTABLISHED. THIS TYPICALLY WILL TAKE THREE (3) TO FIVE (5) YEARS AFTER SOWING OR PLUG INSTALLATION.
UNDESIRABLE PLANT CONTROL:
OVERALL MANAGEMENT OF VEGETATED AREAS MAY INCLUDE, BUT ARE NOT LIMITED TO: RESEEDING OR REPLANTING DAMAGED OR NON-ACTIVE GROWTH AREAS, IRRIGATION, STRATEGIC MOWING TO REDUCE WEED COVER AND PREVENT WEED SEED SET, REMOVAL OF TREE SEEDLINGS, TARGETED HERBICIDE APPLICATION(S), AND MECHANICAL WEED CONTROL (HAND PULLING AND SEED HEAD REMOVAL). SELECTED HERBICIDE APPLICATIONS SHOULD BE DONE SPARINGLY AND ONLY WHEN NECESSARY. SELECTION OF HERBICIDE FOR USE MUST CONSIDER THE PROXIMITY TO THE WATERWAY, IN COMPLIANCE WITH STATE AND APPLICABLE FEDERAL LAW.

SHORT-TERM VEGETATION MANAGEMENT:
SHORT-TERM VEGETATION MANAGEMENT (2 YEARS AFTER SEEDING/PLUG INSTALLATION) OCCURS WHILE THE LANDSCAPE CONTRACTOR OR SPECIALTY SEEDING/ RESTORATION CONTRACTOR IS RESPONSIBLE TO THE PROJECT OWNER FOR THE GUARANTEE OF ALL PLANTINGS TO BE ALIVE AND IN VIGOROUS GROWING CONDITIONS. SEEDING SHOULD ACHIEVE AN AVERAGE OF 80% VEGETATION COVERAGE FROM SPECIFIED SEED MIXES. IF UNSATISFACTORY PLANTS ARE FOUND ON SITE, THEY SHOULD BE REPLACED BY THE LANDSCAPE CONTRACTOR OF SPECIALTY SEEDING/RESTORATION CONTRACTOR DURING THE FIRST MONTH OF THE NEXT FAVORABLE PLANTING SEASON. SUPPLEMENTAL SEEDING WILL BE NEEDED TO FILL IN BARE SPOTS WHERE NATIVE SEED GERMINATION IS POOR. IT IS ALSO THE LANDSCAPE CONTRACTOR / SPECIALTY SEEDING/RESTORATION CONTRACTOR'S RESPONSIBILITY TO ELIMINATE ALL NOXIOUS WEED GROWTH FROM THE SITE DURING THIS GUARANTEE PERIOD.

INSPECTIONS SHOULD BE MADE FREQUENTLY DURING THE GROWING SEASON TO PROPERLY DOCUMENT ANY INVASIVE SPECIES, WEEDS, DEHYDRATION, DAMAGE, EROSION, DISEASES, BARE AREAS, AND PESTS. THE NECESSARY REPAIRS, TREATMENTS, SEEDING AND PLANTING SHOULD BE DONE AS SOON AS WEATHER CONDITIONS ARE APPROPRIATE. THE INSPECTIONS AND SUBSEQUENT ACTIONS SHOULD BE PROPERLY DOCUMENTED AND GRAPHICALLY IDENTIFIED ON THE APPROVED LANDSCAPE PLAN FOR THE PROJECT.

AT THE END OF THE GUARANTEE PERIOD, OWNERSHIP AND MAINTENANCE ACTIVITIES WILL BE TRANSFERRED TO THE PROJECT OWNERSHIP/MANAGEMENT ASSOCIATION.

LONG TERM VEGETATION MANAGEMENT:
LONG-TERM MANAGEMENT (AFTER 2 YEARS) WILL BE THE RESPONSIBILITY OF THE PROJECT OWNERSHIP/MANAGEMENT ASSOCIATION. LONG-TERM VEGETATION MANAGEMENT TASKS WILL INCLUDE MOWING, RESEEDING OR REPLANTING DAMAGED AREAS, REMOVAL OF TREE SEEDLINGS, TARGETED HERBICIDE APPLICATION AND MECHANICAL WEED CONTROL (HAND-PULLING AND SEED HEAD REMOVAL) AND REPAIR OF EROSION AREAS. SELECTIVE HERBICIDE APPLICATIONS SHOULD BE DONE SPARINGLY. INSPECTIONS SHOULD BE MADE FREQUENTLY DURING THE GROWING SEASON TO IDENTIFY ANY INVASIVE SPECIES, WEEDS, DEHYDRATION DAMAGE, EROSION, DISEASES, BARE AREAS, AND PESTS. THE NECESSARY REPAIRS, TREATMENTS, SEEDING AND PLANTING SHOULD BE DONE AS SOON AS WEATHER AND GROWING CONDITIONS ARE APPROPRIATE.

MOWING FREQUENCIES:
MOWING FREQUENCIES WILL DEPEND ON FIELD CONDITIONS. THE NATIVE SEEDLING/GRASS AREAS SHOULD NEVER BE MOWED SHORTER THAN SIX (6) INCHES. GROWTH OF THE VEGETATION ALONG THE WATER'S EDGE (WHERE APPLICABLE) WILL PROVIDE BANK STABILIZATION. THE VEGETATION SHOULD PREVENT NUISANCE LEVELS OF GEESE IN WATERWAYS, WHICH WOULD ADD TO THE NUTRIENT LEVEL IN THE WATER AND FURTHER DEGRADE THE WATER QUALITY. IN ADDITION, THE GROUND SLOPE ABOVE NORMAL WATER ELEVATION SHOULD PROVIDE GOOD DRAINAGE OF THE SURFACE SOILS REDUCE PONDING, AND THUS MOSQUITO HABITAT. THE NATIVE VEGETATION WILL PROVIDE HABITAT CONDUCIVE TO THE BREEDING AND ESTABLISHMENT OF EFFECTIVE MOSQUITO PREDATORS SUCH AS DRAGONFLIES.

MOWING SHOULD BE DONE THREE (3) TIMES DURING THE ESTABLISHMENT PERIOD:

Table with 4 columns: ACTIVITY, TIMING, SUGGESTED MOWING HEIGHTS, REASON. Rows include FIRST MOWING, SECOND MOWING, and THIRD MOWING.

MOWING TIMES ARE APPROXIMATE; ACTUAL MOWING TIMES SHOULD BE BASED ON THE GROWTH OF NATURAL GRASSES AND UNDESIRABLE WEEDS.

AFTER THE DESIRED VEGETATION HAS BECOME ESTABLISHED THE FIRST AND SECOND MOWINGS (MAY, AUGUST) MAY NOT BE NECESSARY. THE THIRD MOWING (OCTOBER), HOWEVER, SHOULD BE DONE ANNUALLY.
BURNING:
THE NORTH AMERICAN PRAIRIE EVOLVED UNDER THE INFLUENCE OF FIRE. MANY TIMES, THESE FIRES WERE IGNITED BY LIGHTNING FROM STORMS SWEEPING ACROSS THE PLAINS STATES. BURNING IS AN EFFECTIVE WAY TO CONTROL INVASIVE WEED SPECIES (THEY OFTEN CANNOT SURVIVE THE HEAT AND FLAMES), AND ALSO CAN BE A MECHANISM FOR DISBURSAL OF SEEDS FROM DESIRED PLANT SPECIES WITHING THE PRAIRIE. PROPERLY CONDUCTED, A "OPNTROLLED BURN" IS SAFE AND EFFECTIVE.

PRIOR TO BURNING, CONTACT WITH THE LOCAL MUNICIPALITY / FIRE DEPARTMENT IS REQUIRED. SOME MUNICIPALITIES MAY HAVE RESTRICTIONS ON OPEN BURNING, OR ONLY ALLOW SUCH PRACTICES AT CERTAIN TIMES. ADDITIONALLY, A PERMIT TO BURN MAY BE REQUIRED IN SOME MUNICIPALITIES. THE SUPERVISING CREW SHOULD BE COMPRISED OF EXPERIENCED PROFESSIONALS WHO ARE TRAINED AND CERTIFIED IN THESE TYPES OF PRESCRIBED BURNS.

IF ALLOWED BY LOCAL CODE AND ORDINANCES, ONLY BURN WHEN THE DEAD VEGETATION MATTER CAN SUSTAIN FIRE. WET OR DAMP PLANT MATTER IS NOT EFFECTIVE IN A CONTROL BURN SETTING. IT MAY TAKE UP TO THREE (3) YEARS FOR A NEWLY PLANTED PRAIRIE TO HAVE ENOUGH "FUEL" TO STAGE AN EFFETIVE CONTROLLED BURN.



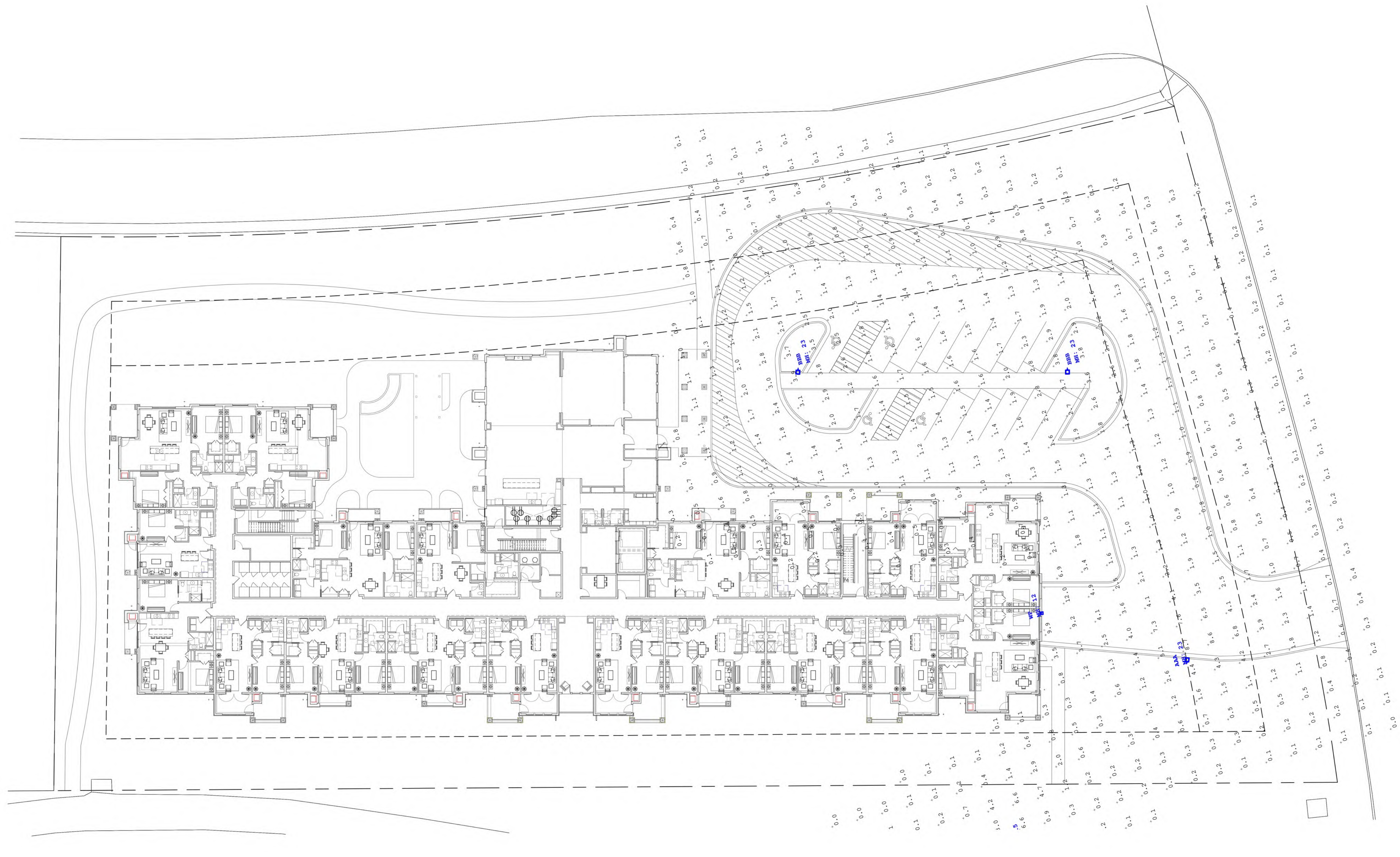
KIRKLAND CROSSING
PEWAUKEE, WI
LANDSCAPE SPECIFICATIONS

PRELIMINARY NOT FOR CONSTRUCTION

Table with project details: SCALE, PROJECT NO: 21471, DESIGN DATE: ---, PLOT DATE: 2/14/2023, DRAWN BY: ---, CHECKED BY: ---, APPROVED BY: ---, SHEET NO:

L300





SCALE : 1" = 20' - 0"

**KIRKLAND CROSSINGS**  
PEWAUKEE, WISCONSIN

**SITE PHOTOMETRICS PLAN**


PRELIMINARY DRAFT -  
NOT FOR CONSTRUCTION

FEBRUARY 15, 2023

EG221





Submitted by INFINITY WAREHOUSE		<b>Catalog Number:</b> LDS-SAL-160-DB-T3-1-40-MAS	<b>Type:</b> <b>AAA</b>
	<b>Job Name:</b> KIRKLAND CROSSING	<b>Notes:</b>	INF-MN23-949



## LDS - SAL LED Small Area Light



<b>Catalog Number:</b>	
<b>Project:</b>	
<b>Comments:</b>	
<b>Prepared By:</b>	<b>Date:</b>

### Description

The sleek fixture design of the LDS-SAL is a blend of modern sophistication and unmatched energy efficiency. The LDS-SAL small area light includes the benefits of superior thermal efficiency, an industry-leading ten-year all-parts warranty, and custom optics ensuring best-in-class photometric results. Optimize photometric designs with greater pole spacing, uniformity, and lower energy usage. The LDS-SAL includes lumen packages up to 30,000 lumens allowing one-for-one replacements of existing HID fixtures up to 1000 Watt and is a perfect spec-grade solution for parking lots, pathways, tennis courts, and many other outdoor applications. Proudly Made in the USA.

### Technical Specifications

**Input Voltage:** 120-277V or 347-480V.

**Housing:** Die-cast aluminum housing with 60% gloss polyester powder coat finishes for maximum durability. The base aluminum material is prepared using an environmentally-friendly non-chrome 2-step surface cleaning and passivation process. The process results in a more durable conversion layer than traditional chromate conversion coatings and allows maximum adhesion of the powder coating to the aluminum substrate. Housing features an integrated heat sink and driver compartment built into the fixture design.

**Mounting:** Mounting arm designed for a square / round pole (standard). Additional mounting options include a pole mounting arm adaptor.

**Split Circuit:** Optional

**Effective Projected Area (EPA):** 0.83 ft²

**Color Temperature:** 2200K, 2700K, 3000K, 4000K (standard), 5000K.

**LED Lifetime:** All LEDs are rated for a minimum of 100,000 hours of continuous operation at ambient outdoor temperatures from -40°F/-40°C to 115°F/46°C.

**Color Rendering Index (CRI):** Minimum of 80 or higher. CRI 90+ available upon request. CRI 90+ not available in 2200K.

**Dimming:** 0-10V standard dimming capability.

**Custom Optics:** Lumecon meticulously engineered premium acrylic optical lenses to maximize the distribution and uniformity of light while minimizing cost. Our arrays distribute light at least 21% further and with 29% more uniformity than leading competitors. Lumecon custom lenses create a uniform, well-lit environment that mitigates illumination "hot spots" and use less wattage than typical LED area lights.

**Vandal Resistant:** Our lens is also resistant to vandalism with a low compact design making the lens material dense and impact resistant. We build to withstand high abuse lighting environments.

**Surge Protection:** Thermally protected 20kA/ 40kV varistor type surge suppressor is included and meets ANSI C136.2-2015: Extreme Level. Also meets IEC61643-11 Class II / EN61643-11 Type 2, and US Dept of Energy MSSLC Model Spec for surge protection. The device is wired in series with the luminaire input power in order to interrupt power to the luminaire when consumed, protecting the LED power supply and circuit boards from additional electrical surges.

**Lumecon ETD™ System:** The enhanced thermal dissipation system engines are thermally bonded to provide maximum thermal dissipation to the exterior of the fixture to ensure long life. To protect the light engine panel from moisture and corrosion, the LED light engine panel is uniformly coated with a UV stabilized acrylic polymer resin that meets MIL and ASTM dielectric standards, UL, and IPC standards for flammability, moisture resistance and thermal shock.

**Certification Data:** ETL Listed to UL 1598, UL 8750 Wet Locations. *Full compliance and test documentation is available for TM-21, LM-79, LM-80, ETL Listing to UL 1598 and UL 8750. Salt Fog tested for 3,000 hours per ASTM B117-16 / ASTM D610-08. Ingress Protection: IP66 per ANSI/IEC 60529-2004. Passed 3G vibration @ 100K cycles, per ANSI C136.31-2018.

**DesignLights Consortium® (DLC) Qualified Product:** Unless noted, not all versions of this product may be DLC® qualified. For a complete list of Lumecon DLC® Qualified Products visit: [www.designlights.org](http://www.designlights.org).

**Dimulator Photo-Control:** Maximize the cost-saving benefits of your outdoor LED light fixtures with the stand-alone Dimming solution. All Dimulators (except for CD and DIM 3 versions) have three selectable dimming levels (30%, 50%, 70%) with three different start times (10:00 pm, Midnight, or 2:00 am), which are selectable through the ten position selector switch located on the bottom of the base. All dimming schedules will return to full brightness at 5:00 am. The stand-alone unit is made to work with the ANSI C136.41 receptacle and will provide dimming of LED fixtures.

**Limelight Wireless Controls:** by Lutron is a wireless lighting control solution for outdoor and industrial facilities that provides remote control and management, saves energy, and enhances facility safety. This option includes a factory-installed wireless control module and sensors that seamlessly integrate data into Lutron's existing data and management platform, Enterprise Vue.

**Manufacturing Origin:** US Manufactured and Assembled.

**Buy American:** Meets Buy American requirements within the ARRA.

**Warranty:** 10 Year L70 performance based warranty. For full warranty terms, please visit our website: [www.lumecon.com](http://www.lumecon.com)

Email: [sales@lumecon.com](mailto:sales@lumecon.com) Website: [www.lumecon.com](http://www.lumecon.com) Phone: 248-477-5009


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Note: Specifications and photometric data are subject to change at any time without notice.

Please see [www.lumecon.com](http://www.lumecon.com) for current specifications and documentation. Sheet / LDS-SAL_10042022





Submitted by INFINITY WAREHOUSE		<b>Catalog Number:</b> LDS-SAL-160-DB-T3-1-40-MAS	<b>Type:</b> <b>AAA</b>
	<b>Job Name:</b> KIRKLAND CROSSING	<b>Notes:</b>	INF-MN23-949



## LDS - SAL LED Small Area Light

### Ordering Information

LDS-SAL – Options / Ordering Example: LDS-SAL-110-DB-T5-1-50-MAS

Wattage	Color	Distribution	Voltage	Color Temperature	Mounting Methods
30 - 30 Watts	DB - Dark Bronze	T2 - Type II	1 - 120v-277v	22 - 2200K ⁸	MAS - Mounting Arm (Square Pole) ⁸ <i>For a Round pole, add UARP option</i>
45 - 45 Watts	GR - Gray	T3 - Type III	2 - 347v-480v	27 - 2700K ⁸	SF - Slip Fitter
60 - 60 Watts	BK - Black	T4 - Type IV		30 - 3000K ⁸	TM - Tenon Mount ⁸
75 - 75 Watts	WH - White	T5 - Type V		40 - 4000K	
80 - 80 Watts	CC - Custom Color			50 - 5000K	
85 - 85 Watts	AF - Automotive Finish				
95 - 95 Watts					
110 - 110 Watts					
125 - 125 Watts					
160 - 160 Watts					
200 - 200 Watts					
220 - 220 Watts					

### Options & Accessories

UARP - Universal Adaptor Round Pole

R - Receptacle Only

RS - Receptacle Only with Shorting Cap

7P - Seven-pin Twist Lock Photocell Receptacle Only¹

PC1 - 120v-277v Button Eye Photocell²

PC2 - 347v-480v Button Eye Photocell²

PC3 - 120v-277v Twist Lock Photocell (10 year warranty)

PC4 - 347v-480v Twist Lock Photocell (10 year warranty)

OC1 - On/Off³

OC2 - Dim/High^{3,4}

OC3 - On/Off w/Photocell³

OC4 - Dim/High w/Photocell^{3,4}

SC - Split Circuit^{5,6,7}

DIM4 - 105-305 VAC, 50/60 Hz with 10 position field adjustable selector switch

DIM4-HV - High Voltage 312-530 VAC, 50/60 Hz with 10 position field adjustable selector switch

DIM4-CD - Constant all-night Dimming

DIM4-CD-HV - Constant all-night Dimming, 315-530 VAC 50/60Hz

DIM4-CUL - 120 VAC, 50/60 Hz, cUL certified version with gray cover

DIM4-ALC - Adaptive Lighting Control with 2% per year incremental increase to compensate for aging fixture

DIM3-XX - Factory set dimming schedule (10 position selector switch not available)

BS5 - Bird Spikes (Field Installed)

BL - Backlight Louver(s) snap over LED Array(s) for Backlight Control at the source.⁹

LLC- Limerlight by Lutron Radio Module

*Not available with 2- 347-480v or PC1, PC2, OC1, OC2, OC3, OC4, UBI, DIM4, DIM4-HV, DIM4-CD, DIM4-CD-HV, DIM4-CUL, DIM4-ALC, DIM3-XX options. Requires the 7P option to be selected.*

LLCM- Limerlight by Lutron Radio Module and PIR Sensor Assembly - Medium Mounting Height (>15 to 30' mounting height)

*Not available with 2- 347-480v or PC1, PC2, OC1, OC2, OC3, OC4, UBI, DIM4, DIM4-HV, DIM4-CD, DIM4-CD-HV, DIM4-CUL, DIM4-ALC, DIM3-XX options. Requires the 7P option to be selected.*

LLCL- Limerlight by Lutron Radio Module and PIR Sensor Assembly - Low Mounting Height (8-15' mounting height)

*Not available with 2- 347-480v or PC1, PC2, OC1, OC2, OC3, OC4, UBI, DIM4, DIM4-HV, DIM4-CD, DIM4-CD-HV, DIM4-CUL, DIM4-ALC, DIM3-XX options. Requires the 7P option to be selected.*

#### Notes:

- For units with 7P the mounting must be restricted to +/-45° from horizontal aim per ANSI C1136.10-2010. If more than a 45° Tilt, use PC1 or PC2
- Cannot be combined with Occupancy Sensor. Use OC3 or OC4 when Occupancy Sensor and Photocell are needed and aiming greater than 45° from horizontal.
- Must note on PO Mounting Height for proper lens application
- See Occupancy Sensor Default Settings Table
- Split circuit is only available for 30W, 45W, 60W, and 80W models.
- Split circuit is not compatible with Occupancy sensing or photo-eye control.
- Split Circuit and Battery Back-up cannot both fit in the same housing. Battery Back-Up will require external. Battery Backup will only control one of the circuits.
- 3000K or warmer, and fixed mounts must be ordered for IDA certification compliance.
- Works with Type 2, Type 3 and Type 4 arrays.

Sheet / LDS-SAL_10042022



Submitted by INFINITY WAREHOUSE



**Job Name:**  
KIRKLAND CROSSING

**Catalog Number:**  
LDS-SAL-160-DB-T3-1-40-MAS

Notes:

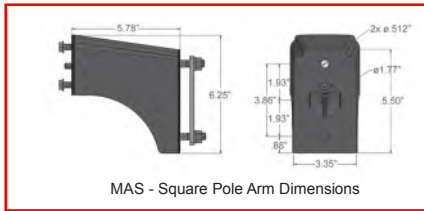
**Type:**  
**AAA**

INF-MN23-949



**LDS - SAL**  
LED Small Area Light

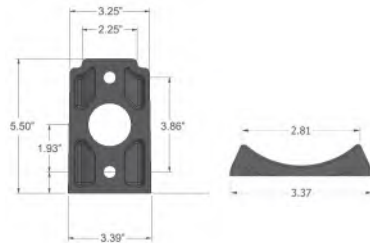
**Mounting Method Dimensions**



TM - Tenon Arm Dimensions

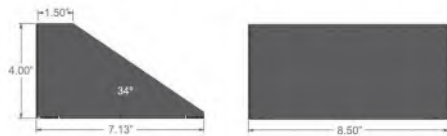


SF - Slip Fitter Arm Dimensions



UARP - Universal Adaptor Round Pole

**External Glare Shield and Full Glare Snoot Dimensions**



33-00112 – External Glare Shield



Field Installed for Forward Glare Reduction



Field Installed for Rear Glare Reduction



33-00120 – Full Glare Snoot



**Backlight Louver(s)**



BL - Backlight Louver(s) snap over LED Array(s) for Backlight Control at the source.  
Works with Type 2, Type 3 and Type 4 arrays.

Sheet / LDS-SAL_10042022



Submitted by INFINITY WAREHOUSE



**Job Name:**  
KIRKLAND CROSSING

**Catalog Number:**  
SS4001120-BZ-DM10-BC

Notes:

**Type:**  
**AAA**

INF-MN23-949



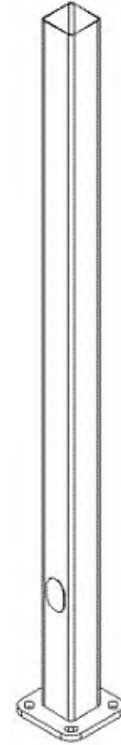
## SQUARE NON-TAPERED STEEL (SS)

### POLE SHAFT

The pole shaft is one piece construction, being fabricated from a weldable grade carbon steel structural tubing which has a uniform wall thickness of 11 gauge (0.1196"). The pole shaft material shall conform to ASTM A-500 Grade C with a minimum yield strength of 50,000 psi. The pole shaft has a full length longitudinal resistance weld and is uniformly square in cross-section with flat sides, small corner radii and excellent torsional properties.

### BASE PLATE

The anchor base is fabricated from structural quality hot rolled carbon steel plate that meets or exceeds a minimum yield strength of 36,000 psi. The anchor base telescopes the pole shaft and is circumferentially welded top and bottom. All welds are performed in accordance with the American Welding Society specification AWS D1.1, latest edition.



### HANDHOLE

An oval reinforced gasketed handhole, having a nominal 3" x 5" inside opening, located 1'-6" above base, is standard on all poles. A grounding provision is located inside the handhole ring.

### ANCHOR BOLT

Anchor bolts are fabricated from commercial quality hot rolled carbon steel bar that meets or exceeds a minimum yield strength of 55,000 psi. Four properly sized anchor bolts, each with two regular hex nuts and washers, are furnished and shipped with all poles unless otherwise specified. Anchor bolts shall have the threaded end galvanized a minimum of 8 inches in accordance with ASTM A-153. Fully galvanized anchor bolts are available upon request.

### FINISH

Standard - All exterior metal surfaces are mechanically cleaned to remove all oxides and contaminants prior to coating. The standard finish is a polyester thermosetting powder coating applied to the surface of the substrate to a minimum of 3 mils for all color finishes. Galvanizing is available upon request.

SS4001120-BZ-DM10-BC					
CATALOG LOGIC		CODE	EXPLANATION		
Series:		SS	Square Non-Tapered Steel Poles		
Base Diameter:		400	4.0" Base Bottom Diameter		
Gauge:		11	11 gauge thickness		
Nominal Height:		20	20 feet tall		
Finish:		BZ	Bronze Finish Color		
Mounting Designation:		DM10	Drilled for 1 Luminaire		
Options:		BC	Base Cover		
HEIGHT (ft.)	POLE SHAFT (in.) x (ft.)	GAUGE	HANDHOLE SIZE (in.)	ANCHOR BOLT (in.) x (in.) x (in.)	BOLT CIRCLE (in.)
20	4.0 x 20.0	11	3" x 5"	0.75 x 17 x 3	8
EPA	80 MPH (ft. ² )	90 MPH (ft. ² )	100 MPH (ft. ² )	WEIGHT	SHIP WT. (lbs.)
	12	9	6		151

▶HOME◀

▶PRINT◀

▶START OVER◀

▶NEW POLE◀



Submitted by INFINITY WAREHOUSE



**Job Name:**  
KIRKLAND CROSSING

**Catalog Number:**  
LDS-SAL-160-DB-T5-1-40-MAS

**Type:**  
**BBB**

Notes:

INF-MN23-949



## LDS - SAL LED Small Area Light



Catalog Number:	
Project:	
Comments:	
Prepared By:	Date:

### Description

The sleek fixture design of the LDS-SAL is a blend of modern sophistication and unmatched energy efficiency. The LDS-SAL small area light includes the benefits of superior thermal efficiency, an industry-leading ten-year all-parts warranty, and custom optics ensuring best-in-class photometric results. Optimize photometric designs with greater pole spacing, uniformity, and lower energy usage. The LDS-SAL includes lumen packages up to 30,000 lumens allowing one-for-one replacements of existing HID fixtures up to 1000 Watt and is a perfect spec-grade solution for parking lots, pathways, tennis courts, and many other outdoor applications. Proudly Made in the USA.

### Technical Specifications

**Input Voltage:** 120-277V or 347-480V.

**Housing:** Die-cast aluminum housing with 60% gloss polyester powder coat finishes for maximum durability. The base aluminum material is prepared using an environmentally-friendly non-chrome 2-step surface cleaning and passivation process. The process results in a more durable conversion layer than traditional chromate conversion coatings and allows maximum adhesion of the powder coating to the aluminum substrate. Housing features an integrated heat sink and driver compartment built into the fixture design.

**Mounting:** Mounting arm designed for a square / round pole (standard). Additional mounting options include a pole mounting arm adaptor.

**Split Circuit:** Optional

**Effective Projected Area (EPA):** 0.83 ft²

**Color Temperature:** 2200K, 2700K, 3000K, 4000K (standard), 5000K.

**LED Lifetime:** All LEDs are rated for a minimum of 100,000 hours of continuous operation at ambient outdoor temperatures from -40°F/-40°C to 115°F/46°C.

**Color Rendering Index (CRI):** Minimum of 80 or higher. CRI 90+ available upon request. CRI 90+ not available in 2200K.

**Dimming:** 0-10V standard dimming capability.

**Custom Optics:** Lumecon meticulously engineered premium acrylic optical lenses to maximize the distribution and uniformity of light while minimizing cost. Our arrays distribute light at least 21% further and with 29% more uniformity than leading competitors. Lumecon custom lenses create a uniform, well-lit environment that mitigates illumination "hot spots" and use less wattage than typical LED area lights.

**Vandal Resistant:** Our lens is also resistant to vandalism with a low compact design making the lens material dense and impact resistant. We build to withstand high abuse lighting environments.

**Surge Protection:** Thermally protected 20kA/ 40kV varistor type surge suppressor is included and meets ANSI C136.2-2015: Extreme Level. Also meets IEC61643-11 Class II / EN61643-11 Type 2, and US Dept of Energy MSSLC Model Spec for surge protection. The device is wired in series with the luminaire input power in order to interrupt power to the luminaire when consumed, protecting the LED power supply and circuit boards from additional electrical surges.

**Lumecon ETD™ System:** The enhanced thermal dissipation system engines are thermally bonded to provide maximum thermal dissipation to the exterior of the fixture to ensure long life. To protect the light engine panel from moisture and corrosion, the LED light engine panel is uniformly coated with a UV stabilized acrylic polymer resin that meets MIL and ASTM dielectric standards, UL, and IPC standards for flammability, moisture resistance and thermal shock.

**Certification Data:** ETL Listed to UL 1598, UL 8750 Wet Locations. *Full compliance and test documentation is available for TM-21, LM-79, LM-80, ETL Listing to UL 1598 and UL 8750. Salt Fog tested for 3,000 hours per ASTM B117-16 / ASTM D610-08. Ingress Protection: IP66 per ANSI/IEC 60529-2004. Passed 3G vibration @ 100K cycles, per ANSI C136.31-2018.

**DesignLights Consortium® (DLC) Qualified Product:** Unless noted, not all versions of this product may be DLC® qualified. For a complete list of Lumecon DLC® Qualified Products visit: [www.designlights.org](http://www.designlights.org).

**Dimulator Photo-Control:** Maximize the cost-saving benefits of your outdoor LED light fixtures with the stand-alone Dimming solution. All Dimulators (except for CD and DIM 3 versions) have three selectable dimming levels (30%, 50%, 70%) with three different start times (10:00 pm, Midnight, or 2:00 am), which are selectable through the ten position selector switch located on the bottom of the base. All dimming schedules will return to full brightness at 5:00 am. The stand-alone unit is made to work with the ANSI C136.41 receptacle and will provide dimming of LED fixtures.

**Limelight Wireless Controls:** by Lutron is a wireless lighting control solution for outdoor and industrial facilities that provides remote control and management, saves energy, and enhances facility safety. This option includes a factory-installed wireless control module and sensors that seamlessly integrate data into Lutron's existing data and management platform, Enterprise Vue.

**Manufacturing Origin:** US Manufactured and Assembled.

**Buy American:** Meets Buy American requirements within the ARRA.

**Warranty:** 10 Year L70 performance based warranty. For full warranty terms, please visit our website: [www.lumecon.com](http://www.lumecon.com)

Email: [sales@lumecon.com](mailto:sales@lumecon.com) Website: [www.lumecon.com](http://www.lumecon.com) Phone: 248-477-5009  
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Note: Specifications and photometric data are subject to change at any time without notice.

Please see [www.lumecon.com](http://www.lumecon.com) for current specifications and documentation. Sheet / LDS-SAL_10042022





Submitted by INFINITY WAREHOUSE


**Job Name:**  
KIRKLAND CROSSING
**Catalog Number:**

LDS-SAL-160-DB-T5-1-40-MAS

**Type:****BBB**

Notes:

INF-MN23-949



## LDS - SAL

### LED Small Area Light

#### Ordering Information

LDS-SAL – Options / Ordering Example: LDS-SAL-110-DB-T5-1-50-MAS

Wattage	Color	Distribution	Voltage	Color Temperature	Mounting Methods
30 - 30 Watts	DB - Dark Bronze	T2 - Type II	1 - 120v-277v	22 - 2200K ⁸	MAS - Mounting Arm (Square Pole) ⁸ <i>For a Round pole, add UARP option</i>
45 - 45 Watts	GR - Gray	T3 - Type III	2 - 347v-480v	27 - 2700K ⁸	SF - Slip Fitter
60 - 60 Watts	BK - Black	T4 - Type IV		30 - 3000K ⁸	TM - Tenon Mount ⁸
75 - 75 Watts	WH - White	T5 - Type V		40 - 4000K	
80 - 80 Watts	CC - Custom Color			50 - 5000K	
85 - 85 Watts	AF - Automotive Finish				
95 - 95 Watts					
110 - 110 Watts					
125 - 125 Watts					
160 - 160 Watts					
200 - 200 Watts					
220 - 220 Watts					

#### Options & Accessories

UARP - Universal Adaptor Round Pole

R - Receptacle Only

RS - Receptacle Only with Shorting Cap

7P - Seven-pin Twist Lock Photocell Receptacle Only¹PC1 - 120v-277v Button Eye Photocell²PC2 - 347v-480v Button Eye Photocell²

PC3 - 120v-277v Twist Lock Photocell (10 year warranty)

PC4 - 347v-480v Twist Lock Photocell (10 year warranty)

OC1 - On/Off³OC2 - Dim/High^{3,4}OC3 - On/Off w/Photocell³OC4 - Dim/High w/Photocell^{3,4}SC - Split Circuit^{5,6,7}

DIM4 - 105-305 VAC, 50/60 Hz with 10 position field adjustable selector switch

DIM4-HV - High Voltage 312-530 VAC, 50/60 Hz with 10 position field adjustable selector switch

DIM4-CD - Constant all-night Dimming

DIM4-CD-HV - Constant all-night Dimming, 315-530 VAC 50/60Hz

DIM4-CUL - 120 VAC, 50/60 Hz, cUL certified version with gray cover

DIM4-ALC - Adaptive Lighting Control with 2% per year incremental increase to compensate for aging fixture

DIM3-XX - Factory set dimming schedule (10 position selector switch not available)

BS5 - Bird Spikes (Field Installed)

BL - Backlight Louver(s) snap over LED Array(s) for Backlight Control at the source.⁹

LLC- Limerlight by Lutron Radio Module

*Not available with 2- 347-480v or PC1, PC2, OC1, OC2, OC3, OC4, UBI, DIM4, DIM4-HV, DIM4-CD, DIM4-CD-HV, DIM4-CUL, DIM4-ALC, DIM3-XX options. Requires the 7P option to be selected.*

LLCM- Limerlight by Lutron Radio Module and PIR Sensor Assembly - Medium Mounting Height (&gt;15 to 30' mounting height)

*Not available with 2- 347-480v or PC1, PC2, OC1, OC2, OC3, OC4, UBI, DIM4, DIM4-HV, DIM4-CD, DIM4-CD-HV, DIM4-CUL, DIM4-ALC, DIM3-XX options. Requires the 7P option to be selected.*

LLCL- Limerlight by Lutron Radio Module and PIR Sensor Assembly - Low Mounting Height (8-15' mounting height)

*Not available with 2- 347-480v or PC1, PC2, OC1, OC2, OC3, OC4, UBI, DIM4, DIM4-HV, DIM4-CD, DIM4-CD-HV, DIM4-CUL, DIM4-ALC, DIM3-XX options. Requires the 7P option to be selected.*

#### Notes:

1. For units with 7P the mounting must be restricted to +/-45° from horizontal aim per ANSI C1136.10-2010. If more than a 45° Tilt, use PC1 or PC2

2. Cannot be combined with Occupancy Sensor. Use OC3 or OC4 when Occupancy Sensor and Photocell are needed and aiming greater than 45° from horizontal.

3. Must note on PO Mounting Height for proper lens application

4. See Occupancy Sensor Default Settings Table

5. Split circuit is only available for 30W, 45W, 60W, and 80W models.

6. Split circuit is not compatible with Occupancy sensing or photo-eye control.

7. Split Circuit and Battery Back-up cannot both fit in the same housing. Battery Back-Up will require external. Battery Backup will only control one of the circuits.

8. 3000K or warmer, and fixed mounts must be ordered for IDA certification compliance.

9. Works with Type 2, Type 3 and Type 4 arrays.

#### Accessories ordered as a separate line item:

33-00112 - External Glare Shield

33-00120 - Full Glare Snoot

Sheet / LDS-SAL_10042022



Submitted by INFINITY WAREHOUSE



**Job Name:**  
KIRKLAND CROSSING

**Catalog Number:**  
LDS-SAL-160-DB-T5-1-40-MAS

Notes:

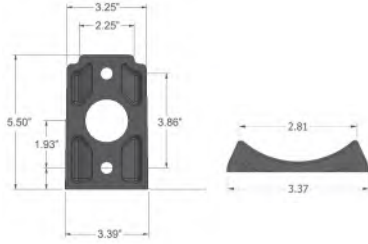
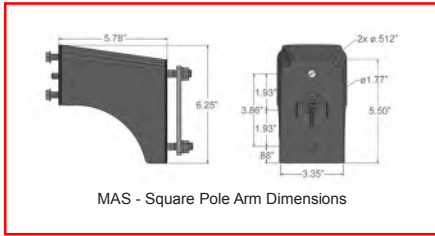
**Type:**  
**BBB**

INF-MN23-949

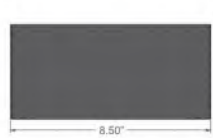
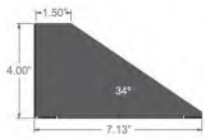


# LDS - SAL LED Small Area Light

## Mounting Method Dimensions



## External Glare Shield and Full Glare Snoot Dimensions



33-00112 – External Glare Shield



33-00120 – Full Glare Snoot

## Backlight Louver(s)



BL - Backlight Louver(s) snap over LED Array(s) for Backlight Control at the source. Works with Type 2, Type 3 and Type 4 arrays.

Sheet / LDS-SAL_10042022





## SQUARE NON-TAPERED STEEL (SS)

### POLE SHAFT

The pole shaft is one piece construction, being fabricated from a weldable grade carbon steel structural tubing which has a uniform wall thickness of 11 gauge (0.1196"). The pole shaft material shall conform to ASTM A-500 Grade C with a minimum yield strength of 50,000 psi. The pole shaft has a full length longitudinal resistance weld and is uniformly square in cross-section with flat sides, small corner radii and excellent torsional properties.

### BASE PLATE

The anchor base is fabricated from structural quality hot rolled carbon steel plate that meets or exceeds a minimum yield strength of 36,000 psi. The anchor base telescopes the pole shaft and is circumferentially welded top and bottom. All welds are performed in accordance with the American Welding Society specification AWS D1.1, latest edition.

### HANDHOLE

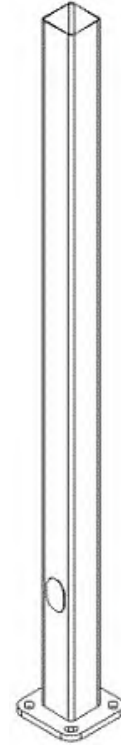
An oval reinforced gasketed handhole, having a nominal 3" x 5" inside opening, located 1'-6" above base, is standard on all poles. A grounding provision is located inside the handhole ring.

### ANCHOR BOLT

Anchor bolts are fabricated from commercial quality hot rolled carbon steel bar that meets or exceeds a minimum yield strength of 55,000 psi. Four properly sized anchor bolts, each with two regular hex nuts and washers, are furnished and shipped with all poles unless otherwise specified. Anchor bolts shall have the threaded end galvanized a minimum of 8 inches in accordance with ASTM A-153. Fully galvanized anchor bolts are available upon request.

### FINISH

Standard - All exterior metal surfaces are mechanically cleaned to remove all oxides and contaminants prior to coating. The standard finish is a polyester thermosetting powder coating applied to the surface of the substrate to a minimum of 3 mils for all color finishes. Galvanizing is available upon request.



SS4001120-BZ-DM10-BC					
CATALOG LOGIC		CODE	EXPLANATION		
Series:		SS	Square Non-Tapered Steel Poles		
Base Diameter:		400	4.0" Base Bottom Diameter		
Gauge:		11	11 gauge thickness		
Nominal Height:		20	20 feet tall		
Finish:		BZ	Bronze Finish Color		
Mounting Designation:		DM10	Drilled for 1 Luminaire		
Options:		BC	Base Cover		
HEIGHT (ft.)	POLE SHAFT (in.) x (ft.)	GAUGE	HANDHOLE SIZE (in.)	ANCHOR BOLT (in.) x (in.) x (in.)	BOLT CIRCLE (in.)
20	4.0 x 20.0	11	3" x 5"	0.75 x 17 x 3	8
EPA	80 MPH (ft. ² )	90 MPH (ft. ² )	100 MPH (ft. ² )	WEIGHT	SHIP WT. (lbs.)
	12	9	6		151

[▶HOME◀](#)
[▶PRINT◀](#)
[▶START OVER◀](#)
[▶NEW POLE◀](#)



Submitted by INFINITY WAREHOUSE



**Job Name:**  
KIRKLAND CROSSING

**Catalog Number:**  
LDS-SAL-80-DB-T2-1-40-MAS  
**Notes:**

**Type:**  
**CCC**  
INF-MN23-949



## LDS - SAL LED Small Area Light



<b>Catalog Number:</b>	
<b>Project:</b>	
<b>Comments:</b>	
<b>Prepared By:</b>	<b>Date:</b>

### Description

The sleek fixture design of the LDS-SAL is a blend of modern sophistication and unmatched energy efficiency. The LDS-SAL small area light includes the benefits of superior thermal efficiency, an industry-leading ten-year all-parts warranty, and custom optics ensuring best-in-class photometric results. Optimize photometric designs with greater pole spacing, uniformity, and lower energy usage. The LDS-SAL includes lumen packages up to 30,000 lumens allowing one-for-one replacements of existing HID fixtures up to 1000 Watt and is a perfect spec-grade solution for parking lots, pathways, tennis courts, and many other outdoor applications. Proudly Made in the USA.

### Technical Specifications

**Input Voltage:** 120-277V or 347-480V.

**Housing:** Die-cast aluminum housing with 60% gloss polyester powder coat finishes for maximum durability. The base aluminum material is prepared using an environmentally-friendly non-chrome 2-step surface cleaning and passivation process. The process results in a more durable conversion layer than traditional chromate conversion coatings and allows maximum adhesion of the powder coating to the aluminum substrate. Housing features an integrated heat sink and driver compartment built into the fixture design.

**Mounting:** Mounting arm designed for a square / round pole (standard). Additional mounting options include a pole mounting arm adaptor.

**Split Circuit:** Optional

**Effective Projected Area (EPA):** 0.83 ft²

**Color Temperature:** 2200K, 2700K, 3000K, 4000K (standard), 5000K.

**LED Lifetime:** All LEDs are rated for a minimum of 100,000 hours of continuous operation at ambient outdoor temperatures from -40°F/-40°C to 115°F/46°C.

**Color Rendering Index (CRI):** Minimum of 80 or higher. CRI 90+ available upon request. CRI 90+ not available in 2200K.

**Dimming:** 0-10V standard dimming capability.

**Custom Optics:** Lumecon meticulously engineered premium acrylic optical lenses to maximize the distribution and uniformity of light while minimizing cost. Our arrays distribute light at least 21% further and with 29% more uniformity than leading competitors. Lumecon custom lenses create a uniform, well-lit environment that mitigates illumination "hot spots" and use less wattage than typical LED area lights.

**Vandal Resistant:** Our lens is also resistant to vandalism with a low compact design making the lens material dense and impact resistant. We build to withstand high abuse lighting environments.

**Surge Protection:** Thermally protected 20kA/ 40kV varistor type surge suppressor is included and meets ANSI C136.2-2015: Extreme Level. Also meets IEC61643-11 Class II / EN61643-11 Type 2, and US Dept of Energy MSSLC Model Spec for surge protection. The device is wired in series with the luminaire input power in order to interrupt power to the luminaire when consumed, protecting the LED power supply and circuit boards from additional electrical surges.

**Lumecon ETD™ System:** The enhanced thermal dissipation system engines are thermally bonded to provide maximum thermal dissipation to the exterior of the fixture to ensure long life. To protect the light engine panel from moisture and corrosion, the LED light engine panel is uniformly coated with a UV stabilized acrylic polymer resin that meets MIL and ASTM dielectric standards, UL, and IPC standards for flammability, moisture resistance and thermal shock.

**Certification Data:** ETL Listed to UL 1598, UL 8750 Wet Locations. *Full compliance and test documentation is available for TM-21, LM-79, LM-80, ETL Listing to UL 1598 and UL 8750. Salt Fog tested for 3,000 hours per ASTM B117-16 / ASTM D610-08. Ingress Protection: IP66 per ANSI/IEC 60529-2004. Passed 3G vibration @ 100K cycles, per ANSI C136.31-2018.

**DesignLights Consortium® (DLC) Qualified Product:** Unless noted, not all versions of this product may be DLC® qualified. For a complete list of Lumecon DLC® Qualified Products visit: [www.designlights.org](http://www.designlights.org).

**Dimulator Photo-Control:** Maximize the cost-saving benefits of your outdoor LED light fixtures with the stand-alone Dimming solution. All Dimulators (except for CD and DIM 3 versions) have three selectable dimming levels (30%, 50%, 70%) with three different start times (10:00 pm, Midnight, or 2:00 am), which are selectable through the ten position selector switch located on the bottom of the base. All dimming schedules will return to full brightness at 5:00 am. The stand-alone unit is made to work with the ANSI C136.41 receptacle and will provide dimming of LED fixtures.

**Limelight Wireless Controls:** by Lutron is a wireless lighting control solution for outdoor and industrial facilities that provides remote control and management, saves energy, and enhances facility safety. This option includes a factory-installed wireless control module and sensors that seamlessly integrate data into Lutron's existing data and management platform, Enterprise Vue.

**Manufacturing Origin:** US Manufactured and Assembled.

**Buy American:** Meets Buy American requirements within the ARRA.

**Warranty:** 10 Year L70 performance based warranty. For full warranty terms, please visit our website: [www.lumecon.com](http://www.lumecon.com)

Email: [sales@lumecon.com](mailto:sales@lumecon.com) Website: [www.lumecon.com](http://www.lumecon.com) Phone: 248-477-5009

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Note: Specifications and photometric data are subject to change at any time without notice.

Please see [www.lumecon.com](http://www.lumecon.com) for current specifications and documentation. Sheet / LDS-SAL_10042022





Submitted by INFINITY WAREHOUSE


**Job Name:**  
KIRKLAND CROSSING
**Catalog Number:**

LDS-SAL-80-DB-T2-1-40-MAS

**Type:****CCC**

Notes:

INF-MN23-949



## LDS - SAL

### LED Small Area Light

#### Ordering Information

LDS-SAL – Options / Ordering Example: LDS-SAL-110-DB-T5-1-50-MAS

Wattage	Color	Distribution	Voltage	Color Temperature	Mounting Methods
30 - 30 Watts	DB - Dark Bronze	T2 - Type II	1 - 120v-277v	22 - 2200K ⁸	MAS - Mounting Arm (Square Pole) ⁸ <i>For a Round pole, add UARP option</i>
45 - 45 Watts	GR - Gray	T3 - Type III	2 - 347v-480v	27 - 2700K ⁸	SF - Slip Fitter
60 - 60 Watts	BK - Black	T4 - Type IV		30 - 3000K ⁸	TM - Tenon Mount ⁸
75 - 75 Watts	WH - White	T5 - Type V		40 - 4000K ⁸	
80 - 80 Watts	CC - Custom Color			50 - 5000K	
85 - 85 Watts	AF - Automotive Finish				
95 - 95 Watts					
110 - 110 Watts					
125 - 125 Watts					
160 - 160 Watts					
200 - 200 Watts					
220 - 220 Watts					

#### Options & Accessories

UARP - Universal Adaptor Round Pole

R - Receptacle Only

RS - Receptacle Only with Shorting Cap

7P - Seven-pin Twist Lock Photocell Receptacle Only¹PC1 - 120v-277v Button Eye Photocell²PC2 - 347v-480v Button Eye Photocell²

PC3 - 120v-277v Twist Lock Photocell (10 year warranty)

PC4 - 347v-480v Twist Lock Photocell (10 year warranty)

OC1 - On/Off³OC2 - Dim/High^{3,4}OC3 - On/Off w/Photocell³OC4 - Dim/High w/Photocell^{3,4}SC - Split Circuit^{5,6,7}

DIM4 - 105-305 VAC, 50/60 Hz with 10 position field adjustable selector switch

DIM4-HV - High Voltage 312-530 VAC, 50/60 Hz with 10 position field adjustable selector switch

DIM4-CD - Constant all-night Dimming

DIM4-CD-HV - Constant all-night Dimming, 315-530 VAC 50/60Hz

DIM4-CUL - 120 VAC, 50/60 Hz, cUL certified version with gray cover

DIM4-ALC - Adaptive Lighting Control with 2% per year incremental increase to compensate for aging fixture

DIM3-XX - Factory set dimming schedule (10 position selector switch not available)

BS5 - Bird Spikes (Field Installed)

BL - Backlight Louver(s) snap over LED Array(s) for Backlight Control at the source.⁹

LLC- Limerlight by Lutron Radio Module

*Not available with 2- 347-480v or PC1, PC2, OC1, OC2, OC3, OC4, UBI, DIM4, DIM4-HV, DIM4-CD, DIM4-CD-HV, DIM4-CUL, DIM4-ALC, DIM3-XX options. Requires the 7P option to be selected.*

LLCM- Limerlight by Lutron Radio Module and PIR Sensor Assembly - Medium Mounting Height (&gt;15 to 30' mounting height)

*Not available with 2- 347-480v or PC1, PC2, OC1, OC2, OC3, OC4, UBI, DIM4, DIM4-HV, DIM4-CD, DIM4-CD-HV, DIM4-CUL, DIM4-ALC, DIM3-XX options. Requires the 7P option to be selected.*

LLCL- Limerlight by Lutron Radio Module and PIR Sensor Assembly - Low Mounting Height (8-15' mounting height)

*Not available with 2- 347-480v or PC1, PC2, OC1, OC2, OC3, OC4, UBI, DIM4, DIM4-HV, DIM4-CD, DIM4-CD-HV, DIM4-CUL, DIM4-ALC, DIM3-XX options. Requires the 7P option to be selected.*

#### Notes:

1. For units with 7P the mounting must be restricted to +/-45° from horizontal aim per ANSI C1136.10-2010. If more than a 45° Tilt, use PC1 or PC2

2. Cannot be combined with Occupancy Sensor. Use OC3 or OC4 when Occupancy Sensor and Photocell are needed and aiming greater than 45° from horizontal.

3. Must note on PO Mounting Height for proper lens application

4. See Occupancy Sensor Default Settings Table

5. Split circuit is only available for 30W, 45W, 60W, and 80W models.

6. Split circuit is not compatible with Occupancy sensing or photo-eye control.

7. Split Circuit and Battery Back-up cannot both fit in the same housing. Battery Back-Up will require external. Battery Backup will only control one of the circuits.

8. 3000K or warmer, and fixed mounts must be ordered for IDA certification compliance.

9. Works with Type 2, Type 3 and Type 4 arrays.

#### Accessories ordered as a separate line item:

33-00112 - External Glare Shield

33-00120 - Full Glare Snoot

Sheet / LDS-SAL_10042022



Submitted by INFINITY WAREHOUSE



**Job Name:**  
KIRKLAND CROSSING

**Catalog Number:**  
LDS-SAL-80-DB-T2-1-40-MAS

Notes:

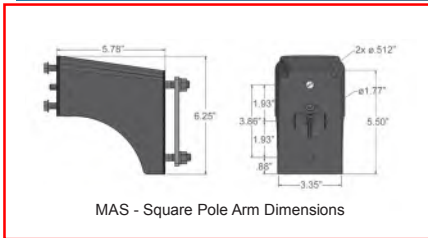
**Type:**  
**CCC**

INF-MN23-949

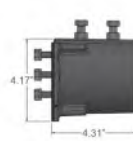


**LDS - SAL**  
LED Small Area Light

**Mounting Method Dimensions**



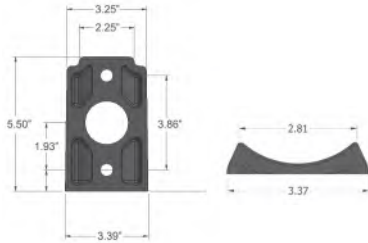
MAS - Square Pole Arm Dimensions



TM - Tenon Arm Dimensions

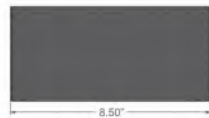
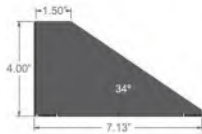


SF - Slip Fitter Arm Dimensions



UARP - Universal Adaptor Round Pole

**External Glare Shield and Full Glare Snoot Dimensions**



Field Installed for Forward Glare Reduction

Field Installed for Rear Glare Reduction

33-00112 – External Glare Shield



33-00120 – Full Glare Snoot

**Backlight Louver(s)**



BL - Backlight Louver(s) snap over LED Array(s) for Backlight Control at the source.  
Works with Type 2, Type 3 and Type 4 arrays.

Sheet / LDS-SAL_10042022





**Job Name:**  
KIRKLAND CROSSING

**Catalog Number:**  
LDS-SAL-80-DB-T2-1-40-MAS

**Type:**  
**CCC**

Notes:

INF-MN23-949

**LDS - SAL**  
LED Small Area Light



Performance Data

Model	Distribution Type	Watts	2200K			2700K			3000K			4000K			5000K												
			Lumens	B	U	G	Efficacy	Lumens	B	U	G	Efficacy	Lumens	B	U	G	Efficacy	Lumens	B	U	G	Efficacy					
LDS-SAL/LFC-30	Type 2	30	2,904	1	0	1	98	3,739	1	0	1	131	3,791	1	0	1	133	4,393	1	0	1	147	4,393	1	0	1	148
	Type 3	30	2,927	1	0	1	99	3,769	1	0	1	132	3,821	1	0	1	133	4,412	1	0	1	149	4,428	1	0	1	149
	Type 4	30	2,878	1	0	1	97	3,706	1	0	1	129	3,757	1	0	1	131	4,357	1	0	1	146	4,352	1	0	1	147
	Type 5	30	2,975	2	0	2	100	3,749	2	0	2	131	3,801	2	0	2	133	4,474	2	0	2	151	4,491	2	0	2	151
	Type 2	45	4,899	1	0	1	103	6,591	1	0	1	147	6,683	1	0	1	149	6,975	1	0	1	154	6,975	1	0	1	155
LDS-SAL/LFC-45	Type 3	45	4,635	1	0	1	97	6,356	1	0	1	141	6,445	1	0	1	143	6,570	1	0	1	146	6,570	1	0	1	146
	Type 4	45	4,591	1	0	1	96	6,172	1	0	1	137	6,259	1	0	1	139	6,525	1	0	1	145	6,525	1	0	1	145
	Type 5	45	4,738	3	0	2	99	6,370	3	0	2	142	6,459	3	0	2	144	6,705	3	0	2	149	6,750	3	0	2	150
	Type 2	60	5,400	1	0	2	90	7,620	1	0	2	127	7,800	1	0	2	130	8,100	1	0	2	135	8,100	1	0	2	135
	Type 3	60	5,400	2	0	2	90	7,560	2	0	2	126	7,680	2	0	2	128	8,160	2	0	2	136	8,220	2	0	2	137
LDS-SAL/LFC-60	Type 4	60	5,340	2	0	2	89	7,440	2	0	2	124	7,560	2	0	2	126	8,040	2	0	2	134	8,040	2	0	2	134
	Type 5	60	5,520	3	0	3	92	7,680	3	0	3	128	7,800	3	0	3	130	8,280	3	0	3	138	8,340	3	0	3	139
	Type 2	75	5,700	2	0	2	76	8,400	2	0	2	112	8,550	2	0	2	114	8,550	2	0	2	114	8,775	2	0	2	117
	Type 3	75	5,625	2	0	2	75	8,325	2	0	2	111	8,475	2	0	2	113	8,475	2	0	2	113	8,850	2	0	2	118
	Type 4	75	5,925	2	0	2	79	8,175	2	0	2	109	8,325	2	0	2	111	8,325	2	0	2	111	8,700	2	0	2	116
LDS-SAL/LFC-80	Type 5	75	6,450	3	0	3	86	8,400	3	0	3	112	8,550	3	0	3	114	8,925	3	0	3	119	8,775	3	0	3	117
	Type 2	80	7,669	2	0	2	90	9,128	2	0	2	111	9,256	2	0	2	113	9,293	2	0	2	114	9,559	2	0	2	116
	Type 3	80	7,575	3	0	3	89	9,019	3	0	3	110	9,146	3	0	3	112	9,182	3	0	3	112	9,630	3	0	3	117
	Type 4	80	7,446	3	0	3	87	8,865	3	0	3	108	8,989	3	0	3	110	9,024	3	0	3	111	9,465	3	0	3	115
	Type 5	80	7,685	4	0	2	90	9,149	4	0	2	112	9,277	4	0	2	114	10,557	4	0	2	129	9,550	4	0	2	116
LDS-SAL/LFC-85	Type 2	85	8,949	2	0	2	105	10,654	2	0	2	128	10,796	2	0	2	129	12,577	2	0	2	135	11,719	2	0	2	141
	Type 3	85	9,019	3	0	3	106	10,737	3	0	3	129	10,878	3	0	3	130	13,444	3	0	3	136	11,810	3	0	3	142
	Type 4	85	8,696	3	0	3	102	10,353	3	0	3	124	10,495	3	0	3	126	10,968	3	0	3	131	11,440	3	0	3	138
	Type 5	85	9,175	4	0	2	107	10,923	4	0	2	131	11,065	4	0	2	133	11,540	4	0	2	138	12,015	4	0	2	145
	Type 2	95	10,644	2	0	2	125	12,672	2	0	2	135	12,813	2	0	2	137	13,275	2	0	2	142	13,737	2	0	2	147
LDS-SAL/LFC-95	Type 3	95	10,713	3	0	3	126	12,754	3	0	3	136	12,896	3	0	3	138	13,362	3	0	3	142	13,828	3	0	3	148
	Type 4	95	10,691	3	0	3	122	12,371	3	0	3	132	12,513	3	0	3	133	12,986	3	0	3	138	13,458	3	0	3	144
	Type 5	95	10,870	4	0	2	127	12,941	4	0	2	138	13,083	4	0	2	140	13,558	4	0	2	145	14,033	4	0	2	150
	Type 2	110	12,502	2	0	2	114	14,955	2	0	2	135	14,487	2	0	2	137	14,520	2	0	2	137	14,520	2	0	2	132
	Type 3	110	12,599	3	0	3	115	15,072	3	0	3	137	14,599	3	0	3	139	14,637	3	0	3	139	14,637	3	0	3	133
LDS-SAL/LFC-110	Type 4	110	12,146	3	0	3	111	14,524	3	0	3	132	14,350	3	0	3	130	14,382	3	0	3	130	14,382	3	0	3	130
	Type 5	110	12,819	4	0	2	117	14,698	4	0	2	133	14,517	4	0	2	131	14,549	4	0	2	132	14,549	4	0	2	132
	Type 2	125	13,970	2	0	2	111	16,712	2	0	2	133	16,463	2	0	2	131	16,275	2	0	2	129	16,275	2	0	2	129
	Type 3	125	14,079	3	0	3	112	16,841	3	0	3	134	16,590	3	0	3	132	16,553	3	0	3	130	16,553	3	0	3	130
	Type 4	125	13,572	3	0	3	108	16,236	3	0	3	129	16,307	3	0	3	130	16,072	3	0	3	128	16,072	3	0	3	128
LDS-SAL/LFC-125	Type 5	125	14,000	4	0	2	112	16,424	4	0	2	131	16,496	4	0	2	131	16,258	4	0	2	130	16,258	4	0	2	130
	Type 2	160	16,962	2	0	2	108	20,290	2	0	2	129	20,575	2	0	2	131	21,395	2	0	2	137	21,395	2	0	2	137
	Type 3	160	17,095	3	0	3	109	20,449	3	0	3	130	20,735	3	0	3	132	21,554	3	0	3	138	21,554	3	0	3	138
	Type 4	160	16,802	3	0	3	107	20,100	3	0	3	128	20,381	3	0	3	129	21,183	3	0	3	136	21,183	3	0	3	136
	Type 5	160	17,136	5	0	3	109	20,659	5	0	3	131	20,659	5	0	3	131	21,429	5	0	3	137	21,429	5	0	3	137
LDS-SAL/LFC-160	Type 2	200	19,200	2	0	2	96	24,600	2	0	2	123	24,800	2	0	2	124	24,400	2	0	2	122	25,000	2	0	2	125
	Type 3	200	19,400	3	0	3	97	24,800	3	0	3	124	25,000	3	0	3	125	24,600	3	0	3	123	25,600	3	0	3	128
	Type 4	200	19,000	3	0	3	95	23,400	3	0	3	117	24,600	3	0	3	123	24,200	3	0	3	121	24,800	3	0	3	124
	Type 5	200	19,200	4	0	2	96	24,200	4	0	2	121	25,000	4	0	2	125	24,600	4	0	2	123	25,000	4	0	2	125
	Type 2	220	21,120	2	0	2	96	27,060	2	0	2	123	27,280	2	0	2	124	27,280	2	0	2	124	27,280	2	0	2	124
LDS-SAL/LFC-220	Type 3	220	21,340	3	0	3	97	27,280	3	0	3	124	27,500	3	0	3	125	27,500	3	0	3	125	27,500	3	0	3	125
	Type 4	220	20,900	3	0	3	95	25,740	3	0	3	117	27,060	3	0	3	123	27,060	3	0	3	123	27,060	3	0	3	123
	Type 5	220	21,120	4	0	2	96	26,620	4	0	2	121	27,500	4	0	2	125	27,060	4	0	2	125	27,500	4	0	2	125

Sheet / LDS-SAL_10042022

Email: [sales@lumecon.com](mailto:sales@lumecon.com) Website: [www.lumecon.com](http://www.lumecon.com) Phone: 248-477-5009  
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Submitted by INFINITY WAREHOUSE


**Job Name:**  
KIRKLAND CROSSING
**Catalog Number:**

LDS-SAL-80-DB-T2-1-40-MAS

**Type:****CCC**

Notes:

INF-MN23-949



## LDS - SAL

### LED Small Area Light

#### Performance Data

##### Electrical Load Data

Fixture Model	Drive Current (mA)	System Watts (W)	AC Current Load (A)				
			120V	208V	240V	277V	480V
LDS-SAL-30	550	30	0.28	0.16	0.14	0.12	0.07
LDS-SAL-45	875	45	0.42	0.24	0.21	0.18	0.10
LDS-SAL-60	1100	60	0.56	0.32	0.28	0.24	0.14
LDS-SAL-75	1475	75	0.70	0.40	0.36	0.31	0.18
LDS-SAL-80	1480	80	0.74	0.43	0.37	0.32	0.19
LDS-SAL-85	695	85	0.79	0.45	0.40	0.35	0.20
LDS-SAL-95	840	95	0.89	0.51	0.44	0.39	0.23
LDS-SAL-110	975	110	1.02	0.59	0.51	0.44	0.25
LDS-SAL-125	1150	125	1.16	0.67	0.58	0.50	0.29
LDS-SAL-160	1450	160	1.48	0.85	0.74	0.64	0.37
LDS-SAL-200	1642	200	1.86	1.06	0.92	0.82	0.48
LDS-SAL-220	1925	220	2.05	1.17	1.00	0.90	0.53

#### Lumen Maintenance

Data in the table below references projected performance in a 25°C ambient and is based on 10,000 hours of LED testing. Performance data has been tested per IESNA LM-80-08 and projected per IESNA TM-21-11.

Use the lumen maintenance factor that corresponds to the desired number of operating hours below to calculate LLF.

Fixture Model	Lumen Maintenance Factors @ 25°C, by hours:				
	0	25,000	50,000	70,000	100,000
LDS-SAL-30	1.0	0.99	0.96	0.92	0.85
LDS-SAL-45	1.0	0.99	0.96	0.92	0.85
LDS-SAL-60	1.0	0.99	0.96	0.92	0.85
LDS-SAL-75	1.0	0.99	0.96	0.92	0.85
LDS-SAL-80	1.0	0.99	0.96	0.92	0.85
LDS-SAL-85	1.0	0.99	0.96	0.92	0.85
LDS-SAL-95	1.0	0.99	0.96	0.92	0.85
LDS-SAL-110	1.0	0.99	0.96	0.92	0.85
LDS-SAL-125	1.0	0.99	0.96	0.92	0.85
LDS-SAL-160	1.0	0.99	0.96	0.92	0.85
LDS-SAL-200	1.0	0.99	0.96	0.92	0.85
LDS-SAL-220	1.0	0.99	0.96	0.92	0.85

Email: [sales@lumecon.com](mailto:sales@lumecon.com) Website: [www.lumecon.com](http://www.lumecon.com) Phone: 248-477-5009  
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 Note: Specifications and photometric data are subject to change at any time without notice.  
 Please see [www.lumecon.com](http://www.lumecon.com) for current specifications and documentation.

Sheet / LDS-SAL_10042022



Submitted by INFINITY WAREHOUSE



**Job Name:**  
KIRKLAND CROSSING

**Catalog Number:**  
SS4001115-BZ-DM10-BC

Notes:

**Type:**  
**CCC**

INF-MN23-949

1/19/23, 1:05 PM

<https://submittal.info/wjm/WJMSubmitSheet.asp>



## SQUARE NON-TAPERED STEEL (SS)

### POLE SHAFT

The pole shaft is one piece construction, being fabricated from a weldable grade carbon steel structural tubing which has a uniform wall thickness of 11 gauge (0.1196"). The pole shaft material shall conform to ASTM A-500 Grade C with a minimum yield strength of 50,000 psi. The pole shaft has a full length longitudinal resistance weld and is uniformly square in cross-section with flat sides, small corner radii and excellent torsional properties.

### BASE PLATE

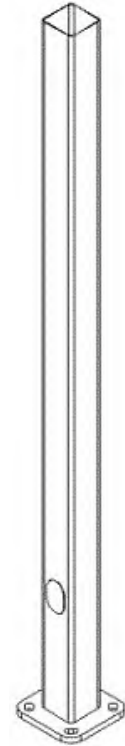
The anchor base is fabricated from structural quality hot rolled carbon steel plate that meets or exceeds a minimum yield strength of 36,000 psi. The anchor base telescopes the pole shaft and is circumferentially welded top and bottom. All welds are performed in accordance with the American Welding Society specification AWS D1.1, latest edition.

### HANDHOLE

An oval reinforced gasketed handhole, having a nominal 3" x 5" inside opening, located 1'-6" above base, is standard on all poles. A grounding provision is located inside the handhole ring.

### ANCHOR BOLT

Anchor bolts are fabricated from commercial quality hot rolled carbon steel bar that meets or exceeds a minimum yield strength of 55,000 psi. Four properly sized anchor bolts, each with two regular hex nuts and washers, are furnished and shipped with all poles unless otherwise specified. Anchor bolts shall have the threaded end galvanized a minimum of 8 inches in accordance with ASTM A-153. Fully galvanized anchor bolts are available upon request.



### FINISH

Standard - All exterior metal surfaces are mechanically cleaned to remove all oxides and contaminants prior to coating. The standard finish is a polyester thermosetting powder coating applied to the surface of the substrate to a minimum of 3 mils for all color finishes. Galvanizing is available upon request.

SS4001115-BZ-DM10-BC					
CATALOG LOGIC		CODE	EXPLANATION		
Series:		SS	Square Non-Tapered Steel Poles		
Base Diameter:		400	4.0" Base Bottom Diameter		
Gauge:		11	11 gauge thickness		
Nominal Height:		15	15 feet tall		
Finish:		BZ	Bronze Finish Color		
Mounting Designation:		DM10	Drilled for 1 Luminaire		
Options:		BC	Base Cover		
HEIGHT (ft.)	POLE SHAFT (in.) x (ft.)	GAUGE	HANDHOLE SIZE (in.)	ANCHOR BOLT (in.) x (in.) x (in.)	BOLT CIRCLE (in.)
15	4.0 x 15.0	11	3" x 5"	0.75 x 17 x 3	8
EPA	80 MPH (ft. ² )	90 MPH (ft. ² )	100 MPH (ft. ² )	WEIGHT	SHIP WT. (lbs.)
	20	16	12		119

[▶HOME◀](#)
[▶PRINT◀](#)
[▶START OVER◀](#)
[▶NEW POLE◀](#)

<https://submittal.info/wjm/WJMSubmitSheet.asp>

1/2



Submitted by INFINITY WAREHOUSE



**Job Name:**  
KIRKLAND CROSSING

**Catalog Number:**  
WTA-67-VS-4K-BR

Notes:

**Type:**  
**WP**

INF-MN23-949

# EQUITY LINE

## TRACE*LITE

# WTA Series

## Adjustable LED Wallpack

**DESCRIPTION**

The WTA Series features a slim, compact, energy-efficient adjustable wallpack in lumen packages ranging from 3600 lumens to over 10,500 lumens. This adjustable wallpack allows the user to aim and set the fixture from 0° (pointing down) up to 90°, allowing for light to be aimed where it is needed. The WTA has efficacies up to 133 LPW and provides over 70% energy savings compared to HID technology, and is ideal for retail entryways, schools, medical complexes, retail entrances, any commercial buildings, and multi-family properties.

**SPECIFICATIONS**

**Construction:**

- Die-cast aluminum housing in a powder coated bronze finish with stainless steel hardware
- UV-stabilized polycarbonate lens
- Integral heat sink maximizes heat dissipation for longer LED life
- Hinged back box isolates drivers from LEDs and offers easy access to drivers
- Backbox includes three conduit entry points (one on top and two on the sides)

**Optics/LEDs:**

- Less than 1% uplight to minimize light pollutions (pointing down)
- Type III distribution pointing down (3000K – Type II)
- 27W to 80W LED models replace 100W to 320W HID for up to 70% energy savings
- Up to 10,500 lumens for a variety of applications
- Efficacies up to 133 LPW maximize energy savings and utility rebates
- Available in 3000K, 4000K and 5000K CCT
- L70 >100,000 hours
- CRI ≥70

**Electrical:**

- Class 2 power supply, 120 to 277VAC, 50/60Hz
- 1-10V Dimming driver

**Testing & Compliance:**

- cULus Listed for Wet Locations
- Tested to meet IP65 requirements
- Operating temperatures: -40°C to 40°C (-40°F to 104°F)
- DesignLights Consortium® (DLC) PREMIUM Qualified (verify QPL for specific models)

**Installation:**

- Housing can be adjusted from 0° to 90° for forward throw (10° increments)
- Backbox accommodates conduit entry on both sides and top
- Mounts to a standard 3-1/2" or 4" square electrical J-box

**Options:**

- Factory installed 120/277VAC button type photocontrol (PC)

**Accessories:**

- Button type universal photocontrol 120/277VAC (PCU)

**Warranty:**

- Five Year Warranty (Terms and Conditions Apply)

Model: _____ Date: _____  
 Accessories: _____  
 Job Name: _____ Type: _____



Specs at a Glance				
Model	WTA-27	WTA-40	WTA-67	WTA-80
<b>Wattage (W)*</b>	27W	40W	67W	80W
<b>Lumens (lm)</b>	3600	5200	8800	10,500
<b>Efficacy (LPW)</b>	133	130	131	131
<b>Equivalency (HID)</b>	100W	150-175W	200-250W	250-320W
<b>CCT (K)</b>	3000K, 4000K, 5000K			
<b>CRI</b>	≥70			
<b>Input Voltage</b>	120-277VAC, 50/60Hz, 1-10V Dimming			
<b>Operating Temp</b>	-40°C to 40°C (-40°F to 104°F)			
<b>Certifications</b>	cULus Listed for Wet Locations, DLC PREMIUM			
<b>Warranty</b>	5 Years			
<b>Weight</b>	3.4 lbs	4.0 lbs	7.3 lbs	7.8 lbs

* Nominal Wattage, tested at 5000K CCT. Values at 120/277VAC. See performance table for more detailed lumen information.

Note: Environment and application will affect actual performance. Typical values and 25°C (77°F) used for testing. Specifications subject to change without notice.

ULTIMATE PERFORMANCE. UNPARALLELED VALUE.

Specifications are subject to change without notice.  
 Installation must be performed in accordance with  
 Barron Lighting Group installation instructions.

10800391 Rev 1





Submitted by INFINITY WAREHOUSE



**Job Name:**  
KIRKLAND CROSSING

**Catalog Number:**  
WTA-67-VS-4K-BR

Notes:

**Type:**

**WP**

INF-MN23-949

**Ordering Information** (Example: WTA-40-VS-3K-BR-PC)

Series	Wattage	Input Voltage	CCT	Finish	Options (Factory Installed)	Accessories ¹ (Field installed)
WTA	27 = 27W 40 = 40W 67 = 67W 80 = 80W	VS = 120/277VAC	3K = 3000K 4K = 4000K 5K = 5000K	BR = Bronze	PC = Button Photocontrol 120/277VAC	PCU = Button Photocontrol 120/277VAC

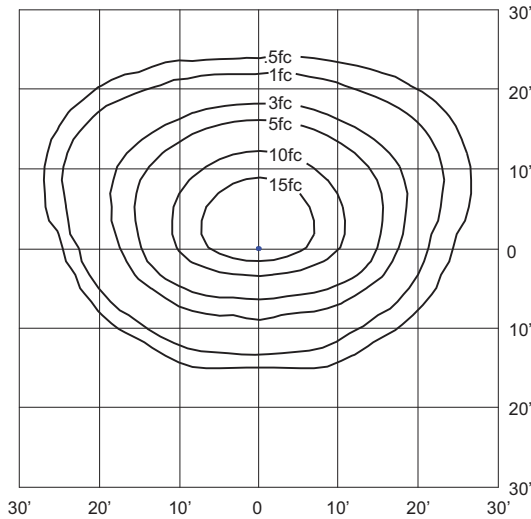
**Notes**  
¹ Order as a separate line item, shipped in a separate box for installation in the field

**Performance**

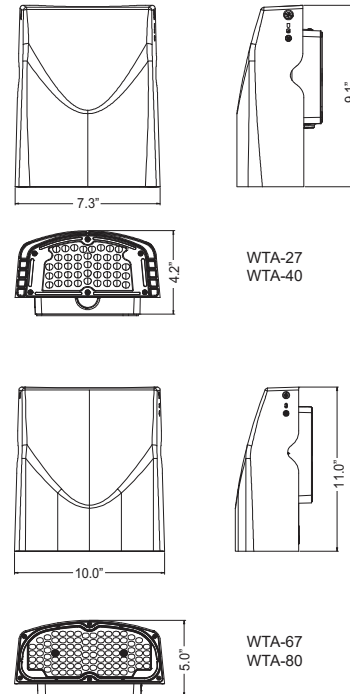
Model	Wattage (W)	CCT	Distribution	Lumen Output (lm)	Efficacy (LPW)	CRI	Equivalency (HID)
WTA-27-VS-3K	27W	3000K	Type II	3577	130	70	100W
WTA-27-VS-4K	27W	4000K	Type III	3600	133	70	
WTA-27-VS-5K	27W	5000K	Type III	3600	133	70	
WTA-40-VS-3K	40W	3000K	Type II	5000	125	70	150-175W
WTA-40-VS-4K	40W	4000K	Type III	5200	130	70	
WTA-40-VS-5K	40W	5000K	Type III	5200	130	70	
WTA-67-VS-3K	67W	3000K	Type II	8600	128	70	200-250W
WTA-67-VS-4K	67W	4000K	Type III	8800	131	70	
WTA-67-VS-5K	67W	5000K	Type III	8800	131	70	
WTA-80-VS-3K	80W	3000K	Type II	10,000	125	70	250-320W
WTA-80-VS-4K	80W	4000K	Type III	10,500	131	70	
WTA-80-VS-5K	80W	5000K	Type III	10,500	131	70	

**Sample Photometry**

**WTA-67-VS-5K**  
IES: TYPE III Short  
MOUNTING HEIGHT: 10'  
TILT: ZERO  
HORIZONTAL SPACING CRITERIA: 2.46



**Dimensions**

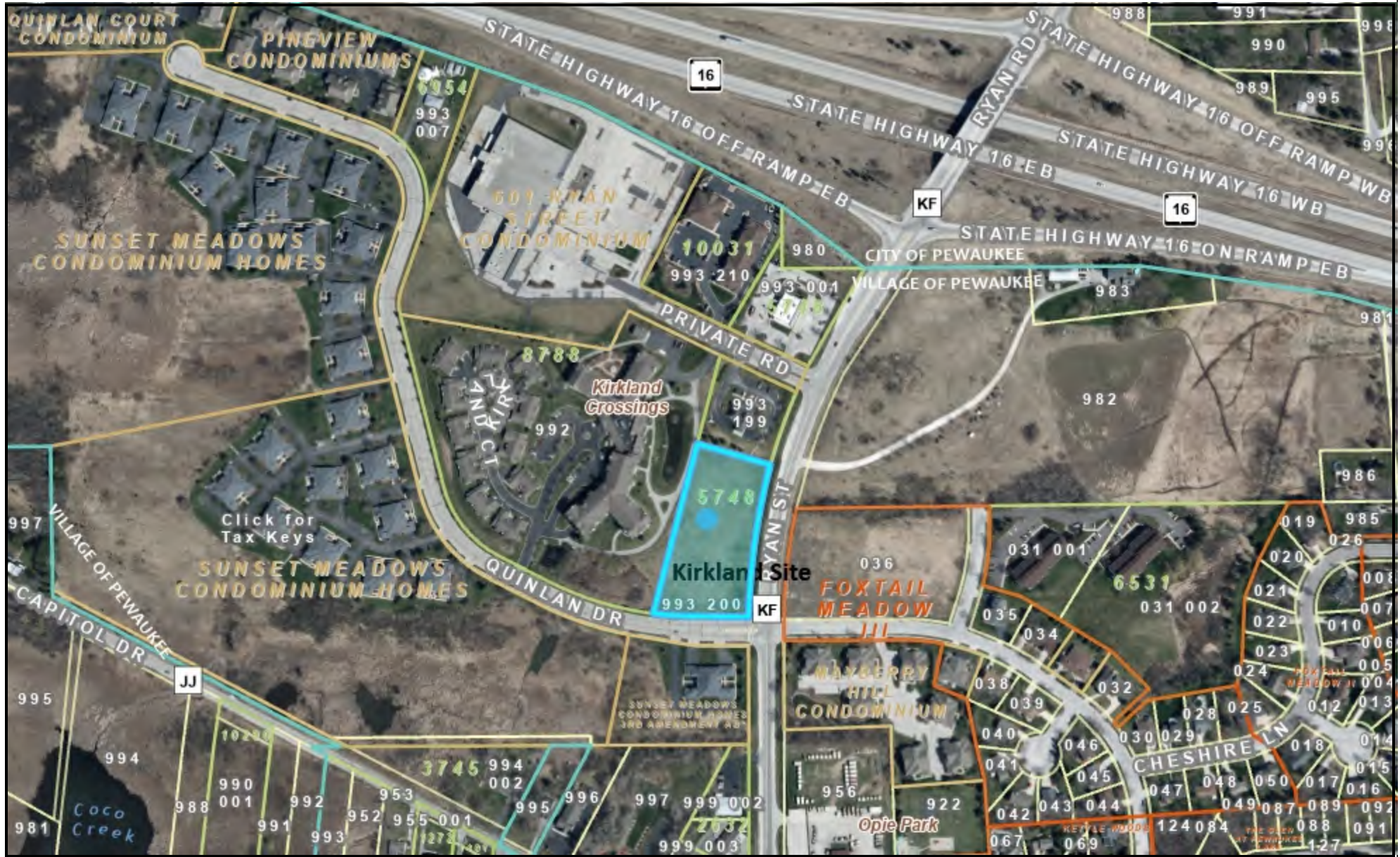


ULTIMATE PERFORMANCE. UNPARALLELED VALUE.

Specifications are subject to change without notice.  
Installation must be performed in accordance with  
Barron Lighting Group installation instructions.  
10800391 Rev 1







0 382.42 Feet

The information and depictions herein are for informational purposes and Waukesha County specifically disclaims accuracy in this reproduction and specifically admonishes and advises that if specific and precise accuracy is required, the same should be determined by procurement of certified maps, surveys, plats, Flood Insurance Studies, or other official means. Waukesha County will not be responsible for any damages which result from third party use of the information and depictions herein, or for use which ignores this warning.

Notes:

Printed: 12/1/2022



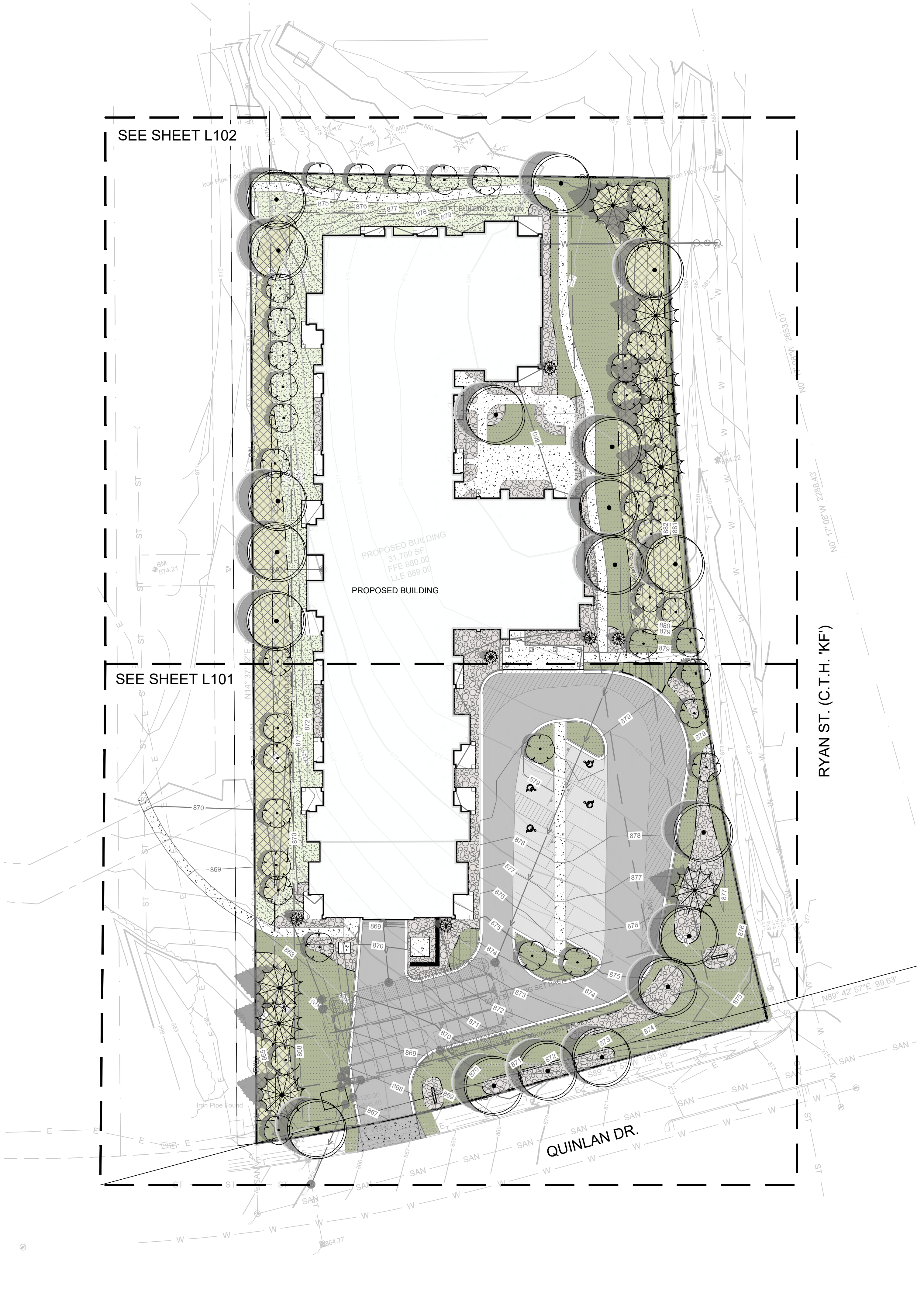


SEE SHEET L102

SEE SHEET L101

RYAN ST. (C.T.H. 'KF')

QUINLAN DR.



LANDSCAPE LEGEND:

- TURFGRASS SEED
- TURFGRASS SOD
- STRAW MULCH PLANT BED
- STONE MULCH
- BIRD AND BUTTERFLY SEED MIX
- PROPERTY LINE
- PLANT EDGING
- SHEET MATCHLINE

Village of Pewaukee Landscaping Ordinance	
<b>Parking Lot Landscaping</b>	
<i>Required Landscape</i>	
Low Hedge or Berm	
10% Interior Landscape Area	
<i>Provided Landscape</i>	
Hedge	
11.5% Interior Landscape	
<b>Site Open Space Landscaping</b>	
<i>Required Landscape</i>	
1 Tree and 2 Shrubs per 1,000 SF Landscape Area (Elderly Overlay District 150% Required Landscape)	
Landscape Area	48,035 SF
Required Trees (150%)	72
Required Shrubs (150%)	144
<i>Provided Landscape</i>	
Provided Trees	72
Provided Shrubs	184

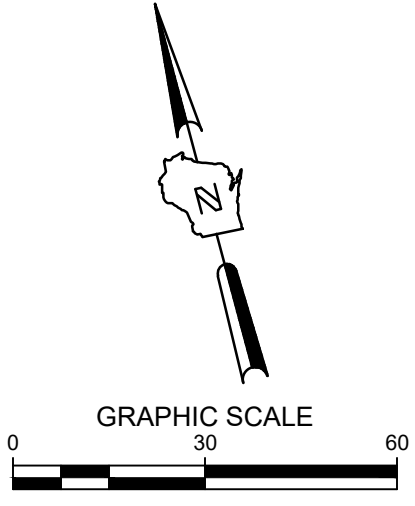
CONCEPT PLANT SCHEDULE

	<b>DECIDUOUS TREE</b> Acer x freemanii 'DTR 102' / Autumn Fantasy® Freeman Maple Betula nigra / River Birch Cercidiphyllum japonicum / Katsura Tree Quercus x schuettei / Swamp Bur Oak	19	2.5" Cal., B&B 2.5" Cal. (Multi-Stem), B&B 2.5" Cal., B&B 2.5" Cal., B&B
	<b>EVERGREEN TREE</b> Abies concolor / White Fir Juniperus chinensis 'Iowa' / Iowa Juniper Picea abies / Norway Spruce Picea glauca 'Densata' / Black Hills White Spruce	16	6' Ht., B&B 6' Ht., B&B 6' Ht., B&B 6' Ht., B&B
	<b>ORNAMENTAL TREE</b> Amelanchier x grandiflora 'Autumn Brilliance' / Autumn Brilliance Apple Serviceberry Carpinus caroliniana / American Hornbeam Cercis canadensis / Eastern Redbud Malus x 'Spring Snow' / Spring Snow Crabapple	37	2.5" Cal. (Multi-Stem), B&B 2.5" Cal., B&B 2.5" Cal. (Multi-Stem), B&B 2.5" Cal., B&B
	<b>SMALL DECIDUOUS SHRUB</b> Hydrangea paniculata 'L'VOCO' / Bobo® Panicle Hydrangea Physocarpus opulifolius 'Donna May'™ / Little Devil Ninebark Spirea x bumalda 'Goldmound' / Gold Mound Spirea	51	1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>MEDIUM DECIDUOUS SHRUB</b> Aronia melanocarpa elata / Glossy Black Chokeberry Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood Forsythia x 'Happy Centennial' / Happy Centennial Forsythia Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac Rosa rugosa 'Purple Pavement' / Purple Pavement Rose	16	1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>LARGE DECIDUOUS SHRUB</b> Cotinus coggygria 'Royal Purple' / Royal Purple Smoke Tree Hydrangea paniculata 'SMHPFL' / Fire Light® Panicle Hydrangea Rhus typhina 'Baltiger' / Tiger Eyes® Staghorn Sumac Salix integra 'Hakuro-nishiki' / Hakuro-nishiki Willow	20	1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>SMALL EVERGREEN SHRUB</b> Juniperus horizontalis 'Youngstown' / Creeping Juniper Pinus mugo 'Slowmound' / Slowmound Mugo Pine Taxus x media 'Everlow' / Everlow Anglo-Japanese Yew	43	1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>MEDIUM EVERGREEN SHRUB</b> Juniperus chinensis 'Kallays Compact' / Kallay Compact Pfitzer Juniper Juniperus horizontalis 'Wiltonii' / Blue Rug Juniper Taxus x media 'Densiformis' / Dense Anglo-Japanese Yew	44	1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>LARGE EVERGREEN SHRUB</b> Juniperus chinensis 'Mountbatten' / Mountbatten Juniper Taxus x media 'Tauntonii' / Taunton's Anglo-Japanese Yew	10	1 gal., Cont. 1 gal., Cont.
	<b>ORNAMENTAL GRASSES</b> Calamagrostis x acutiflora 'Karl Foerster' / Karl Foerster Feather Reed Grass Miscanthus sinensis 'Purpureusens' / Purple Eulalia Grass Panicum virgatum 'Heavy Metal' / Heavy Metal Switch Grass Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	156	1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont.
	<b>PERENNIALS</b> Amsonia x 'Blue Ice' / Blue Ice Bluestar Astilbe chinensis 'Visions' / Visions Chinese Astilbe Calamintha nepeta nepeta / Lesser Calamint Hemerocallis x 'Rosy Returns' / Rosy Returns Daylily Hemerocallis x 'Stella de Oro' / Stella de Oro Daylily Heuchera x 'Plum Pudding' / Plum Pudding Coral Bells Hosta x 'Hadspen Blue' / Hadspen Blue Hosta Hosta x 'Praying Hands' / Praying Hands Hosta Nepeta x faassenii 'Early Bird' / Early Bird Catmint Stachys byzantina 'Big Ears' / Big Ears Lamb's Ear	149	1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont. 1 gal., Cont.

LANDSCAPE GENERAL NOTES:

- VERIFY EXISTING AND PROPOSED CONDITIONS, UTILITIES, PIPES, AND STRUCTURES, ETC. PRIOR TO BIDDING AND CONSTRUCTION.
- INSPECT THE SITE PRIOR TO COMMENCING WORK. DOCUMENT IN WRITING AND PHOTOGRAPH EXISTING CONDITIONS WITHIN, AND IN AREAS ADJACENT TO THE LIMITS OF CONSTRUCTION. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES NOT DOCUMENTED IN THE PHOTOGRAPHS PRIOR TO COMMENCEMENT OF DEMOLITION ACTIVITIES.
- COORDINATE THE INSTALLATION OF PLANT MATERIAL WITH INSTALLATION OF ADJACENT PAVEMENTS, DRAINAGE, CURB RELATED STRUCTURES WITH OTHER TRADES.
- RESTORE AREAS OF THE SITE, OR ADJACENT AREAS, WHERE DISTURBED. DAMAGE CAUSED DURING LANDSCAPE INSTALLATION TO EXISTING CONDITIONS AND IMPROVEMENTS IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
- CONTRACTOR SHALL THOROUGHLY REVIEW ALL SPECIFICATIONS RELATED TO TREE PROTECTION, SOIL PREPARATION, TURF, GRASSES AND PLANTS. THESE SECTIONS PROVIDE ADDITIONAL INFORMATION ON MATERIALS AND SET STANDARDS FOR QUALITY AND INSTALLATION REQUIREMENTS.
- PROVIDE 3" DOUBLE SHREDDED BARK MULCH FOR ALL PLANTED TREES, SHRUBS AND LANDSCAPE BEDS.

**THE SIGMA GROUP**  
 Single Source. Sound Solutions.  
 www.thesigmagroup.com  
 1300 West Canal Street  
 Milwaukee, WI 53233  
 Phone: 414-643-4200  
 Fax: 414-643-4210



KIRKLAND CROSSING

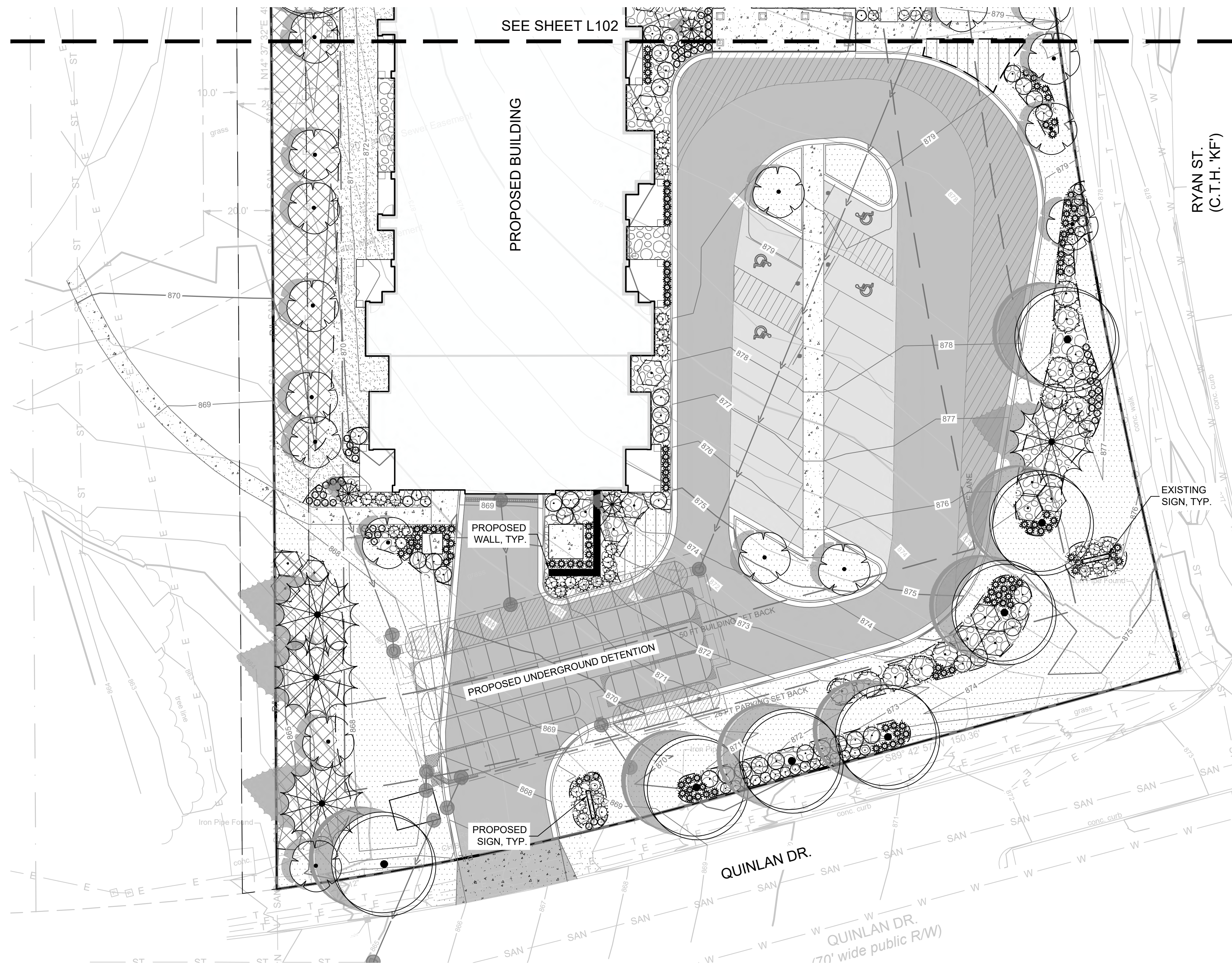
PEWAUKEE, WI

OVERALL LANDSCAPE PLAN

**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

SCALE:	1"=30'
PROJECT NO:	21471
DESIGN DATE:	----
PLOT DATE:	2/27/2023
DRAWN BY:	HLY
CHECKED BY:	----
APPROVED BY:	----
SHEET NO:	L100





SEE SHEET L102

PROPOSED BUILDING

RYAN ST.  
(C.T.H. 'KF')

EXISTING SIGN, TYP.

PROPOSED WALL, TYP.

PROPOSED UNDERGROUND DETENTION

PROPOSED SIGN, TYP.

QUINLAN DR.

QUINLAN DR.  
'70' wide public R/W

LANDSCAPE LEGEND:

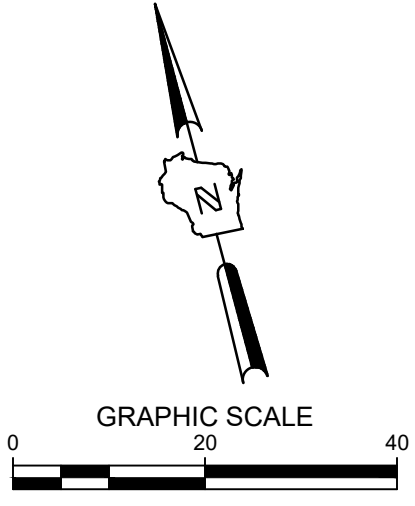
- TURFGRASS SEED
- TURFGRASS SOD
- STRAW MULCH PLANT BED
- STONE MULCH
- BIRD AND BUTTERFLY SEED MIX
- PROPERTY LINE
- PLANT EDGING
- SHEET MATCHLINE

CONCEPT PLANT KEY

- DECIDUOUS TREE**  
Acer x freemanii 'DTR 102' / Autumn Fantasy® Freeman Maple  
Betula nigra / River Birch  
Cercidiphyllum japonicum / Katsura Tree  
Quercus x schuettei / Swamp Bur Oak
- EVERGREEN TREE**  
Abies concolor / White Fir  
Juniperus chinensis 'lowa' / Iowa Juniper  
Picea abies / Norway Spruce  
Picea glauca 'Densata' / Black Hills White Spruce
- ORNAMENTAL TREE**  
Amelanchier x grandiflora 'Autumn Brilliance' / Autumn Brilliance Apple Serviceberry  
Carpinus caroliniana / American Hornbeam  
Cercis canadensis / Eastern Redbud  
Malus x 'Spring Snow' / Spring Snow Crabapple
- SMALL DECIDUOUS SHRUB**  
Hydrangea paniculata 'ILVOBO' / Bobo® Panicle Hydrangea  
Physocarpus opulifolius 'Donna May'™ / Little Devil Ninebark  
Spiraea x bumalda 'Goldmound' / Gold Mound Spirea
- MEDIUM DECIDUOUS SHRUB**  
Aronia melanocarpa elata / Glossy Black Chokeberry  
Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood  
Forsythia x 'Happy Centennial' / Happy Centennial Forsythia  
Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac  
Rosa rugosa 'Purple Pavement' / Purple Pavement Rose
- LARGE DECIDUOUS SHRUB**  
Cotinus coggygria 'Royal Purple' / Royal Purple Smoke Tree  
Hydrangea paniculata 'SMHPFL' / Fire Light® Panicle Hydrangea  
Rhus typhina 'Bailtiger' / Tiger Eyes® Staghorn Sumac  
Salix integra 'Hakuro-nishiki' / Hakuro-nishiki Willow
- SMALL EVERGREEN SHRUB**  
Juniperus horizontalis 'Youngstown' / Creeping Juniper  
Pinus mugo 'Slowmound' / Slowmound Mugo Pine  
Taxus x media 'Everlow' / Everlow Anglo-Japanese Yew
- MEDIUM EVERGREEN SHRUB**  
Juniperus chinensis 'Kallays Compact' / Kallay Compact Pfitzer Juniper  
Juniperus horizontalis 'Wiltonii' / Blue Rug Juniper  
Taxus x media 'Densiflora' / Dense Anglo-Japanese Yew
- LARGE EVERGREEN SHRUB**  
Juniperus chinensis 'Moutbatten' / Moutbatten Juniper  
Taxus x media 'Tauntonii' / Taunton's Anglo-Japanese Yew
- ORNAMENTAL GRASSES**  
Calamagrostis x acutiflora 'Karl Foerster' / Karl Foerster Feather Reed Grass  
Miscanthus sinensis 'Purpureascens' / Purple Eulalia Grass  
Panicum virgatum 'Heavy Metal' / Heavy Metal Switch Grass  
Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass
- PERENNIALS**  
Amsonia x 'Blue Ice' / Blue Ice Bluestar  
Astilbe chinensis 'Visions' / Visions Chinese Astilbe  
Calamintha nepeta nepeta / Lesser Calamint  
Hemerocallis x 'Rosy Returns' / Rosy Returns Daylily  
Hemerocallis x 'Stella de Oro' / Stella de Oro Daylily  
Heuchera x 'Plum Pudding' / Plum Pudding Coral Bells  
Hosta x 'Hadsen Blue' / Hadsen Blue Hosta  
Hosta x 'Praying Hands' / Praying Hands Hosta  
Nepeta x faassenii 'Early Bird' / Early Bird Catmint  
Stachys byzantina 'Big Ears' / Big Ears Lamb's Ear

LANDSCAPE GENERAL NOTES:

1. VERIFY EXISTING AND PROPOSED CONDITIONS, UTILITIES, PIPES, AND STRUCTURES, ETC. PRIOR TO BIDDING AND CONSTRUCTION.
2. INSPECT THE SITE PRIOR TO COMMENCING WORK. DOCUMENT IN WRITING AND PHOTOGRAPH EXISTING CONDITIONS WITHIN, AND IN AREAS ADJACENT TO THE LIMITS OF CONSTRUCTION. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES NOT DOCUMENTED IN THE PHOTOGRAPHS PRIOR TO COMMENCEMENT OF DEMOLITION ACTIVITIES.
3. COORDINATE THE INSTALLATION OF PLANT MATERIAL WITH INSTALLATION OF ADJACENT PAVEMENTS, DRAINAGE, CURB RELATED STRUCTURES WITH OTHER TRADES.
4. RESTORE AREAS OF THE SITE, OR ADJACENT AREAS, WHERE DISTURBED. DAMAGE CAUSED DURING LANDSCAPE INSTALLATION TO EXISTING CONDITIONS AND IMPROVEMENTS IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
5. CONTRACTOR SHALL THOROUGHLY REVIEW ALL SPECIFICATIONS RELATED TO TREE PROTECTION, SOIL PREPARATION, TURF, GRASSES AND PLANTS. THESE SECTIONS PROVIDE ADDITIONAL INFORMATION ON MATERIALS AND SET STANDARDS FOR QUALITY AND INSTALLATION REQUIREMENTS.
6. PROVIDE 3" DOUBLE SHREDDED BARK MULCH FOR ALL PLANTED TREES, SHRUBS AND LANDSCAPE BEDS.



KIRKLAND CROSSING

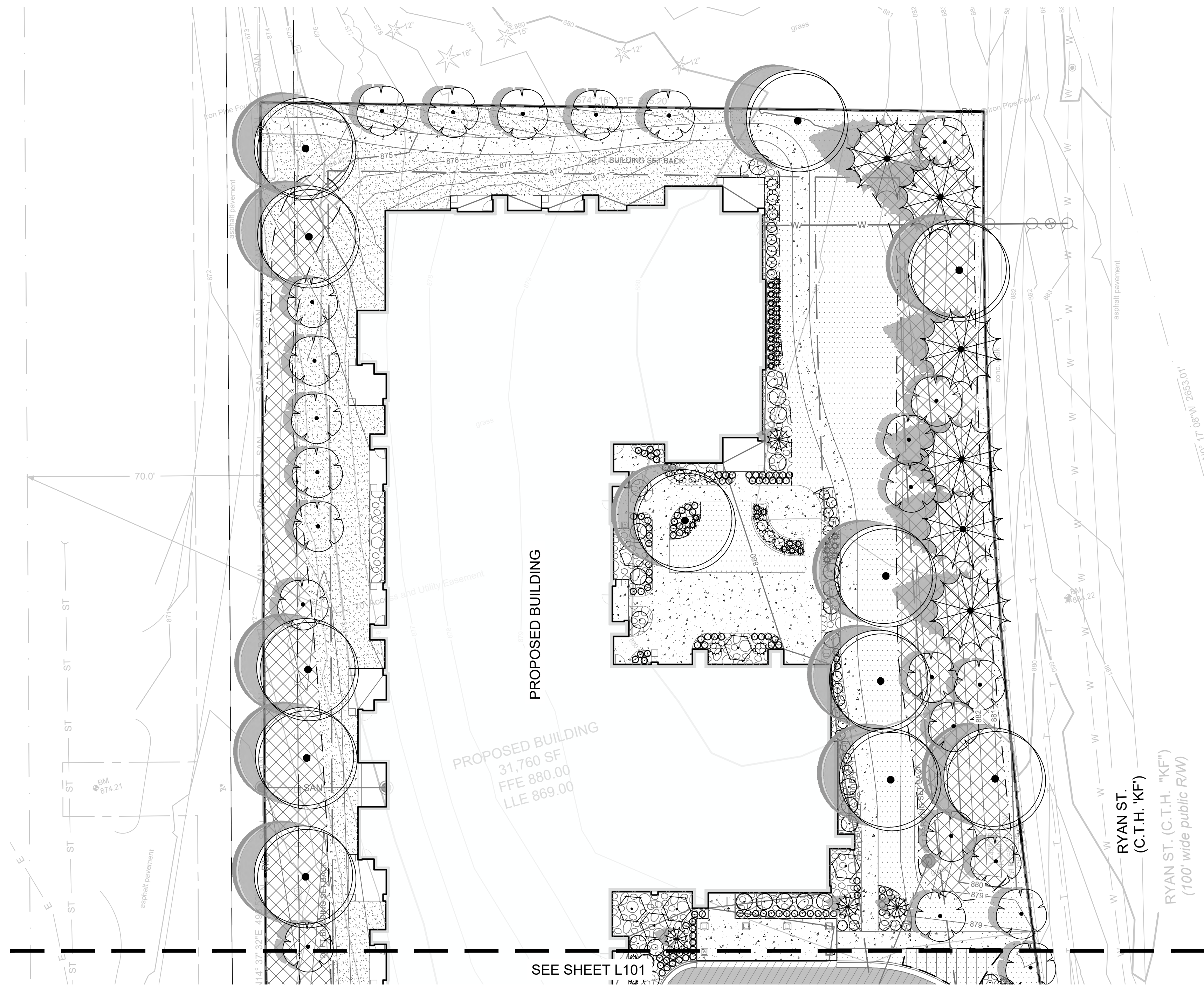
PEWAUKEE, WI

LANDSCAPE ENLARGEMENT

**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

SCALE:	1"=20'
PROJECT NO:	21471
DESIGN DATE:	----
PLOT DATE:	2/27/2023
DRAWN BY:	HLV
CHECKED BY:	----
APPROVED BY:	----
SHEET NO:	L101





LANDSCAPE LEGEND:

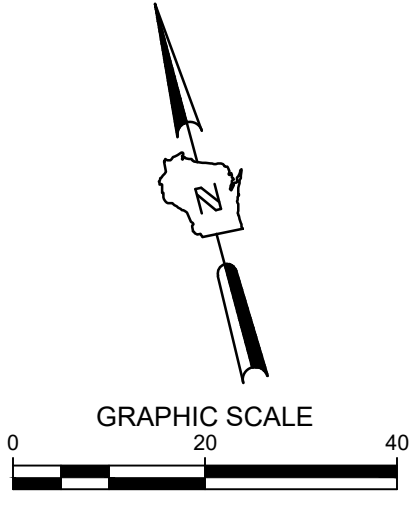
- TURFGRASS SEED
- TURFGRASS SOD
- STRAW MULCH PLANT BED
- STONE MULCH
- BIRD AND BUTTERFLY SEED MIX
- PROPERTY LINE
- PLANT EDGING
- SHEET MATCHLINE

CONCEPT PLANT KEY

- DECIDUOUS TREE**  
Acer x freemanii 'DTR 102' / Autumn Fantasy® Freeman Maple  
Betula nigra / River Birch  
Cercidiphyllum japonicum / Katsura Tree  
Quercus x schuettei / Swamp Bur Oak
- EVERGREEN TREE**  
Abies concolor / White Fir  
Juniperus chinensis 'Iowa' / Iowa Juniper  
Picea abies / Norway Spruce  
Picea glauca 'Densata' / Black Hills White Spruce
- ORNAMENTAL TREE**  
Amelanchier x grandiflora 'Autumn Brilliance' / Autumn Brilliance Apple Serviceberry  
Carpinus caroliniana / American Hornbeam  
Cercis canadensis / Eastern Redbud  
Malus x 'Spring Snow' / Spring Snow Crabapple
- SMALL DECIDUOUS SHRUB**  
Hydrangea paniculata 'ILVOBO' / Bobo® Panicle Hydrangea  
Physocarpus opulifolius 'Donna May'™ / Little Devil Ninebark  
Spiraea x bumalda 'Goldmound' / Gold Mound Spiraea
- MEDIUM DECIDUOUS SHRUB**  
Aronia melanocarpa elata / Glossy Black Chokeberry  
Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood  
Forsythia x 'Happy Centennial' / Happy Centennial Forsythia  
Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac  
Rosa rugosa 'Purple Pavement' / Purple Pavement Rose
- LARGE DECIDUOUS SHRUB**  
Cotinus coggygria 'Royal Purple' / Royal Purple Smoke Tree  
Hydrangea paniculata 'SMHPFL' / Fire Light® Panicle Hydrangea  
Rhus typhina 'Baltiger' / Tiger Eyes® Staghorn Sumac  
Salix integra 'Hakuro-nishiki' / Hakuro-nishiki Willow
- SMALL EVERGREEN SHRUB**  
Juniperus horizontalis 'Youngstown' / Creeping Juniper  
Pinus mugo 'Slowmound' / Slowmound Mugo Pine  
Taxus x media 'Everlow' / Everlow Anglo-Japanese Yew
- MEDIUM EVERGREEN SHRUB**  
Juniperus chinensis 'Kallays Compact' / Kallay Compact Pfitzer Juniper  
Juniperus horizontalis 'Wiltonii' / Blue Rug Juniper  
Taxus x media 'Densiflora' / Dense Anglo-Japanese Yew
- LARGE EVERGREEN SHRUB**  
Juniperus chinensis 'Mounbatten' / Mounbatten Juniper  
Taxus x media 'Tauntonii' / Taunton's Anglo-Japanese Yew
- ORNAMENTAL GRASSES**  
Calamagrostis x acutiflora 'Karl Foerster' / Karl Foerster Feather Reed Grass  
Miscanthus sinensis 'Purpureus' / Purple Eulalia Grass  
Panicum virgatum 'Heavy Metal' / Heavy Metal Switch Grass  
Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass
- PERENNIALS**  
Amsonia x 'Blue Ice' / Blue Ice Bluestar  
Astilbe chinensis 'Visions' / Visions Chinese Astilbe  
Calamintha nepeta nepeta / Lesser Calamint  
Hemerocallis x 'Rosy Returns' / Rosy Returns Daylily  
Hemerocallis x 'Stella de Oro' / Stella de Oro Daylily  
Heuchera x 'Plum Pudding' / Plum Pudding Coral Bells  
Hosta x 'Hadsen Blue' / Hadsen Blue Hosta  
Hosta x 'Praying Hands' / Praying Hands Hosta  
Nepeta x faassenii 'Early Bird' / Early Bird Catmint  
Stachys byzantina 'Big Ears' / Big Ears Lamb's Ear

LANDSCAPE GENERAL NOTES:

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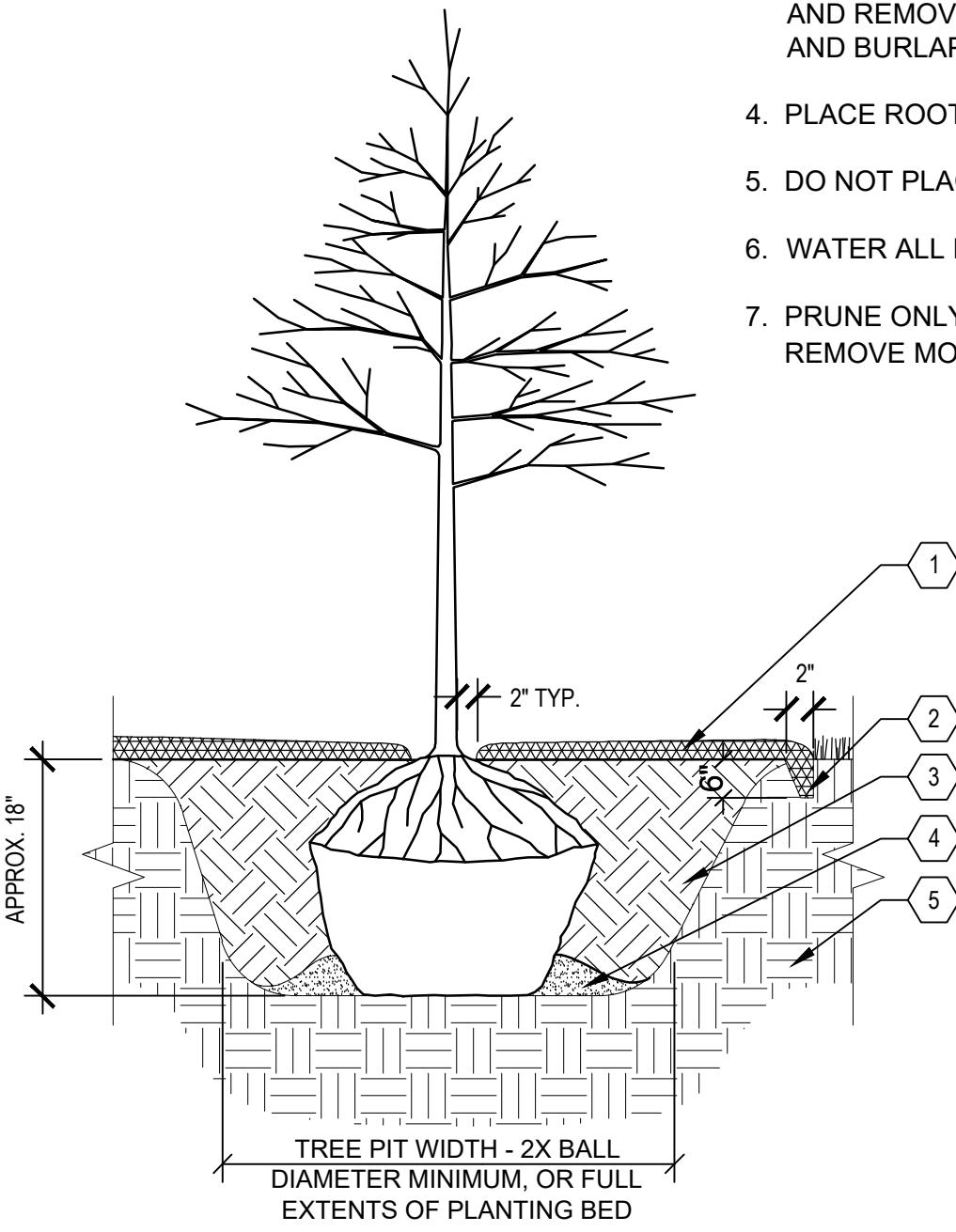
KIRKLAND CROSSING  
 PEWAUKEE, WI  
 LANDSCAPE ENLARGEMENT

**PRELIMINARY  
 NOT FOR  
 CONSTRUCTION**

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DESIGN DATE:	---
PLOT DATE:	2/27/23
DRAWN BY:	HLY
CHECKED BY:	---
APPROVED BY:	---
SHEET NO:	L102



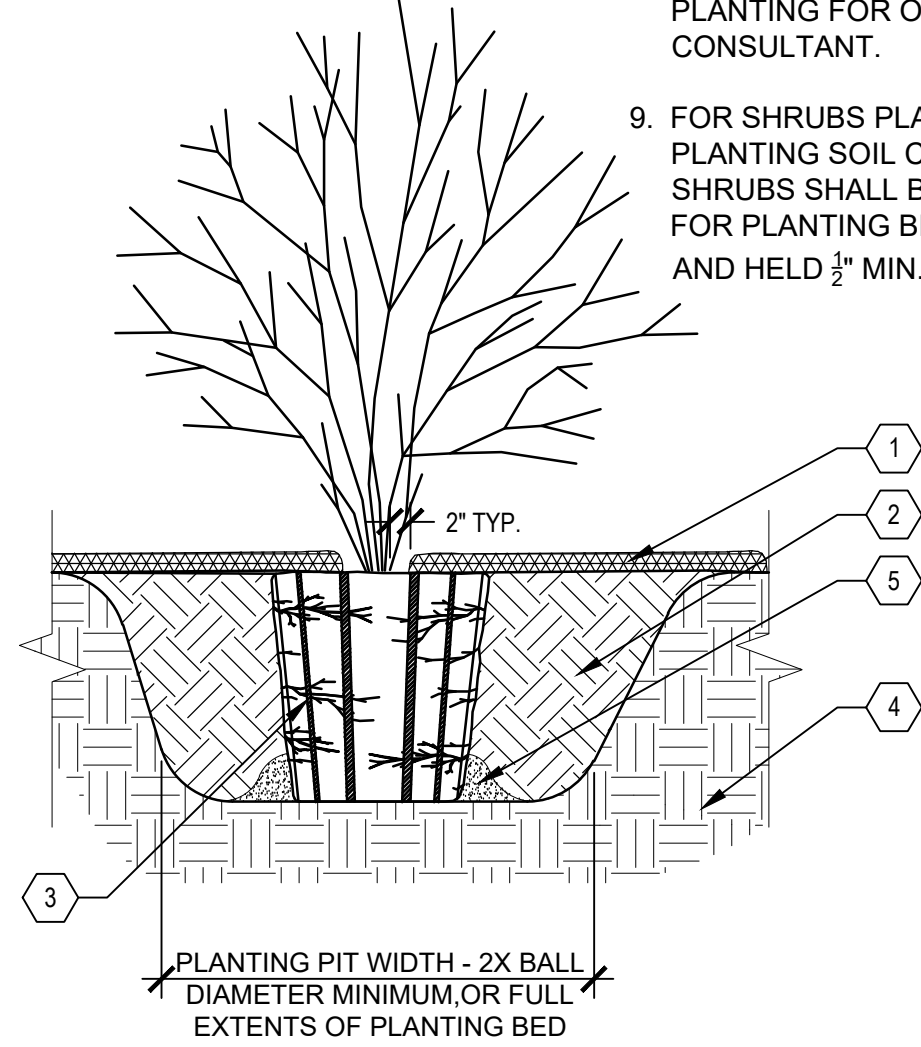
- NOTES:
1. PLANT EACH TREE SUCH THAT THE ROOT FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.
  2. DEPTH OF THE PLANTING HOLE SHOULD BE DETERMINED AND DUG AFTER THE ROOT FLARE IS LOCATED. PLANTING HOLE MUST BE NO DEEPER THAN THE HEIGHT OF THE ROOT BALL.
  3. IF PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, CUT AND REMOVE THE WIRE BASKET ENTIRELY. REMOVE ALL TWINE, ROPE, AND BURLAP COMPLETELY FROM ALL ROOT BALLS.
  4. PLACE ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.
  5. DO NOT PLACE MULCH IN CONTACT WITH STEMS.
  6. WATER ALL PLANTS WITHIN 2 HOURS OF INSTALLATION.
  7. PRUNE ONLY AS NECESSARY TO REMOVE UNHEALTHY BRANCHES. DO NOT REMOVE MORE THAN 1/3 OF THE ORIGINAL PLANT MASS.



- KEYED LEGEND**
- 1 3" DEPTH SHREDDED HARDWOOD BARK MULCH. PROVIDE 4'-0" DIAMETER MULCH RINGS AT THE BASE OF ANY TREES PLANTED IN LAWN.
  - 2 PROVIDE SPADED EDGE, 2" WIDE, 6" DEEP FOR ENTIRE PERIMETER OF BARK MULCH RINGS AT BASE OF TREES PLANTED IN LAWNS
  - 3 PLANTING SOIL, PLANTING SOIL SHALL BE PLACED IN ONE CONTINUOUS VOLUME FOR THE ENTIRE AREA OF ANY GIVEN PLANT BED.
  - 4 PREPARED SUBGRADE
  - 5 TAMP SOIL AROUND BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT BALL DOES NOT SHIFT

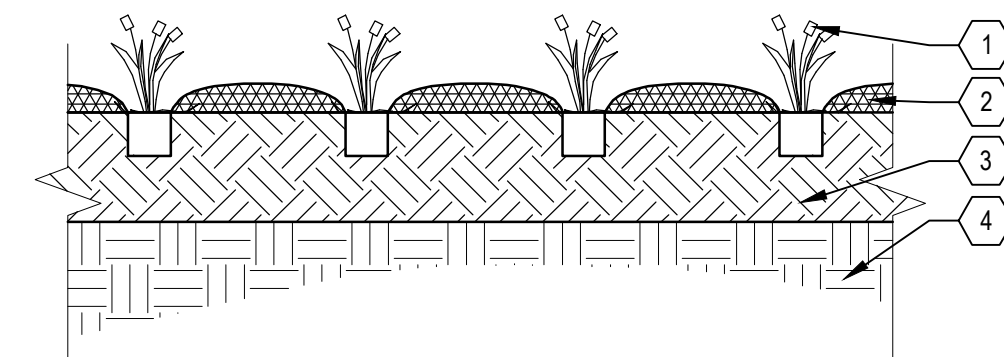
**1 TREE PLANTING**  
SCALE: NTS

- NOTES:
1. MAKE 1" TO 2" DEEP VERTICAL CUTS EVERY 6" AROUND THE CIRCUMFERENCE OF THE ROOT BALL BEFORE PLANTING TO LOOSEN POT-BOUND ROOTS.
  2. PLANT EACH SHRUB SUCH THAT THE ROOT FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.
  3. PLANTING HOLE MUST NOT BE DEEPER THAN THE HEIGHT OF THE ROOT BALL.
  4. DO NOT PLACE MULCH IN CONTACT WITH STEMS.
  5. PLACE ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.
  6. WATER ALL PLANTS WITHIN 2 HOURS OF INSTALLATION.
  7. PRUNE ONLY AS NECESSARY TO REMOVE UNHEALTHY BRANCHES. DO NOT REMOVE MORE THAN 1/3 OF THE ORIGINAL PLANT MASS.
  8. SEGREGATE ANY SOIL FROM BELOW WARNING LAYER EXCAVATED DURING PLANTING FOR OFF-SITE DISPOSAL. COORDINATE DISPOSAL WITH ENVIRONMENTAL CONSULTANT.
  9. FOR SHRUBS PLANTED WITHIN PLANTING BEDS, CONTRACTOR SHALL PROVIDE PLANTING SOIL CONTINUOUSLY FOR THE ENTIRE PLANTING BED AND INDIVIDUAL SHRUBS SHALL BE PLANTED INTO THE PREPARED PLANTING SOIL. MULCH SURFACE FOR PLANTING BEDS SHALL ALSO BE CONTINUOUS ACROSS THE ENTIRE SURFACE AND HELD 1/2" MIN. TO 1" MAX. BELOW ADJACENT PAVEMENTS.



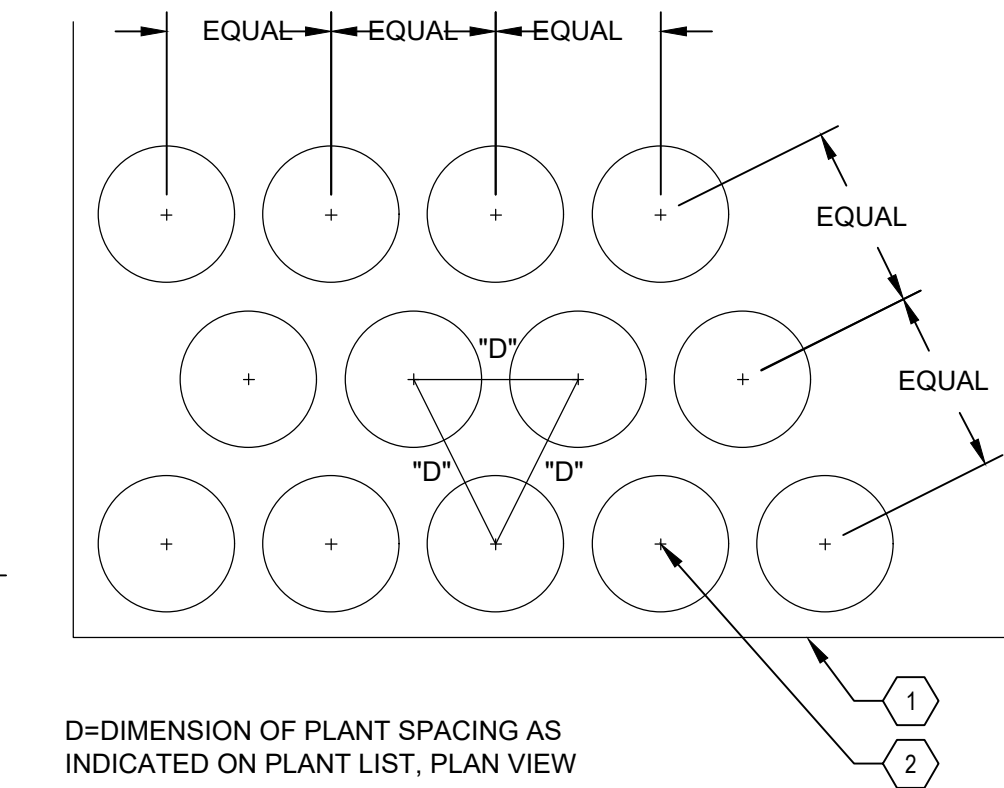
- KEYED LEGEND**
- 1 3" DEPTH TWICE-SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE INDICATED, KEEP 2" CLEAR OF STEMS
  - 2 PLANTING SOIL AS SPECIFIED, PLANTING SOIL SHALL BE PLACED IN ONE CONTINUOUS VOLUME FOR THE ENTIRE AREA OF ANY GIVEN PLANT BED
  - 3 1" TO 2" DEEP VERTICAL CUTS EVERY 6" AROUND PERIMETER
  - 4 PREPARED SUBGRADE
  - 5 TAMP SOIL AROUND BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT BALL DOES NOT SHIFT

**2 SHRUB PLANTING**  
SCALE: NTS



- KEYED LEGEND**
- 1 PERENNIAL, ORNAMENTAL GRASS, OR GROUND COVER PLUG, SEE LANDSCAPE PLAN SHEETS L100-L103
  - 2 3" DEPTH TWICE-SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE INDICATED, KEEP 3" CLEAR OF STEMS
  - 3 PLANTING SOIL, PLANTING SOIL SHALL BE PLACED IN ONE CONTINUOUS VOLUME FOR THE ENTIRE AREA OF ANY GIVEN PLANT BED
  - 4 PREPARED SUBGRADE

**3 PERENNIAL PLANTING**  
SCALE: NTS

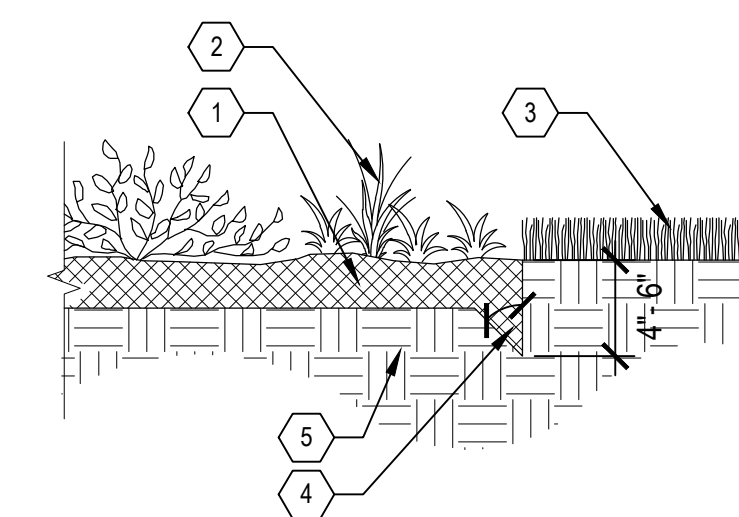


- NOTES:
- SET FINISH GRADE OF PLANTING AREA 2" BELOW FINISH SURFACE OF PAVING, CURB, OR HEADER
  - SEE PLANTING SCHEDULE FOR SPACING OF ALL SHRUBS AND GROUNDCOVERS
  - ALL SHRUBS / GROUNDCOVER TO BE PLANTED AT EQUAL SPACING (TRIANGULAR) UNLESS OTHERWISE INDICATED ON PLANS.
  - TO DETERMINE APPROPRIATE PLANT QUANTITIES REFER TO THE PLANTING SCHEDULE OR PLAN.

- KEYED LEGEND**
- 1 EDGE OF ADJACENT PAVEMENT
  - 2 SHRUB, PERENNIAL OR ORNAMENTAL GRASS PLANT CENTER LOCATION

D=DIMENSION OF PLANT SPACING AS INDICATED ON PLANT LIST, PLAN VIEW

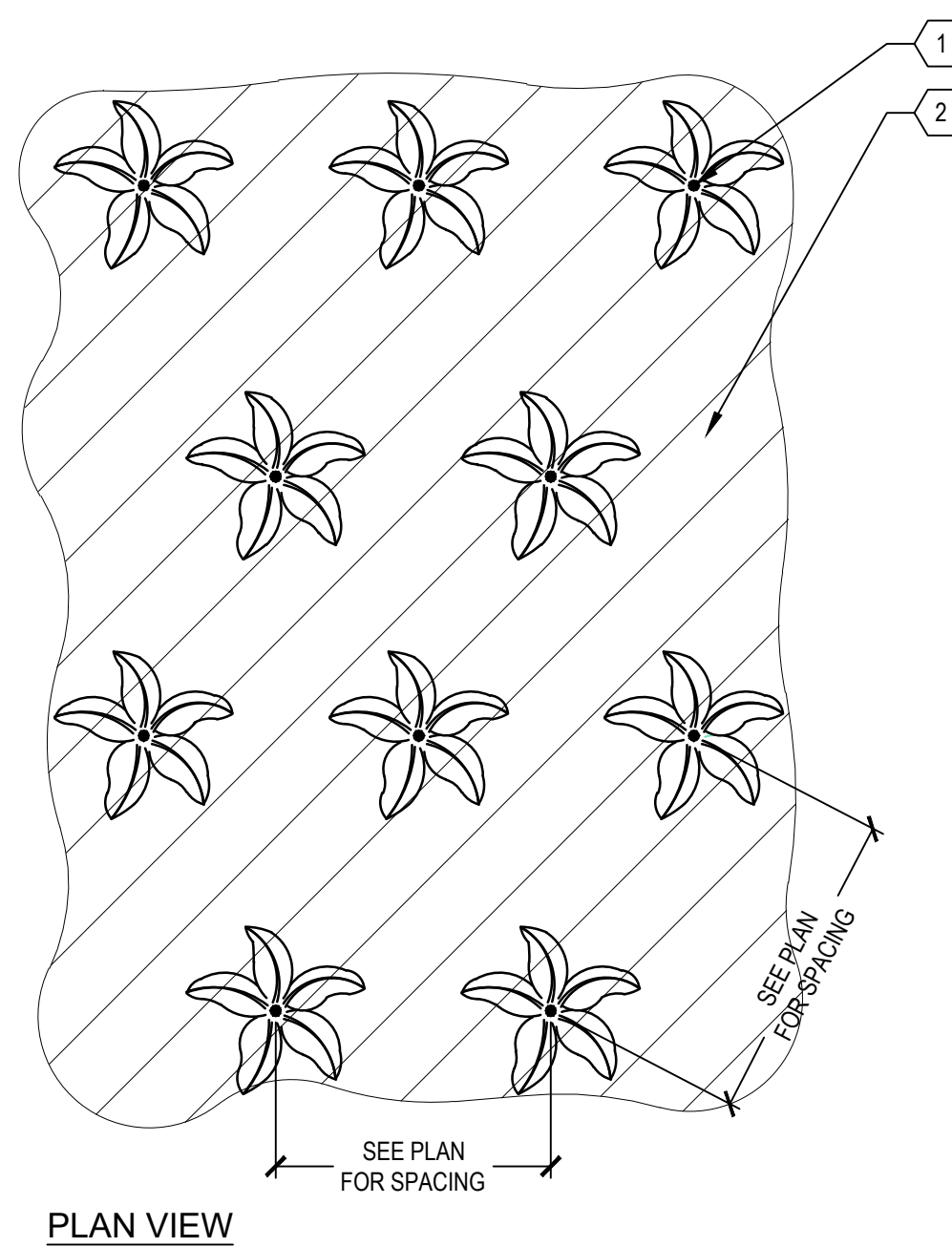
**5 PLANT SPACING**  
SCALE: NTS



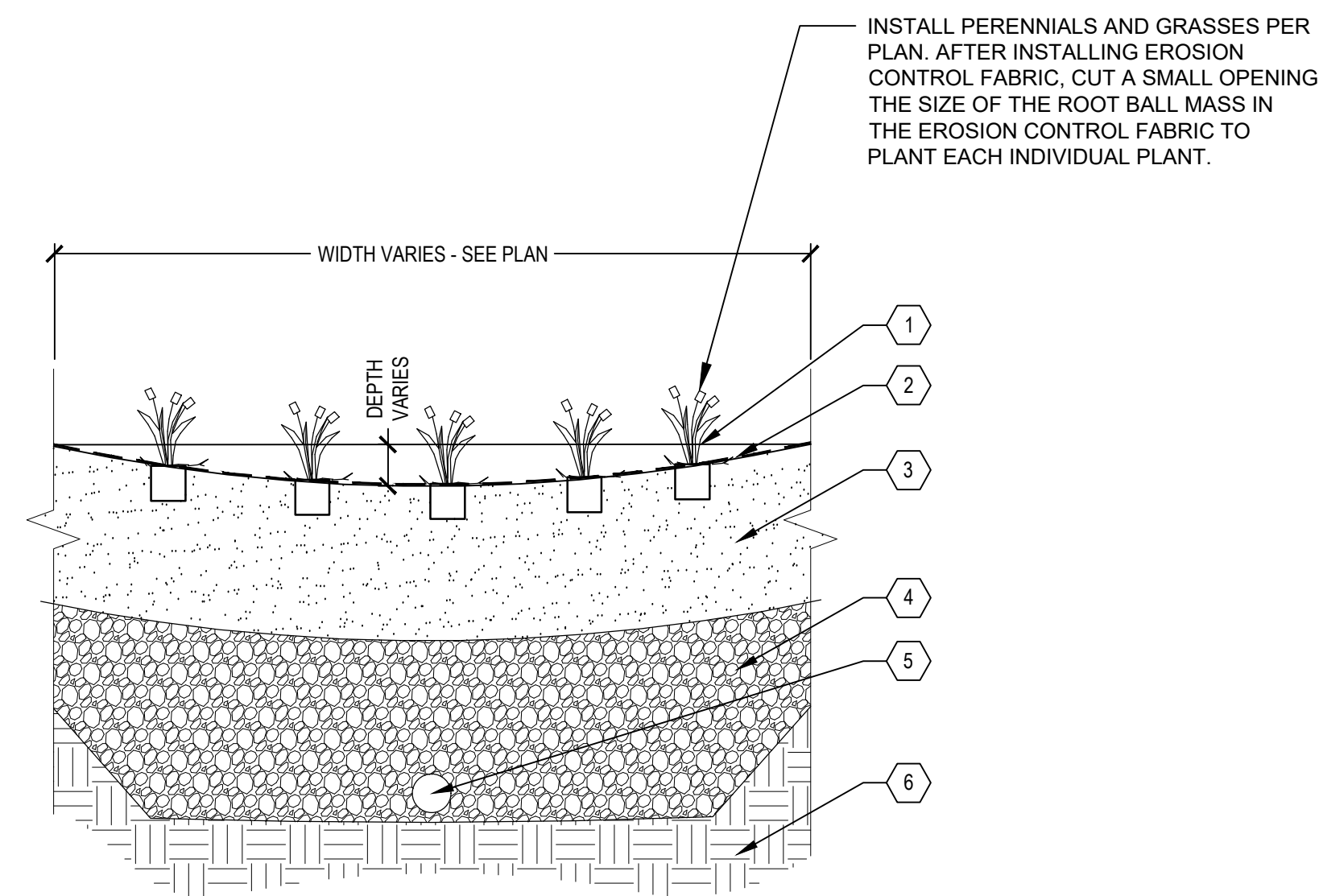
- KEYED LEGEND**
- 1 3" DEPTH OF MULCH LAYER
  - 2 SHRUB PLANTING BED
  - 3 LAWN ADJACENT TO PLANTING BED
  - 4 45 DEGREE ANGLE SHOVEL CUT EDGE TOWARD PLANTING BED
  - 5 COMPACTED SUBGRADE

**6 SHOVEL CUT EDGE**  
SCALE: NTS

- KEYED LEGEND**
- 1 BIOFILTRATION BASIN PLANTS (SEE PLANT SCHEDULE)
  - 2 STRAW MULCH
- PLANTING SPACING  
ROUGHLY 1 PLUG PER 2 SQUARE FEET



**4 PLUG PLANTING**  
SCALE: 1" = 1'



**SECTION VIEW**

- KEYED LEGEND**
- 1 BIOFILTRATION BASIN PLANTING (SEE PLANT LIST)
  - 2 BIODEGRADABLE EROSION CONTROL MATTING ON BOTTOM AND SLOPES OF BASIN
  - 3 ENGINEERED SOIL MIX - SEE CIVIL FOR DEPTH
  - 4 STONE STORAGE LAYER - SEE CIVIL FOR DEPTH
  - 5 PVC DRAIN TILE, SEE CIVIL PLAN.
  - 6 PREPARED SUBGRADE

KIRKLAND CROSSING  
PEWAUKEE, WI  
LANDSCAPE DETAILS

**PRELIMINARY  
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APPROVED BY:	----
SHEET NO:	

**L200**



**PLANTING QUALITY ASSURANCE**

- PLANTS ARE TO BE INSPECTED UPON DELIVERY TO PROJECT SITE AND THE LANDSCAPE ARCHITECT OR OWNER'S PROJECT REPRESENTATIVE MAY REJECT ANY SPECIMENS NO LONGER MEETING THE SPECIFIED STANDARDS OR THAT HAVE BEEN DAMAGED IN TRANSIT.
- ALL PLANT MATERIAL SHALL BE TRUE TO SPECIES AND VARIETY/HYBRID/CULTIVAR SPECIFIED, AND NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES, AND UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE OF THE SITE LOCATION. SPECIMENS NURSERY-DUG TO BE REPLANTED SHALL HAVE BEEN FRESHLY DUG AND PROPERLY PREPARED FOR PLANTING.
- TREES:
  - SHALL BE TRAINED IN DEVELOPMENT AND APPEARANCE AS TO BE SUPERIOR IN FORM, COMPACTNESS AND SYMMETRY. TREES WITH MULTIPLE LEADERS, UNLESS SPECIFIED OTHERWISE, AND SHRUBS WITH DAMAGED OR CUT MAINSTEM(S), WILL BE REJECTED.
  - WITH A DAMAGED, CUT OR CROOKED LEADER, ABRASION OF BARK, SUNSCALD, FROST CRACK, DISFIGURING KNOTS, INSECTS (INCLUDING EGGS AND LARVAE) OR INSECT DAMAGE, CANKERS/CANKEROUS LESIONS OR FUNGAL MATS, MOLD, PREMATURELY-OPENED BUDS, OR CUTS OF LIMBS OVER 1/4" DIAMETER THAT ARE NOT COMPLETELY CALLOSED WILL BE REJECTED.
  - SHALL HAVE HEALTHY, WELL-DEVELOPED ROOT SYSTEMS, AND BE FREE FROM PHYSICAL DAMAGE OR OTHER HINDRANCES TO HEALTHY GROWTH.
  - BALLED AND BURLAPPED PLANTS SHALL BE DUG WITH SOLID BALLS OF A DIAMETER NOT LESS THAN THAT RECOMMENDED BY AMERICAN STANDARDS FOR NURSERY STOCK, AND OF SUFFICIENT DEPTH TO INCLUDE BOTH FIBROUS AND FEEDING ROOTS. BALLS SHALL BE SECURELY WRAPPED WITH BURLAP, AND TIGHTLY BOUND WITH ROPE OR TWINE. NO PLANTS SHALL BE BOUND WITH ROPE OR WIRE IN SUCH A MANNER AS TO DAMAGE BARK OR BREAK BRANCHES. THE ROOT FLARE SHOULD BE WITHIN THE TOP 2" OF THE SOIL BALL. BALLED AND BURLAPPED PLANTS WILL NOT BE ACCEPTED IF THE BALL IS DRY, CRACKED, OR BROKEN BEFORE OR DURING PLANTING.
- PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED WITHIN THE PLANT SCHEDULE.

**PLANTING PROJECT CONDITIONS:**

- VERIFY SERVICE AND UTILITY LOCATIONS, AND DIMENSIONS OF CONSTRUCTION CONTIGUOUS WITH NEW PLANTINGS BY FIELD MEASUREMENTS BEFORE PROCEEDING WITH PLANTING WORK.
- INTERRUPTION OF EXISTING SERVICES OR UTILITIES: DO NOT INTERRUPT SERVICES OR UTILITIES UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY SERVICES OR UTILITIES ACCORDING TO REQUIREMENTS INDICATED.
  - NOTIFY OWNER'S PROJECT REPRESENTATIVE NO FEWER THAN TWO DAYS IN ADVANCE OF PROPOSED INTERRUPTION OF EACH SERVICE OR UTILITY.
  - DO NOT PROCEED WITH INTERRUPTION OF SERVICES OR UTILITIES WITHOUT REPRESENTATIVE'S WRITTEN PERMISSION.
- PLANTING RESTRICTIONS: PLANTING SHALL OCCUR DURING THE FOLLOWING ACCEPTABLE INSTALLATION PERIODS:
  - DECIDUOUS TREES AND SHRUBS - APRIL 1 TO OCTOBER 15.
- WEATHER LIMITATIONS: PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT PLANTING TO BE PERFORMED WHEN BENEFICIAL AND OPTIMUM RESULTS MAY BE OBTAINED. APPLY PRODUCTS DURING FAVORABLE WEATHER CONDITIONS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND WARRANTY REQUIREMENTS.
- CONTRACTOR SHALL PROTECT ALL EXISTING AND/OR NEWLY INSTALLED PLANTS, LAWNS, AND GRASS AREAS FROM DAMAGE AT ALL TIMES. DAMAGED PLANTS, LAWNS OR GRASS AREAS SHALL BE REPLACED OR TREATED AS REQUIRED TO CONFORM TO SPECIFICATIONS HEREIN FOR FRESH STOCK. WORK AREA SHALL BE KEPT CLEAN AND ORDERLY DURING THE INSTALLATION PERIOD. UNDER NO CONDITION SHALL DEBRIS FROM PLANTING ACTIVITIES RESULT IN A SAFETY HAZARD ON-SITE OR ADJACENT OFF-SITE PROPERTY, DAMAGE TO SITE IMPROVEMENTS OR ADJACENT LANDSCAPES INCURRED AS A RESULT OF PLANTING OR REPLACEMENT OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR THAT CAUSES THE DAMAGE AT NO COST TO THE OWNER.
- EXAMINE AREAS TO RECEIVE PLANTS FOR COMPLIANCE WITH REQUIREMENTS AND CONDITIONS AFFECTING INSTALLATION AND PERFORMANCE. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
  - VERIFY THAT NO FOREIGN OR DELETERIOUS MATERIAL OR LIQUID SUCH AS PAINT, PAINT WASHOUT, CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, OR ACID HAS BEEN DEPOSITED IN SOIL WITHIN PLANTING AREA.
  - DO NOT MIX OR PLACE SOILS IN FROZEN, WET, OR MUDDY CONDITIONS.

**PLANTING DELIVERY, STORAGE, & HANDLING:**

- BULK MATERIALS;
  - DO NOT DUMP OR STORE BULK MATERIALS NEAR STRUCTURES, UTILITIES, WALKWAYS AND PAVEMENTS, OR ON EXISTING TURF AREAS OR PLANTS.
- DO NOT PRUNE TREES AND SHRUBS BEFORE DELIVERY. PROTECT BARK, BRANCHES, AND ROOT SYSTEMS FROM SUN SCALD, DRYING, WIND BURN, SWEATING, WHIPPING, AND OTHER HANDLING AND TYING DAMAGE. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DESTROY THEIR NATURAL SHAPE. PROVIDE PROTECTIVE COVERING OF PLANTS DURING SHIPPING AND DELIVERY. DO NOT DROP PLANTS DURING DELIVERY AND HANDLING.
- HANDLE PLANTING STOCK BY ROOT BALL.
- DELIVER PLANTS AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND INSTALL IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN SIX HOURS AFTER DELIVERY, SET PLANTS AND TREES IN SHADED LOCATION, PROTECT FROM WEATHER AND MECHANICAL DAMAGE, AND KEEP ROOTS MOIST.
  - SET BALLED STOCK ON GROUND AND COVER BALL WITH SOIL, PEAT MOSS, SAWDUST, OR OTHER ACCEPTABLE MATERIAL.
  - WATER ROOT SYSTEMS OF PLANTS STORED ON-SITE DEEPLY AND THOROUGHLY WITH A FINE-MIST SPRAY. WATER AS OFTEN AS NECESSARY TO MAINTAIN ROOT SYSTEMS IN A MOIST, BUT NOT OVERLY WET CONDITION.

**EXCAVATION FOR TREES & SHRUBS**

- EXCAVATE CIRCULAR PLANTING PITS AS INDICATED IN DRAWINGS. TRIM PERIMETER OF BOTTOM LEAVING CENTER AREA OF BOTTOM RAISED SLIGHTLY TO SUPPORT ROOT BALL AND ASSIST IN DRAINAGE AWAY FROM CENTER. DO NOT FURTHER DISTURB BASE. ENSURE THAT ROOT BALL WILL SIT ON UNDISTURBED BASE SOIL TO PREVENT SETTLING. SCARIFY SIDES OF PLANTING PIT SMOOTHED OR SMOOTHED DURING EXCAVATION.
  - EXCAVATE APPROXIMATELY THREE TIMES AS WIDE AS BALL DIAMETER FOR BALLED AND BURLAPPED STOCK.
  - DO NOT EXCAVATE DEEPER THAN DEPTH OF THE ROOT BALL, MEASURED FROM THE ROOT FLARE TO THE BOTTOM OF THE ROOT BALL.
  - IF AREA UNDER THE PLANT WAS INITIALLY DUG TOO DEEP, ADD SOIL TO RAISE IT TO CORRECT LEVEL AND THOROUGHLY TAMP THE ADDED SOIL TO PREVENT SETTLING.
  - MAINTAIN REQUIRED ANGLES OF REPOSE OF ADJACENT MATERIALS AS SHOWN IN DRAWINGS. DO NOT EXCAVATE SUBGRADES OF ADJACENT PAVING, STRUCTURES, HARDSCAPES, OR OTHER NEW OR EXISTING IMPROVEMENTS.
  - MAINTAIN SUPERVISION OF EXCAVATIONS DURING WORKING HOURS.
  - KEEP EXCAVATIONS COVERED OR OTHERWISE PROTECTED WHEN UNATTENDED BY INSTALLER'S PERSONNEL.
- SUBSOIL AND TOPSOIL REMOVED FROM EXCAVATIONS MAY BE USED AS PLANTING SOIL IF THEY CONFORM TO THE REQUIREMENTS LISTED IN THESE SPECIFICATIONS.
- NOTIFY OWNER'S PROJECT REPRESENTATIVE IF UNEXPECTED ROCK OR OBSTRUCTIONS DETRIMENTAL TO TREES OR SHRUBS ARE ENCOUNTERED IN EXCAVATIONS.
- NOTIFY OWNER'S PROJECT REPRESENTATIVE IF SUBSOIL CONDITIONS EVIDENCE UNEXPECTED WATER SEEPAGE OR RETENTION IN TREE OR SHRUB PLANTING PITS.

**TREE & SHRUB PLANTING**

- BEFORE PLANTING VERIFY THAT ROOT FLARE IS VISIBLE AT TOP OF ROOT BALL. IF ROOT FLARE IS NOT VISIBLE, REMOVE SOIL IN A LEVEL MANNER FROM THE ROOT BALL TO WHERE THE TOP-MOST ROOT EMERGES FROM THE TRUNK. AFTER SOIL REMOVAL TO EXPOSE ROOT FLARE, VERIFY THAT ROOT BALL STILL MEETS SIZE REQUIREMENTS. PLANT MATERIAL WITHOUT ROOT FLARE VISIBLE OR PLANTED TOO LOW WILL BE RE-PLANTED AT THE REQUEST OF THE LANDSCAPE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
- PLANTS FOUND TO HAVE STEM GIRDLING ROOTS AND/OR KINKED ROOTS AT THE TIME OF PLANTING WILL BE REJECTED AND REPLACEMENTS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- REMOVE ALL TWINE, STRING, WIRE, AND ALL OTHER NON-BIODEGRADABLE MATERIAL ENTIRELY FROM ROOT BALL AREA.
- REMOVE ONLY DEAD, DYING, OR BROKEN BRANCHES. DO NOT PRUNE FOR SHAPE. DO NOT TREE LEADERS.
- SET BALLED AND BURLAPPED STOCK PLUMB AND IN CENTER OF PLANTING PIT OR TRENCH WITH ROOT FLARE 2 INCHES ABOVE ADJACENT FINISH GRADES.
  - USE SOIL MATERIALS FROM EXCAVATION FOR BACKFILL.
  - CAREFULLY CUT AND REMOVE BURLAP, ROPE, AND WIRE BASKETS FROM THE ENTIRE ROOT BALL. REMOVE PALLETS, IF ANY, BEFORE SETTING. DO NOT USE PLANTING STOCK IF ROOT BALL IS CRACKED OR BROKEN BEFORE OR DURING PLANTING OPERATION.
  - BACKFILL AROUND ROOT BALL IN LAYERS, TAMPING TO SETTLE SOIL AND ELIMINATE VOIDS AND AIR POCKETS. WHEN PLANTING PIT IS APPROXIMATELY ONE-HALF FILLED, WATER THOROUGHLY BEFORE PLACING REMAINDER OF BACKFILL. REPEAT WATERING UNTIL NO MORE WATER IS ABSORBED.
  - CONTINUE BACKFILLING PROCESS. WATER AGAIN AFTER PLACING AND TAMPING FINAL LAYER OF SOIL.

**TREE & SHRUB MATERIAL:**

- GENERAL: FURNISH NURSERY-GROWN PLANTS TRUE TO GENUS, SPECIES, VARIETY, CULTIVAR, STEM FORM, SHEARING, AND OTHER FEATURES INDICATED IN PLANT SCHEDULE SHOWN AND DRAWINGS; AND WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPANTING OR ROOT PRUNING. PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK, DENSELY FOLIATED WHEN IN LEAF AND FREE OF DISEASE, PESTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT.
  - TREES WITH DAMAGED, CROOKED, OR MULTIPLE LEADERS; TIGHT VERTICAL BRANCHES WHERE BARK IS SQUEEZED BETWEEN TWO BRANCHES OR BETWEEN BRANCH AND TRUNK ("INCLUDED BARK"); CROSSING TRUNKS; CUT-OFF LIMBS MORE THAN 3/4" IN DIAMETER; OR WITH STEM GIRDLING ROOTS WILL BE REJECTED.
  - COLLECTED STOCK: DO NOT USE PLANTS HARVESTED FROM THE WILD, FROM NATIVE STANDS, FROM AN ESTABLISHED LANDSCAPE PLANTING, OR NOT GROWN IN A STATE CERTIFIED NURSERY.
  - PLANT MATERIAL SHALL BE PROVIDED IN THE CONTAINER TYPE INDICATED IN THE DRAWINGS (B&B, CONTAINER, BARE ROOT, ETC.), UNLESS THE CONTRACTOR RECEIVES WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT THAT SUBSTITUTION OF CONTAINER TYPE IS ACCEPTABLE.
- FURNISH TREES WITH ROOT BALLS MEASURED FROM TOP OF ROOT BALL. ROOT FLARE SHALL BE VISIBLE BEFORE PLANTING.
- SELECT STOCK FOR UNIFORM HEIGHT AND SPREAD.

**PLANTING SOIL:**

- PLANTING SOIL SHALL BE PLACED IN ONE CONTINUOUS VOLUME FOR THE WIDTH OF LANDSCAPE AREAS, AND A MINIMUM OF 3X THE DIAMETER OF THE ROOT BALL LENGTHWISE
- INSTALL PLANTING SOIL FOR PLANT BEDS IN 6" LIFTS, MINIMUM 18" DEPTH.
  - DO NOT APPLY PLANTING SOIL TO SATURATED OR FROZEN SUBGRADES.
  - PLANTING SOIL SHALL BE A MIX OF 6-PARTS TOPSOIL, 1-PART COMPOST (APPROVED FOR USE ON THE PROJECT), THOROUGHLY BLENDED PLANTING SOIL OFF-SITE BEFORE SPREADING.
    - THE PROJECT WILL ACCEPT ONLY CLEAN, SALVAGED OR IMPORTED TOPSOIL CAPABLE OF PASSING THE 1" SIEVE, FREE OF ROCKS, DEBRIS, AND OF NOXIOUS WEEDS.
    - STRIPPED, SALVAGED, OR MINED TOPSOIL MUST BE TAKEN FROM THE TOP 6-INCHES OF THE A-HORIZON, HAVING A DARK BROWN TO BLACK COLOR WITH A GRANULAR STRUCTURE AND CLAY CONTENT OF LESS THAN 25%, VERIFIED WITH A RIBBON TEST THAT YIELDS NO MORE THAN 1-INCH.

**METAL EDGING**

- STANDARD PROFILE, COMMERCIAL-GRADE, EXTRUDED ALUMINUM EDGING, FABRICATED IN STANDARD LENGTHS WITH INTERLOCKING SECTIONS WITH LOOPS STAMPED FROM FACE OF SECTIONS TO RECEIVE STAKES.
  - BASIS OF DESIGN: CLEANLINE XL BY PERMALOC OR APPROVED EQUAL.
  - EDGING SIZE: 3/16-INCH-WIDE BY 5 INCHES DEEP
  - STAKES: ALUMINUM, ASTM 221, ALLOY 6061-T6, 18-INCHES LONG.
  - FINISH: MILL (NATURAL ALUMINUM)
  - MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING: CURV-RITE, INC., PERMALOC CORPORATION, RUSSELL, J.D. COMPANY (THE), SURE-LOC EDGING CORPORATION
- INSTALL METAL EDGE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ENSURE THAT METAL EDGING IS PROPERLY INSTALLED AND SECURED BEFORE INSTALLING STONE MULCH.

**STONE MULCH MATERIAL & INSTALLATION:**

- SHALL BE HARD, DURABLE, STONE, WASHED FREE OF LOAM, SAND, CLAY, AND OTHER FOREIGN SUBSTANCES, OF THE FOLLOWING TYPE, SIZE RANGE, AND COLOR:
  - MATERIAL: RIVER ROCK.
  - SIZE: 3/4"
  - COLOR RANGE: BLEND OF CREAM TONES
  - BASIS OF DESIGN: 3/4" ALPINE/ AGGREGATE BY HALQUIST STONE.
- LIGHTLY COMPACT AREAS TO RECEIVE STONE MULCH
- INSTALL WEED BARRIER FABRIC IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS; COMPLETELY COVER AREA TO BE MULCHED, OVERLAPPING EDGES OF FABRIC LENGTHS A MINIMUM OF 6-INCHES AND SECURING SEAMS WITH GALVANIZED PINS. WEED BARRIER FABRIC SHALL BE WRAPPED VERTICALLY UP THE OUTSIDE EDGES OF SURROUNDING CONCRETE FLATWORK OR CURB AND SECURED IN PLACE. HOLD FABRIC 2" CLEAR OF TOP OF ADJACENT CURB AND CONCRETE FLATWORK SO IT IS NOT VISIBLE FROM SURFACE.
- PLACE AND FINISH STONE MULCH AS INDICATED IN DRAWINGS, ENSURING A SMOOTH, LEVEL TOP SURFACE FOR ALL STONE MULCH AREAS HELD APPROXIMATELY 1/2" BELOW THE TOP SURFACE OF ADJACENT PAVED AREAS.

**CLEAN-UP AND PROTECTION**

- DURING PLANTING, KEEP ADJACENT PAVING AND CONSTRUCTION CLEAN AND WORK AREA IN AN ORDERLY CONDITION.
- PROTECT PLANTS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS AND OPERATIONS OF OTHER CONTRACTORS AND TRADES. MAINTAIN PROTECTION DURING INSTALLATION. TREAT, REPAIR, OR REPLACE DAMAGED PLANTINGS.
- AFTER INSTALLATION REMOVE ALL NURSERY TAGS, NURSERY STAKES, TIE TAPE, LABELS, WIRE, STRING, AND OTHER DEBRIS FROM PLANT MATERIAL, PLANTING AREAS, AND PROJECT SITE.

**BIRD AND BUTTERFLY SEEDING**

- PROVIDE THE FOLLOWING SEED TYPES FROM: AGRECOL LLC 10101 N. CASEY ROAD EVANSVILLE, WISCONSIN 53536:
  - AGRECOL'S 'BIRD AND BUTTERFLY' SEED MIX' FOR AREAS SHOWN AS 'BIRD AND BUTTERFLY' SEED MIX'
  - REFER TO DETAILS 1 ON SHEET L101 AND L102, FOR SEED MIX COMPOSITION.
- REFER TO CIVIL PLANS FOR LOCATIONS AND EXTENTS OF EROSION CONTROL MAT. IN GENERAL, PROVIDE CURLEX NET FREE FOR SEEDED AREAS WITH SLOPES OF 4:1 OR LESS AND CURLEX II EROSION CONTROL MAT IN ALL OTHER SEEDED AREAS. PROVIDE MANUFACTURER'S STANDARD BIODEGRADABLE ANCHORING STAKES (OR ALTERNATIVE SOURCE FOR BIODEGRADABLE STAKES, IF APPROVED IN WRITING BY OWNER'S REPRESENTATIVE). INSTALL PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
- WITHIN 4 WEEKS FOLLOWING THE ISSUANCE OF THE NOTICE TO PROCEED, SUBMIT NAME AND LOCATION OF SEED SUPPLIER(S) AND A COMPLETE LIST OF EACH SEED MIX BY WEIGHT AND PROPORTION THAT IS BEING SUPPLIED BEFORE THE SEED MIX IS ORDERED. SUBSTITUTIONS WILL NOT BE PERMITTED. PROVIDE GEOGRAPHIC ORIGINS OF EACH SEED SPECIES.
- ALL SEED MATERIAL SHALL ORIGINATE FROM LOCAL SOURCES TO THE EXTENT POSSIBLE, SPECIFICALLY FROM USDA PLANT HARDINESS ZONE 4 OR LOWER.
- ALL SEEDING ZONE BOUNDARIES SHALL BE SURVEYED AND STAKED ON THE PROJECT SITE BY THE CONTRACTOR. NO SEED MIX SHALL BE INSTALLED UNTIL THE GRADE PREPARATION AND LAYOUT HAVE BEEN APPROVED.
- THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST SEED LIMITS WITHOUT ADJUSTING TOTAL SEEDED AREAS, TO MEET FIELD CONDITIONS, AT NO ADDITIONAL COST TO THE OWNER.
- COORDINATION IS REQUIRED TO ENSURE RAINFALL/GROUNDWATER SEEPAGE DOES NOT RESULT IN SOIL MOISTURE CONDITIONS THAT WILL CAUSE EXCESSIVE RUTTING DURING SEEDING AND MULCHING OPERATIONS. FAILURE TO MEET THIS REQUIREMENT WILL NOT BE AN ACCEPTABLE REASON FOR NOT INSTALLING THE SEED AS SPECIFIED.
- WHERE SEEDING OCCURS IN CLOSE PROXIMITY TO OTHER SITE IMPROVEMENTS OR AREAS TO REMAIN UNDISTURBED SUCH AS EXISTING WETLANDS AND UPLANDS AREAS, CARE SHALL BE TAKEN TO NOT DISTURB THE EXISTING CONDITIONS. ANY AREAS DAMAGED DURING PLANTING OPERATIONS SHALL BE PROMPTLY RESTORED TO THEIR ORIGINAL CONDITION AT NO COST TO THE OWNER.
- FOLLOWING NATIVE SEED MIX INSTALLATION, THE LANDSCAPE ARCHITECT AND CONTRACTOR SHALL CONDUCT A SUBSTANTIAL COMPLETION INSPECTION ON ALL SEEDED AREAS. (SEE WARRANTY, MAINTENANCE AND ACCEPTANCE PERIOD)
- GENERAL INSTALLATION:
  - SEEDING OF NATIVE SEED MIXES SHALL OCCUR IN THE EARLY SPRING:
    - APRIL 15 THROUGH MAY 31.
  - DO NOT SOW SEED DURING ADVERSE WEATHER OR WHEN WIND SPEEDS EXCEED TEN MILES PER HOUR.
  - DO NOT SOW SEED IN AREAS WHERE STANDING WATER IS PRESENT.
- GRADE PREPARATION:
  - SUBGRADE AND FINISH GRADE PREPARATION SHALL BE IN ACCORDANCE WITH SITE EARTHWORK REQUIREMENTS, AND TOPSOIL SHALL BE A MINIMUM 4 INCHES DEEP IN NON-BIORETENTION AREAS AFTER LIGHT COMPACTION TO PREVENT SETTLEMENT. BIORETENTION AREAS SHALL HAVE SOIL MIX PLACED PER DETAIL.
  - PRIOR TO SEEDING, REPAIR ANY RUTS, RILLS, OR GULLIES GREATER THAN 2 INCHES IN DEPTH TO CREATE SMOOTH CONTINUOUS GRADES.
  - IF THE PREPARED GRADE IS ERODED OR COMPACTED BY RAINFALL OR OTHER REASONS, REWORK THE TOPSOIL TO THE FULL 4-INCH DEPTH.
  - IMMEDIATELY BEFORE SEEDING, SCARIFY, LOOSEN, FLOAT, AND DRAG TOPSOIL, AS NECESSARY TO BRING IT TO THE PROPER CONDITION. REMOVE FOREIGN MATTER LARGER THAN 1-INCH DIAMETER.
  - NO FURTHER GRADE PREPARATION IS REQUIRED.
  - IF REQUIRED DUE TO CONSTRUCTION SEQUENCING, SEED THE SITE WITH A TEMPORARY COVER CROP TO HOLD IT FOR SPRING SEEDING AS FOLLOWS:
    - IF SEEDED MAY 15 THROUGH SEPTEMBER 1: MIX OF 32 POUNDS PER ACRE OF SEED OATS (AVENA SATIVA) AND 5 POUNDS PER ACRE OF ANNUAL RYE (LOLLIUM MULTIFLORUM).
    - IF SEEDED SEPTEMBER 1 THROUGH OCTOBER 15: 20 POUNDS PER ACRE WINTER WHEAT (TRITICUM AESTIVUM) OR REGREEN STERILE WHEAT/WHEATGRASS HYBRID (TRITICUM AESTIVUM X ELYTRIGIA ELONGATAFORM).
- BROADCASTING:
  - FOR SPRING SEEDING OF NATIVE SEED, SOW SEED DIRECTLY ONTO BARE GROUND OR GROUND WHERE THE PREVIOUS YEAR'S PLANT STUBBLE HAS BEEN CUT TO 2-INCH HEIGHT.
  - INCREASE THE VOLUME OF THE BROADCASTED SEED MIX BY MIXING IT WITH AN APPROVED CARRIER. ACCEPTABLE CARRIER MATERIAL INCLUDES MOISTENED COMPOST, PEAT MOSS, CORN COB BLAST MEDIA, OR COARSE-GRADE VERMICULITE. SAND AND SAWDUST ARE UNACCEPTABLE CARRIER MATERIALS. USE ONE BUSHEL BASKET OF CARRIER PER 1,000 SQUARE FEET OF AREA TO BE SEEDDED (A BUSHEL EQUALS 8 GALLONS OR 1.24 CUBIC FEET).
    - USE HALF OF THE TOTAL SEED QUANTITY AND CROSS THE ENTIRE AREA TO BE SEEDDED, EVENLY SPREADING THE SEED, WALK PERPENDICULAR TO THE ORIGINAL SEEDING AND EVENLY BROADCAST THE SECOND HALF OF THE SEED.
    - LIGHT SEEDS, AWNED SEEDS, OR BEARDED SEEDS TEND TO RISE TO THE TOP OF THE SPREADER, THEREFORE, MIX SEED ACCORDINGLY AS PLANTING COMMENCES.
    - RAKE OR DRAG THE SEED INTO THE SOIL, BUT NOT MORE THAN 1/4-INCH DEEP. ROLL THE AREA WITH A ROLLER TO FIRM THE SEED INTO THE SOIL. ROLLING IS NOT NECESSARY ON DORMANT SEEDINGS.
  - DRILL SEEDER OR DROP SEEDER/SPREADER:
    - FOR SPRING DRILL SEEDING, SOW SEED DIRECTLY ONTO BARE GROUND OR GROUND WHERE THE PREVIOUS YEAR'S PLANT STUBBLE HAS BEEN CUT TO 2-INCH HEIGHT; FOR SPRING DROP SEEDING, CULTIVATE THE GROUND BEFORE INSTALLING SEED MIX.
    - CHECK THE EQUIPMENT FREQUENTLY TO ENSURE THE SEED IS DISPERSING EVENLY AND IS NOT CLOGGING.
    - IF THE EQUIPMENT IS NOT EQUIPPED WITH A ROLLER, PASS OVER THE SEEDED AREA WITH A ROLLER TO FIRM THE SEED INTO THE SOIL. ROLLING IS NOT NECESSARY WITH DORMANT SEEDING.
      - DO NOT MIX THE NATIVE SEED WITH ANY CARRIER MATERIAL.
      - EVENLY DISTRIBUTE THE SEED ACROSS THE ENTIRE SITE TO BE SEEDDED.
      - KEEP THE TOPSOIL MOIST (TO A DEPTH OF 3 INCHES) FOR 3-6 WEEKS FOLLOWING SEEDING; AFTERWARD, APPLY ONE INCH OF WATER DURING THE GROWING SEASON IF RAIN HAS NOT OCCURRED FOR MORE THAN ONE WEEK. DO NOT APPLY WATER WITH SUCH A FORCE AS TO DISTURB SEED, SEEDLINGS, AND/OR TOPSOIL, OR THAT WOULD RUN OFF SOIL SURFACE.
- ALL AREAS OVER WHICH HAULING OPERATIONS HAVE BEEN CONDUCTED SHALL BE KEPT CLEAN ON A DAILY BASIS. PROMPTLY REMOVE ALL MATERIALS SPILLED ON PAVEMENT.
- UPON COMPLETION OF SEED INSTALLATION, REMOVE FROM THE SITE AND LEGALLY DISPOSE OF ALL TRASH AND DEBRIS INCLUDING ANY MATERIAL REMOVED DURING GRADE PREPARATION.
- RESTORE ANY EXISTING AREAS DAMAGED BY OPERATIONS UNDER THE CONTRACT. RESTORATION SHALL INCLUDE FINISH GRADING AND SEEDING AS REQUIRED TO MATCH EXISTING GRADE AND/OR WETLANDS, AND MAINTENANCE OF RESTORED AREAS.
- ANY DAMAGE BY THE CONTRACTOR TO ESTABLISHED OR NEWLY SEEDDED AREAS NOT WITHIN THE PROJECT SCOPE OF WORK SHALL BE REPAIRED AND RESEDED AT NO COST TO THE OWNER.

**VEGETATION MONITORING AND MANAGEMENT**

**NATIVE SEED INSTALLATION:**  
 NATIVE SEED SHALL BE MIXED THOROUGHLY BY VENDOR OR SEED INSTALLATION CONTRACTOR. SEED SHALL BE INSTALLED BY MEANS OF MECHANICAL AND/OR BROADCAST METHODS TO ASSURE EVEN DISTRIBUTION OF SEEDS THROUGHOUT ALL DESIGNATED SEEDING AREAS. IMMEDIATELY AFTER SEED PLACEMENT, SEED SHALL BE SOWN INTO THE SOIL'S SURFACE BY MEANS OF LIGHT RAKING OR HARROWING AND THEN LIGHTLY MULCHED WITH CLEAN, WEED-FREE STRAW. A COVER CROP OF ANNUAL RYE GRASS SHALL BE USED TO COMPLIMENT NATIVE SEEDING AREAS AT THE RATE OF FIVE (5) POUNDS PER ACRE.

**MANAGEMENT AND MONITORING:**  
 THE MANAGEMENT AND MONITORING OF NATIVE PLANTINGS (INCLUDING SEED MIXES, FORBS AND PLUGS) SHOULD BE DIRECTED TOWARD THE GOAL OF CREATING A STABLE, NATIVE PLANT COMMUNITY. INVASIVE AND WEEDY PLANT SPECIES WILL NEED TO BE CONTROLLED UNTIL THE DESIRED NATIVE PLANT COMMUNITIES ARE ESTABLISHED. THIS TYPICALLY WILL TAKE THREE (3) TO FIVE (5) YEARS AFTER SOWING OR PLUG INSTALLATION.

**UNDESIRABLE PLANT CONTROL:**  
 OVERALL MANAGEMENT OF VEGETATED AREAS MAY INCLUDE, BUT ARE NOT LIMITED TO: RESEEDING OR REPLANTING DAMAGED OR NON-ACTIVE GROWTH AREAS, IRRIGATION, STRATEGIC MOWING TO REDUCE WEED COVER AND PREVENT WEED SEED SET, REMOVAL OF TREE SEEDLINGS, TARGETED HERBICIDE APPLICATION(S), AND MECHANICAL WEED CONTROL (HAND PULLING AND SEED HEAD REMOVAL). SELECTED HERBICIDE APPLICATIONS SHOULD BE DONE SPARINGLY AND ONLY WHEN NECESSARY. SELECTION OF HERBICIDE FOR USE MUST CONSIDER THE PROXIMITY TO THE WATERWAY, IN COMPLIANCE WITH STATE AND APPLICABLE FEDERAL LAW.

**SHORT-TERM VEGETATION MANAGEMENT:**  
 SHORT-TERM VEGETATION MANAGEMENT (2 YEARS AFTER SEEDING/PLUG INSTALLATION) OCCURS WHILE THE LANDSCAPE CONTRACTOR OR SPECIALTY SEEDING/ RESTORATION CONTRACTOR IS RESPONSIBLE TO THE PROJECT OWNER FOR THE GUARANTEE OF ALL PLANTINGS TO BE ALIVE AND IN VIGOROUS GROWING CONDITIONS. SEEDING SHOULD ACHIEVE AN AVERAGE OF 80% VEGETATION COVERAGE FROM SPECIFIED SEED MIXES. IF UNSATISFACTORY PLANTS ARE FOUND ON SITE, THEY SHOULD BE REPLACED BY THE LANDSCAPE CONTRACTOR OF SPECIALTY SEEDING/RESTORATION CONTRACTOR DURING THE FIRST MONTH OF THE NEXT FAVORABLE PLANTING SEASON. SUPPLEMENTAL SEEDING WILL BE NEEDED TO FILL IN BARE SPOTS WHERE NATIVE SEED GERMINATION IS POOR. IT IS ALSO THE LANDSCAPE CONTRACTOR / SPECIALTY SEEDING/RESTORATION CONTRACTOR'S RESPONSIBILITY TO ELIMINATE ALL NOXIOUS WEED GROWTH FROM THE SITE DURING THIS GUARANTEE PERIOD.

INSPECTIONS SHOULD BE MADE FREQUENTLY DURING THE GROWING SEASON TO PROPERLY DOCUMENT ANY INVASIVE SPECIES, WEEDS, DEHYDRATION, DAMAGE, EROSION, DISEASES, BARE AREAS, AND PESTS. THE NECESSARY REPAIRS, TREATMENTS, SEEDING AND PLANTING SHOULD BE DONE AS SOON AS WEATHER CONDITIONS ARE APPROPRIATE. THE INSPECTIONS AND SUBSEQUENT ACTIONS SHOULD BE PROPERLY DOCUMENTED AND GRAPHICALLY IDENTIFIED ON THE APPROVED LANDSCAPE PLAN FOR THE PROJECT.

AT THE END OF THE GUARANTEE PERIOD, OWNERSHIP AND MAINTENANCE ACTIVITIES WILL BE TRANSFERRED TO THE PROJECT OWNERSHIP/MANAGEMENT ASSOCIATION.

**LONG TERM VEGETATION MANAGEMENT:**  
 LONG-TERM MANAGEMENT (AFTER 2 YEARS) WILL BE THE RESPONSIBILITY OF THE PROJECT OWNERSHIP/MANAGEMENT ASSOCIATION. LONG-TERM VEGETATION MANAGEMENT TASKS WILL INCLUDE MOWING, RESEEDING OR REPLANTING DAMAGED AREAS, REMOVAL OF TREE SEEDLINGS, TARGETED HERBICIDE APPLICATION AND MECHANICAL WEED CONTROL (HAND-PULLING AND SEED HEAD REMOVAL) AND REPAIR OF EROSION AREAS. SELECTIVE HERBICIDE APPLICATIONS SHOULD BE DONE SPARINGLY. INSPECTIONS SHOULD BE MADE FREQUENTLY DURING THE GROWING SEASON TO IDENTIFY ANY INVASIVE SPECIES, WEEDS, DEHYDRATION DAMAGE, EROSION, DISEASES, BARE AREAS, AND PESTS. THE NECESSARY REPAIRS, TREATMENTS, SEEDING AND PLANTING SHOULD BE DONE AS SOON AS WEATHER AND GROWING CONDITIONS ARE APPROPRIATE.

**MOWING FREQUENCIES:**  
 MOWING FREQUENCIES WILL DEPEND ON FIELD CONDITIONS. THE NATIVE SEEDLING/GRASS AREAS SHOULD NEVER BE MOWED SHORTER THAN SIX (6) INCHES. GROWTH OF THE VEGETATION ALONG THE WATER'S EDGE (WHERE APPLICABLE) WILL PROVIDE BANK STABILIZATION. THE VEGETATION SHOULD PREVENT NUISANCE LEVELS OF GEESE IN WATERWAYS, WHICH WOULD ADD TO THE NUTRIENT LEVEL IN THE WATER AND FURTHER DEGRADE THE WATER QUALITY. IN ADDITION, THE GROUND SLOPE ABOVE NORMAL WATER ELEVATION SHOULD PROVIDE GOOD DRAINAGE OF THE SURFACE SOILS REDUCE PONDING, AND THUS MOSQUITO HABITAT. THE NATIVE VEGETATION WILL PROVIDE HABITAT CONDUCIVE TO THE BREEDING AND ESTABLISHMENT OF EFFECTIVE MOSQUITO PREDATORS SUCH AS DRAGONFLIES.

MOWING SHOULD BE DONE THREE (3) TIMES DURING THE ESTABLISHMENT PERIOD:

ACTIVITY	TIMING	SUGGESTED MOWING HEIGHTS	REASON
FIRST MOWING	LATE MAY- EARLY JUNE	NO LESS THAN (6) INCHES	TARGET EARLY WEEDS
SECOND MOWING	EARLY AUGUST	NO LESS THAN (12) INCHES	CONTROL WARM SEASON WEED GROWTH
THIRD MOWING	LATE OCTOBER		VEGETATION SHOULD BE DORMANT

MOWING TIMES ARE APPROXIMATE; ACTUAL MOWING TIMES SHOULD BE BASED ON THE GROWTH OF NATURAL GRASSES AND UNDESIRABLE WEEDS.

AFTER THE DESIRED VEGETATION HAS BECOME ESTABLISHED THE FIRST AND SECOND MOWINGS (MAY, AUGUST) MAY NOT BE NECESSARY. THE THIRD MOWING (OCTOBER), HOWEVER, SHOULD BE DONE ANNUALLY. BURNING: THE NORTH AMERICAN PRAIRIE EVOLVED UNDER THE INFLUENCE OF FIRE. MANY TIMES, THESE FIRES WERE IGNITED BY LIGHTNING FROM STORMS SWEEPING ACROSS THE PLAINS STATES. BURNING IS AN EFFECTIVE WAY TO CONTROL INVASIVE WEED SPECIES (THEY OFTEN CANNOT SURVIVE THE HEAT AND FLAMES), AND ALSO CAN BE A MECHANISM FOR DISBURSAL OF SEEDS FROM DESIRED PLANT SPECIES WITHING THE PRAIRIE. PROPERLY CONDUCTED, A "OPNTROLLED BURN" IS SAFE AND EFFECTIVE.

PRIOR TO BURNING, CONTACT WITH THE LOCAL MUNICIPALITY / FIRE DEPARTMENT IS REQUIRED. SOME MUNICIPALITIES MAY HAVE RESTRICTIONS ON OPEN BURNING, OR ONLY ALLOW SUCH PRACTICES AT CERTAIN TIMES. ADDITIONALLY, A PERMIT TO BURN MAY BE REQUIRED IN SOME MUNICIPALITIES. THE SUPERVISING CREW SHOULD BE COMPRISED OF EXPERIENCED PROFESSIONALS WHO ARE TRAINED AND CERTIFIED IN THESE TYPES OF PRESCRIBED BURNS.

IF ALLOWED BY LOCAL CODE AND ORDINANCES, ONLY BURN WHEN THE DEAD VEGETATION MATTER CAN SUSTAIN FIRE. WET OR DAMP PLANT MATTER IS NOT EFFECTIVE IN A CONTROL BURN SETTING. IT MAY TAKE UP TO THREE (3) YEARS FOR A NEWLY PLANTED PRAIRIE TO HAVE ENOUGH "FUEL" TO STAGE AN EFFETIVE CONTROLLED BURN.



KIRKLAND CROSSING  
PEWAUKEE, WI  
LANDSCAPE SPECIFICATIONS

PRELIMINARY  
NOT FOR  
CONSTRUCTION

SCALE:	
PROJECT NO:	21471
DESIGN DATE:	----
PLOT DATE:	2/27/2023
DRAWN BY:	HLV
CHECKED BY:	----
APPROVED BY:	----
SHEET NO:	L300



## STAFF REPORT

To: Village Planning Commission

By: Mary Censky

Date Prepared: March 9, 2023

### General Information:

Agenda Item: **6.d.**

**Applicant/Property Owner:**

Northshore Bank in c/o Kate Knox

**Requested Action:**

Sign Code waiver to permit a temporary sign exceeding the 15 sq. ft. area limit and the seven consecutive/30 cumulative days per year duration limits.

**Existing Zoning:**

B-2 Downtown Business District

**Surrounding Current Land Use:**

North: B-2 Downtown Business  
South: B-2 Downtown Business  
East: B-2 Downtown Business  
West: B-2 Downtown Business

**Existing Master Plan Classification:**

Community Commercial

**Lot Size/Project Area:**

Approximately .68 acres

**Location:**

104 and 120 W. Wisconsin Avenue

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### DISCUSSION:

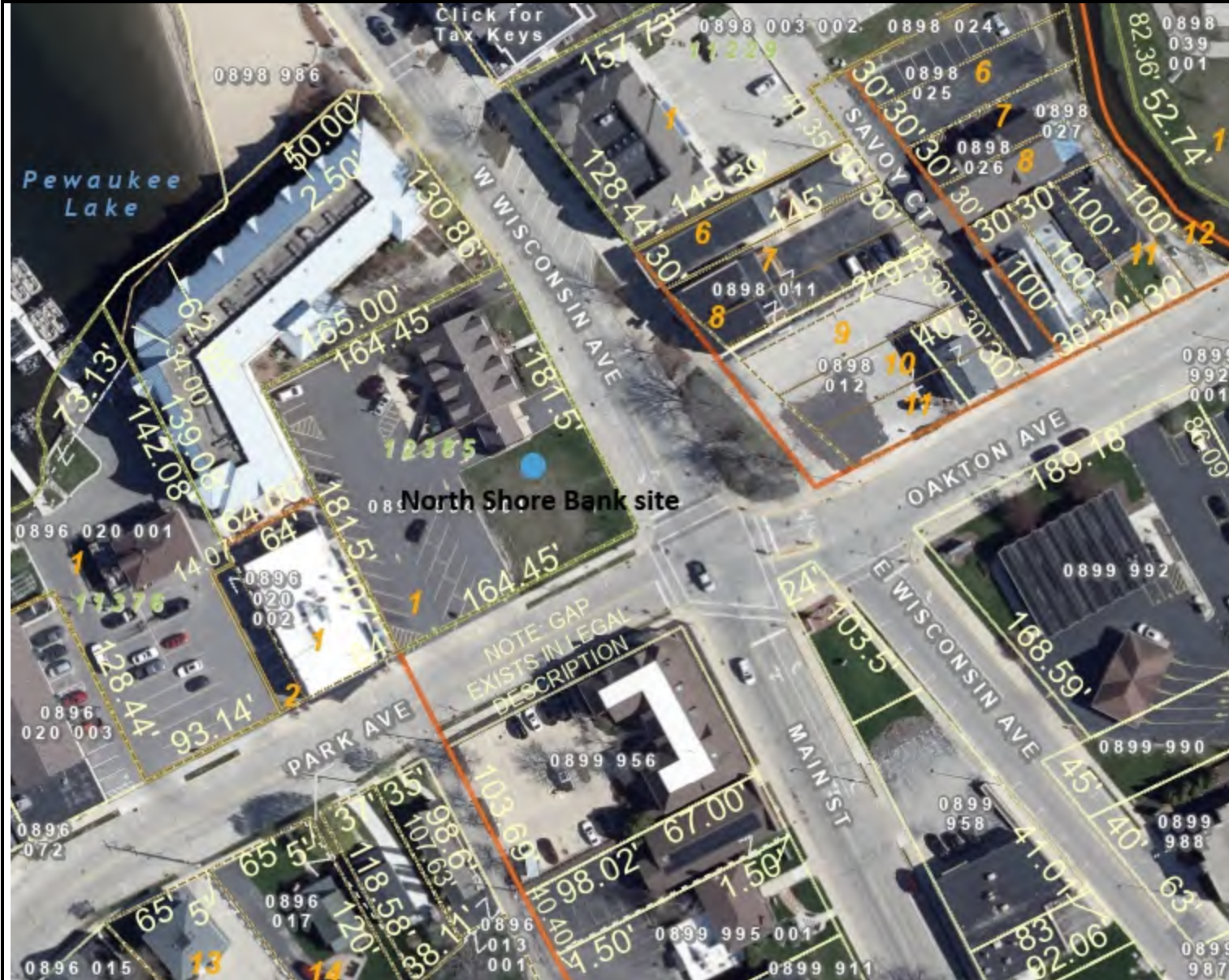
The applicant is planning a special Summertime 'Be Kind' art installation (i.e. a temporary sign) as an extension of North Shore Bank's Bank on Kindness® commitment that started back in 2020.

### RECOMMENDATION:




















The Planner raises no specific objection to this request as presented but recommends the following conditions be considered for attachment to any approval the Commission may inclined to grant:

- 1) The sign display consists of 7' high letter cut outs that spell 'Be Kind' and are approximately 24 feet across in length, total (i.e., ~168 square feet in area).
- 2) The sign display must be set back 25 feet from the property line (the sidewalk) in the grass, and 20 feet from the bank's drive-up area.
- 3) The period for display of this temporary sign shall be limited May 15th, 2023 through August 31, 2023.





**Legend**


-  Municipal Boundary_2K
-  Parcel_Dimension_2K
-  Note_Text_2K
- Lots_2K**
  -  Lot
  -  Unit
  -  General Common Element
  -  Outlot
- SimultaneousConveyance**
  -  Assessor Plat
  -  CSM
  -  Condominium
  -  Subdivision
- Cartoline_2K**
  -  EA-Easement_Line
  -  PL-DA
  -  PL-Extended_Tie_line
  -  PL-Meander_Line
  -  PL-Note
  -  PL-Tie
  -  PL-Tie_Line
  -  <all other values>
- Railroad_2K**



The information and depictions herein are for informational purposes and Waukesha County specifically disclaims accuracy in this reproduction and specifically admonishes and advises that if specific and precise accuracy is required, the same should be determined by procurement of certified maps, surveys, plats, Flood Insurance Studies, or other official means. Waukesha County will not be responsible for any damages which result from third party use of the information and depictions herein, or for use which ignores this warning.

**Notes:**

Printed: 3/2/2023





Application is due 3 weeks prior to the Meeting Date.



**Village of Pewaukee – Planning Commission  
Miscellaneous Approval Application Form – Return Completed Form along  
with 11 copies of all materials to be reviewed.**

Address/Parcel No. of Property Involved: 104-120 W. Wisconsin Ave, Pewaukee

Zoning of Property: Commercial

Current Owner of Property: North Shore Bank

Applicant – Name: Kate Knox

Address: 15700 W. Bluemound Rd, Brookfield, WI 53005

Phone: 414-719-7702

Fax: 262-797-3314

Type of Request: Check All That Apply

Sign Plan Approval:

Prelim. Plat Approval:

Final Plat Approval:

Developer's Agreement:

Certified Survey Map:

Other (Describe Below):

Waiver approval from Village sign code related to size & duration + see attached.

Signature of Property Owner as listed on this Application:

A handwritten signature in black ink, appearing to be "Kate Knox", written over a horizontal line.

**Application will not be processed without the Owner's Signature regardless of who is listed as the Applicant. This signature authorizes the Village of Pewaukee to process the Application as it pertains to my property and further authorizes the Village or its representatives to conduct reasonable and routine inspections of my property for the purposes of evaluating this Application.**

Signature of Applicant (if different than Owner):

A handwritten signature in black ink, appearing to be "Kate Knox", written over a horizontal line.





**PROFESSIONAL SERVICES REIMBURSEMENT NOTICE**

Pursuant to the Village of Pewaukee Code of Ordinances, the Village Board has determined that whenever the services of the Village Attorney, Village Engineer, Village Planner or any other of the Village's professional staff results in a charge to the Village for that professional's time and services and such service is not a service supplied to the Village as a whole, the Village Clerk shall charge that service for the fees incurred by the Village. Also, be advised that pursuant to the Village of Pewaukee Code of Ordinances, certain other fees, costs, and charges are the responsibility of the property owner or responsible party.

I, the undersigned, have been advised that, pursuant to the Village of Pewaukee Code of Ordinances, if the Village Attorney, Village Engineer, Village Planner or any other Village professional provides services to the Village because of my activities, whether at my request or at the request of the Village, I shall be responsible for the fees incurred by the Village. In addition, I have been advised that pursuant to the Village of Pewaukee Code of Ordinances, certain other fees, costs, and charges are my responsibility.

The Village will place fees from unpaid invoices on the real estate tax bill of the property that corresponds to the incurred services.

**RESPONSIBLE PARTY & MAILING ADDRESS**

North Shore Bank

Name of Company and/or Individual

15700 W. Bluemound Rd., Brookfield, WI 53005

Street

City

State

Zip

Phone: (262) 719-7702 Fax: (262) 797-3344 E-Mail: kknnox@northshorebank.com

*Kate Knox* 2/15/23  
Signature of Applicant & Date

*Kate Knox* 2/15/23  
Signature of Property Owner & Date

Village Official Accepting Form & Date

SEND ALL PROFESSIONAL SERVICES INVOICES TO:  
(Check One)

Property Owner

Applicant



February 15, 2023

Planning Commission  
Village of Pewaukee  
235 Hickory Street  
Pewaukee, WI 53072

**RE: Request for Size and Duration Waiver of the Sign Code for Artwork Installation**

Dear Village of Pewaukee Planning Commission,

North Shore Bank is excited to propose a one-of-kind Summer of Kindness Public Art Installation at our Pewaukee branch. We are celebrating our 100th Anniversary this year and we are thrilled to have been serving customers and the Pewaukee community for over 30 of those years.

It's our hope the art installation will promote kindness with a visual display for the Pewaukee community and visitors to the beachfront and area businesses, offer a photo opportunity, and be a destination that cultivates and inspires acts of kindness. The 'Be Kind' 7-ft high x 24-ft long artwork would be on display from May 15 to August 31, 2023 at 104-120 West Wisconsin Avenue in the Village of Pewaukee, Waukesha County, WI.

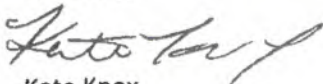
Enclosed, please find the following in connection with a request for a size and duration waiver of the Village's sign code.

- 1) Project Overview
- 2) Miscellaneous Approval Application
- 3) Site Plan for Artwork Placement
- 4) Sample of the 2022 Artwork

For the 2023 project, well-known local artist Emma Daisy of Waukesha will paint each letter to spell the phrase "BE KIND," and the design will be a fun and playful nod to summer in Pewaukee. On Tuesday, May 23 (rain date: May 25), the bank will unveil the artwork and hopes to mark the occasion with a Village Proclamation declaring it as 'Be Kind Day' in Pewaukee. We will also announce the first recipient of funds from our community-give-back, metered parking system. The money, given to a randomly selected non-profit group, will support programs in Pewaukee.

Our goal is to help spread kindness with our Summer of Kindness Public Art Installation and we request your approval for a waiver for the artwork's size and display duration. Please contact me at 414-719-7702 or [kknox@northshorebank.com](mailto:kknox@northshorebank.com) with questions.

Sincerely,



Kate Knox  
AVP – Marketing Communications Manager  
North Shore Bank

Enclosures



## North Shore Bank 'Be Kind' Art Installation in Pewaukee 2023

<b>Objective</b>	<p>Unveil and share 'Be Kind' message among residents and visitors in Pewaukee from May 15 – August 31, 2023.</p> <p>As part of its Bank on Kindness community commitment, the bank choose Pewaukee to grow the program with the community and to have a tangible reminder to spread kindness during the summer of 2023 in Pewaukee.</p>
<b>Location</b>	<p>Outdoor "Parklet" (grassy area) adjacent to our branch located at 104-120 W. Wisconsin Ave., Pewaukee, WI.</p>
<b>Artist</b>	<p>Working with local artist <u>Emma Daisy</u> on the "Be Kind" installation.</p>
<b>Installation</b>	<p>7' high letter cut outs that spell 'Be Kind'. Please see supplied photo samples.</p>
	<p>The Be Kind letters are around 24 feet across in length, and they would be set back roughly 25 feet from our property line (the sidewalk) in the grass, 20 feet from the easement (bank's drive up area).</p> <p>See attached SITE PLAN for the approximate Be Kind artwork placement.</p>
	<p>The 'Be Kind' art installation is an extension of North Shore Bank's Bank on Kindness® commitment that began in 2020. Through the initiative, the bank finds meaningful, fun, and special ways to carry out acts of kindness from the bank and has already helped raise tens of thousands of dollars for dozens of non-profit organizations and community members, and celebrates and encourages a positive message.</p>
<b>Onsite Event Activation</b>	<p>To kick off a summer of kindness, the bank will host an unveiling event, including a Kindness Day Proclamation, on Tuesday, May 23, 2023 (Rain date: Thursday, May 25).</p> <p>During the art unveiling event, the bank plans to select and announce the first community organization to benefit from the bank's community-give-back metered parking system.</p> <p>Representatives from area non-profits will be present and a random selection will take place with one receiving the funds.</p> <p>We will also invite the artist and local dignitaries to join us for the unveiling press conference.</p> <p>An estimated 50-60 attendees are anticipated for the event. A brief presentation will take place and light refreshments served.</p>
<b>Timing</b>	<p>"Be Kind" artwork will be on display May 15 through August 31, 2023.</p>
<b>Partners</b>	<p>North Shore Bank will be working with NEWaukee on the installation.</p>



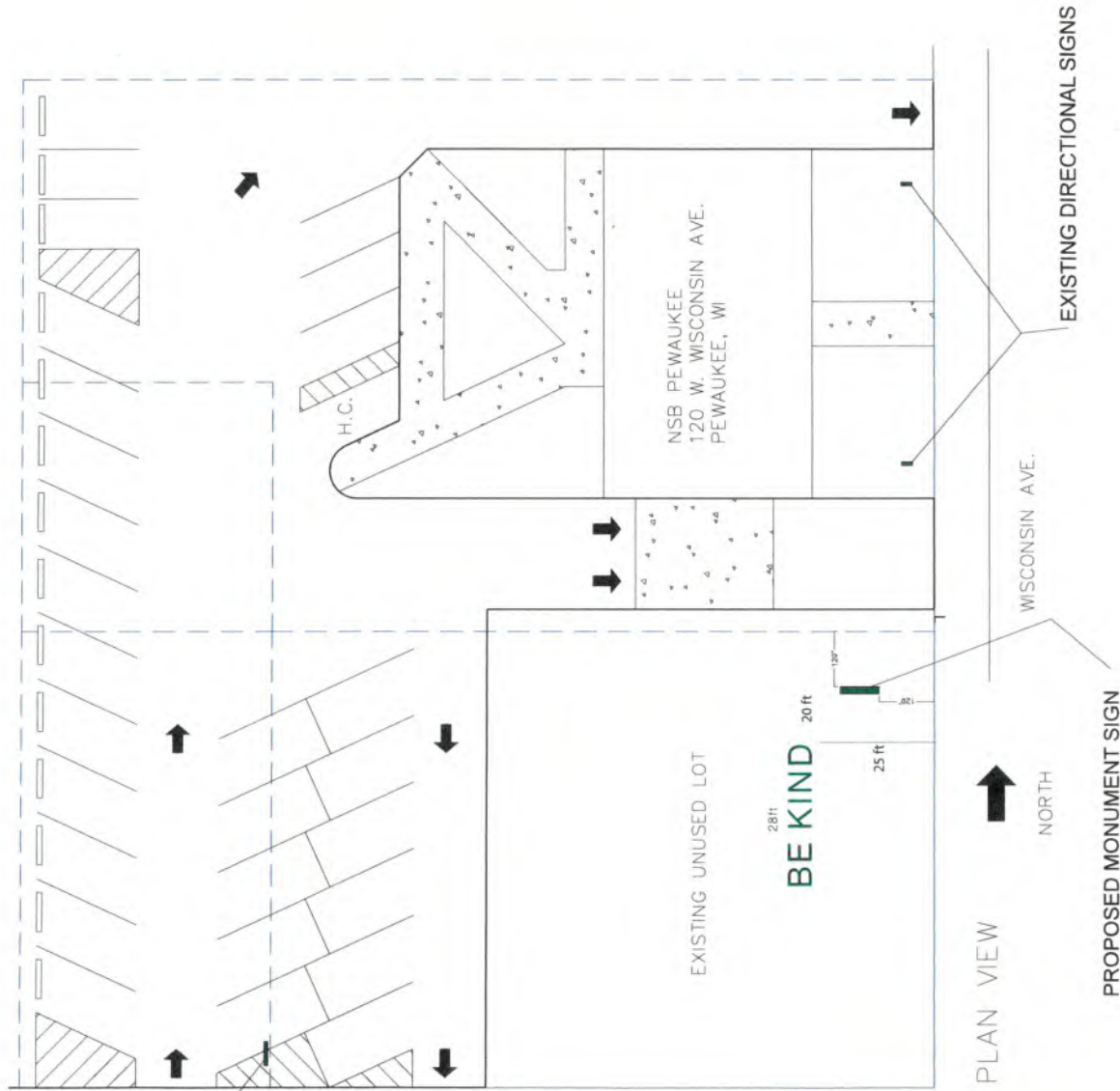
## Be Kind Art Installation - North Shore Bank

Sample: artwork installation done by a different artist for the bank during the summer of 2022 in Milwaukee.





# SITE PLAN



2070 HOLMGREN WAY GREEN BAY, WI 54304  
 (920) 494-7161 FAX(920) 494-8720

## LAYOUT

APPROVED  CHANGES

ALL COPY RIGHTS RESERVED  
 NO DUPLICATION ALLOWED  
 WITHOUT PERMISSION

SALESPERSON

SIGNED BY: _____ DATE: _____

ROBERT OTT



## STAFF REPORT

To: Village of Pewaukee Plan Commission

By: Mary Censky

Date Prepared: March 9, 2023

### General Information:

Agenda Item: **6.e.**

<b>Applicant:</b>	Business owner Janet DAmato, d/b/a Benessere Salon & Spa in c/o Paul Butler of Bauer Sign and Lighting
<b>Status of Applicant:</b>	Prospective tenant occupant
<b>Requested Action:</b>	Sign Code waiver
<b>Current Zoning:</b>	B-1 Community Business
<b>Current Master Plan Classification:</b>	Community Commercial
<b>Surrounding Zoning/Land Use:</b>	North: Hwy. 16 South: Housing for the Elderly use East: B-1 Community Commercial zoning and uses West: Multi-Family Residential use
<b>Lot Size/Project Area:</b>	N/A
<b>Location:</b>	601 Ryan Street

---

### Discussion:

The applicant requests Planning Commission approval of a Sign Code waiver to place a 280 square foot tenant identification wall sign on the façade of the building at 601 Ryan Street where 30 square feet per tenant is permitted by Code.

This multi-tenant portion of the building has historically been adapted and used with up to 8 individual tenancies. At this time, Northwoods Marine occupies the two spaces furthest north, and a cleaners business occupies the southmost space. This applicant proposes to occupy the five remaining space in between with her Benessere Salon and Spa suites use.

Northwoods Marine has an approved wall sign ~56 square feet in area. The cleaners business will have a wall sign 30 square feet in area.

Based on the materials provided by the applicant, the proposed sign, even at 280 square feet, does appear to 'fit' reasonably well in the parapet wall space of the east building elevation.





**Recommendation:**

The Planner raises no specific objections to the applicants request as to an oversized sign at this location owing to the number of storefront spaces to be occupied by this one tenant and in light of the specific hardship presented by this site’s remote location from the principal public way, Ryan Street (i.e. building is setback over 800 feet from Ryan Street), for visibility. The following conditions may be considered for attachment to any approval as the Commission may be inclined toward granting in this matter:

- 1) Applicant to secure a sign permit, and any additional/related permits as may be required such as electrical,... prior to placement of the sign at this site.



Application is due 3 weeks prior to the Meeting Date.



**Village of Pewaukee – Planning Commission  
Miscellaneous Approval Application Form – Return Completed Form along  
with 11 copies of all materials to be reviewed.**

Address/Parcel No. of Property Involved: 601 Ryan Road, Pewaukee, wisc.

Zoning of Property: commercial

Current Owner of Property: Janet DAmato

Applicant – Name: Paul Butler

Address: 2500 S 170th Street New Berlin, Wisc.

Phone: 414-810-8117

Fax: pbutler@bauersianusa.com

Type of Request: Check All That Apply

Sign Plan Approval:   
Final Plat Approval:   
Certified Survey Map:   
Other (Describe Below):

Prelim. Plat Approval:   
Developer's Agreement:

Signature of Property Owner as listed on this Application:

A handwritten signature in blue ink, appearing to read "Janet DAmato", written over a horizontal line.

**Application will not be processed without the Owner's Signature regardless of who is listed as the Applicant. This signature authorizes the Village of Pewaukee to process the Application as it pertains to my property and further authorizes the Village or its representatives to conduct reasonable and routine inspections of my property for the purposes of evaluating this Application.**

Signature of Applicant (if different than Owner):

A handwritten signature in blue ink, appearing to read "Paul Butler", written over a horizontal line.





**PROFESSIONAL SERVICES REIMBURSEMENT NOTICE**

Pursuant to the Village of Pewaukee Code of Ordinances, the Village Board has determined that whenever the services of the Village Attorney, Village Engineer, Village Planner or any other of the Village's professional staff results in a charge to the Village for that professional's time and services and such service is not a service supplied to the Village as a whole, the Village Clerk shall charge that service for the fees incurred by the Village. Also, be advised that pursuant to the Village of Pewaukee Code of Ordinances, certain other fees, costs, and charges are the responsibility of the property owner or responsible party.

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**RESPONSIBLE PARTY & MAILING ADDRESS**

Bauer Sign Co

Name of Company and/or Individual

2500 S 170 Street

Street

City

State

Zip

Phone: 414-810-8117

Fax:

E-Mail: pbutler@bauersignusa.com

Signature of Applicant & Date

Signature of Property Owner & Date

Village Official Accepting Form & Date

SEND ALL PROFESSIONAL SERVICES INVOICES TO:  
(Check One)

Property Owner

Applicant

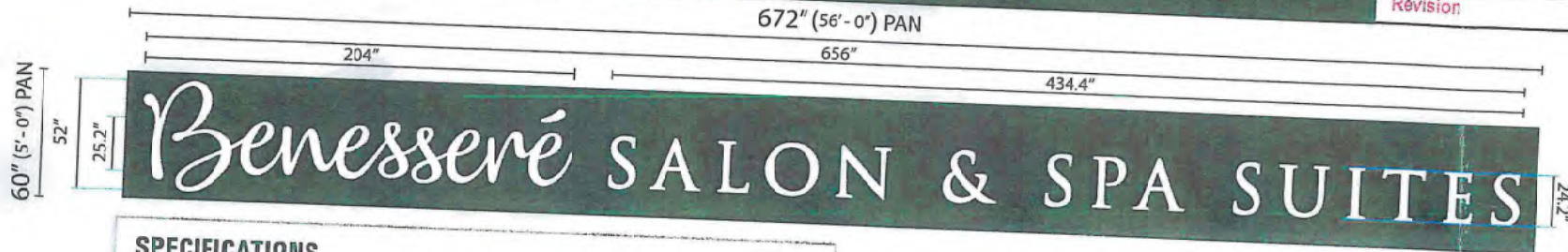




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Phone: 262-784-0500  
Fax: 262-784-6675

File	Benessere Salon & Spa Suites
Location	601 Ryan St., Pewaukee, WI
Client	
Sales rep	Paul Butler
Date	cb 01/04/23
Revision	cb 01/09/23, cb 01/11/23



**SPECIFICATIONS**

FABRICATE AND INSTALL ONE SET OF DUAL ILLUMINATED, PAN MOUNTED CHANNEL LETTERS.

- FACES TO BE WHITE LEXAN
- RETURNS TO BE .040 x 3" PAINTED WHITE
- BACKS TO BE WHITE LEXAN
- DUAL ILLUMINATED WITH WHITE LEDs (FACE AND HALO LIT)
- POWERED WITH APPROPRIATE LOAD POWER SUPPLIES
- PAN TO BE 60" X 672" X 2" (VERIFY) ALUMINUM, PAINTED BLACK

ART IS PRODUCTION READY,  
HAD TO BE THICKENED BY  
BAUER SIGN GRAPHIC ARTIST  
FOR BUILD VIABILITY



EXISTING



PROPOSED - NIGHT



PROPOSED

Printed artwork colors are not always representative of final product colors. Please refer to specifications for call out or salesman for samples.  
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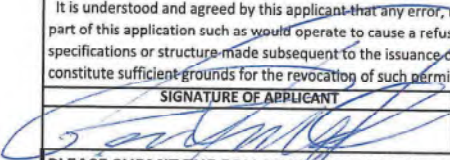
FINAL ELECTRICAL  
CONNECTION IS CLIENT'S  
RESPONSIBILITY

Our products are certified by  
Underwriters Laboratories, Inc.

The sign shall be maintained in accordance with  
the applicable code requirements. The sign shall  
be replaced or repaired as needed. The sign shall  
be replaced or repaired as needed. The sign shall  
be replaced or repaired as needed.

Scale: 3/16" = 1'



235 Hickory Street, Pewaukee Phone: (262) 691-5660 Fax: (262) 691-5664		<b>SIGN PERMIT APPLICATION</b> Village of Pewaukee		Permit#
Sign Location Address: 601 Ryan Road, Pewaukee, Wisc.			Parcel# 601 Ryan R	
Owner Name:	Email Address:		Telephone#	
Janet DAmato	benesseresalonspasuites@gmail.com		262-522-2914	
Mailing Address:			Cell#	
601 Ryan Road, pewaukee, wisc.			262-522-2914	
Tenant Name:	Email Address:		Telephone#	
Janet DAmato	benessere salonspasuites@gmail .com		262-522-2914	
Mailing Address:			Cell#	
601 Ryan Road, Pewaukee, Wisc.			262-522-2914	
Sign Company Name:	Email Address:		Telephone#	
Bauer Sign Co	pbutler@bauersignusa.com		414-810-8117	
Mailing Address:			Cell#	
2500 s 170 th street, New Berlin, Wi. 53151			414-810-8117	
TYPE OF SIGN				
<input type="checkbox"/> Freestanding Ground <input type="checkbox"/> Projecting <input checked="" type="checkbox"/> Wall <input type="checkbox"/> Awning or Canopy <input type="checkbox"/> Marquee <input type="checkbox"/> Other _____				
Illuminated / Non-Illuminate Brief Description of Sign: <u>illuminasted channel letters</u> Temporary: <u>  </u>				
DISTANCE FROM SIGN TO LOT LINES: <u>300</u> yards FRONT <u>100</u> yards REAR <u>100</u> yards RIGHT   yards LEFT				
If repairs or replacement contemplated, is the current sign, etc., non-conforming? <input type="radio"/> YES <input checked="" type="radio"/> NO				
NAME OF SURETY BOND OR INSURANCE COMPANY ON CERTIFICATE OF ISSUANCE (attach bond or certificate with hold harmless clause to the Village on this application)				
DATE SIGN TO BE ERECTED	SIGN SQUARE FOOTAGE	SIGN HEIGHT (above grade)		ESTIMATED COST
05/10/2023	280	15'		12,000.00
Application is hereby made for a permit to erect / alter a sign as described herein or shown in accompanying plans or specifications where sign is to be located as shown on the accompanying plan. The information which follows and the accompanying plan and specifications with the representations contained herein are made part of this application in reliance upon which the building inspector is requested to issue a building permit.				
It is understood and agreed by this applicant that any error, misstatement or misrepresentation of material fact, either with or without intention on the part of this application such as would operate to cause a refusal of this application or any material alteration or changed in the accompanying plans, specifications or structure made subsequent to the issuance of a permit in accordance without the written approval of the building inspector shall constitute sufficient grounds for the revocation of such permit.				
SIGNATURE OF APPLICANT		PRINTED NAME OF APPLICANT		DATE
		Paul Butler		02/17/2023
PLEASE SUBMIT THE FOLLOWING DOCUMENTS WITH THIS APPLICATION:				
<input type="checkbox"/> SITE SURVEY (must detail location and setbacks to lot lines) <input checked="" type="checkbox"/> COLOR RENDERING <input checked="" type="checkbox"/> SURETY BOND OR INSURANCE COMPANY ON CERTIFICATE OF ISSUANCE <input type="checkbox"/> (IF APPLICANT IS A TENANT) NOTARIZED DOCUMENT FROM PROPERTY OWNER AUTHORIZING PROPOSED USE OF PROPERTY				
<b>APPROVAL CONDITIONS</b> This permit is issued pursuant to the following conditions. Failure to comply may result in suspension or revocation of this permit or other penalty. <input type="checkbox"/> See attached for conditions of approval. Building & Electrical Permits may be applied for through the Building Services Department located at the Pewaukee City Hall, W240N3065 Pewaukee Road.				
OFFICE USE ONLY		DATE RECEIVED:		STAFF INITIALS:
(AREA x \$2.50/sq ft) \$ _____ + \$50.00 (BASE FEE) = \$ _____		DATE PAID _____		RECEIPT# _____
FAILURE TO OBTAIN PERMIT WILL RESULT IN THE TOTAL FEES DOUBLING TEMPORARY SIGN EXPIRATION DATE: _____				
PERMIT APPROVED/DENIED BY: _____ DATE: _____				

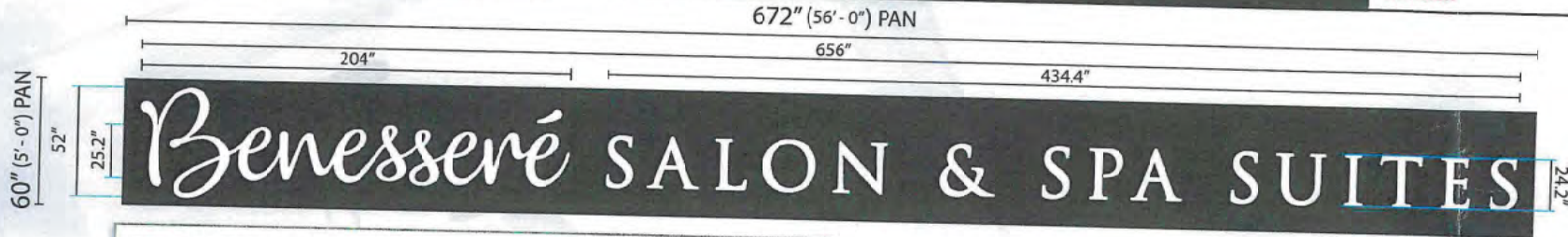




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File	Benessere Salon & Spa Suites
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EXISTING



PROPOSED - NIGHT



PROPOSED

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These drawings are the exclusive property of Bauer Sign Company. Not to be duplicated in any way without expressed written permission.

FINAL ELECTRICAL CONNECTION IS CLIENT'S RESPONSIBILITY

our products are certified by Underwriters Laboratories, Inc.

This sign shall be manufactured in accordance with the UL 1827 standard. Electrical connections shall be made in accordance with the applicable local codes. The installer shall provide appropriate safety of the sign. Sign shall be certified by UL.

Scale: 3/16" - 1'



## STAFF REPORT

To: Village of Pewaukee Plan Commission

By: Mary Censky

Date Prepared: March 9, 2023

### **General Information:**

**Agenda Item: 6.f.**

**Property Owner/Applicant:**

Agape Community Church, Inc. (in  
c/o Pastor Florin)

**Requested Action:**

Review, discussion and possible approval of various site plan modifications including/such as adjustments to parking/drives and related lighting, sidewalk and patio areas modifications, and the addition of a dumpster area, for instance.

**Current Zoning:**

IPS Institutional and Public Service  
District

**Current Master Plan Classification:**

Institutional

**Surrounding Zoning/Land Use:**

North: IPS – Cemetery Use  
South: N/A  
East: R-5 Single-Family Residential  
West: R-5 Single Family Residential  
and R-5 with Residential Infill  
Redevelopment Overlay District

**Location:**

449 W. Wisconsin Avenue

**Lot Size:**

1.66 acres

---

### **Discussion:**

The applicant proposes to expand the asphalt area and reconfigure the striped stalls layout in the existing parking lot located adjacent to and west of the church building as will improve the total number of stalls available to the Church.

With a limited, narrow setback of the parking stalls to the lot line/private road to the west, the applicant has provided a plan for landscaping as a buffer.

The overall percentage of greenspace within the west parking lot as reconfigured, is consistent with current conditions.

Four new pole mounted lights are proposed to be added in the reconstructed west parking lot. As to fixture type, pole/mounting height, and dispersion plan, the proposed new lighting is Code compliant.



At 59.7%, the overall greenspace of the site, after all proposed changes, will still exceed the 35% minimum prescribed by Code.

The applicant also proposes to add a new eyebrow-style turn-out along the east edge of their property entering directly to/from Burroughs Drive. This turn-out area leaves a bit of greenspace to be maintained as turf grass between the turn-out itself and the public road pavement of Burroughs Drive.

Several retaining walls, generally not exceeding 3 feet in height to the downside, are proposed to be under the new plan in order to better manage the sloping grades of the property and in order to place new features on level ground.

A new dumpster location is proposed for the site along the north line of the west parking lot – backing up to the neighboring cemetery to the north. This dumpster enclosure location will not meet the required 10 foot setback from the north lot line and so an easement/spatial compensating agreement from the neighbor to the north will be needed.

The applicant also proposes to add a transitional patio area with steps that will provide cemetery goers with direct access from the Agape west parking lot, up several steps onto a patio that will wrap around to the rear of the church and also transition down one step into the cemetery property. This concrete work would then continue around along the north side of the church building and extend out to Burroughs Drive.

**Recommendation:**

Raises no specific concerns with respect to the plans as proposed but recommends the following conditions be considered for attachment to any approval the Planning Commission may be inclined to grant:

- 1) Village Staff review and approval of the fencing plan/design, including any associated screening as might be necessary, for the areas around the dumpster and around the HAVC placement area northeast of the building. This plan shall be submitted for Village Staff review and approval prior to the start of work on this project;
- 2) Applicant to replace the spirea plants in the landscaping areas west of the west parking lot to a salt-hardy evergreen shrub instead. This plan shall be submitted for Village Staff review and approval prior to the start of work on this project;
- 3) Applicant to ensure that the space between the east turn-out and the public road pavement of Burroughs Drive does not eventually become a parking/drive area unto itself since it has no curbing or other protection as would normally prevent that from happening;
- 4) Applicant to draft and submit, for Village Staff review, approval, and recording, an easement/spatial compensating agreement for the reduced dumpster offset to the north lot line and the proposed concrete pavement that is proposed to be situated on the cemetery property to the north, prior to the start of work on this project.



# Village of Pewaukee Plan Commission Engineer's Report for March 9, 2023

## **Agape Church**

### **Report**

#### Site Grading

Proposed improvements include the addition of a concrete area north of the church building, a paved drop-off/parking area west of Burrough's Drive and an expansion of the parking lot, all of which result in the increase in impervious area of approximately 9,060 square feet. Since the impervious area is below the threshold to require stormwater management, no stormwater management is included on this site. Stormwater runoff from the concrete area will follow the existing drainage pattern. Part of the water will be directed to grass areas south of the concrete area and a portion will flow to the west. The paved drop-off/parking area will not have curb and gutter; thus, stormwater will drain to the west to a shallow swale and to the south. Once water is to the south of the existing asphalt walk, the water is directed via a berm and swale to the southwest. The current parking lot slopes to the south and southwest. The new parking lot will retain the same drainage pattern. Water will sheet flow off of the parking lot and through the existing grass area to the curb in W. Wisconsin Avenue.

An erosion control plan was included on Sheet 4 of 4. Silt fence will be installed in strategic areas to capture erosion. All disturbed areas will be top-soiled, seeded and stabilized with erosion mat.

#### Access

There are two entrances to the parking lot separated by an island. Agape desired to maximize parking; therefore, there is little area for vehicles to queue in the parking lot when exiting the site. That may result in delays getting out of the parking lot, but should not affect regular traffic patterns on the adjacent roadways.

The drop-off/parking area off of Burroughs Drive will allow at least two vehicles to park outside the Village right-of-way. As requested during our discussion in December, a grass area has been developed between the parking area and Burroughs Drive to clearly delineate that it is an off-road drop-off/parking facility.

### **Recommendation**

I recommend approval of the Civil Engineering drawings Sheets 1 through 4 prepared by Pinnacle Engineering Group dated 2/07/23, subject to addressing any new information heard at the Plan Commission meeting.

Tim Barbeau, P.E.  
Village Consulting Engineer  
March 2, 2023





## Business Site Plan Application Form

Address/Parcel No. of Property Involved: 449 WEST WISCONSIN AVENUE

Zoning of Property: IPS INSTITUTIONAL AND PUBLIC SERVICE DISTRICT

Current Owner of Property: AGAPE COMMUNITY CHURCH, INC

Applicant – Name: AGAPE COMMUNITY CHURCH ATTN: DR. FLORIN DOCEA / SENIOR PASTOR

Address: 449 WEST WISCONSIN AVENUE, PEWAUKEE, WI 53072

Phone: 414-207-3008

Fax: ---

Email: PASTORFLORIN@AGAPECHURCH.LIFE

Name of Business that Corresponds to Site Plan: AGAPE COMMUNITY CHURCH

### Summary of Request (New Construction, Addition, Modification, etc.):

Requesting site plan approval for a parking lot expansion, proposed dumpster enclosure, proposed parking lot lighting and landscaping

on the west side of the existing church; proposed concrete stairs, patio and sidewalk on the west and around the north side of the church;

proposed asphalt drive off of Burroughs Drive on the east side of the church.

Provide detailed information with your application that addresses the following:

1. Development Plans of the proposed use in sufficient detail to enable the Commission to evaluate the suitability of architectural & landscape treatment, proper placement of the building(s) on the lot, traffic generation & circulation, provision for parking, drainage, exterior lighting, control devices (when necessary) to eliminate noise, dust, odor, smoke or other objectionable operating conditions & general compatibility of the proposed use with the area in which it is located.



2. It is the responsibility of the applicant/owner to ensure that the proposed project meets the Village's Land Development Code. It is also highly recommended that the applicant/owner review the Village's adopted Land Use Plan.

3. Signage shall be determined through a sign permit process and/or a sign plan approved by the Plan Commission. Permits for individual signs may be applied for with the Village's Code Compliance Officer.  
Signature of Property Owner as listed on this Application:

*Rev. Dr. Florin Docea*

---

**Application will not be processed without the Owner's Signature regardless of who is listed as the Applicant. This signature authorizes the Village of Pewaukee to process the Site Plan Approval Application proposed for my property and further authorizes the Village or its representatives to conduct reasonable and routine inspections of my property for the purposes of evaluating this application.**

Signature of Applicant (if different than Owner):

---

Please return Completed Application Forms along with **11 copies** of all attachments (**as well as a digital copy**) you wish to have considered by the Plan Commission as part of your application to Pewaukee Village Hall, 235 Hickory Street, Pewaukee, WI 53072. If you have any questions, please call Village Hall at (262) 691-5660.





**PROFESSIONAL SERVICES REIMBURSEMENT NOTICE**

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**RESPONSIBLE PARTY & MAILING ADDRESS**

**AGAPE COMMUNITY CHURCH, INC ATTN: DR FLORIN DOCEA**

Name of Company and/or Individual

**449 WEST WISCONSIN AVENUE PEWAUKEE WI 53072**

Street City State Zip

Phone: 414-207-3008 Fax: --- E-Mail: PASTORFLORIN@AGAPECHURCH.LIFE

Signature of Applicant & Date

*Rev. Dr. Florin Docea 2/15/2023*

Signature of Property Owner & Date

Village Official Accepting Form

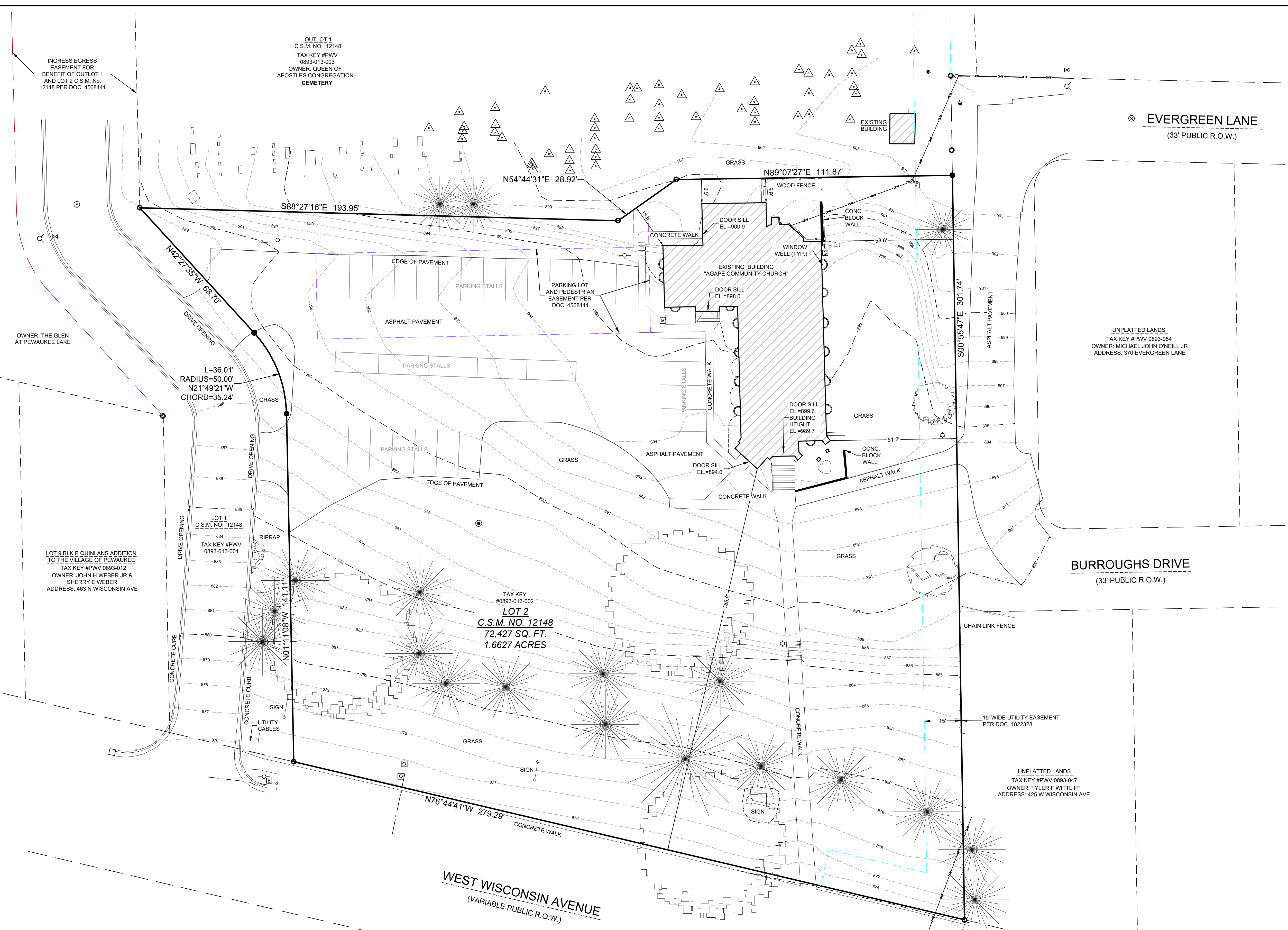
**SEND ALL PROFESSIONAL SERVICES INVOICES TO:  
(Check One)**

Property Owner

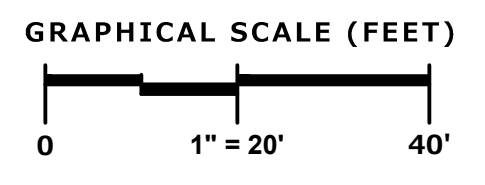
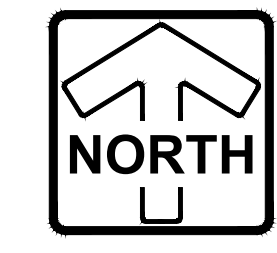
Applicant



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**LEGAL DESCRIPTION:**  
 Lot 2 of Certified Survey Map No. 12148, as recorded in the Register of Deeds for Waukesha County as Document No. 4568440, in the Northwest 1/4 and Northeast 1/4 of the Northeast 1/4 of Section 8, Township 7 North, Range 19 East, Village of Pewaukee, Waukesha County, Wisconsin.

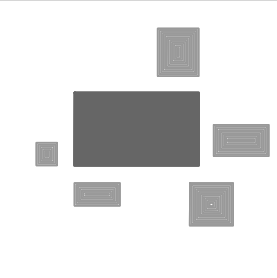


- GENERAL NOTES**
- Field work completed on OCTOBER 19, 2022
  - Existing improvements graphically shown on this survey are limited to a predefined "Project Area" specified by the Owner/Client. Pinnacle Engineering Group, LLC takes no responsibility for improvements outside of this "Project Area".
  - Vertical Datum: National Geodetic Vertical Datum of 1929 (NGVD29).
  - Underground utility locations shown are based on field location markings by Digger's Hotline ticket #20224102007 with a clear date of OCTOBER 13, 2022. The location and size of underground structures and utilities shown hereon have been located based on a reasonable visual observation and are shown for informational purposes only. PINNACLE ENGINEERING GROUP, LLC. does not guarantee the location of utilities shown. Contact Digger's Hotline prior to the start of any activity.

**LEGEND OF SYMBOLS & ABBREVIATIONS**

⊙	SANITARY MANHOLE	△	FIBER OPTIC MARKER	—	SIGN
⊕	STORM MANHOLE	⊕	FIBER OPTIC MANHOLE/VAULT	☐	MAIL BOX
⊖	STORM INLET	⊖	TELEPHONE PEDESTAL	⊗	FLAG POLE
□	CLEANOUT	⊕	TELEPHONE MANHOLE/VAULT	⊗	BASKETBALL HOOP
○	CATCH BASIN	△	TELEPHONE MARKER	●	BOLLARD
⊗	LATERAL	⊖	TRANSFORMER	×	CROSS CUT
⊕	UNKNOWN MANHOLE	⊖	ELECTRIC METER/PEDESTAL	○	FOUND 1" IRON PIPE
⊖	WELL	⊕	ELECTRIC MANHOLE/VAULT	●	SET 3/4" X 18" IRON REBAR
⊖	HYDRANT	⊖	CABLE TV RISER/BOX CABLE	●	MAG NAIL
⊖	WATER VALVE	⊕	TV MANHOLE/VAULT	■	SECTION MONUMENT
⊖	DOWN SPOUT	⊕	GAS VALVE	⊕	BENCH MARK
⊖	SPRINKLER VALVE	⊕	GAS METER	⊕	CONIFER TREE
⊖	WATER SHUT OFF	△	GAS MARKER	○	DECIDUOUS TREE
⊖	STANDPIPE	⊖	AIR CONDITIONING UNIT	⊕	BUSH
⊖	WATER MANHOLE	⊕	VENT	⊕	WETLAND SYMBOL
⊖	FLOOD LIGHT	→	DIRECTIONAL ARROW	CL	=CENTERLINE
⊖	LIGHT POLE	⊖	DUMPSTER	CONC.	=CONCRETE
⊖	TRAFFIC SIGNAL POLE	♿	HANDICAP STALL	EL.	=ELEVATION
⊖	UTILITY POLE	+	SPOT ELEVATION	EXT.	=EXISTING
⊖	GUY WIRE	△	GRAVE MARKER	INV.	=INVERT
—	SANITARY SEWER	—	SANITARY SEWER	MON.	=MONUMENT
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—	WATER MAIN	—	WATER MAIN	P.O.C.	=POINT OF COMMENCEMENT
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—	TELEPHONE LINE	—	TELEPHONE LINE	SEC.	=SECTION
—	ELECTRIC LINE	—	ELECTRIC LINE	SQ. FT.	=SQUARE FEET
—	OVERHEAD WIRES	—	OVERHEAD WIRES	W/	=WITH
—	CABLE TELEVISION	—	CABLE TELEVISION	(R)	=RECORDED AS
—	GAS MAIN	—	GAS MAIN	(D)	=DEEDED AS
—	WETLANDS	—	WETLANDS		
—	TREE LINE	—	TREE LINE		
—	NO ACCESS	—	NO ACCESS		

**EXISTING SITE TABLE:**  
 TOTAL AREA = 72,427 SF (1.6627 AC)  
 IMPERVIOUS AREA = 21,408 SF (0.4915 AC) (29.6%)  
 GREEN SPACE = 51,019 SF (1.1712 AC) (70.4%)


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 (262) 754-8888  
 CHICAGO | MILWAUKEE | NATIONWIDE

**449 WEST WISCONSIN AVENUE**  
 LOT 2 OF C.S.M. NO. 12148 IN THE NW 1/4 AND NE 1/4 OF THE NE 1/4 SEC. 8,  
 T7N, R19E, VILLAGE OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

**EXISTING SITE PLAN**

**REVISIONS**

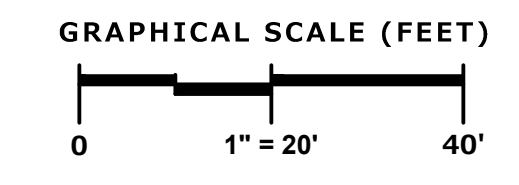
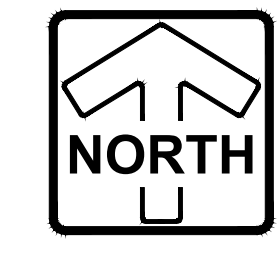
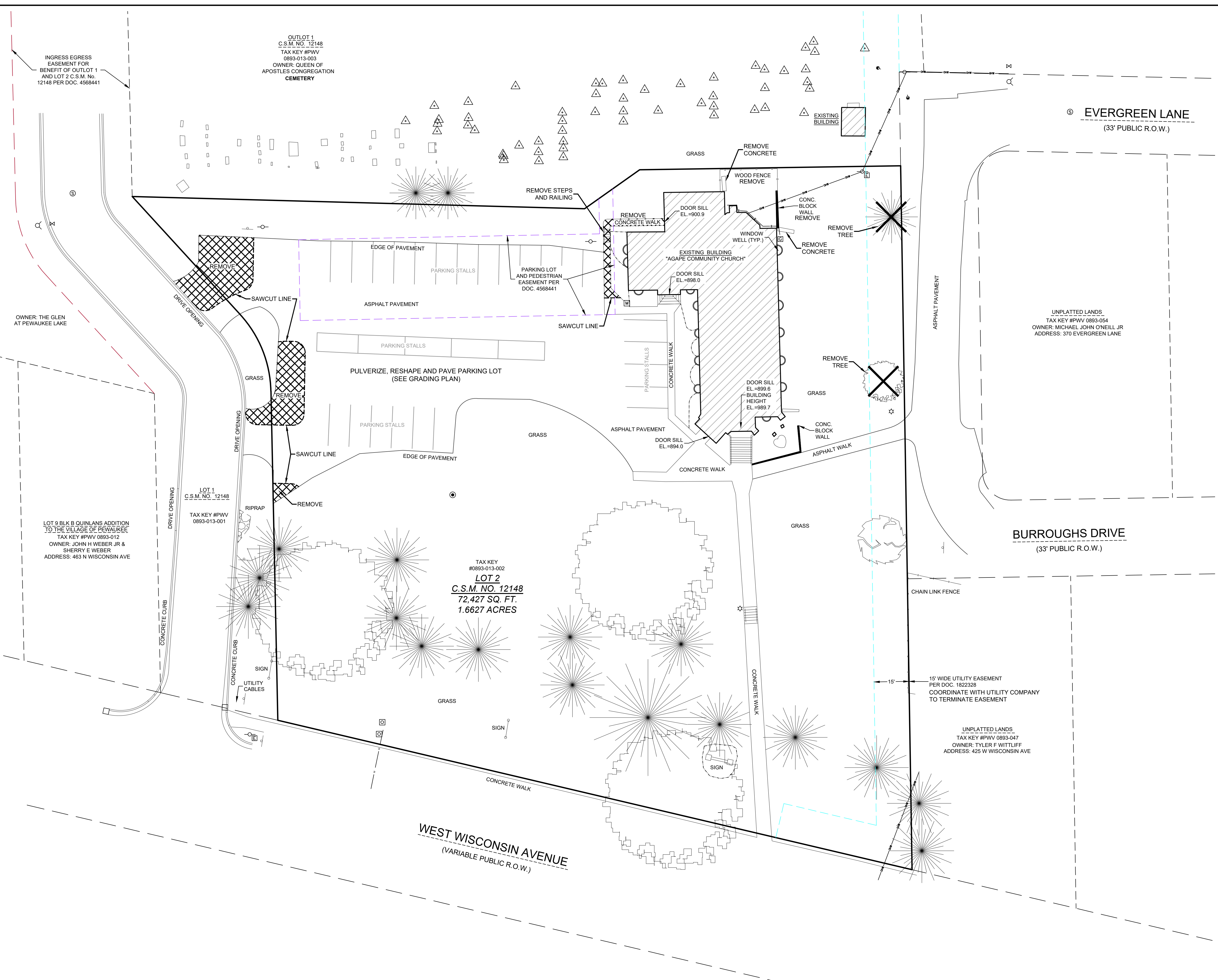
NO.	DATE	DESCRIPTION
1	02/07/23	CITY COMMENTS

SHEET  
**1**  
**4**  
 PEG JOB No. 3018.00  
 PEG PLAN AS2  
 DATE 12/16/22  
 SCALE 1"=20'  
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www.pinnacle-engr.com FOR REVIEW EXISTING SITE PLAN



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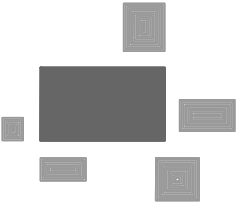
**LEGEND OF SYMBOLS & ABBREVIATIONS**

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⊖	STORM MANHOLE	⊕	FIBER OPTIC MANHOLE/VAULT	☐	MAIL BOX
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⊞	LIGHT POLE	⊞	DUMP/STER	CONC.	=CONCRETE
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⊞	UTILITY POLE	+	SPOT ELEVATION	EXT.	=EXISTING
⊞	GUY WIRE	⊞	GRAVE MARKER	INV.	=INVERT
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—		—	STORM SEWER	P.O.B.	=POINT OF BEGINNING
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—		—	WETLANDS		
—		—	TREE LINE		
—		—	NO ACCESS		

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FOR REVIEW

DEMOLITION PLAN


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**449 WEST WISCONSIN AVENUE**  
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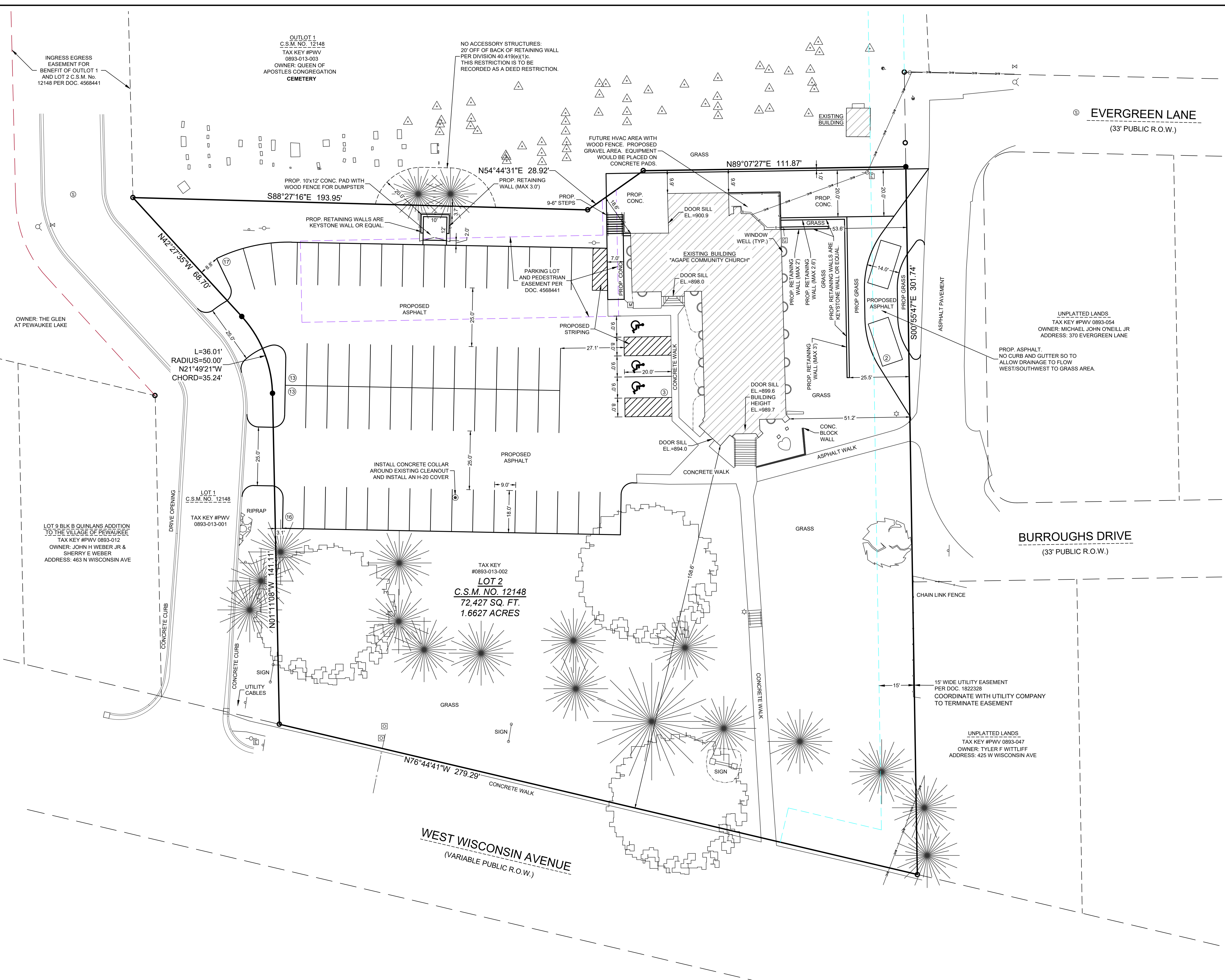
**DEMOLITION PLAN**

REVISIONS	
1	CITY COMMENTS 02/07/23

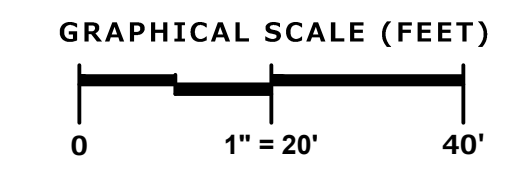
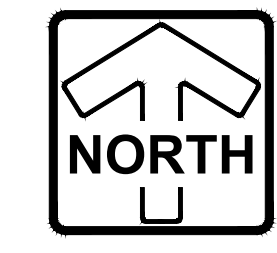
SHEET  
**2**  
**8**  
**4**  
 PEG JOB No. 3018.00  
 PEG PM ASE  
 DATE 12/16/22  
 SCALE 1"=20'  
 © COPYRIGHT 2022



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—	WETLANDS	—	WETLANDS		
—	TREE LINE	—	TREE LINE		
—	NO ACCESS	—	NO ACCESS		

**PROPOSED SITE TABLE:**

TOTAL AREA = 72,427 SF (1.6627 AC)  
 IMPERVIOUS AREA = 30,468 SF (0.6994 AC) (42.1%)  
 GREEN SPACE = 41,959 SF (0.9633 AC) (57.9%)

64 PARKING STALLS

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 LOT 2 OF C.S.M. NO. 12148 IN THE NW 1/4 AND NE 1/4 OF THE NE 1/4 SEC. 8,  
 T7N, R19E, VILLAGE OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

**PROPOSED SITE PLAN**

**REVISIONS**

NO.	DATE	DESCRIPTION
1	02/07/23	CITY COMMENTS

PEG JOB No. 3018.00  
 PEG PM: ASZ  
 DATE: 12/16/22  
 SCALE: 1"=20'

**SHEET**  
 3  
 4

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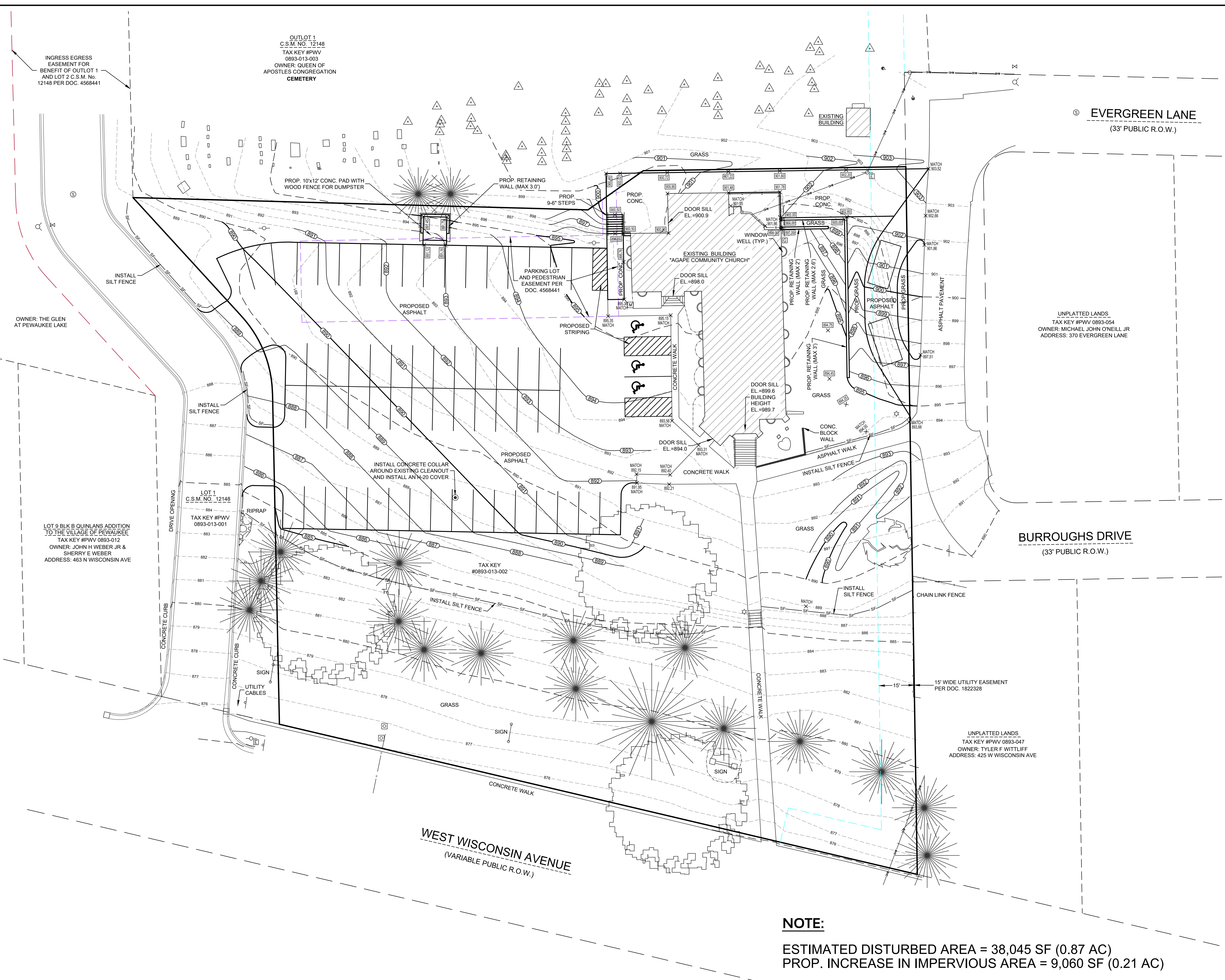
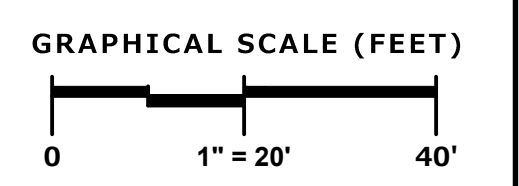
**FOR REVIEW**

**PROPOSED SITE PLAN**

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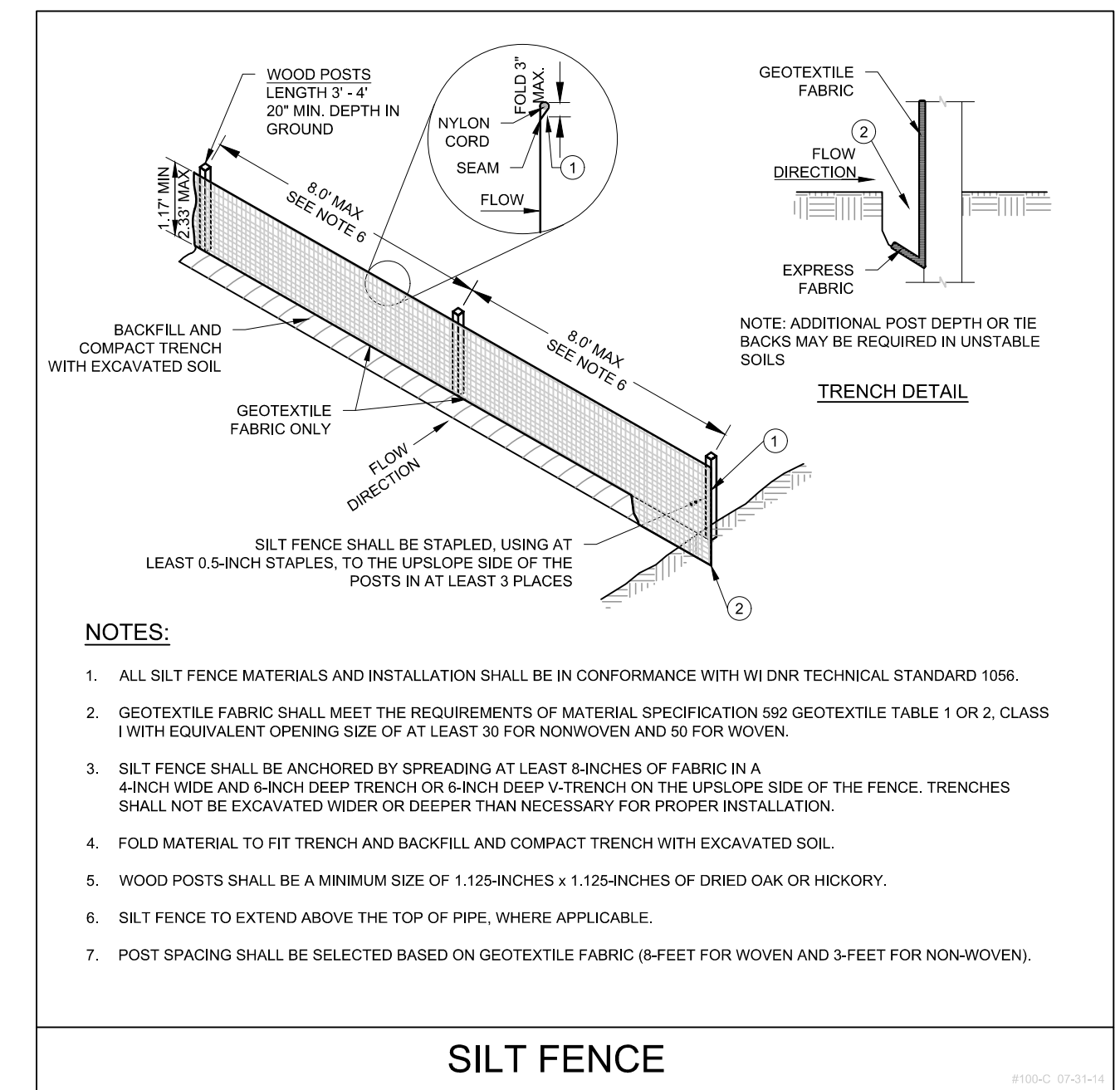


**CONSTRUCTION SEQUENCE:**

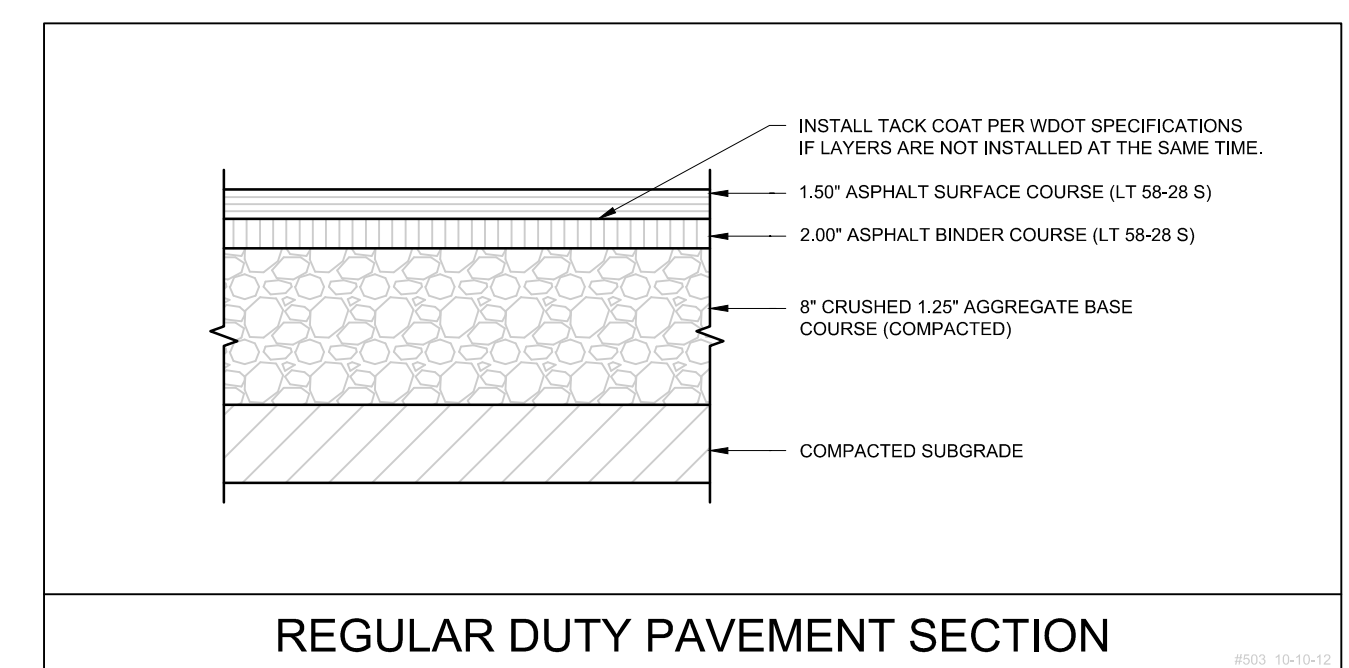
1. Install silt fence.
2. Perform demolition work and pulverize asphalt.
3. Rough grade the site.
4. Stone concrete areas and shape parking area.
5. Install concrete and asphalt.
6. Finish grade disturbed areas.
7. Topsoil, seed and stabilize any remaining disturbed areas with erosion mat.
8. Contractor to remove and dispose of all temporary erosion control measures once the site is 80% stabilized.

**NOTES:**

- A. All construction practices shall comply with the Village of Pewaukee and the Wisconsin DNR Technical Standards.
- B. All disturbed areas shall be topsoiled (4" thick), seeded and stabilized with Wisconsin DOT Class I, Type B erosion mat per Wisconsin DNR Technical Standard 1052. September 15th is the deadline for permanent seed. Any areas exposed after September 15th and before October 15th shall be temporarily seeded with winter wheat at the rate of 50 lbs/acre. This temporary cover shall be fertilized at the same rate and mixture as permanent seed. Any disturbed areas not stabilized by October 15th should be stabilized by placing topsoil, dormant seed and Wisconsin DOT Class I, type B erosion mat or seeded with dormant seed, covered with straw and staked biodegradable netting. Any exposed soil areas not disturbed for up to seven days must be immediately temporarily seeded and mulched.
- C. The permanent seed mixture shall be Wisconsin DOT seed mixture No. 40 and sown at a rate of 4 lbs/1000 square feet. Seed mixture No. 40 consists of 35% kentucky bluegrass, 20% red fescue, 20% hard fescue and 25% improved fine perennial ryegrass.
- D. Fertilize soil with 10 lbs/1000 square feet of 20-0-10 fertilizer. The fertilizer used for restoration shall be free of any phosphorus.



- NOTES:**
1. ALL SILT FENCE MATERIALS AND INSTALLATION SHALL BE IN CONFORMANCE WITH WI DNR TECHNICAL STANDARD 1056.
  2. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS 1 WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
  3. SILT FENCE SHALL BE ANCHORED BY SPREADING AT LEAST 8-INCHES OF FABRIC IN A 4-INCH WIDE AND 6-INCH DEEP TRENCH OR 6-INCH DEEP V-TRENCH ON THE UPSLOPE SIDE OF THE FENCE. TRENCHES SHALL NOT BE EXCAVATED WIDER OR DEEPER THAN NECESSARY FOR PROPER INSTALLATION.
  4. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
  5. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1.125-INCHES x 1.125-INCHES OF DRIED OAK OR HICKORY.
  6. SILT FENCE TO EXTEND ABOVE THE TOP OF PIPE, WHERE APPLICABLE.
  7. POST SPACING SHALL BE SELECTED BASED ON GEOTEXTILE FABRIC (8-FEET FOR WOVEN AND 3-FEET FOR NON-WOVEN).



**NOTE:**  
 ESTIMATED DISTURBED AREA = 38,045 SF (0.87 AC)  
 PROP. INCREASE IN IMPERVIOUS AREA = 9,060 SF (0.21 AC)

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**GRADING & EROSION CONTROL PLAN**

REVISIONS	
1	CITY COMMENTS 02/07/23

PEG JOB No. 3018.00 PEG PM ASEZ DATE 12/15/22 SCALE 1"=20' SHEET 4 OF 4 © COPYRIGHT 2022
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**PLANT SCHEDULE**

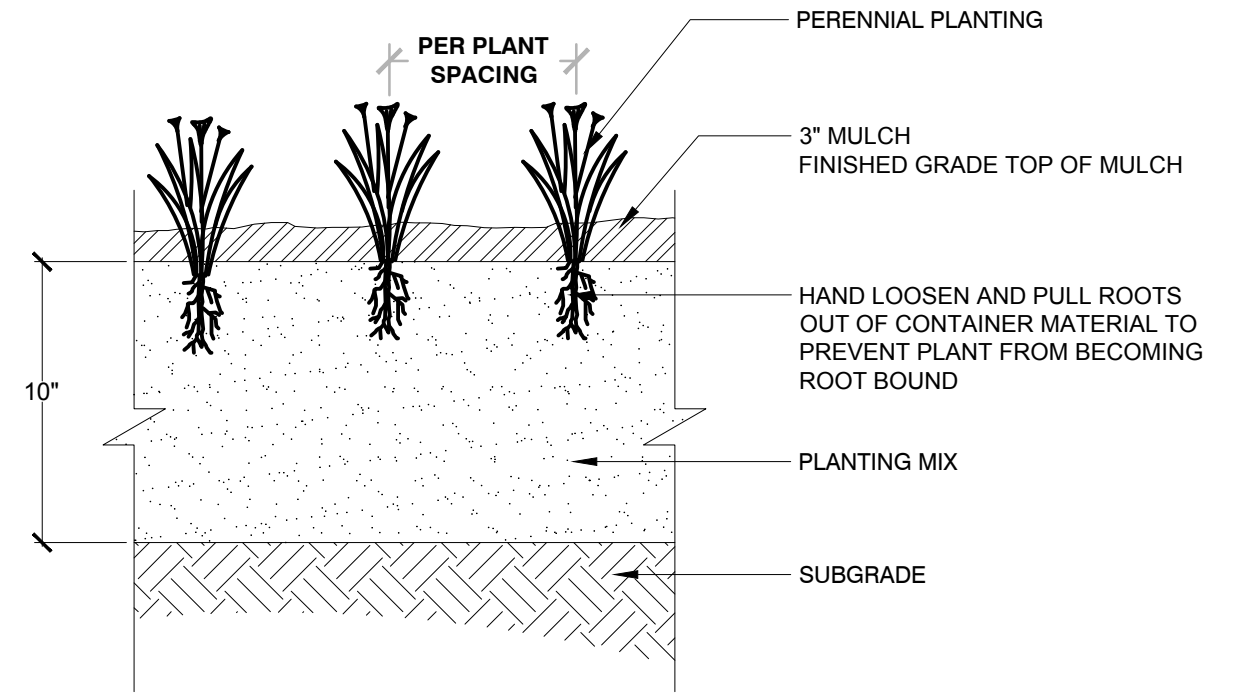
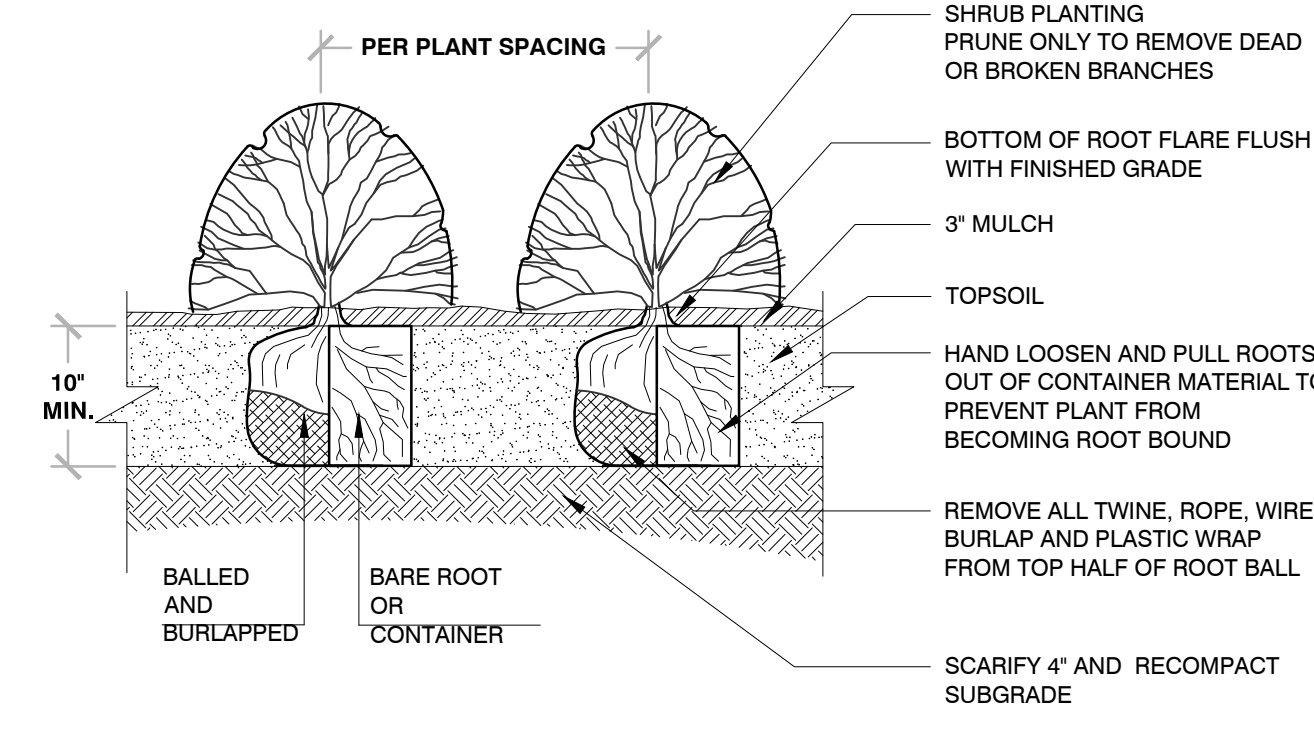
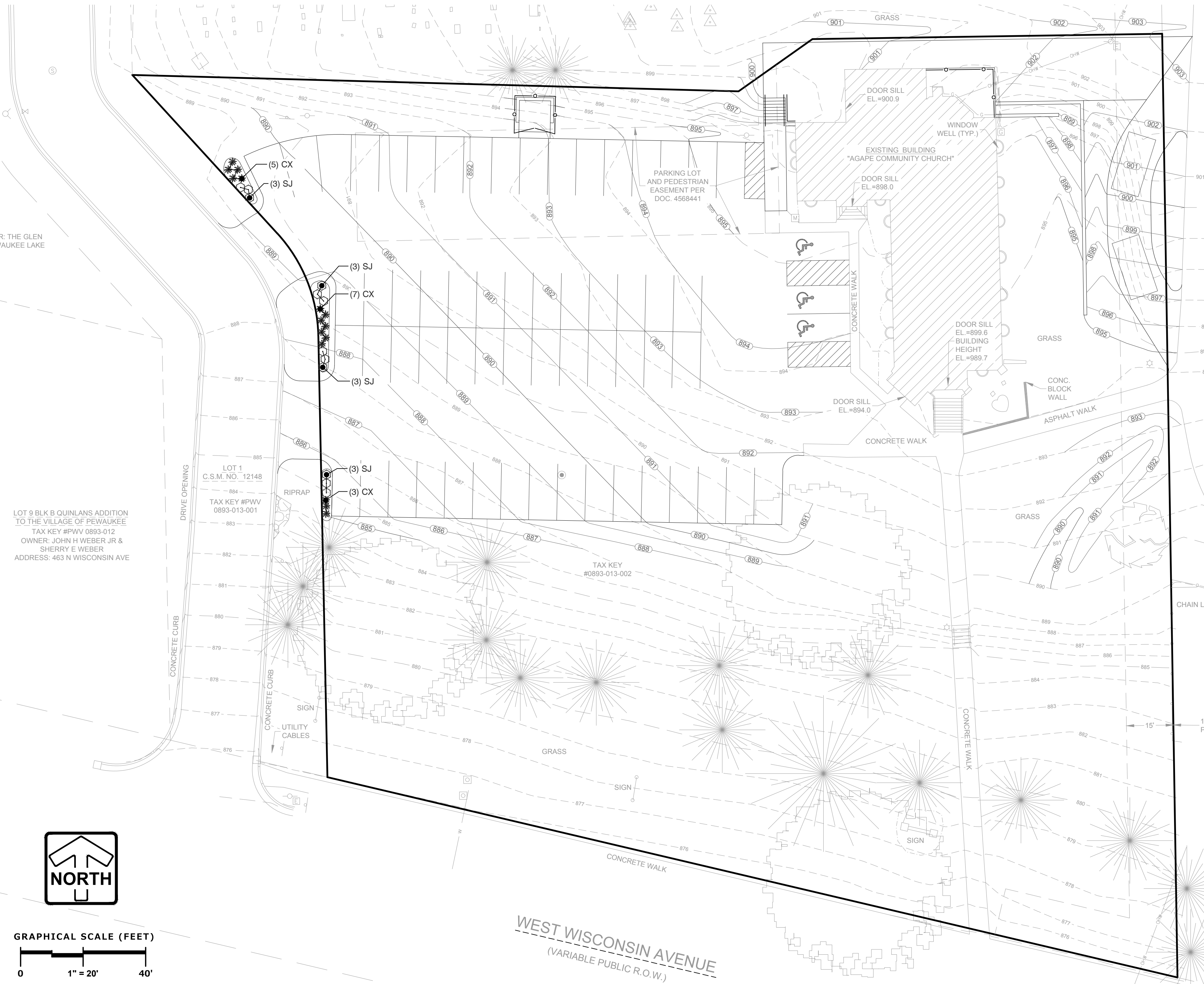
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
SJ	12	Spiraea japonica 'Magic Carpet'	Magic Carpet Spiraea	2' Ht.	2' T X 2' W
ORNAMENTAL GRASSES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
CX	15	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	1 gal.	3' T X 2.5' W

**SOIL PLACEMENT NOTES**

1. LOOSEN SUBGRADE TO A MINIMUM DEPTH INDICATED IN PLANTING NOTES USING A CULTI-MULCHER OR SIMILAR EQUIPMENT. AND REMOVE STONES MEASURING OVER 1-1/2 INCHES IN ANY DIMENSION, STICKS, RUBBISH AND OTHER EXTRANEOUS MATTER. AREAS ADJACENT TO WALKS AND PAVEMENT SHALL BE FREE OF EXCESS STONE AND PAVING MATERIALS SO AS TO PROVIDE AN UNINTERRUPTED CROSS SECTION OF SOIL.
2. THOROUGHLY BLEND PLANTING SOIL MIX FOR PLANTING BED AREAS. (1 PART EXISTING SOIL, 1 PART TOPSOIL, 1 PART ORGANIC SOIL AMENDMENT, 2.9 POUNDS PER CUBIC YARD OF 4-4-4 ANALYSIS SLOW-RELEASE FERTILIZER)
3. SPREAD SOIL AND SOIL AMENDMENTS TO DEPTH INDICATED ON DRAWINGS, BUT NOT LESS THAN REQUIRED TO MEET FINISH GRADES AFTER NATURAL SETTLEMENT. (FINISH GRADE OF PLANTING BEDS SHALL BE 3" BELOW ALL ADJACENT SURFACES).
4. PLACE APPROXIMATELY 1/2 OF TOTAL AMOUNT OF SOIL REQUIRED. WORK INTO TOP OF LOOSENED SUBGRADE TO CREATE A TRANSITION LAYER, THEN PLACE REMAINDER OF THE SOIL. SOIL TRANSITION LAYER SHALL BE TILLED TO A MINIMUM DEPTH OF 6" BELOW THE DEPTH OF NEWLY PLACED SOIL.
5. DO NOT SPREAD IF PLANTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET.
6. FINISH GRADING: GRADE SOIL TO A SMOOTH, UNIFORM SURFACE PLANE WITH A LOOSE, UNIFORMLY FINE TEXTURE.
7. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES.
8. RESTORE PLANTING BEDS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING AND BEFORE PLANTING.

**GENERAL PLANTING NOTES**

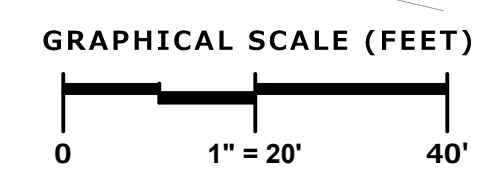
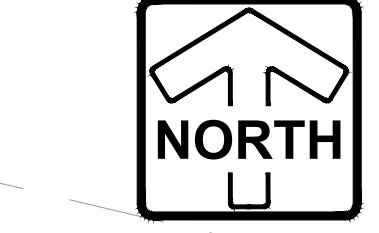
1. THE LAYOUT OF ALL PLANTING BEDS SHALL BE STAKED BY THE CONTRACTOR IN ADVANCE OF INSTALLATION. FLAGGING, STAKES, OR PAINT MAY BE USED TO DELINEATE LOCATIONS AS SCALED FROM THE PLANS. AN APPROVED REPRESENTATIVE WILL REVIEW THESE LOCATIONS WITH THE CONTRACTOR AND MAKE MINOR ADJUSTMENTS AS NECESSARY.
2. THE CONTRACTOR IS RESPONSIBLE FOR INDEPENDENTLY DETERMINING THE PLANT MATERIAL QUANTITIES REQUIRED BY THE LANDSCAPE PLANS. REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT.
3. NO PLANT MATERIAL OR PLANT SIZE SUBSTITUTIONS WILL BE ACCEPTED UNLESS APPROVED BY THE LANDSCAPE ARCHITECT. ANY CHANGES SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT IN WRITING PRIOR TO INSTALLATION.
4. EXISTING SOIL SHALL BE AMENDED PER SOIL ANALYSIS REPORT TO ENSURE A PROPER GROWING MEDIUM IS ACHIEVED.
5. ALL PLANT MATERIAL SHALL COMPLY WITH STANDARDS DESCRIBED IN AMERICAN STANDARD OF NURSERY STOCK - Z60.1 ANSI. LANDSCAPE ARCHITECT OR OWNERS AUTHORIZED REPRESENTATIVE RESERVES THE RIGHT TO INSPECT AND POTENTIALLY REJECT ANY PLANT MATERIAL DEEMED TO NOT MEET THE REQUIRED STANDARDS.
6. ALL STOCK SHALL BE FREE OF DISEASES AND HARMFUL INSECTS, DAMAGE, DISORDERS AND DEFORMITIES.
7. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH PLANTING DETAILS.
8. ALL PLANTING BEDS SHALL HAVE A MINIMUM 10" DEPTH OF PREPARED SOIL. WITH APPROVAL, EXISTING SOIL MAY BE UTILIZED PROVIDED THE PROPER SOIL AMENDMENTS ARE TILLED THOROUGHLY INTO THE TOP 10" OF SOIL. REFER TO SOIL PLACEMENT NOTES.
9. WHILE PLANTING SHRUBS AND GRASSES, BACKFILL 2/3 OF PLANTING HOLE AND WATER THOROUGHLY BEFORE INSTALLING THE REMAINDER OF SOIL MIXTURE. AFTER ALL SOIL HAS BEEN PLACED INTO THE PLANTING HOLE WATER THOROUGHLY AGAIN.
10. ALL PLANTING BEDS SHALL BE MULCHED WITH 3" DEEP SHREDDED HARDWOOD MULCH.
11. ALL PLANTING BEDS AND TREE RINGS SHALL HAVE A 4" DEEP TRENCHED BED EDGE CREATED BY EITHER A FLAT LANDSCAPE SPADE OR MECHANICAL EDGER. BED EDGES ARE TO BE CUT CLEAN AND SMOOTH AS SHOWN ON LANDSCAPE PLANS WITH A CLEAN DEFINITION BETWEEN TURF AND PLANTING AREAS.
12. ALL PLANTING BEDS AND TREE RINGS SHALL HAVE A COMMERCIAL GRADE METAL EDGING INSTALLED PER MANUFACTURERS RECOMMENDATIONS. BED EDGES ARE TO BE CLEAN AND SMOOTH AS SHOWN ON LANDSCAPE PLANS WITH A CLEAN DEFINITION BETWEEN TURF AND PLANTING AREAS. CONTRACTOR TO SUBMIT LANDSCAPE EDGING INFORMATION FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
13. REFER TO CIVIL PLANS FOR SEEDING AND RESTORATION OF DISTURBED AREAS.
14. ALL DISTURBED AREAS WITHIN THE PROJECT SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.
15. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF WORK SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.
16. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES, INCLUDING ANY IRRIGATION LINES, PRIOR TO DIGGING. CONSULT DIGGERS HOTLINE.
17. THE CONTRACTOR SHALL ENSURE THAT SOIL CONDITIONS AND COMPACTION ARE ADEQUATE TO ALLOW FOR PROPER DRAINAGE AROUND THE LANDSCAPE LIMITS OF THE SITE. UNDESIRABLE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER SURFACE AND SUBSURFACE DRAINAGE IN THE LANDSCAPE AREAS
18. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS, FEES, AND LICENSES NECESSARY FOR THE INSTALLATION OF THIS PLAN.
19. THE CONTRACTOR IS TO REVIEW ALL SITE ENGINEERING DOCUMENTS PRIOR TO INSTALLATION. ANY CONFLICTS MUST BE REPORTED TO THE LANDSCAPE ARCHITECT. THESE LANDSCAPE DRAWINGS ARE FOR THE INSTALLATION OF PLANT MATERIALS ONLY UNLESS OTHERWISE STATED.
20. THE CONTRACTOR SHALL PROVIDE WATERING AND MAINTENANCE SERVICES FOR A PERIOD OF 60 DAYS TO ENSURE VEGETATIVE ESTABLISHMENT. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL SUPPLY THE OWNER IN WRITING WITH ONGOING WATERING AND MAINTENANCE INSTRUCTIONS.
21. PLANT MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM TIME OF OWNER ACCEPTANCE. ONLY ONE REPLACEMENT PER PLANT WILL BE REQUIRED DURING THE WARRANTY PERIOD EXCEPT IN THE EVENT OF FAILURE TO COMPLY WITH THE SPECIFIED REQUIREMENTS.
22. THE CONTRACTOR IS RESPONSIBLE TO CONDUCT A FINAL WALK THROUGH WITH THE LANDSCAPE ARCHITECT AND OR OWNERS REPRESENTATIVE TO ANSWER QUESTIONS, PROVIDE INSTRUCTIONS, AND ENSURE THAT PROJECT REQUIREMENTS HAVE BEEN MET.



- BAREROOT PLANTING NOTES:**
1. SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR BUT NOT MORE THAN 24 HOURS PRIOR TO PLANTING.
  2. SCARIFY SIDES AND BOTTOMS OF HOLE.
  3. PROCEED WITH CORRECTIVE PRUNING OF THE TOP AND BOTTOM ROOTS.
  4. TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT SO THE ROOT FLARE IS APPROXIMATELY AT THE FINISHED SOIL ELEVATION. SPREAD ROOTS OUT EVENLY. PLUMB AND IMMEDIATELY BACKFILL WITH PLANTING SOIL MIX.
  5. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
  6. BACKFILL VOIDS AND WATER SECOND TIME.
  7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

**1 SHRUB PLANTING**  
1/2" = 1'-0"

**2 PERENNIAL PLANTING**  
1" = 1'-0"



PLAN | DESIGN | DELIVER  
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WISCONSIN OFFICE:  
20725 WATERTOWN ROAD SUITE 100  
BROOKFIELD, WI 53186  
(262) 754-8888

CHICAGO | MILWAUKEE | NATIONWIDE

**449 WEST WISCONSIN AVENUE**  
LOT 2 OF C.S.M. NO. 12148 IN THE NW 1/4 AND NE 1/4 OF THE NE 1/4 SEC. 8,  
T7N, R19E, VILLAGE OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

**LANDSCAPE PLAN**

**REVISIONS**

NO.	DATE	DESCRIPTION
1	02/07/23	CITY COMMENTS

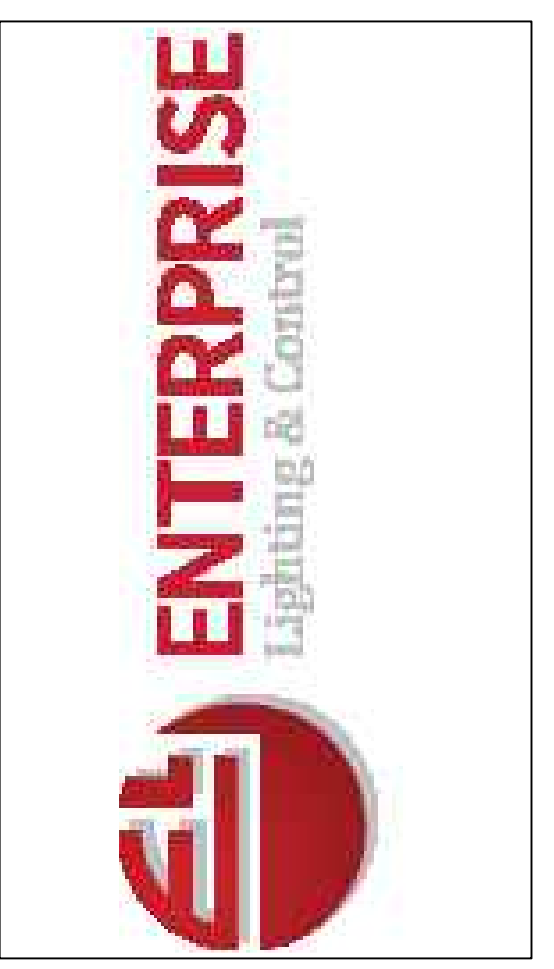
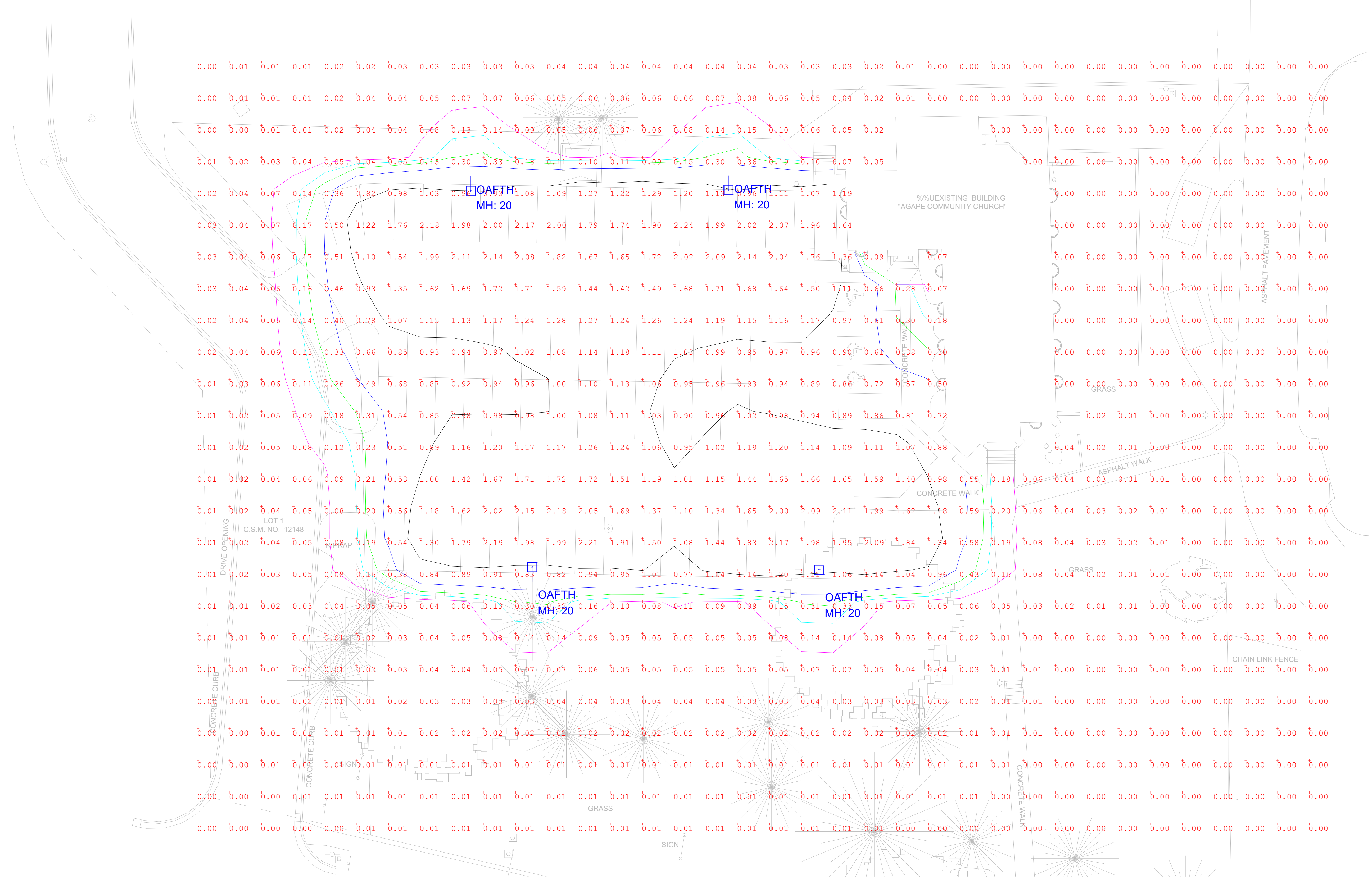
REG. JOB No. 3018.00  
REG. PH. ASZ  
DATE 12/16/22  
SCALE 1"=20'  
**SHEET**  
1  
8  
1

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**FOR REVIEW**  
**LANDSCAPE PLAN**  
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Luminaire Schedule						
Qty	Label	MFG	Description	LLF	Lum. Watts	Total Watts
4	OAFTH	US ARCH	VLL-PLED-IV-FT-40LED-700mA-xxK-(volt)-1-(finish)-HS-PLED + 17' POLE + 3' BASE	0.950	86.8	347.2

Calculation Summary						
Label	Units	Avg	Max	Min	Max/Min	Avg/Min
Parking Lot	Fc	1.30	2.2	0.3	7.33	4.33



#	DATE	COMMENTS

DRAWN BY : JT
DATE : 2-16-2023
SCALE : 1/16" = 1'

AGAPE CHURCH
VILLAGE OF PEWAUKEE, WI
SITE LIGHTING LAYOUT



# ValuLume LED

The Promise of LED Illumination



Patents Pending

U.S. ARCHITECTURAL  
LIGHTING



## ValuLume LED

ValuLume expresses exactly what this new robust offering from U.S. Architectural Lighting is all about bringing value and performance to the world of outdoor illumination.

The simple, contemporary rectilinear lines of ValuLume make it an outstanding companion for a wide variety of today's architecture.

The engineering and materials built into ValuLume allow current solid state technology to be exploited to its fullest. The PLED (Panel Optical System) optics allow for unmatched flexibility in site illumination. The ability to incorporate a wide variety of control packages make ValuLume an ideal companion for new or existing sites that use integrated energy management systems of all types; and ValuLume's outstanding thermal management promises years of maintenance free illumination.

THIS is the luminaire you've been looking for...  
ValuLume -

# Realizing the Promise of LED Illumination



### Housing

The ValuLume Optical Housing is cast as a single unit to promote outstanding thermal conduction to remove heat from the LED's. The material used is 30% more heat conductive than that found in standard fixtures on the market.

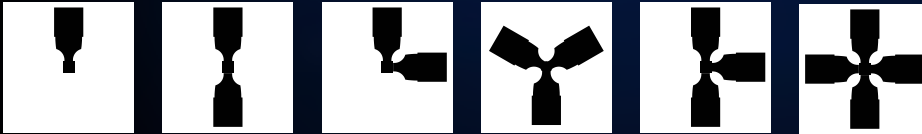
### Electrical Compartment

The Electrical Compartment is sized to allow for a variety of LED drivers, wireless control modules, hi-lo dimming modules and motion sensors. Its shape visually flows into the Optical Housing to create a continuous form.

### PLED[®] (panel LED) Optical Module

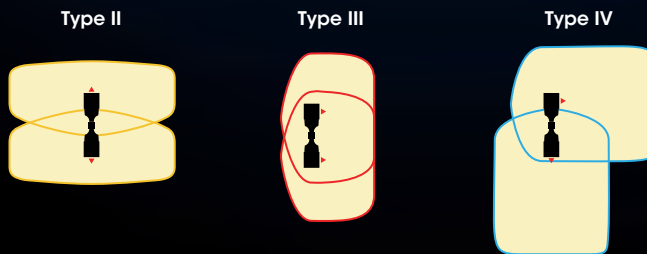
The PLED[®] Optical Module offers the ultimate in performance, optical flexibility, and serviceability available.

### Site Adaptive Pole Mounting Configurations

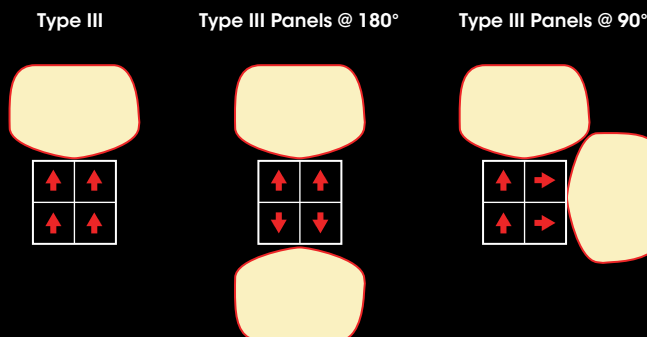


The PLED[®] Optical System incorporates individually rotatable panels allowing the orientation of the lighting pattern to be set independent of the physical orientation of the luminaire.

Examples of the flexibility of distribution coverage from twin mount luminaires @ 180°:



In addition, the individually rotatable panels create the same effect by rotating the panels in a single luminaire independently.



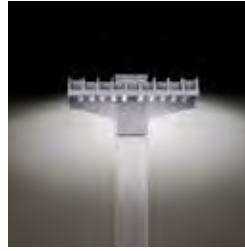


# PLED® Optics

The U.S. Architectural **PLED**® (Panel LED) System utilizes a micro reflector behind each LED in asymmetric distributions to enhance forward throw and reduce backlight. Each LED is optically controlled by a lens that has its distribution type and direction of light throw molded into it.

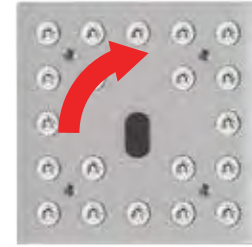
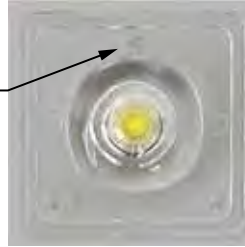
The LED's and lenses are arrayed on circuit boards that are field rotatable in 90° increments and field replaceable.

Ultra high performance optics developed by U.S. Architectural



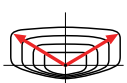
Micro-reflector behind LED enhances forward throw and reduces backlight

Distribution type and direction of light throw

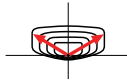


90° field rotatable

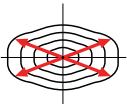
## Available Light Distributions



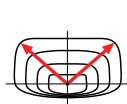
Type II*



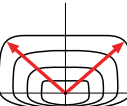
Type II FR*



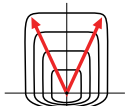
Type II ML



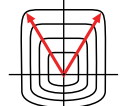
Type III M*



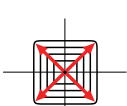
Type III W*



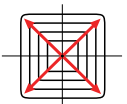
Type IV*



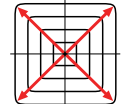
Type IV FT*



Type V Sq. N



Type V Sq. M



Type V Sq. W

* Asymmetric optics field rotatable in 90° increments.

## LED Distributions

10 distributions are available to "shape" the output of the LED's to conform to the needs of any roadway or site. Traditional Type II, III, IV, and V - Square patterns are bolstered by variations of those distributions tailored to suit specific needs.

For auto dealerships, the Type II-FR distribution increases illumination on the front row of cars on display and the Type V-SQ-N concentrates more light in a tighter area to enhance the retail effect.

Our Type IV-FT extends the forward throw of illumination to suit the needs of sports facilities (such as tennis courts) by allowing poles to be located outside the field of play.

Standard Type III and Type V-SQ distributions are enhanced with multiple "beamspread" selections (medium and wide Type III's; narrow, medium, and wide Type V-SQ's).

Rotatability of the **PLED**® "panels" allows for the simulation of back-to-back luminaires using only one housing. The Type II-ML arranges standard Type II distributions in a single fixture the same as formerly required by back-to-back luminaire orientation.

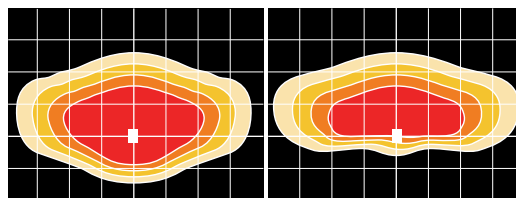
## House Side Shield

House side shields are applied to each individual LED in asymmetric distributions and result in outstanding house side cutoff to control property line trespass and unwanted brightness in residential areas.

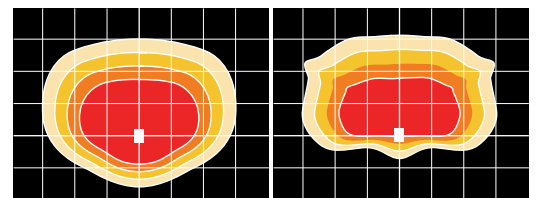
As with standard **PLED**® panels HS **PLED**® panels may be field rotated in 90° increments and are field replaceable.



House Side Shielding cuts off backlight to less than .1fc at 1/2 mounting height behind pole



Type II Standard and with House Side Shield



Type IV Standard and with House Side Shield

■ .1 - .2Fc   ■ .2 - .5Fc   ■ .5 - 1Fc   ■ 1Fc and above

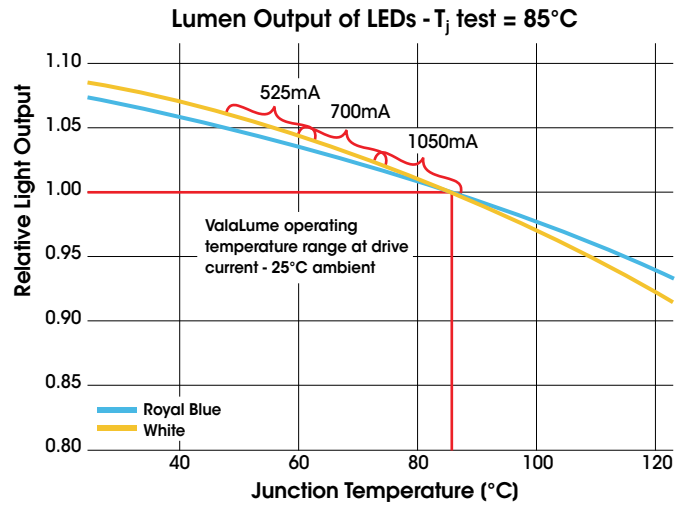


# Thermal Management/ Control Options

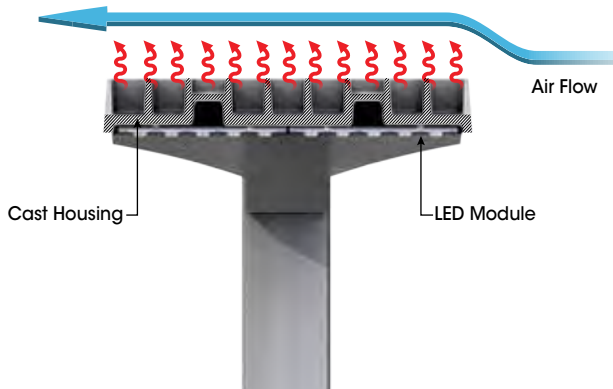
## LED's are affected by heat in 3 key ways:

- The higher the operating temperature, the shorter the effective LED lifespan.
- Phosphors that create the color temperature of LED's shift their color the hotter the LED operates.
- The higher the LED operating temperature, the less efficient the lumen output of the LED.

Keeping the internal temperature of the LED (called the junction temperature) as low as possible, maximizes LED performance in all these areas.



Example of Lumen Output Impact as Junction Temperature rises - 100% Output @ 85°C



The ValuLume Optical Housing is cast of an A356 aluminum alloy that conducts heat 30% more efficiently than other popular die-cast aluminum alloys. In addition, the mounting surface of the **PLED** Optics is milled to a flatness of .003" over 12" to allow complete contact of the **PLED** and Optical Housing surfaces promoting outstanding thermal control over the LED's.

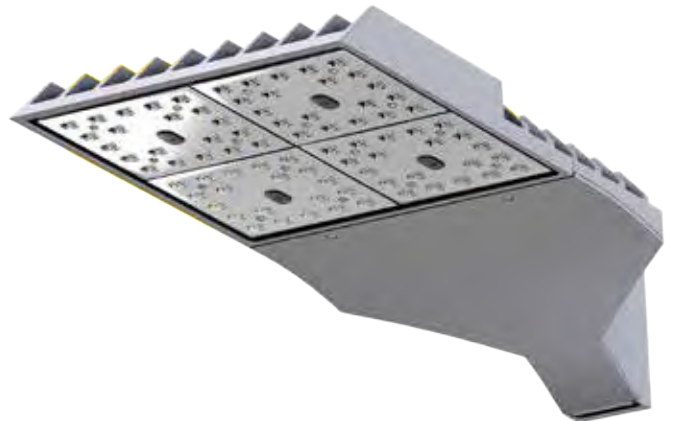
## Options for Controlling ValuLume

**HLSW** - Selecting the HLSW option provides an externally switched circuit for step dimming the luminaire from 50% to 100%. The control may be an external timer, an on/off signal from the building automation system, a master motion sensor or any other digital on/off signal

**TPR7** - Selecting the TPR7 option provides a 7-pin ANSI C136.41 dimming receptacle

**MS-F211** - Selecting this option provides a motion sensor pre-programmed to step dim the fixture from 50% to 100%

In addition, the ValuLume Electrical Housing has the capacity to be called out with a wide variety of wireless control systems provided by others.





# Specifications

**Optical Housing** - Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling fins. The Optical Panel mounting surface is milled flat (surface variance <± .003" over 12") to facilitate thermal transfer of heat to housing and cooling fins. Solid barrier wall separates optical and electrical compartments. The optical and electrical compartments are integrated to create one assembly. Minimum wall thickness is .188".

**Electrical Housing w/ Integral Arm** - Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

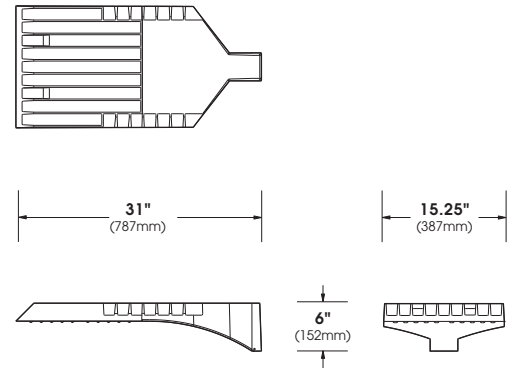
**PLED™ Optics** - Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments.

**LED Driver(s)** - Constant current electronic with a power factor of >.90 and a minimum operating temperature of -30°C. Driver(s) is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer, held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50,60Hz.

**LED Emitters** - High output LED's are utilized with drive currents ranging from 350mA to 1050mA. 70CRI Minimum. LED's are available in standard Neutral White (4000K), or optional Cool White (5000K) or Warm White (3000K). Consult Factory for other LED options.

**Finish** - Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F. Four step media blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability.

**ValuLume LED**  
40/80 PLED™  
EPA 0.77



SCALE: 1/2" = 1'-0"

No. of LEDs	Drive Current	System Watts	HID Equivalent
40	350mA	45	70 - 100
	525mA	66	100 - 150
	700mA	91	175
	1050mA	142	200 - 250
80	350mA	92	150 - 175
	525mA	136	200 - 250
	700mA	184	400
	1050mA	266	450



# LED Electrical Guide

LED Count	Source Type	Source	Initial Lumens - 4000K	Initial Lumens - 3000K	Initial Lumens - 5000K	L70 Greater than (HR)	Starting Temp.	System Watts	Volts	Max Input Amps
40	LED	40 PLED Optical Module - 350mA	5,077 - 5,464	4,445 - 4,784	5,199 - 5,595	60,000+	-20°F	45	120 277	0.38 0.17
40	LED	40 PLED Optical Module - 525mA	6,977 - 7,507	6,108 - 6,573	7,144 - 7,687	60,000+	-20°F	66	120 277	0.58 0.25
40	LED	40 PLED Optical Module - 700mA	8,425 - 9,067	7,376 - 7,938	8,627 - 9,285	60,000+	-20°F	91	120 277	0.76 0.33
40	LED	40 PLED Optical Module - 1050mA	10,956 - 11,792	9,592 - 10,324	11,219 - 12,075	60,000+	-20°F	142	120 277	1.19 0.52
80	LED	80 PLED Optical Module - 350mA	10,153 - 10,926	8,889 - 9,566	10,397 - 11,188	60,000+	-20°F	92	120 277	0.77 0.34
80	LED	80 PLED Optical Module - 525mA	13,952 - 15,015	12,215 - 13,146	14,287 - 15,376	60,000+	-20°F	136	120 277	1.14 0.50
80	LED	80 PLED Optical Module - 700mA	16,851 - 18,139	14,752 - 15,877	17,254 - 18,570	60,000+	-20°F	184	120 277	1.54 0.67
80	LED	80 PLED Optical Module - 1050mA	23,188 - 25,864	20,301 - 22,644	23,745 - 26,448	60,000+	-20°F	266	120 277	2.22 0.96

## NOTES:

1. Max Input Amps is the highest of starting, operating, or open circuit currents
2. Lumen values for LED Modules vary according to the distribution type
3. System Watts includes the source watts and all driver components.
4. Fuse value should be sufficient to protect all wiring components. For electronic driver and LED component protection, use 10KV - 20KV surge suppressors.
5. L70(9K) - TM-21 6x rule applied
6. The combination of robust heat-sinking technology and lower drive currents result in L70 LED life expectancies well in excess of 100,000 hours.

**WARNING:** All fixtures must be installed in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.

## Ordering Information

Spec/Order Example: VLL-LED/PLED-V-SQ-W/80LED-700mA/NW/277/1/RAL9005

MODEL	OPTICS	LED MODE	MOUNTING	FINISH	OPTIONS	
<input type="checkbox"/> VLL LED	<b>PLED™ DISTRIBUTION</b>	No. LEDs	ARM MOUNT	STANDARD TEXTURED FINISH	<input type="checkbox"/> HIGH-LOW DIMMING FOR HARDWIRED SWITCHING OR NONINTEGRATED MOTION SENSOR ..... <b>HLSW</b> <input type="checkbox"/> INTERNAL HOUSE SIDE SHIELD ... <b>HS-PLED</b> <input type="checkbox"/> PHOTO CELL + VOLTAGE (EXAMPLE: PC120V) ... <b>PC+V</b> <input type="checkbox"/> TWIST LOCK PHOTO CELL + VOLTAGE (EXAMPLE: PC120V) ... <b>TPC+V</b> <input type="checkbox"/> TWIST LOCK RECEPTACLE ONLY ... <b>TPR</b> <input type="checkbox"/> 7-PIN TWIST LOCK RECEPTACLE ONLY ... <b>TPR7</b> <input type="checkbox"/> SINGLE FUSE (120V, 277V, 347V) ... <b>SF</b> <input type="checkbox"/> DOUBLE FUSE (208V, 240V, 480V) ... <b>DF</b> <input type="checkbox"/> STEP DIM MOTION SENSOR (PROGRAMMED 50/100) ..... <b>MS-F211</b> <input type="checkbox"/> REMOTE MOTION SENSOR CONFIGURATOR ..... <b>MS-FC10</b>	
	<input type="checkbox"/> TYPE II PLED-II	<input type="checkbox"/> 80LED	<input type="checkbox"/> 1050mA	<input type="checkbox"/> 1		<input type="checkbox"/> BLACK RAL-9005-T
	<input type="checkbox"/> TYPE II FRONT ROW PLED-II-FR	<input type="checkbox"/> 40LED	<input type="checkbox"/> 700mA	<input type="checkbox"/> 2-180		<input type="checkbox"/> WHITE RAL-9003-T
	<input type="checkbox"/> TYPE II MEDIAN ILLUMINATOR PLED-II-ML	<input type="checkbox"/> 525mA	<input type="checkbox"/> CW (5000K)	<input type="checkbox"/> 2-90		<input type="checkbox"/> GREY RAL-7004-T
	<input type="checkbox"/> TYPE III MED. PLED-III M	<input type="checkbox"/> 350mA	<input type="checkbox"/> WW (3000K)	<input type="checkbox"/> 3-120		<input type="checkbox"/> DARK BRONZE RAL-8019-T
	<input type="checkbox"/> TYPE III WIDE PLED-III W	OTHER LED COLORS AVAILABLE CONSULT FACTORY		<input type="checkbox"/> 3-90		<input type="checkbox"/> GREEN RAL-6005-T
	<input type="checkbox"/> TYPE IV PLED-IV	VOLTAGE		<input type="checkbox"/> 4-90		FOR SMOOTH FINISH REPLACE SUFFIX "T" WITH SUFFIX "S" (EXAMPLE: RAL-9005-S)
	<input type="checkbox"/> TYPE IV FT PLED-IV-FT	<input type="checkbox"/> 120		<input type="checkbox"/> UNIVERSAL POLE ADAPTOR. . . . . <b>UPA</b>		SEE USALTG.COM FOR ADDITIONAL COLORS
	<input type="checkbox"/> TYPE V NARROW PLED-VSQ-N	<input type="checkbox"/> 208		<b>WALL MOUNT</b>		
	<input type="checkbox"/> TYPE V MED. PLED-V-SQ-M	<input type="checkbox"/> 240		<input type="checkbox"/> WM		
	<input type="checkbox"/> TYPE V WIDE PLED-V-SQ-W	<input type="checkbox"/> 277				
		<input type="checkbox"/> 347				
	<input type="checkbox"/> 480					



# ValuLume LED

The Promise of LED Illumination



**U.S. ARCHITECTURAL**  
**LIGHTING**

U.S. POLE COMPANY  
660 West Avenue O  
Palmdale, California 93551  
Toll Free (800) 877-6537  
[www.usaltg.com](http://www.usaltg.com)

Patents Pending

0416



# AREA & ROADWAY LIGHTING

## VALULUME SERIES - LED RECTILINEAR AREA LUMINAIRE

### Luminaire

Heavy cast, low copper aluminum assembly (A356 alloy, <.2% copper) minimum wall thickness .188" with integral cooling ribs surrounding the electrical compartment. LED Module mounting area is machined to within a 0.002" surface flatness variance for maximum surface contact and thermal conductivity from the LED modules to the radiating fins. Passive radiating fins above the LED Optics provide superior thermal management and long LED life. The optical and electrical compartments are integrated with the support arm to create one assembly. Cast and hinged driver compartment cover provides access to the drivers and wiring.

### PLED™ Optics

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side and functions as a house side shielding element. Refractors are injection molded optical acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard and specialized street, site, and area distributions. All distributions are Zero Uplight (U0), Full-Cutoff. Panels are field replaceable and field rotatable in 90° increments.

### LED Emitters

High Power White LED's are driven between 350mA and 875mA for a maximum output of 2.5 Watts nominal. LED's are available in standard Neutral White (4000K), Cool White (5000K), or Warm White (2700K & 3000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L94 at 60,000 hours (TM-21 calculated at 6x Test Time).

**True Amber LED's** TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-590nm. True Amber has negligible blue light and is suitable for wildlife.

### LED Driver(s)

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer, held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50,60Hz. (0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field accessible installation.)

### Finish

Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F. Four step media blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability.

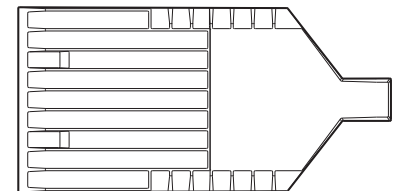
PROJECT NAME: _____

PROJECT TYPE: _____

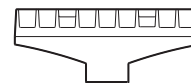


VLL

TOP VIEW



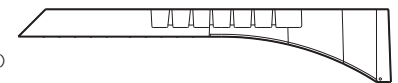
15.25"  
(387mm)



FRONT VIEW

31"  
(787mm)

6"  
(152mm)



SIDE VIEW



U.L. Listed for  
Wet Location

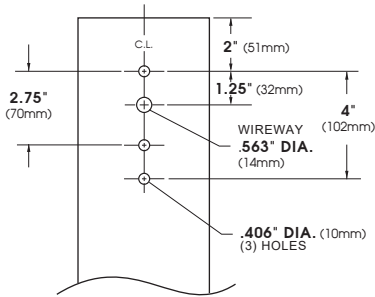
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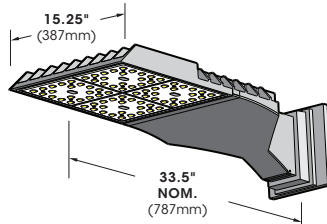
# VLL SERIES - LED

## SPECIFICATIONS

### POLE DRILLING TEMPLATE

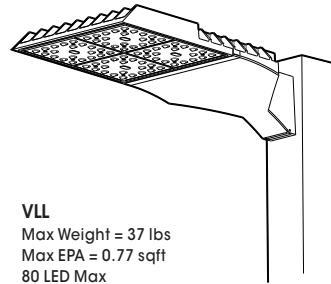


### WALL MOUNT



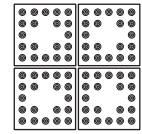
Extruded aluminum arm and cast aluminum Wall Bracket assembly provided with built in gasketed Wire access for Fixture/supply Wire connection.

### EPA & WEIGHT

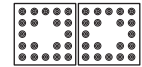


**VLL**  
Max Weight = 37 lbs  
Max EPA = 0.77 sqft  
80 LED Max

### PLED™ MODULES

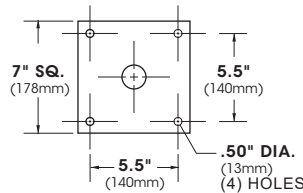


80 LED Module




















40 LED Module

### MOUNT PLATE



## ORDERING INFORMATION

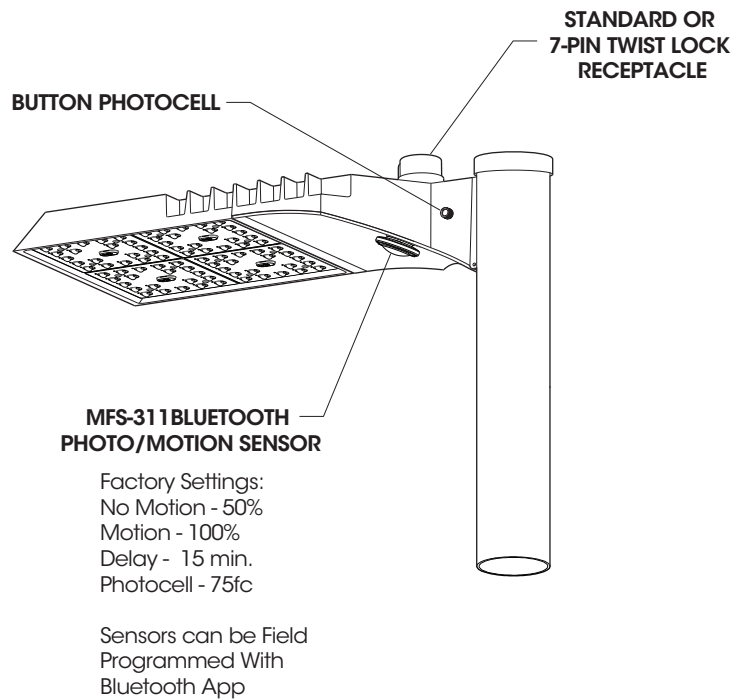
Spec/Order Example: VLL/PLED-III/80LED-525mA/30K/277/PC-T

Luminaire	Optics	LED Mode			Voltage	Mounting	Finish	Options
Luminaire	Optics	LED			Voltage	Mounting	Finish	Options
	PLED™ Distribution Type	# of LEDs	Drive Current	Color Temp - CCT		Arm Mount	Standard Textured Finish	
<input type="checkbox"/> VLL	<input type="checkbox"/> Type II <b>PLED-II</b>  <input type="checkbox"/> Type II Front Row <b>PLED-II-FR</b>  <input type="checkbox"/> Type III Median Illuminator <b>PLED-II-MIL</b>  <input type="checkbox"/> Type III Med. <b>PLED-III</b>  <input type="checkbox"/> Type III Wide <b>PLED-III-W</b>  <input type="checkbox"/> Type IV <b>PLED-IV</b>  <input type="checkbox"/> Type IV <b>PLED-IV-FT</b>  <input type="checkbox"/> Type V Narrow <b>PLED-V-SQ-N</b>  <input type="checkbox"/> Type V Med. <b>PLED-V-SQ-M</b>  <input type="checkbox"/> Type V Wide <b>PLED-V-SQ-W</b> 	<input type="checkbox"/> 80LED <input type="checkbox"/> 40LED	<input type="checkbox"/> 1050mA <input type="checkbox"/> 875mA <input type="checkbox"/> 700mA <input type="checkbox"/> 525mA <input type="checkbox"/> 350mA	<input type="checkbox"/> 27K (2700K) <input type="checkbox"/> 30K (3000K) <input type="checkbox"/> 40K (4000K) <input type="checkbox"/> 50K (5000K) <input type="checkbox"/> TRA True Amber ¹  Consult Factory for Other LED Color, CCT, & CRI Options	<input type="checkbox"/> 120 <input type="checkbox"/> 208 <input type="checkbox"/> 240 <input type="checkbox"/> 277 <input type="checkbox"/> 347 <input type="checkbox"/> 480	<input type="checkbox"/> 1  <input type="checkbox"/> 2-180  <input type="checkbox"/> 2-90  <input type="checkbox"/> 3-90  <input type="checkbox"/> 3-120  <input type="checkbox"/> 4-90   Wall Mount <input type="checkbox"/> WM   WM - Wall Mount provided with mounting bracket and cover.	<input type="checkbox"/> Black <b>RAL-9005-T</b> <input type="checkbox"/> White <b>RAL-9003-T</b> <input type="checkbox"/> Grey <b>RAL-7004-T</b> <input type="checkbox"/> Dark Bronze <b>RAL-8019-T</b> <input type="checkbox"/> Green <b>RAL-6005-T</b>  Premium Finishes <input type="checkbox"/> Rust <input type="checkbox"/> Patina Copper PC  For smooth finish replace suffix "T" with suffix "S" (Example: RAL-9500-S)  Consult factory for custom colors	<input type="checkbox"/> Internal House Side Shield inc. LED Count (Example: HS-PLED/48) <b>HS-PLED</b> <input type="checkbox"/> External Glare Shield 4 Sided <b>EGS4</b> <input type="checkbox"/> External Glare Shield 3 Sided Rear Wedge <b>EGS3W</b> <input type="checkbox"/> Round Pole Adapter <b>RPA</b> <input type="checkbox"/> Twist Lock Receptacle Only <b>TPR</b> <input type="checkbox"/> 7-Pin Twist Lock Receptacle Only <b>TPR7</b> <input type="checkbox"/> High-Low Dimming for Switch by Others/Select Levels 50/100 or 25/100 (Example: HLSW/25) <b>HLSW</b> <input type="checkbox"/> Photo Cell + Voltage (Example: PC120V) <b>PC+V</b> <input type="checkbox"/> Single Fuse (120V, 277V) <b>SF</b> <input type="checkbox"/> Double Fuse (208V, 240V) <b>DF</b> <input type="checkbox"/> Blue-Tooth Programmable Photo/Motion Sensor (Factory - Motion 50/100; Photo 75fc) <b>MS-F311</b>
		<b>NOTES:</b> 1- Available in 350mA & 525mA drive currents only  Consult Factory for Other Drive Currents						



# VLL SERIES - LED

## OPTIONS



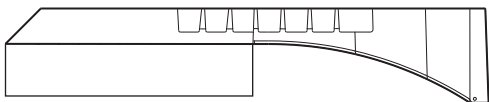
### High Low Dimming For Switches (HLSW)

The HLSW is a Small Electronic Switch which Provides High Low Dimming Control Through the LED Driver's 0-10V Control. Switching is Done by Adding a Secondary AC Switched Hot Trigger Line to the HLSW in Addition to the Normal AC Power Line. When the Secondary Trigger Line is Powered, the Fixture will go to 100% Dimming. With no Power to the Trigger, the Fixture will operate at 50% or 25% Dimming. Switches for the Trigger Line can be a Normal AC Switch/Breaker or Timed Switch/Breaker.

### Wireless and Other Fixture Controls

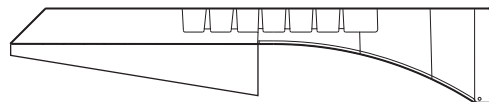
Contact Factory for Wireless and Other Fixture Controls and Recommendations. Most Controls Can be Integrated and Factory Installed.

### External Glare Shields



**EGS4 - 4 Sided Shield - 3" Deep**

Minimum Cutoff = 12°  
Average Cutoff = 23°



**EGS3W - 3 Sided Shield - 3" Rear Depth**

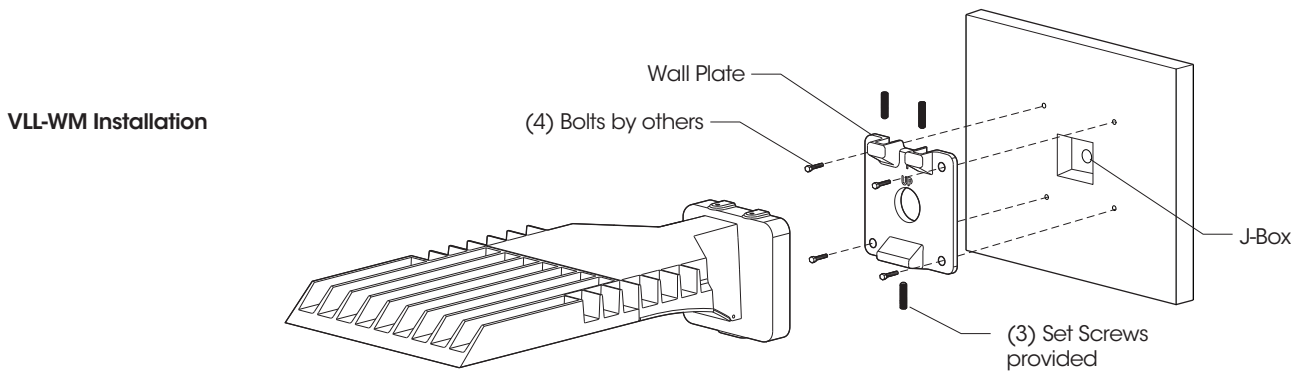
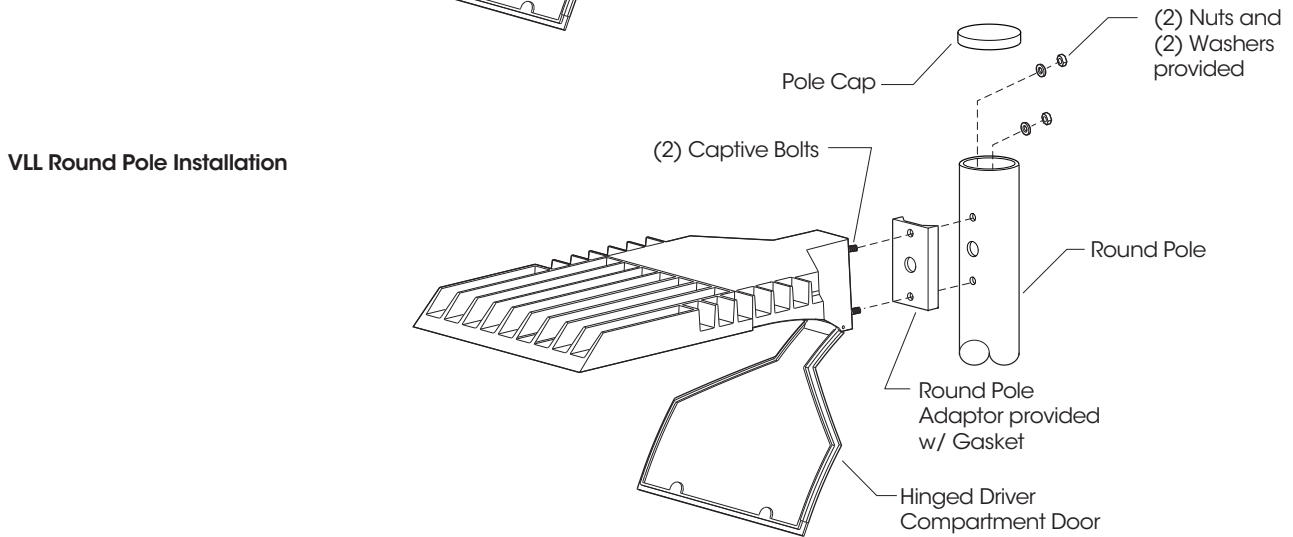
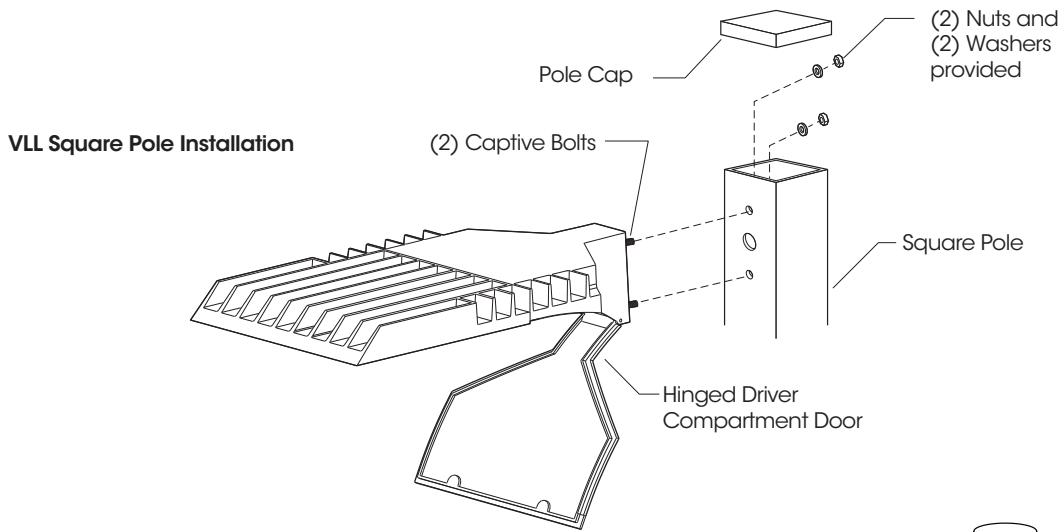
Minimum Rear Cutoff = 12°  
Average Rear Cutoff = 23°  
Minimum Side Cutoff = 4°  
Average Side Cutoff = 16°

Glare Shields are rotatable on VLL. Consult factory for custom applications.



# VLL SERIES - LED

## INSTALLATION DETAIL





# VLL SERIES - LED

## PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000 (10x Test Time Calculated)	L94	0.94x
100,000 (Theoretical Calculated)	L92	0.92x
150,000 (Theoretical Calculated)	L89	0.89x

Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)  
**TM-21 6x Test Time Dictates that L94 > 60,000 Hours.**

## ELECTRICAL DATA GUIDE - AMPERAGE CHARTS

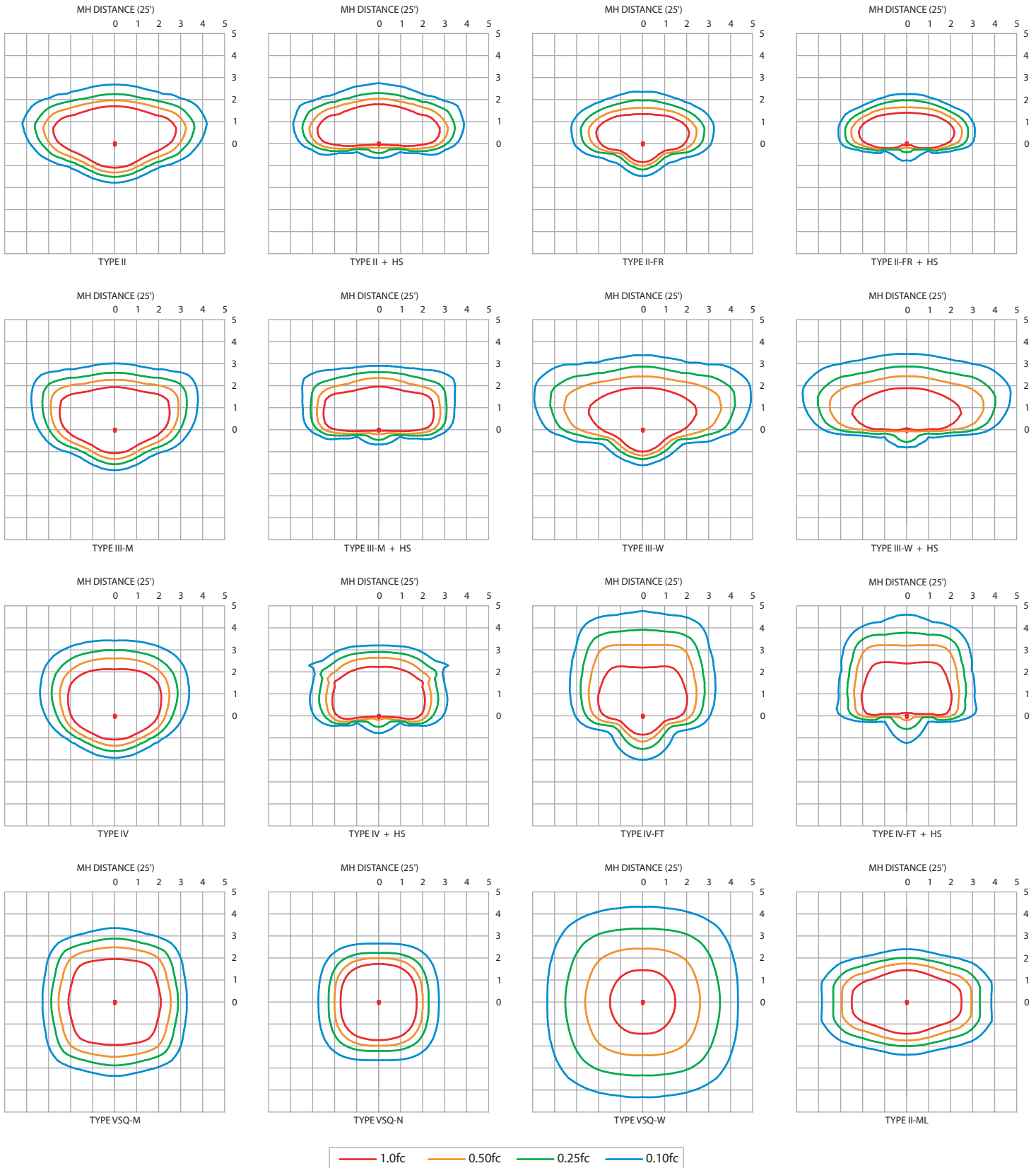
# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
40	350	43	0.36	0.21	0.15	0.12	0.09
40	525	65	0.54	0.31	0.23	0.19	0.13
40	700	87	0.72	0.42	0.31	0.25	0.18
40	875	108	0.90	0.52	0.39	0.31	0.23
40	1050	128	1.07	0.62	0.46	0.37	0.27
80	350	85	0.71	0.41	0.31	0.25	0.18
80	525	129	1.08	0.62	0.47	0.37	0.27
80	700	174	1.45	0.83	0.63	0.50	0.36
80	875	216	1.80	1.04	0.78	0.62	0.45
80	1050	256	2.14	1.23	0.93	0.74	0.53



# VLL SERIES - LED

## PHOTOMETRIC DATA GUIDE - ISOFOOTCANDLE PLOTS

### VLL-PLED-80LED-700mA-40K - 25' Pole Height



IES File downloads for this product can be found at [www.usaltg.com/downloads/asr.html](http://www.usaltg.com/downloads/asr.html)



# VLL SERIES - LED

## PHOTOMETRIC DATA GUIDE - LUMEN TABLES (VLL-PLD)

VLL-PLD																							
LED Count	Drive Current (mA)	System Watts	Dist'n Type	27K (2700K - 70CRI)			30K (3000K - 70CRI)			40K (4000K - 70CRI)			50K (5000K - 70CRI)			System Watts	TRA (590nm)						
				LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING		LUMENS	LPW	BUG RATING				
40	350	42.7	II	5819	136	B2-U0-G1	6281	147	B2-U0-G1	6612	155	B2-U0-G2	6943	163	B2-U0-G2	33.0	2309	70	B1-U0-G1				
			IIFR	5858	137	B2-U0-G1	6324	148	B2-U0-G1	6657	156	B2-U0-G1	6990	164	B2-U0-G1		2325	70	B1-U0-G0				
			II-ML	5819	136	B3-U0-G3	6282	147	B3-U0-G3	6612	155	B3-U0-G3	6943	163	B3-U0-G3		2309	70	B1-U0-G1				
			III-M	5921	139	B1-U0-G2	6392	150	B2-U0-G2	6728	158	B2-U0-G2	7065	165	B2-U0-G2		2349	71	B1-U0-G1				
			III-W	5497	129	B1-U0-G2	5935	139	B1-U0-G2	6247	146	B1-U0-G2	6559	154	B1-U0-G2		2182	66	B1-U0-G1				
			IV	5876	138	B1-U0-G2	6344	149	B2-U0-G2	6677	156	B2-U0-G2	7011	164	B2-U0-G2		2332	71	B1-U0-G1				
			IV-FT	5353	125	B1-U0-G2	5778	135	B1-U0-G2	6083	142	B1-U0-G2	6387	150	B1-U0-G2		2124	64	B1-U0-G1				
			VSQ-N	6141	144	B2-U0-G1	6630	155	B2-U0-G1	6979	163	B2-U0-G1	7328	172	B2-U0-G1		2438	74	B1-U0-G0				
			VSQ-M	6023	141	B3-U0-G1	6502	152	B3-U0-G1	6844	160	B3-U0-G1	7186	168	B3-U0-G1		2390	72	B2-U0-G1				
			VSQ-W	5879	138	B3-U0-G2	6346	149	B3-U0-G2	6680	156	B3-U0-G2	7015	164	B3-U0-G2		2333	71	B2-U0-G1				
			IH-HS	4256	100	B0-U0-G1	4594	108	B1-U0-G1	4836	113	B1-U0-G2	5077	119	B1-U0-G2		1689	51	B0-U0-G0				
			IIFR-HS	4329	101	B0-U0-G1	4673	109	B0-U0-G1	4919	115	B0-U0-G1	5165	121	B0-U0-G1		1718	52	B0-U0-G0				
			III-M-HS	4305	101	B0-U0-G2	4647	109	B0-U0-G2	4892	115	B0-U0-G2	5137	120	B0-U0-G2		1708	52	B0-U0-G1				
			III-W-HS	4214	99	B0-U0-G2	4550	107	B0-U0-G2	4789	112	B0-U0-G2	5028	118	B0-U0-G2		1673	51	B0-U0-G1				
			IV-HS	4447	104	B0-U0-G1	4801	112	B0-U0-G2	5054	118	B0-U0-G2	5306	124	B0-U0-G2		1764	53	B0-U0-G1				
			IV-FT-HS	4203	98	B0-U0-G2	4537	106	B0-U0-G2	4776	112	B0-U0-G2	5015	117	B0-U0-G2		1668	51	B0-U0-G1				
			40	525	64.7	II	8396	130	B2-U0-G2	9064	140	B2-U0-G2	9541	147	B2-U0-G2		10017	155	B2-U0-G2	51.0	2715	53	B1-U0-G1
						IIFR	8452	131	B2-U0-G1	9125	141	B2-U0-G1	9605	148	B2-U0-G1		10085	156	B2-U0-G1		2733	54	B1-U0-G1
						II-ML	8396	130	B3-U0-G3	9064	140	B3-U0-G3	9541	147	B3-U0-G3		10018	155	B3-U0-G3		2715	53	B1-U0-G1
						III-M	8543	132	B2-U0-G2	9223	143	B2-U0-G2	9708	150	B2-U0-G2		10194	158	B2-U0-G2		2762	54	B1-U0-G1
III-W	7932	123				B2-U0-G2	8563	132	B2-U0-G2	9013	139	B2-U0-G3	9464	146	B2-U0-G3	2565	50	B1-U0-G1					
IV	8478	131				B2-U0-G2	9152	141	B2-U0-G2	9634	149	B2-U0-G2	10116	156	B2-U0-G2	2742	54	B1-U0-G1					
IV-FT	7724	119				B2-U0-G3	8338	129	B2-U0-G3	8777	136	B2-U0-G3	9216	142	B2-U0-G3	2497	49	B1-U0-G1					
VSQ-N	8861	137				B3-U0-G1	9566	148	B3-U0-G1	10070	156	B3-U0-G1	10574	163	B3-U0-G1	2866	56	B1-U0-G0					
VSQ-M	8690	134				B3-U0-G2	9381	145	B3-U0-G2	9875	153	B3-U0-G2	10369	160	B3-U0-G2	2809	55	B2-U0-G1					
VSQ-W	8483	131				B4-U0-G2	9157	142	B4-U0-G2	9640	149	B4-U0-G3	10122	156	B4-U0-G3	2743	54	B2-U0-G1					
IH-HS	6141	95				B1-U0-G2	6629	102	B1-U0-G2	6978	108	B1-U0-G2	7327	113	B1-U0-G2	1985	39	B0-U0-G1					
IIFR-HS	6246	97				B1-U0-G1	6743	104	B1-U0-G1	7098	110	B1-U0-G1	7453	115	B1-U0-G1	2020	40	B0-U0-G0					
III-M-HS	6212	96				B0-U0-G2	6706	104	B0-U0-G2	7060	109	B0-U0-G2	7412	115	B0-U0-G2	2009	39	B0-U0-G1					
III-W-HS	6081	94				B0-U0-G2	6564	101	B0-U0-G2	6910	107	B0-U0-G2	7255	112	B0-U0-G2	1966	39	B0-U0-G1					
IV-HS	6417	99				B0-U0-G2	6927	107	B0-U0-G2	7292	113	B0-U0-G2	7656	118	B1-U0-G2	2075	41	B0-U0-G1					
IV-FT-HS	6064	94				B0-U0-G2	6546	101	B0-U0-G2	6891	107	B1-U0-G2	7235	112	B1-U0-G3	1960	38	B0-U0-G1					
40	700	86.8				II	10669	123	B2-U0-G2	11518	133	B2-U0-G2	12124	140	B2-U0-G2	12730	147	B2-U0-G2	N/A		N/A		
						IIFR	10740	124	B2-U0-G1	11594	134	B3-U0-G1	12205	141	B3-U0-G1	12815	148	B3-U0-G1					
						II-ML	10669	123	B3-U0-G3	11518	133	B3-U0-G3	12124	140	B3-U0-G3	12731	147	B3-U0-G3					
						III-M	10856	125	B2-U0-G2	11719	135	B2-U0-G2	12336	142	B2-U0-G2	12953	149	B2-U0-G2					
			III-W	10079	116	B2-U0-G3	10880	125	B2-U0-G3	11453	132	B2-U0-G3	12026	139	B2-U0-G3								
			IV	10774	124	B2-U0-G2	11630	134	B2-U0-G2	12243	141	B2-U0-G2	12855	148	B2-U0-G2								
			IV-FT	9814	113	B2-U0-G3	10595	122	B2-U0-G3	11153	128	B2-U0-G3	11710	135	B2-U0-G3								
			VSQ-N	11260	130	B3-U0-G1	12156	140	B3-U0-G1	12796	147	B3-U0-G1	13435	155	B3-U0-G1								
			VSQ-M	11042	127	B4-U0-G2	11920	137	B4-U0-G2	12548	145	B4-U0-G2	13175	152	B4-U0-G2								
			VSQ-W	10778	124	B4-U0-G3	11636	134	B4-U0-G3	12248	141	B4-U0-G3	12860	148	B4-U0-G3								
			IH-HS	7803	90	B1-U0-G2	8423	97	B1-U0-G2	8866	102	B1-U0-G2	9310	107	B1-U0-G2								
			IIFR-HS	7937	91	B1-U0-G1	8568	99	B1-U0-G1	9019	104	B1-U0-G1	9470	109	B1-U0-G1								
			III-M-HS	7893	91	B1-U0-G2	8521	98	B1-U0-G2	8970	103	B1-U0-G2	9418	109	B1-U0-G2								
			III-W-HS	7726	89	B0-U0-G2	8341	96	B1-U0-G2	8780	101	B1-U0-G2	9218	106	B1-U0-G2								
			IV-HS	8153	94	B1-U0-G2	8802	101	B1-U0-G2	9265	107	B1-U0-G2	9728	112	B1-U0-G2								
			IV-FT-HS	7705	89	B1-U0-G3	8318	96	B1-U0-G3	8756	101	B1-U0-G3	9194	106	B1-U0-G3								
			40	875	108.0	II	12366	114	B2-U0-G2	13349	124	B2-U0-G2	14052	130	B2-U0-G2	14754	137	B3-U0-G2		N/A		N/A	
						IIFR	12448	115	B3-U0-G1	13439	124	B3-U0-G1	14146	131	B3-U0-G1	14853	138	B3-U0-G2					
						II-ML	12366	115	B3-U0-G3	13349	124	B3-U0-G3	14052	130	B3-U0-G3	14755	137	B4-U0-G4					
						III-M	12581	116	B2-U0-G2	13582	126	B2-U0-G2	14297	132	B2-U0-G2	15012	139	B2-U0-G2					
III-W	11682	108				B2-U0-G3	12611	117	B2-U0-G3	13275	123	B2-U0-G3	13939	129	B2-U0-G3								
IV	12487	116				B2-U0-G2	13480	125	B2-U0-G2	14189	131	B2-U0-G2	14899	138	B2-U0-G2								
IV-FT	11375	105				B2-U0-G3	12280	114	B2-U0-G3	12926	120	B2-U0-G3	13573	126	B2-U0-G3								
VSQ-N	13051	121				B3-U0-G1	14089	130	B3-U0-G1	14830	137	B3-U0-G1	15572	144	B3-U0-G1								
VSQ-M	12798	118				B4-U0-G2	13816	128	B4-U0-G2	14543	135	B4-U0-G2	15270	141	B4-U0-G2								
VSQ-W	12492	116				B4-U0-G3	13486	125	B4-U0-G3	14196	131	B4-U0-G3	14905	138	B4-U0-G3								
IH-HS	9044	84				B1-U0-G2	9763	90	B1-U0-G2	10277	95	B1-U0-G2	10791	100	B1-U0-G2								
IIFR-HS	9199	85				B1-U0-G1	9930	92	B1-U0-G1	10453	97	B1-U0-G1	10976	102	B1-U0-G1								
III-M-HS	9149	85				B1-U0-G2	9876	91	B1-U0-G2	10396	96	B1-U0-G2	10916	101	B1-U0-G2								
III-W-HS	8955	83				B1-U0-G2	9667	90	B1-U0-G3	10176	94	B1-U0-G3	10685	99	B1-U0-G3								
IV-HS	9450	87				B1-U0-G2	10201	94	B1-U0-G2	10738	99	B1-U0-G2	11275	104	B1-U0-G2								
IV-FT-HS	8931	83				B1-U0-G3	9641	89	B1-U0-G3	10149	94	B1-U0-G3	10656	99	B1-U0-G3								
40	1050	128.2				II	14213	111	B2-U0-G2	15344	120	B3-U0-G2	16151	126	B3-U0-G3	16959	132	B3-U0-G3	N/A		N/A		
						IIFR	14308	112	B3-U0-G1	15446	120	B3-U0-G2	16259	127	B3-U0-G2	17072	133	B3-U0-G2					
						II-ML	14214	111	B3-U0-G3	15344	120	B4-U0-G4	16152	126	B4-U0-G4	16959	132	B4-U0-G4					
						III-M	14461	113	B2-U0-G2	15612	122	B3-U0-G2	16433	128	B3-U0-G3	17255	135	B3-U0-G3					
			III-W	13427	105	B2-U0-G3	14495	113	B2-U0-G3	15258	119	B2-U0-G3	16021	125	B3-U0-G3								
			IV	14352	112	B2-U0-G2	15494	121	B3-U0-G2	16309	127	B3-U0-G3	17125	134	B3-U0-G3								
			IV-FT	13075	102	B2-U0-G3	14115	110	B2-U0-G3	14858	116	B3-U0-G3	15601	122	B3-U0-G3								
			VSQ-N	15001	117	B3-U0-G1	16194	126	B4-U0-G1	17046	133	B4-U0-G2	17899	140	B4-U0-G2								
			VSQ-M	14710	115	B4-U0-G2	15880	124	B4-U0-G2	16716	130	B4-U0-G2	17552	137	B4-U0-G2								
			VSQ-W	14359	112	B4-U0-G3	15501	121	B4-U0-G3	16317	127	B4-U0-G3	17132	134	B5-U0-G3								
			IH-HS	10395	81	B1-U0-G2	11222	88	B1-U0-G2	11813	92	B1-U0-G2	12403	97	B1-U0-G2								
			IIFR-HS	10573	82	B1-U0-G1	11414	89	B1-U0-G2	12015	94	B1-U0-G2	12616	98	B1-U0-G2								
			III-M-HS	10516	82	B1-U0-G2	11352	89	B1-U0-G2	11949	93	B1-U0-G3	12547	98	B1-U0-G3								
			III-W-HS	10293	80	B1-U0-G3	11112	87	B1-U0-G3	11696	91	B1-U0-G3	12281	96	B1-U0-G3								
			IV																				



# VLL SERIES - LED

## PHOTOMETRIC DATA GUIDE - LUMEN TABLES (VLL-PLD)

VLL-PLD																							
LED Count	Drive Current (mA)	System Watts	Dist'n Type	27K (2700K - 70CRI)			30K (3000K - 70CRI)			40K (4000K - 70CRI)			50K (5000K - 70CRI)			System Watts	TRA (590nm)						
				LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING	LUMENS	LPW	BUG RATING		LUMENS	LPW	BUG RATING				
80	350	85.4	II	11277	132	B2-U0-G2	12174	143	B2-U0-G2	12814	150	B2-U0-G2	13455	158	B2-U0-G2	67.0	4475	67	B1-U0-G1				
			IIFR	11352	133	B3-U0-G1	12256	144	B3-U0-G1	12901	151	B3-U0-G1	13546	159	B3-U0-G1		4504	67	B1-U0-G1				
			IIML	11277	132	B3-U0-G3	12175	143	B3-U0-G3	12815	150	B3-U0-G3	13456	158	B3-U0-G3		4475	67	B2-U0-G2				
			IIIM	11474	134	B2-U0-G2	12387	145	B2-U0-G2	13039	153	B2-U0-G2	13691	160	B2-U0-G2		4553	68	B1-U0-G1				
			IIIW	10654	125	B2-U0-G3	11501	135	B2-U0-G3	12106	142	B2-U0-G3	12712	149	B2-U0-G3		4228	63	B1-U0-G2				
			IV	11388	133	B2-U0-G2	12294	144	B2-U0-G2	12941	152	B2-U0-G2	13588	159	B2-U0-G2		4518	67	B1-U0-G1				
			IVFT	10374	121	B2-U0-G3	11199	131	B2-U0-G3	11788	138	B2-U0-G3	12377	145	B2-U0-G3		4117	61	B1-U0-G1				
			VSQ-N	11902	139	B3-U0-G1	12849	150	B3-U0-G1	13525	158	B3-U0-G1	14202	166	B3-U0-G1		4723	70	B2-U0-G1				
			VSQ-M	11671	137	B4-U0-G2	12600	148	B4-U0-G2	13263	155	B4-U0-G2	13927	163	B4-U0-G2		4631	69	B3-U0-G1				
			VSQ-W	11392	133	B4-U0-G3	12299	144	B4-U0-G3	12946	152	B4-U0-G3	13593	159	B4-U0-G3		4520	67	B3-U0-G2				
			IHS	8247	97	B1-U0-G2	8903	104	B1-U0-G2	9372	110	B1-U0-G2	9840	115	B1-U0-G2		3273	49	B0-U0-G1				
			IIFRHS	8389	98	B1-U0-G1	9056	106	B1-U0-G1	9533	112	B1-U0-G1	10009	117	B1-U0-G1		3329	50	B0-U0-G1				
			IIIMHS	8344	98	B1-U0-G2	9007	105	B1-U0-G2	9482	111	B1-U0-G2	9956	117	B1-U0-G2		3311	49	B0-U0-G1				
			IIWHS	8167	96	B1-U0-G2	8817	103	B1-U0-G2	9281	109	B1-U0-G2	9745	114	B1-U0-G2		3240	48	B0-U0-G1				
			IVHS	8618	101	B1-U0-G2	9304	109	B1-U0-G2	9793	115	B1-U0-G2	10283	120	B1-U0-G2		3420	51	B0-U0-G1				
			IVFTHS	8144	95	B1-U0-G3	8792	103	B1-U0-G3	9255	108	B1-U0-G3	9718	114	B1-U0-G3		3232	48	B0-U0-G2				
			80	525	129.4	II	16239	125	B3-U0-G3	17531	135	B3-U0-G3	18454	143	B3-U0-G3		19377	150	B3-U0-G3	101.0	5251	52	B1-U0-G1
						IIFR	16348	126	B3-U0-G2	17648	136	B3-U0-G2	18577	144	B3-U0-G2		19506	151	B3-U0-G2		5286	52	B1-U0-G1
IIML	16240	126				B4-U0-G4	17532	135	B4-U0-G4	18454	143	B4-U0-G4	19377	150	B4-U0-G4	5251	52	B2-U0-G2					
IIIM	16523	128				B3-U0-G3	17837	138	B3-U0-G3	18776	145	B3-U0-G3	19715	152	B3-U0-G3	5343	53	B1-U0-G2					
IIIW	15341	119				B2-U0-G3	16562	128	B3-U0-G3	17433	135	B3-U0-G3	18305	141	B3-U0-G3	4961	49	B1-U0-G2					
IV	16398	127				B3-U0-G3	17703	137	B3-U0-G3	18635	144	B3-U0-G3	19566	151	B3-U0-G3	5302	52	B1-U0-G1					
IVFT	14938	115				B3-U0-G3	16127	125	B3-U0-G4	16976	131	B3-U0-G4	17824	138	B3-U0-G4	4830	48	B1-U0-G2					
VSQ-N	17140	132				B4-U0-G2	18504	143	B4-U0-G2	19477	151	B4-U0-G2	20451	158	B4-U0-G2	5542	55	B2-U0-G1					
VSQ-M	16807	130				B4-U0-G2	18144	140	B4-U0-G2	19099	148	B4-U0-G2	20053	155	B4-U0-G2	5434	54	B3-U0-G1					
VSQ-W	16406	127				B4-U0-G3	17711	137	B5-U0-G3	18643	144	B5-U0-G3	19575	151	B5-U0-G3	5304	53	B3-U0-G2					
IHS	11877	92				B1-U0-G2	12821	99	B1-U0-G2	13496	104	B1-U0-G3	14171	110	B1-U0-G3	3841	38	B0-U0-G1					
IIFRHS	12081	93				B1-U0-G2	13042	101	B1-U0-G2	13728	106	B1-U0-G2	14414	111	B1-U0-G2	3906	39	B0-U0-G1					
IIIMHS	12016	93				B1-U0-G3	12971	100	B1-U0-G3	13654	106	B1-U0-G3	14337	111	B1-U0-G3	3885	38	B0-U0-G1					
IIWHS	11760	91				B1-U0-G3	12696	98	B1-U0-G3	13364	103	B1-U0-G3	14032	108	B1-U0-G3	3803	38	B0-U0-G2					
IVHS	12411	96				B1-U0-G2	13398	104	B1-U0-G3	14103	109	B1-U0-G3	14808	114	B1-U0-G3	4013	40	B0-U0-G1					
IVFTHS	11729	91				B1-U0-G3	12662	98	B1-U0-G3	13328	103	B1-U0-G3	13995	108	B1-U0-G4	3792	38	B0-U0-G2					
80	700	173.6				II	20595	119	B3-U0-G3	22322	128	B3-U0-G3	23403	135	B3-U0-G3	24573	142	B3-U0-G3	N/A		N/A		
						IIFR	20732	119	B3-U0-G2	22381	129	B3-U0-G2	23559	136	B3-U0-G2	24736	142	B3-U0-G2					
			IIML	20595	119	B4-U0-G4	22333	128	B4-U0-G4	23403	135	B4-U0-G4	24573	142	B4-U0-G4								
			IIIM	20954	121	B3-U0-G3	22621	130	B3-U0-G3	23812	137	B3-U0-G4	25003	144	B3-U0-G4								
			IIIW	19456	112	B3-U0-G4	21003	121	B3-U0-G4	22109	127	B3-U0-G4	23214	134	B3-U0-G4								
			IV	20797	120	B3-U0-G3	22451	129	B3-U0-G3	23633	136	B3-U0-G3	24814	143	B3-U0-G4								
			IVFT	18945	109	B3-U0-G4	20452	118	B3-U0-G4	21528	124	B3-U0-G4	22604	130	B3-U0-G4								
			VSQ-N	21737	125	B4-U0-G2	23466	135	B4-U0-G2	24701	142	B4-U0-G2	25936	149	B4-U0-G2								
			VSQ-M	21314	123	B5-U0-G3	23010	133	B5-U0-G3	24221	140	B5-U0-G3	25432	146	B5-U0-G3								
			VSQ-W	20806	120	B5-U0-G3	22461	129	B5-U0-G4	23643	136	B5-U0-G4	24825	143	B5-U0-G4								
			IHS	15062	87	B1-U0-G3	16260	94	B1-U0-G3	17115	99	B1-U0-G3	17971	104	B1-U0-G3								
			IIFRHS	15321	88	B1-U0-G2	16539	95	B1-U0-G2	17410	100	B1-U0-G2	18280	105	B1-U0-G2								
			IIIMHS	15238	88	B1-U0-G3	16450	95	B1-U0-G3	17315	100	B1-U0-G3	18181	105	B1-U0-G4								
			IIWHS	14915	86	B1-U0-G4	16101	93	B1-U0-G4	16948	98	B1-U0-G4	17796	103	B1-U0-G4								
			IVHS	15739	91	B1-U0-G3	16991	98	B1-U0-G3	17885	103	B1-U0-G3	18780	108	B1-U0-G3								
			IVFTHS	14874	86	B1-U0-G4	16058	92	B1-U0-G4	16903	97	B1-U0-G4	17748	102	B1-U0-G4								
			80	875	215.9	II	23798	110	B3-U0-G3	25691	119	B3-U0-G3	27043	125	B3-U0-G4	28395	132	B3-U0-G4		N/A		N/A	
						IIFR	23957	111	B3-U0-G2	25862	120	B3-U0-G2	27223	126	B3-U0-G2	28585	132	B4-U0-G2					
IIML	23799	110				B4-U0-G4	25692	119	B4-U0-G4	27044	125	B4-U0-G4	28396	132	B4-U0-G4								
IIIM	24214	112				B3-U0-G4	26140	121	B3-U0-G4	27516	127	B3-U0-G4	28892	134	B3-U0-G4								
IIIW	22482	104				B3-U0-G4	24270	112	B3-U0-G4	25548	118	B3-U0-G4	26825	124	B3-U0-G4								
IV	24032	111				B3-U0-G3	25943	120	B3-U0-G4	27309	126	B3-U0-G4	28674	133	B3-U0-G4								
IVFT	21892	101				B3-U0-G4	23634	109	B3-U0-G5	24877	115	B3-U0-G5	26121	121	B3-U0-G5								
VSQ-N	25118	116				B4-U0-G2	27116	126	B5-U0-G2	28543	132	B5-U0-G2	29970	139	B5-U0-G2								
VSQ-M	24630	114				B5-U0-G3	26589	123	B5-U0-G3	27988	130	B5-U0-G3	29387	136	B5-U0-G3								
VSQ-W	24042	111				B5-U0-G4	25954	120	B5-U0-G4	27321	127	B5-U0-G4	28686	133	B5-U0-G4								
IHS	17405	81				B1-U0-G3	18789	87	B1-U0-G3	19778	92	B1-U0-G4	20766	96	B2-U0-G4								
IIFRHS	17704	82				B1-U0-G2	19112	89	B1-U0-G2	20118	93	B1-U0-G2	21124	98	B1-U0-G2								
IIIMHS	17608	82				B1-U0-G4	19008	88	B1-U0-G4	20009	93	B1-U0-G4	21009	97	B1-U0-G4								
IIWHS	17234	80				B1-U0-G4	18605	86	B1-U0-G4	19584	91	B1-U0-G4	20564	95	B1-U0-G4								
IVHS	18187	84				B1-U0-G3	19634	91	B1-U0-G4	20667	96	B1-U0-G4	21701	101	B1-U0-G4								
IVFTHS	17188	80				B1-U0-G4	18555	86	B1-U0-G4	19532	90	B1-U0-G4	20509	95	B1-U0-G4								
80	1050	256.4				II	27354	107	B3-U0-G4	29530	115	B4-U0-G4	31084	121	B4-U0-G4	32638	127	B4-U0-G4	N/A		N/A		
						IIFR	27536	107	B3-U0-G2	29727	116	B4-U0-G2	31291	122	B4-U0-G2	32856	128	B4-U0-G2					
			IIML	27355	107	B4-U0-G4	29531	115	B5-U0-G5	31085	121	B5-U0-G5	32639	127	B5-U0-G5								
			IIIM	27832	109	B3-U0-G4	30046	117	B3-U0-G4	31627	123	B4-U0-G4	33209	130	B4-U0-G4								
			IIIW	25841	101	B3-U0-G4	27897	109	B3-U0-G4	29365	115	B3-U0-G5	30834	120	B3-U0-G5								
			IV	27622	108	B3-U0-G4	29820	116	B3-U0-G4	31389	122	B4-U0-G4	32959	129	B4-U0-G4								
			IVFT	25163	98	B3-U0-G5	27165	106	B3-U0-G5	28595	112	B3-U0-G5	30024	117	B3-U0-G5								
			VSQ-N	28871	113	B5-U0-G2	31168	122	B5-U0-G2	32808	128	B5-U0-G2	34448	134	B5-U0-G2								
			VSQ-M	28310	110	B5-U0-G3	30561	119	B5-U0-G3	32170	125	B5-U0-G4	33779	132	B5-U0-G4								
			VSQ-W	27634	108	B5-U0-G4	29833	116	B5-U0-G4	31403	122	B5-U0-G5	32973	129	B5-U0-G5								
			IHS	20005	78	B1-U0-G4	21596	84	B2-U0-G4	22733	89	B2-U0-G4	23870	93	B2-U0-G4								
			IIFRHS	20349	79	B1-U0-G2	21968	86	B1-U0-G2	23124	90	B1-U0-G2	24280	95	B1-U0-G2								
			IIIMHS	20239	79	B1-U0-G4	21848	85	B1-U0-G4	22998	90	B1-U0-G4	24148	94	B1-U0-G4								
			IIWHS	19809	77	B1-U0-G4	21385	83	B1-U0-G														



# Agape Site GIS Map



0 95.60 Feet

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**Notes:**

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