#PLN-2024-180 Waterside
775 S. Main Street –Comprehensive Land Use Map Amendment, Rezoning, Preliminary/Final PUD & Plat of Subdivision
Project Review for Planning and Zoning Commission

Date:	January 15, 2025
Request:	1. Comprehensive Land Use Plan Map Amendment from Commerce to High Density Residential 2. Rezoning from M PUD Manufacturing to R-3B PUD Multi-Family Residential 3. Preliminary and Final Planned Unit Development for a 107-unit townhome development 4. Final Plat of Subdivision
Location:	775 S Main Street
Acreage:	10.5 acres
Zoning:	RE PUD Residential Estate
Surrounding Properties:	North: M PUD – Manufacturing (Three Oaks Recreation Area) South: M PUD – Manufacturing (Three Oaks Recreation Area) East: M PUD – Manufacturing (Three Oaks Recreation Area) West: M – Manufacturing & B-2 General Commercial
Staff Contact:	Kathryn Cowlin (815.356.3605)

Background:

- The site is a vacant parcel, owned by Curran Contracting, and was previously used as a construction yard.
- The petitioner presented a conceptual Planned Unit Development (PUD) at the June 5, 2024 Planning and Zoning Commission meeting and at the June 18, 2024 City Council meeting. At the meeting the petitioner received overall positive feedback with the following comments:
    - Support for the land use of owner-occupied townhomes.

- Concerns with the proposed amenities and pavilion as it looked manufactured. It did not appear inviting.
- Multiple Commissioners and Council members asked for elevated architecture for the development. The architecture should be enhanced on the side elevations, such as bay windows.

Development Analysis:

- The petitioner is seeking the following:
  - Comprehensive Land Use Plan Map Amendment from Commerce to High Density Residential,
  - Rezoning from Manufacturing PUD to R-3B PUD Multi-Family Residential, and
  - Preliminary and Final Planned Unit Development for a 107-unit townhome development, and
  - Final Plat of Subdivision.
- The Petitioner is requesting variations in conjunction with the Planned Unit Development. Based on the plans submitted, the following variations are required:
  - Density: 12.37 dwelling units to the acre instead of the maximum 9 units to the acre.
  - Front Yard Setback: A portion of the development has a 20-foot setback, a variation of 10 feet.
  - Horizontal curvature for the roadway from a required 150 feet radius to a proposed 100 feet radius.
  - Defer the burial of overhead utilities until an area wide program.
  - Sign height of 7 feet and a sign face of 24 square feet, in lieu of the UDO Section 4-1000D-2 maximum sign height of 4 feet and maximum sign face of 16 feet.
  - Design Standards: To allow less than the UDO Section 4-900D-2b (ii) minimum 10% façade glazing area.
  - Sidewalks shall be constructed if none exist whenever any new development, nonresidential or residential is erected. (While a variation is required to not have a sidewalk along Main Street, as part of this development the City is requesting a multi-use path along the rear of the property to provide public access and connection to the loop trail around the lake).
  - Growth Management: To allow more than 25 dwelling units to be constructed in a calendar year.

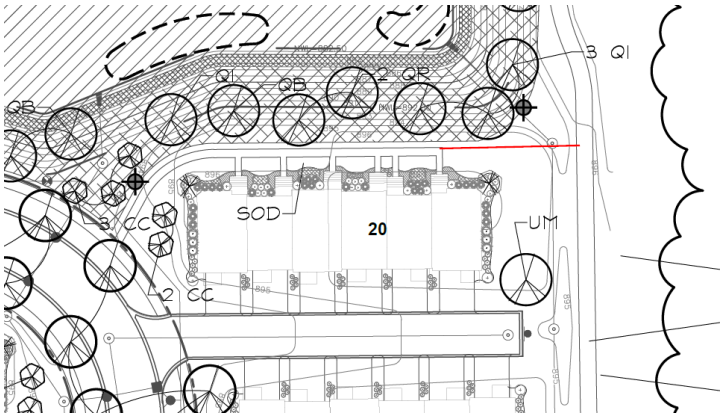
GENERAL

- The proposed development would consist of five (5) 4-unit buildings, three (3) 5-unit building and 12 6-unit buildings for a total of 107 units in 20 buildings.

- The site is currently zoned M PUD Manufacturing and requesting rezoning to R-3B PUD Multi-Family Residential to accommodate the owner-occupied townhomes. Nearby residential units includes the apartments and rental townhomes in Water's Edge.
- The R-3B zoning district permits nine units to the net acre. The development is proposed at 12.37 units to the acre.
- The front yard setback for the units fronting the new public street is 20 feet, a variation of 10 feet. The proposed development complies with the 30-foot front yard setback along Main Street.

SITE LAYOUT

- Access into the site would utilize the existing access at Main Street and Berkshire Drive, and a new, second right-in/right-out only access will be provided on Main Street at the northwest corner of the property.
- There will be two (2) parks within the site with a tot lot, pavilion, grill and seating areas.
- At the City's request, the petitioner will be responsible for installing an 8-foot paved multi-use path along the eastern property line for public use. This path will connect to the loop trail being installed around Three Oaks Recreation Area as well as the existing path along the entry road.
- There is a connection to the 8-foot path at the park area. It is recommended to add another connect at the north end of the development so residents of the townhomes can walk into Three Oaks without having to go south.



- Sidewalks and parkway trees are provided throughout the site.
- The petitioner will not install a sidewalk on the east side of S. Main Street as they will be required to install pedestrian signal heads to the north leg of S. Main Street at Berkshire Drive. This will allow the site to connect to the Prairie Trail on the west side of S. Main Street.

BUILDING ELEVATIONS

- The buildings are three-story, rear-loading townhomes. The Planning and Zoning Commission expressed a desired for rear-loaded townhomes during the conceptual PUD review process.
- The buildings will have a combination of brick and vertical and horizontal vinyl siding. There will be brick on the front and side elevations, with brick extending the full length on the front façade of the corner units or middle units depending on the number of units. There will be two (2) color schemes.

		
Color Scheme "A" Green		*Color Scheme "B" Dark Gray*

- Each unit will have a balcony over the driveway.
- City staff met with the petitioners to discuss the proposed elevations. The petitioner adjusted the roofline of the covered front porches on the four unit buildings to break up the façade of the middle two units.
- Per the UDO's Design Standards for single-family attached/multi-family residential, the following standards must be met.
    - Site Layout, <u>one of the three</u> criteria must be met:
        - ✓ Building orientation - *meets*
        - ✓ Building orientation to street edges - *meets*
        - ▪ Building orientation along interior property lines abutting other residential product types – *not applicable*
    - ✓ Mass and Form: Building design should incorporate visually heavier and more massive elements at the base - *meets*
    - Façade Articulation:
        - ✓ *Individual units are differentiated and articulated with varying porch rooflines, offsets and siding changes.*

      Front facades shall provide at <u>least three</u> of the following design features:

        - ▪ One or more dormer windows or cupola - *not provided*
        - ▪ A recessed entry – *staggered entries provided*
        - ✓ A covered porch - *provided*
        - ✓ Pillars, posts or pilasters - *provided*

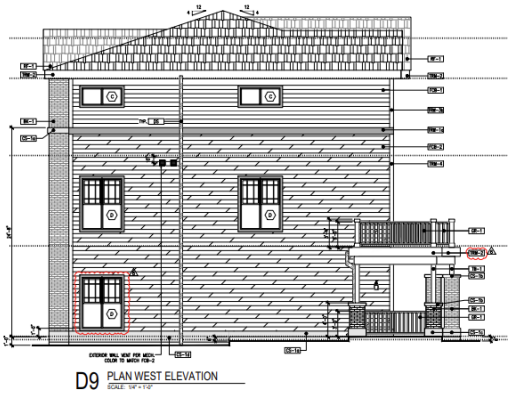
- One or more bay windows with a minimum projection of 12 inches from the façade planes - *not provided*
- ✓ Eaves with a minimum six-inch projection from the façade plane - *provided*
- A parapet wall with articulated design - *not provided*
- ✓ Multiple windows with a minimum four-inch-wide trim - *provided*

o All side and rear facades shall have a minimum of 10% façade glazing area. *The petitioner is seeking a variation from this criterion.*

✓ Roof Articulation: Minimum roof pitch is met and architectural shingles will be used. *Meets.*

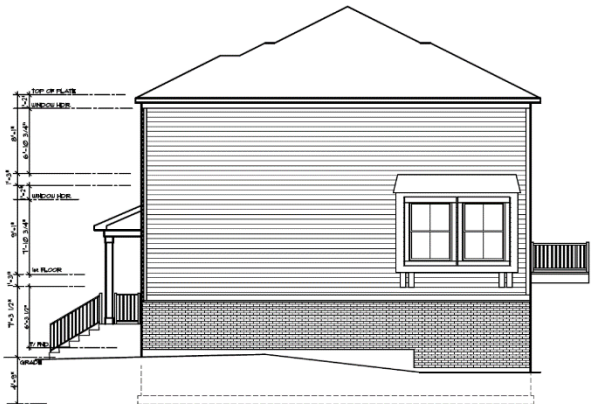
✓ Building Materials: Traditional building materials are encouraged. *The proposed building materials are brick and vinyl siding. It is recommended that the vinyl siding be premium vinyl (.044 or greater).*

- It is recommended to add windows on the side elevations to comply with the 10% glazing requirement. Below are the side elevations of recently approved rear-loaded townhomes.

	
Enclave	Water's Edge

- As an alternative to adding windows to the side elevations for the townhomes fronting Main Street, an option could be to change the purposed side windows to a box bay window to provide dimension to the elevation. An example image is shown here.





PARKING

- Garage and surface parking would be utilized for the townhomes.
- Based on the submitted plans, 241 parking spaces would be required (2 per DU, 1 space shall be in an enclosed garage and 1 can be at least 21 feet long + 0.25 guest spaces per unit). Each unit has a two-car garage and the ability to park two vehicles in the driveways for a total of 428 parking spaces. There are an additional 10 spaces at the proposed park area for visitors.
- On-street parking would be permitted along the straightaway on the east side only. This adds another 23 parking spaces.

LANDSCAPING

- The proposed plans comply with the tree preservation section of the UDO.
- Foundation landscaping is provided.
- Enhanced landscaping along Main Street is proposed where side elevations or the end of driveways are present. This will screen the view of the buildings and driveways from Main Street.
- Two central parks are included to create a view corridor from Main Street to Three Oaks Recreation Area. The parks include landscape areas to provide shade and visual interest.
- The stormwater basin on the City's property to the north will have native naturalized plantings.
    - Existing trees along the Three Oaks Recreation Area entry road will remain.
    - Native trees such as Burr Oak, Swamp White Oak and Hawthorn trees will be added to complement Three Oaks Recreation Area.

SIGNAGE

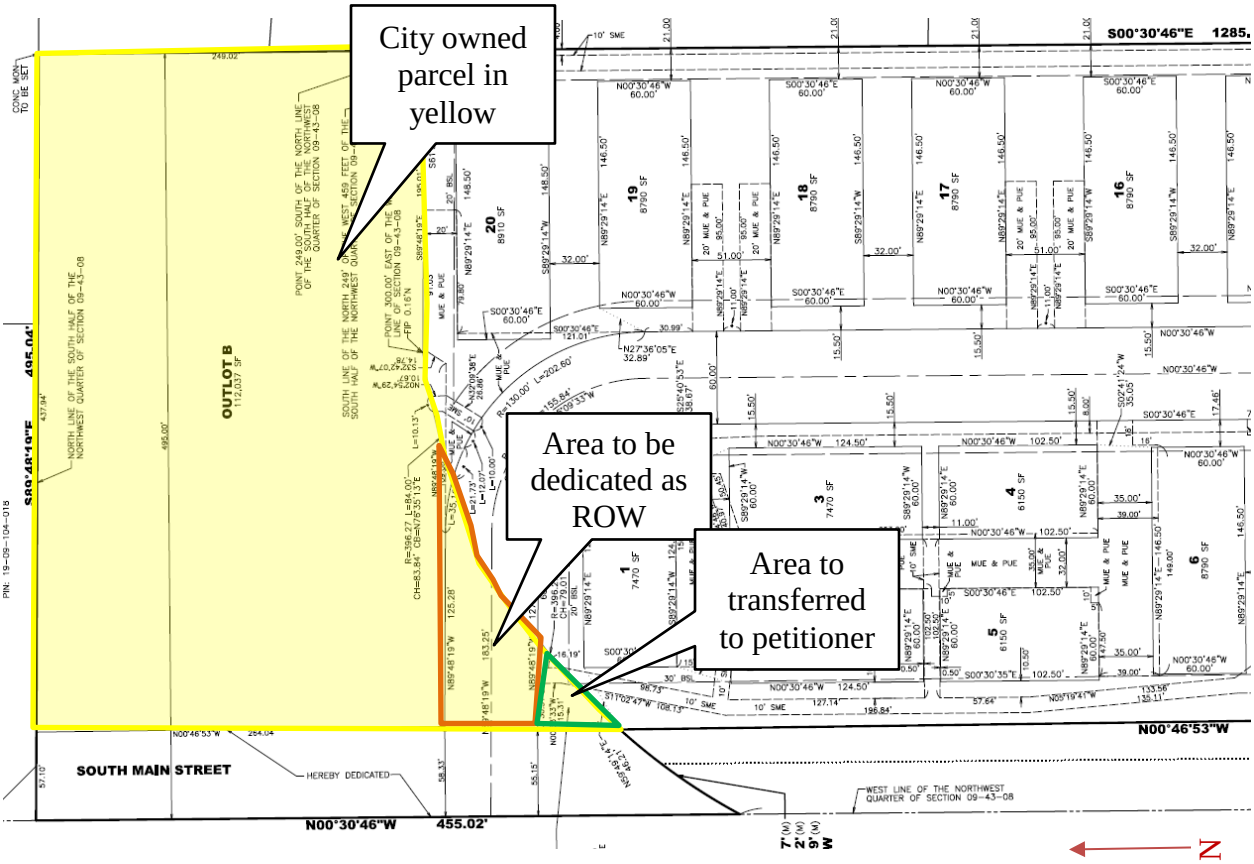
- A freestanding sign is proposed. The sign design is similar in design to the Water's Edge signs and Three Oaks Recreation Area signs.
- A variation is required for the sign height and area.

Sign	UDO Requirement	Request
Sign height	4 feet	7 feet
Sign area	16 square feet	25 square feet

SUBDIVISION

- The proposed subdivision is a 20-lot subdivision with four outlots. Two outlots are created from the City owned parcel and the remaining outlots are the common space for the development.
- A new public road would be created to access the development.

- The property has a curve at the north end of the existing parcel from an old access way when the property was part of the gravel mining. Due to the curve, a portion of the City owned parcel would be transferred to the developer. See diagram below.



Findings of Fact:

COMPREHENSIVE LAND USE PLAN AMENDMENT

Amendment from the existing Comprehensive Land Use Plan designation of Commerce to allow High Density Residential. High Density Residential would be the appropriate designation for the R-3B zoning district and the proposed townhome development.

REZONING

- The property is currently zoned Manufacturing PUD.
- The property would be rezoned to R-3B PUD Multi-Family Residential. The Multi-Family Residential zoning criteria are:
    - General: This district allows the highest density of residential development. It encourages a wide range of housing types, especially multifamily development, even though single-family detached and two-family dwellings are also allowed, to meet the diverse housing needs of City residents. The intent is to provide higher density housing in areas immediately around the historic downtown, areas near commercial

zoning or areas near transit stops where increased density and in-fill development are desirable.

- Character: This district is characterized by residential buildings that cover a large percentage of the lot, are taller and spaced closely enough to create a sense of vertical enclosure.
- Uses: This district is for higher density residential neighborhoods that meet the community's housing needs, particularly for higher density and in-fill housing development. Single-family and two-family dwellings are also permitted. Complementary uses such as certain civic and recreational uses are permitted, but are subject to restrictions set forth in this Ordinance.

Criteria for Rezoning:

(a) The existing uses and zoning of nearby property.
☐ *Meets* ☐ *Does not meet*

(b) The extent to which property values are diminished by a particular zoning classification or restriction.
☐ *Meets* ☐ *Does not meet*

(c) The extent to which the destruction of property value of a petitioner property owner promotes the health, safety, morals or general welfare of the public.
☐ *Meets* ☐ *Does not meet*

(d) The relative gain to the public as opposed to the hardship imposed on a petitioning property owner.
☐ *Meets* ☐ *Does not meet*

(e) The suitability of the subject property for its zoned purposes.
☐ *Meets* ☐ *Does not meet*

(f) The length of time the property has been vacant as zoned, considered in the context of land development in the area.
☐ *Meets* ☐ *Does not meet*

(g) The Comprehensive Plan designation and the current applicability of that designation.
☐ *Meets* ☐ *Does not meet*

(h) The evidence or lack of evidence, of community need for the use proposed.
☐ *Meets* ☐ *Does not meet*

PRELIMINARY/FINAL PLANNED UNIT DEVELOPMENT

The petitioner is requesting approval of a Preliminary and Final Planned Unit Development to allow a 107-unit townhome development. A Planned Unit Development is a Special Use and Special Uses require separate review because of their potential to impact surrounding properties and the orderly development of the City.

Section 2-400 B General Standards for all special uses in the Unified Ordinance establishes standards for all special uses in Crystal Lake. Briefly, the criteria are as follows:

1. The use is necessary or desirable, at the proposed location, to provide a service or facility which will further the public convenience and general welfare.

   ☐ *Meets* ☐ *Does not meet*

2. The use will not be detrimental to area property values.

   ☐ *Meets* ☐ *Does not meet*

3. The use will comply with the zoning districts regulations.

   ☐ *Meets* ☐ *Does not meet*

4. The use will not negatively impact traffic circulation.

   ☐ *Meets* ☐ *Does not meet*

5. The use will not negatively impact public utilities or municipal service delivery systems. If required, the use will contribute financially to the upgrading of public utilities and municipal service delivery systems.

   ☐ *Meets* ☐ *Does not meet*

6. The use will not negatively impact the environment or be unsightly.

   ☐ *Meets* ☐ *Does not meet*

7. The use, where possible will preserve existing mature vegetation, and provide landscaping and architecture, which is aesthetically pleasing, compatible or complementary to surrounding properties and acceptable by community standards.

   ☐ *Meets* ☐ *Does not meet*

8. The use will meet requirements of all regulating governmental agencies.

   ☐ *Meets* ☐ *Does not meet*

9. The use will conform to any conditions approved as part of the issued Special Use Permit.

   ☐ *Meets* ☐ *Does not meet*

10. The use will conform to the regulations established for specific special uses, where applicable.

    ☐ *Meets* ☐ *Does not meet*

In addition PUDs must also meet the standards in Section 4-500 C. Development Standards and 4-500 D. 1 Additional standards for Planned Unit Developments Residential PUDs.

a. Location: A residential PUD can be located anywhere in the City, including any land proposed for annexation.
   ☐ *Meets* ☐ *Does not meet*

b. Permissible uses: A mix of different residential dwelling types in proximity to each other is encouraged. Neighborhood commercial uses serving the development may be approved as part of a residential PUD where appropriate.
   ☐ *Meets* ☐ *Does not meet*

c. Nonresidential uses: Any nonresidential use permitted in a residential PUD shall be compatible with the residential nature of the development. Parking areas which are intended to serve nonresidential uses shall be separated from those designed to serve residential areas. Unless commercial and residential uses are combined within a single structure, commercial uses shall be separated from dwelling units by a heavily landscaped buffer zone that meets the requirements of Section 4-400, Landscaping and screening standards.
☐ *Meets* ☐ *Does not meet*

d. Pedestrian paths: Pedestrian paths shall connect residential uses and nonresidential uses within a residential PUD.
☐ *Meets* ☐ *Does not meet*

e. Growth management: A growth management schedule shall be provided to and approved by the City Council, which indicates the number and type of residential units to be constructed in each calendar year. The maximum number of units to be constructed shall be 25 residential units or 15% of the total number of residential units (including all phases of the proposal), whichever is greater, in any calendar year. The City Council with recommendations from the Planning and Zoning Commission, at final PUD approval can approve, deny or adjust the percentage of an increase in the number of units that can be built in one calendar year. The City Council and the Planning and Zoning Commission shall consider the following criteria in approving an increase in the number of units that can be built annually:

i. Advance dedication of school and park sites and advance payment of school, park and other impact fees;
☐ *Meets* ☐ *Does not meet*

The public multi-use path will be completed during the first phase.

ii. Payment for installation of road impact improvements or fees applicable by law;
☐ *Meets* ☐ *Does not meet*

iii. Smaller subdivisions which encourage in-filling within an established part of the community;
☐ *Meets* ☐ *Does not meet*

This proposal is considered an infill development.

iv. Completion of major and collector road networks and critical linkages in the street systems;
☐ *Meets* ☐ *Does not meet*

v. Fulfill a need for various unit types and income levels such as low and moderate-income housing;
☐ *Meets* ☐ *Does not meet*

vi. Provisions which satisfy needed public facilities;
☐ *Meets* ☐ *Does not meet*

vii. Innovative architectural design, quality of exterior materials and creative use of landscaping;
☐ *Meets* ☐ *Does not meet*

viii. Other criteria or extraordinary amenities, not listed above, which may meet the development goals of the City.
☐ *Meets* ☐ *Does not meet*

PLANNED UNIT DEVELOPMENT VARIATIONS

The petitioner is requesting approval of a Preliminary and Final Planned Unit Development to allow variations for garage doors of attached garages cannot be more than 50% of the total length of building front façade and they must be offset two feet from next garage door and horizontal curve radius to allow less than the minimum required 150-foot centerline curve, and sidewalks shall be constructed if none exist whenever any new development, nonresidential or residential is erected. The purpose of Planned Unit Developments is to encourage and allow more creative and imaginative design of land developments than is possible under district zoning regulations. Planned Unit Developments are, therefore, intended to allow substantial flexibility in planning and designing a proposal. This flexibility is often in the form of relief from compliance with conventional zoning ordinance site and design requirements which may otherwise require individual requests and applications for zoning variations.

Ideally, this flexibility results in a development that is better planned, contains more amenities, and is ultimately more desirable than one that would have been produced through compliance with typical zoning ordinance and subdivision controls.

Therefore, more lenient site requirements may be granted where the Planned Unit Development contains features not normally required of traditional developments. Although a formal variation request is not required to be made in conjunction with a Planned Unit Development, staff identifies those aspects of the Planned Unit Development which effectively result in variations from UDO requirements. If the evidence is not found to justify these variations from the UDO that fact shall be reported to the City Council with a recommendation that the variations from the UDO which are proposed as part of the Planned Development be lessened or denied.

The Planned Unit Development Amendment proposed by the Petitioner includes the following variations from the UDO:

1. Article 3-200(A)(6) Maximum net density of nine units per acre to allow 12.37 units per acre.

   The development includes two park areas and open space between each pod.

2. Article 3-200(A)(6) Front yard setback of 30 feet to allow 20 feet for the pods fronting the new public street.

   The pods are set closer to the street to allow for a larger setback from Three Oaks Recreation Area.

3. Article 4-100(D)(2)(g) Sidewalks shall be constructed if none exist whenever any new development, nonresidential or residential is erected, unless a variation is granted. A variation would be required in order to not install sidewalks along Route 176.

   There are no sidewalks on the east side of Main Street and the City requested that a multi-use path be extended from the intersection of Main Street and Berkshire Drive to Three Oaks Recreation Area. This will connect the Prairie Trail with Three Oaks Recreation Area.

4. Article 4-500(D)(1)(e) Growth management to allow for greater than 25 units to be constructed in a year.

5. Article 4-100D.1(c)(v) Minimum Horizontal Curve 150-foot minimum centerline curve.

   The horizontal curve at the north end of the development does not meet the 150 foot minimum centerline curve due to site constraints and is at 100-foot.

6. Article 4-1000(D)(2) Sign requirements of a maximum height of four feet and area of 16 feet to allow a seven foot sign with 24 square feet of sign area.

   The proposed sign is smaller in design to the Water's Edge sign for the residential area. The Water's Edge sign is 10 feet in height and 120 square feet.

7. Article 4-900(D)(2)(b)(ii) Minimum 10% façade glazing area for the side elevations to allow 3.5%.

8. Article 5-200F.1 Public Utilities: Deferral of the burial of overhead utility lines until an area wide program.

FINAL PLAT OF SUBDIVISION

The petitioner is requesting a Final Plat of Subdivision for Waterside Subdivision. The subdivision is a 20-lot subdivision to divide the 13.2 acres into 20 townhome lots for separate ownership.

a) Promote the health, safety, morals, convenience, order, prosperity and welfare of the present and future inhabitants of the City by providing for the orderly growth and development of the City;

   ☐ *Meets* ☐ *Does not meet*

b) Coordinating streets and roads within proposed subdivisions with the City's planned street system, and with other public facilities;
☐ *Meets* ☐ *Does not meet*

c) Providing right-of-way easements for streets and utilities;
☐ *Meets* ☐ *Does not meet*

d) Avoiding congestion and overcrowding, and encouraging the proper arrangement of streets in relation to existing or planned streets;
☐ *Meets* ☐ *Does not meet*

e) Ensuring there is adequate open space and recreation facilities to serve development;
☐ *Meets* ☐ *Does not meet*

f) Ensuring there is proper recordation of landownership records;
☐ *Meets* ☐ *Does not meet*

g) Installation of any public improvements including water, sewer, storm sewer or detention, parkway trees, and sidewalks;
☐ *Meets* ☐ *Does not meet*

h) Burial of overhead utility lines and all new lines and services in appropriate easements; and
☐ *Meets* ☐ *Does not meet*

i) Ensuring the provision of such other matters as the City Council may deem necessary in order to protect the general health, safety, and welfare of the City
☐ *Meets* ☐ *Does not meet*

Comprehensive Land Use Plan 2030 Vision Summary Review:

Land Use: Residential
The Comprehensive Plan designates the subject property as Commerce. The proposed amendment is for High Density Residential. The goal of a Residential designation is as follows:

Encourage a diversity of high quality housing in appropriate locations throughout the city that supports a variety of lifestyles and invigorates community character.

The Comprehensive Plan indicates this can be accomplished with the following supporting action:

Supporting Action: Encourage a diversity of housing types throughout the city, which satisfy wide-range needs for all persons regardless of age, race, religion, national origin, physical ability and economic level for existing and future city residents.

Three Oaks Recreation Area PUD Overlay District:

Section 1-700(P)(1) states, "the positive impacts of Three Oaks help to enhance and maintain property values within this district. It is in the intent of the Three Oaks PUD Overlay District to promote orderly and high-quality development that is compatible with the character and use of Three Oaks, consistent with and complementary of the area's recreational uses and amenities, and supportive of a strong and stable tax base."

- ✓ The proposed development will strengthen the district by improving the underdeveloped property.
- ✓ The proposed development is walkable to the Water's Edge development, which is adding restaurants and retail.
- ✓ The addition of the multi-use path/bike path helps achieve one of the goals for Three Oaks Recreation Area.

Recommended Conditions:

If a motion to recommend approval of the petitioner's request is made, the following conditions are recommended:

1. Approved plans, reflecting staff and advisory board recommendations, as approved by the City Council:
   A. Application (Lennar Corporation, dated 09/16/2024, received 09/17/2024)
   B. Site Plan (Gary R. Weber Associates, Inc., dated 12/18/2024)
   C. Final Plat of Subdivision (Mackie Consultants, LLC, dated 12/18/2024)
   D. Final Engineering Plans (Mackie Consultants, LLC, dated 12/17/2024)
   E. Elevations (Lennar Corporation, received 01/06/2025)
   F. Color Renderings (Lennar Corporation, received 01/03/2025)
   G. Landscape Plans (Gary R. Weber Associates, Inc., dated 12/19/2024)
   H. Fire Truck Turning Exhibit (Mackie Consultants, LLC, dated 12/18/2024)
   I. Stormwater Report (Mackie Consultants, LLC, dated 09/12/2024, revised 11/25/2024)
   J. Traffic Study (Gewalt Hamilton, dated 12/03/2024)

2. Elevations:
   A. Add windows to the side elevations to meet the 10% glazing requirement.
   B. All units are to be constructed with premium vinyl siding (0.044 or greater) and installed properly with long runs in order to allow for movement during temperature changes.

3. Site Plan:
   A. Extend the sidewalk from pod 20 to the 8-foot path to allow a second access point to the Three Oaks Recreation Area trail for the residents.

B. Per the traffic study, the proposed crosswalk with pedestrian sign head upgrades on the north leg of the intersection of Main Street and Berkshire Drive will need to be installed as part of the townhouse development.

C. A variance is required for the 650-4-100D(v) for the northern horizontal curve radii which is proposed at 100 feet instead of the Code requirement of 150 feet is approved.

D. Parking is permitted on the east side of the new road along the straightaway only. Post no-parking signs accordingly.

4. Work with city staff to finalize the Landscape Plan.

5. Utilize the street lighting standard that was approved for the Water's Edge development along the new public street (Halophane GBLF3).

6. Install the multi-use path as part of the first phase of construction.

7. Plat of Subdivision:

   A. Work with staff to finalize easement language for the stormwater conveyance to the basin on the City's property.

   B. The City will work with the petitioner to dedicate right-of-way and transfer ownership of outlot A.

8. Provide Covenants, Codes and Restrictions for staff review.

9. The petitioner shall address all of the review comments and requirements of the Fire Rescue, Public Works and Engineering, and Community Development Departments in addition to those of the City's stormwater consultant and traffic consultant.

PIQ Map
775 S. Main Street, Crystal Lake, IL



City of Crystal Lake
Development Application

Office Use Only
File # _____

Project Title: Waterside at Three Oaks

Action Requested

- ___ **Annexation**
- X **Comprehensive Plan Amendment**
- ___ **Conceptual PUD Review**
- X **Final PUD**
- ___ **Final PUD Amendment**
- X **Final Plat of Subdivision**
- X **Preliminary PUD**
- ___ **Preliminary Plat of Subdivision**
- X **Rezoning**
- ___ **Special Use Permit**
- X **Variation**
- ___ **Other**

Petitioner Information

Name: CalAtlantic Group, LLC

Address: 1700 E. Golf Rd., Suite 1100
Schaumburg, IL 60173

Phone: 224-293-3115

Fax:

E-mail: richard.murphy@lennar.com

Owner Information (if different)

Name: Curran Group, Inc.

Address: 286 Memorial Court
Crystal Lake, IL 60014

Phone: 815-455-5100

Fax:

E-mail: tcurran@currangroup.com

Property Information

Project Description: Project is a townhome development of 20 buildings with a total of 107 units on a vacant 10.5 acre parcel. Builidings will have from 4 to 6 units.

Project Address/Location: Project is located on the northeast corner of the intersection of Berkshire Drive and Main Street on the shore of the Three Oaks Recreation Area. The Site Address is 7502 S. Main Street, Crystal Lake.

PIN Number(s): 19-09-100-029, 19-09-100-028

Development Team

Please include address, phone, fax and e-mail

Developer: CalAtlantic Group, LLC , 1700 E. Golf Road, Suite 1100, Schaumburg, IL 60173; 224-293-3100

Architect: CalAtlantic Group, LLC , 1700 E. Golf Road, Suite 1100, Schaumburg, IL 60173; 224-293-3100

Attorney: Lisa M. Waggoner, Four North Walkup Ave, Crystal Lake, IL 60014; 815-477-0830; (FAX) 815-477-0834; lwaggoner@waggonerlawfirm.com

Engineer: Mackie Consultants, LLC, 9575 W. Higgins Rd, #500, Rosemont, IL 60018; 847-696-1400

Landscape Architect: Gary R. Weber Associates, Inc. 402 W. Liberty Dr, Wheaton, IL 60187; 630-668-7197

Planner: Gary R. Weber Associates, Inc. 402 W. Liberty Dr, Wheaton, IL 60187; 630-668-7197

Surveyor: Mackie Consultants, LLC, 9575 W. Higgins Rd, #500, Rosemont, IL 60018; 847-696-1400

Other:

Signatures CalAtlantic Group, LLC

By: Richard L. Murphy Richard L. Murphy 9/16/24

PETITIONER: Print and Sign name (*if different from owner*) **Date**

As owner of the property in question, I hereby authorize the seeking of the above requested action.

Cwrran Group, Inc. by: Timothy J. Curry Exec. V.P. 9/16/24

OWNER: Print and Sign name **Date**

NOTE: If the property is held in trust, the trust officer must sign this petition as owner. In addition, the trust officer must provide a letter that names all beneficiaries of the trust.

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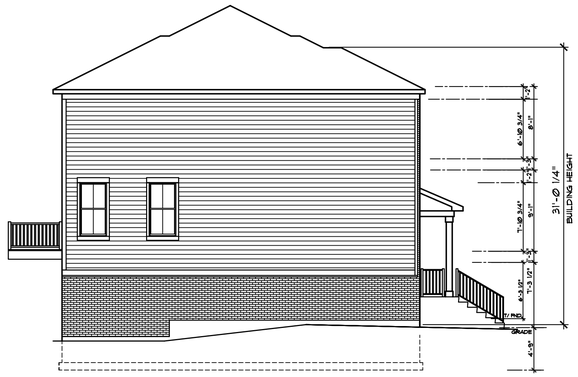
Back

Notice Publish Date:
Saturday, December 28, 2024

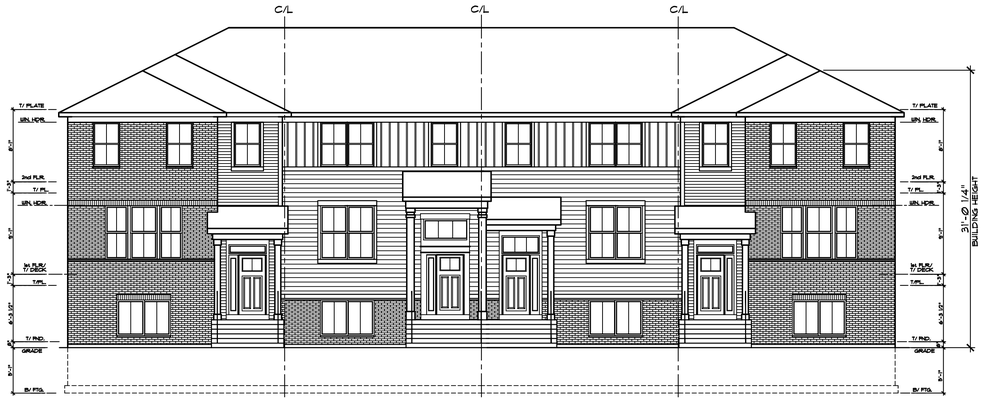
Notice Content

PUBLIC NOTICE BEFORE THE PLANNING AND ZONING COMMISSION OF THE CITY OF CRYSTAL LAKE, MCHENRY COUNTY, ILLINOIS IN THE MATTER OF THE APPLICATION OF Curran Group, Inc. as Owner And CalAtlantic Group, LLC as Contract Purchaser LEGAL NOTICE Notice is hereby given in compliance with the Unified Development Ordinance (UDO) of the City of Crystal Lake, Illinois, that a public hearing will be held before the Planning and Zoning Commission upon the application by Curran Group, Inc. as Owner CalAtlantic Group, LLC as Contract Purchaser for approval of a Comprehensive Land Use Plan Map Amendment from Commerce to High Density Residential, Rezoning from M PUD Manufacturing to R-3B Multi-Family Residential, Preliminary and Final Planned Unit Development and Final Plat of Subdivision at the following real estate commonly known as 775 S. Main Street, Crystal Lake, Illinois 60014 bearing PINS: 19-09-100-029 and 19-09-100-028 and a development area consisting of approximately 10.5 vacant acres. This application is filed for the purposes of seeking a Comprehensive Land Use Plan Map Amendment from Commerce to High Density Residential, Rezoning M PUD Manufacturing to R-3B PUD Multi-Family Residential, Final Plat of Subdivision, and Preliminary and Final Planned Unit Development for a 107-unit townhome development and variations a) to allow a 20-foot front yard setback in lieu of the 30-foot requirement, b) to allow 12.37 dwelling units per acre, c) to allow a deviation on the horizontal curvature for the roadway from a required 150 feet radius to a proposed 100 feet radius, d) to replace the required sidewalk along Main Street with a multi-use path along the rear of the property, e) to defer the burial of overhead utilities until an area wide program, f) to allow a sign height of 7 feet and a sign face of 24 square feet, in lieu of the UDO Section 4-1000D-2 maximum sign height of 4 feet and maximum sign face of 16 feet and g) to allow less than the UDO Section 4-900D-2b (ii) minimum 10% façade glazing area on the buildings side elevations and any other variations necessary to approve the plans as presented pursuant to Article 3, Article 4, Article 5 and Article 9. Plans for this project can be viewed at the City of Crystal Lake Community Development Department at City Hall. A public hearing before the Planning and Zoning Commission on the request will be held at 7:00 p.m. on Wednesday, January 15, 2025, at the Crystal Lake City Hall, 100 West Woodstock Street, at which time and place any person determining to be heard may be present. Jeff Greenman, Chairperson Planning and Zoning Commission City of Crystal Lake (Published in the Northwest Herald on December 28, 2024) 2216367

Back



SIDE ELEVATION



CHELSEA
ELEVATION #7E

AMHERST
ELEVATION #1E

AMHERST
ELEVATION #1E

CHELSEA
ELEVATION #7E

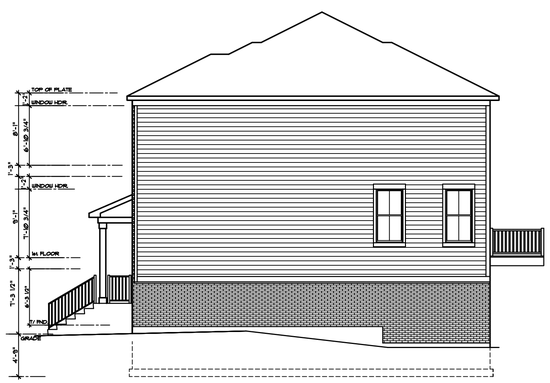
LEFT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

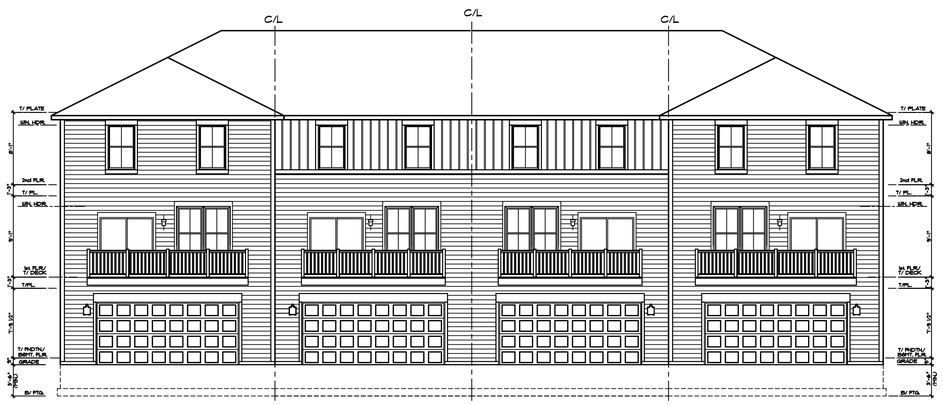
SEE: INDIVIDUAL UNIT ELEVATIONS FOR MORE DETAILED DIMENSIONS AND INFORMATION.

FRONT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"



SIDE ELEVATION



CHELSEA

AMHERST

AMHERST

CHELSEA

RIGHT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

REAR CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

REV.NO.	DATE	REMARKS

THREE 4-UNIT

LENNAR Homes expressly reserves its copyright and other property rights in these plans and drawings. These plans and drawings are not to be reproduced or copied in any form or manner.

LENNAR

SET NO.

MODEL
4-UNIT BUILDING

DRAWING TITLE
CONTROL ELEVATIONS

DRAWN BY D.N

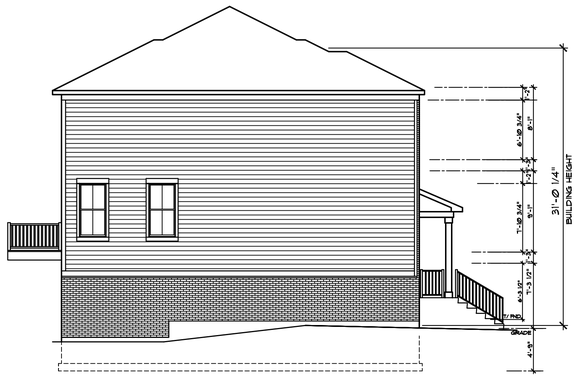
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OPTION DESCRIPTION

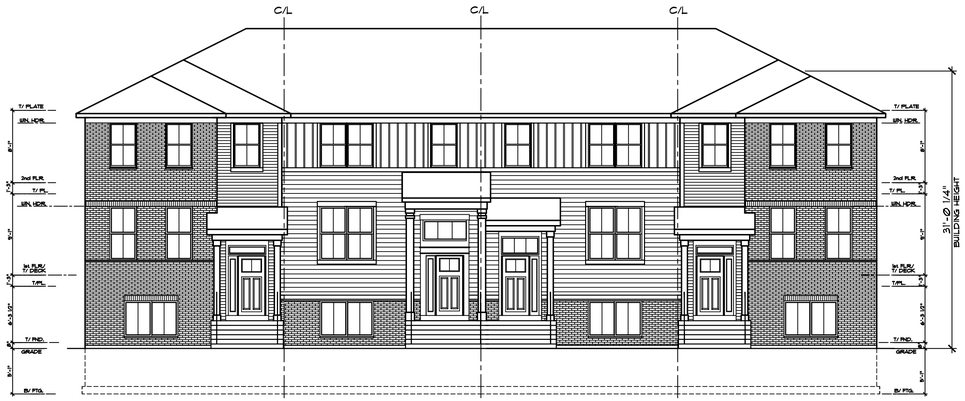
FILE NAME

XREF

SHEET NO.
C3



SIDE ELEVATION



CHATHAM ELEVATION #2E | AMHERST ELEVATION #1E | AMHERST ELEVATION #1E | CHATHAM ELEVATION #2E

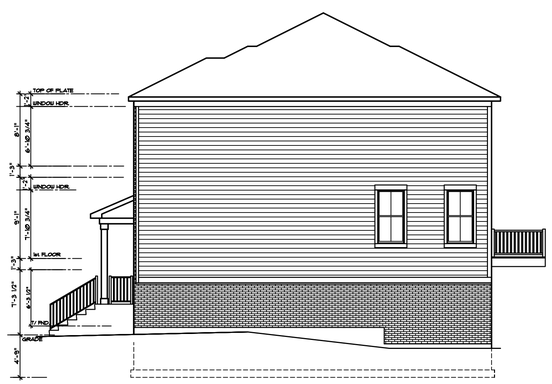
LEFT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

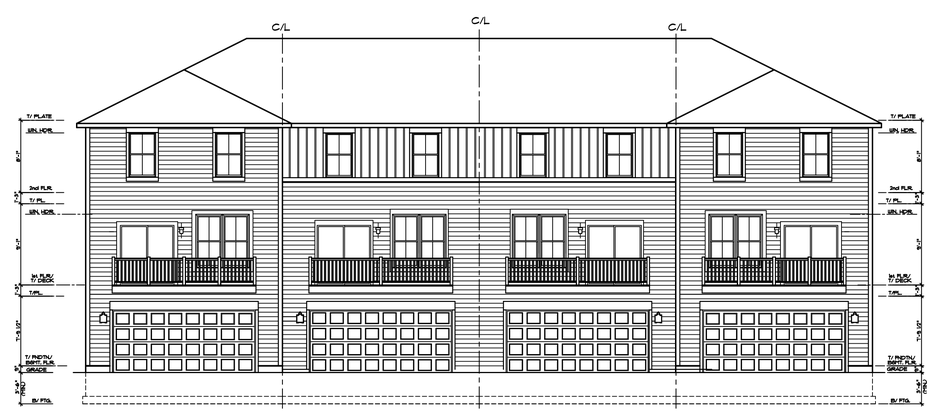
SEE: INDIVIDUAL UNIT ELEVATIONS FOR MORE DETAILED DIMENSIONS AND INFORMATION.

FRONT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"



SIDE ELEVATION



CHATHAM | AMHERST | AMHERST | CHATHAM

RIGHT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

REAR CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

REV.NO.	DATE	REMARKS

THREE 4-UNIT

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LENNAR

MODEL: ALT. 4-UNIT BUILDING

DRAWING TITLE: CONTROL ELEVATIONS

OPTION DESCRIPTION

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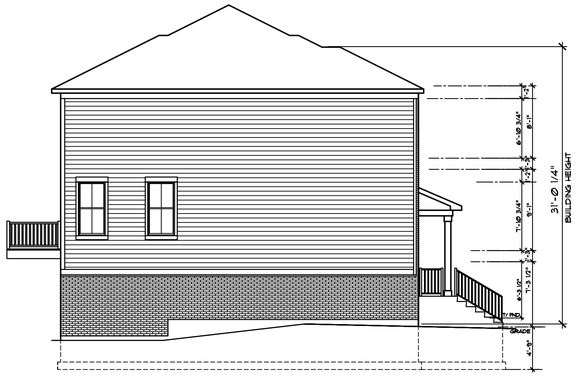
DRAWN BY D.N

OPTION NO.

FILE NAME

XREF

SHEET NO. C3a



SIDE ELEVATION



CHELSEA
ELEVATION #7E

AMHERST
ELEVATION #1E

CHELSEA
ELEVATION #6E

AMHERST
ELEVATION #1E

CHELSEA
ELEVATION #7E

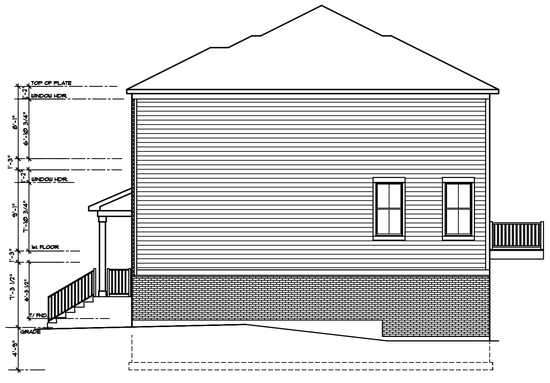
LEFT CONTROL ELEVATION

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

SEE: INDIVIDUAL UNIT ELEVATIONS FOR MORE DETAILED DIMENSIONS AND INFORMATION.

FRONT CONTROL ELEVATION

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



SIDE ELEVATION



CHELSEA

AMHERST

CHELSEA

AMHERST

CHELSEA

RIGHT CONTROL ELEVATION

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

REAR CONTROL ELEVATION

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

REV.NO. | DATE | REMARKS

THREE OAKS
5-UNIT BLDG.

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LENNAR

MODEL: 5-UNIT BUILDING

DRAWING TITLE: CONTROL ELEVATIONS

OPTION DESCRIPTION

SET NO.

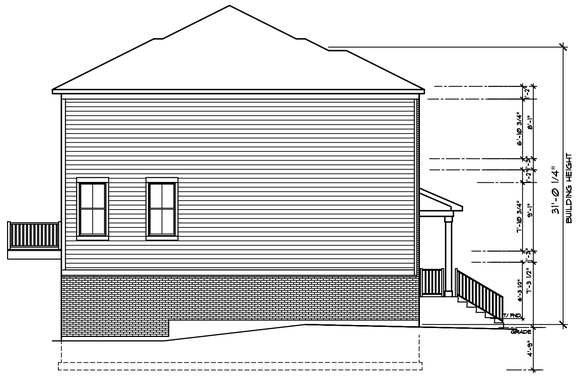
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OPTION NO.

FILE NAME

XREF

SHEET NO.: C6



SIDE ELEVATION



CHATHAM ELEVATION #2E | AMHERST ELEVATION #1E | CHELSEA ELEVATION #6E | AMHERST ELEVATION #1E | CHATHAM ELEVATION #2E

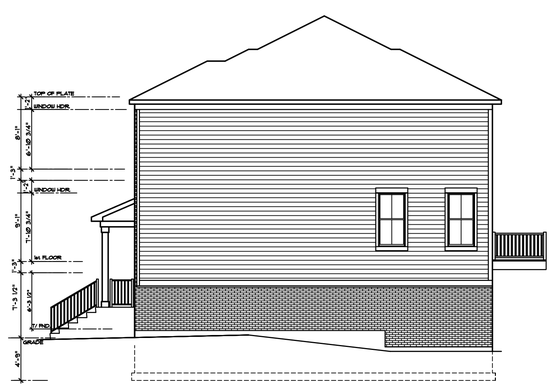
LEFT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

SEE: INDIVIDUAL UNIT ELEVATIONS FOR MORE DETAILED DIMENSIONS AND INFORMATION.

FRONT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"



SIDE ELEVATION



CHATHAM | AMHERST | CHELSEA | AMHERST | CHATHAM

RIGHT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

REAR CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

REV.NO.	DATE	REMARKS

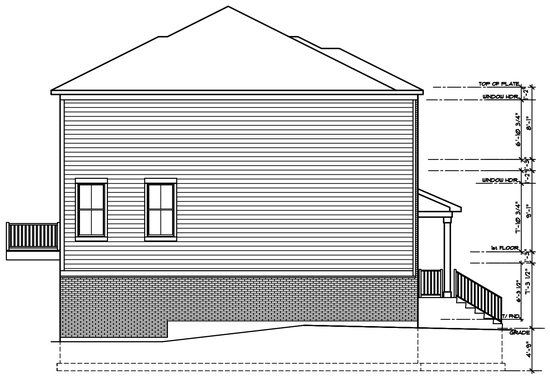
THREE 5-UNIT

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LENNAR

SET NO.	
MODEL	ALT. 5-UNIT BUILDING
DRAWING TITLE	CONTROL ELEVATIONS
DRAWN BY	D.N
OPTION NO.	
OPTION DESCRIPTION	

FILE NAME	
XREF	
SHEET NO.	C6a



SIDE ELEVATION



CHELSEA
ELEVATION *7E

AMHERST
ELEVATION *1E

CHELSEA
ELEVATION *6E

CHATHAM
ELEVATION *1E

AMHERST
ELEVATION *1E

CHELSEA
ELEVATION *7E

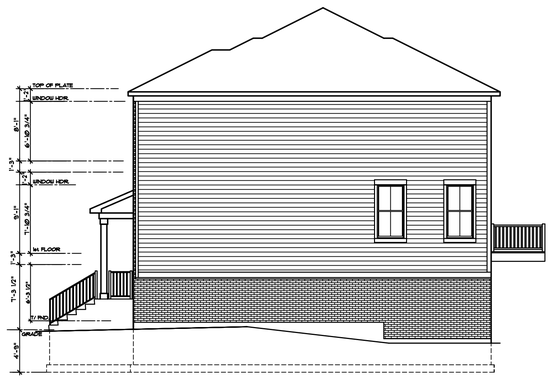
LEFT CONTROL ELEVATION

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

SEE: INDIVIDUAL UNIT ELEVATIONS FOR MORE DETAILED DIMENSIONS AND INFORMATION.

FRONT CONTROL ELEVATION

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



SIDE ELEVATION



CHELSEA

AMHERST

CHATHAM

CHELSEA

AMHERST

CHELSEA

RIGHT CONTROL ELEVATION

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

REAR CONTROL ELEVATION

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

REVI NO. | DATE | REMARKS

THREE OAKS
6-UNIT BLDG.

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LENNAR

MODEL: 6-UNIT BUILDING

DRAWING TITLE: CONTROL ELEVATIONS

OPTION DESCRIPTION

SET NO.

DRAWN BY: DJN

OPTION NO.

FILE NAME

XREF

SHEET NO. C9



SIDE ELEVATION

LEFT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

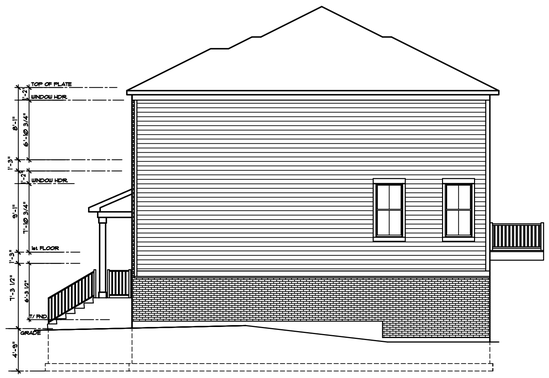


CHATHAM ELEVATION •2E | AMHERST ELEVATION •1E | CHELSEA ELEVATION •6E | CHATHAM ELEVATION •1E | AMHERST ELEVATION •1E | CHATHAM ELEVATION •2E

SEE: INDIVIDUAL UNIT ELEVATIONS FOR MORE DETAILED DIMENSIONS AND INFORMATION.

FRONT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"



SIDE ELEVATION



CHELSEA | AMHERST | CHATHAM | CHELSEA | AMHERST | CHATHAM

RIGHT CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

REAR CONTROL ELEVATION

SCALE: 1/8" = 1'-Ø"

REV.NO. | DATE | REMARKS

THREE OAKS
6-UNIT BLDG.

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LENNAR

MODEL: 6-UNIT BUILDING

DRAWING TITLE: CONTROL ELEVATIONS

OPTION DESCRIPTION

SET NO.

DRAWN BY: DJN

OPTION NO.

FILE NAME

XREF

SHEET NO.: C9a



Waterside at Three Oaks

Floorplan	Amherst	Chatham	Chelsea
Square Footage	1,764	1,894/2,039	2,221/2,175
Bedrooms	3.0	3.0	3.0
Bathrooms	2.5	2.5	2.5
Garage	2.0	2.0	2.0

Building Materials

- .042/.044 Vinyl Siding per plan
- Band Boards & Window Grids per plan
- Brick veneer on front and side elevation per plan (multiple colors available)
- Cultured stone on front elevations per plan
- Front elevations with dormers, porch columns, pillars, shutters etc.
- 30-year architectural shingles
- Fully sodded front, side, and rear yards
- 13D Sprinkler system

Designer Spec Level

- Vinyl Plank Flooring at all hard surfaces
- Standard 42” kitchen cabinet height
- Single-bowl large kitchen sink
- Quartz countertops throughout
- Double bowl sinks in owner’s bathroom
- 9’ ceiling height for first floor (standard)
- Oak rail and metal spindle
- Deluxe shower and bathroom – Ceramic base with ceramic wall tile to ceiling, brushed nickel trim on shower door
- Stainless steel kitchen equipment

Waterside at Three Oaks

Six-unit townhomes

Six-unit townhomes – Color option A



Six-unit townhomes (A) – Rear Right



Six-unit townhomes (A) – Rear Left



Six-unit townhomes – Color Option B



Six-unit townhomes (B) – Rear Right



Six-unit townhomes (B) – Rear Left



Waterside at Three Oaks

Five-unit townhomes

Five-unit townhomes – Color Option ‘A’



Five-unit townhomes – Rear Left (A)



Five-unit townhomes – Rear Right (A)



Five-unit townhomes – Color Option ‘B’



Five-unit townhomes – Rear Left (B)

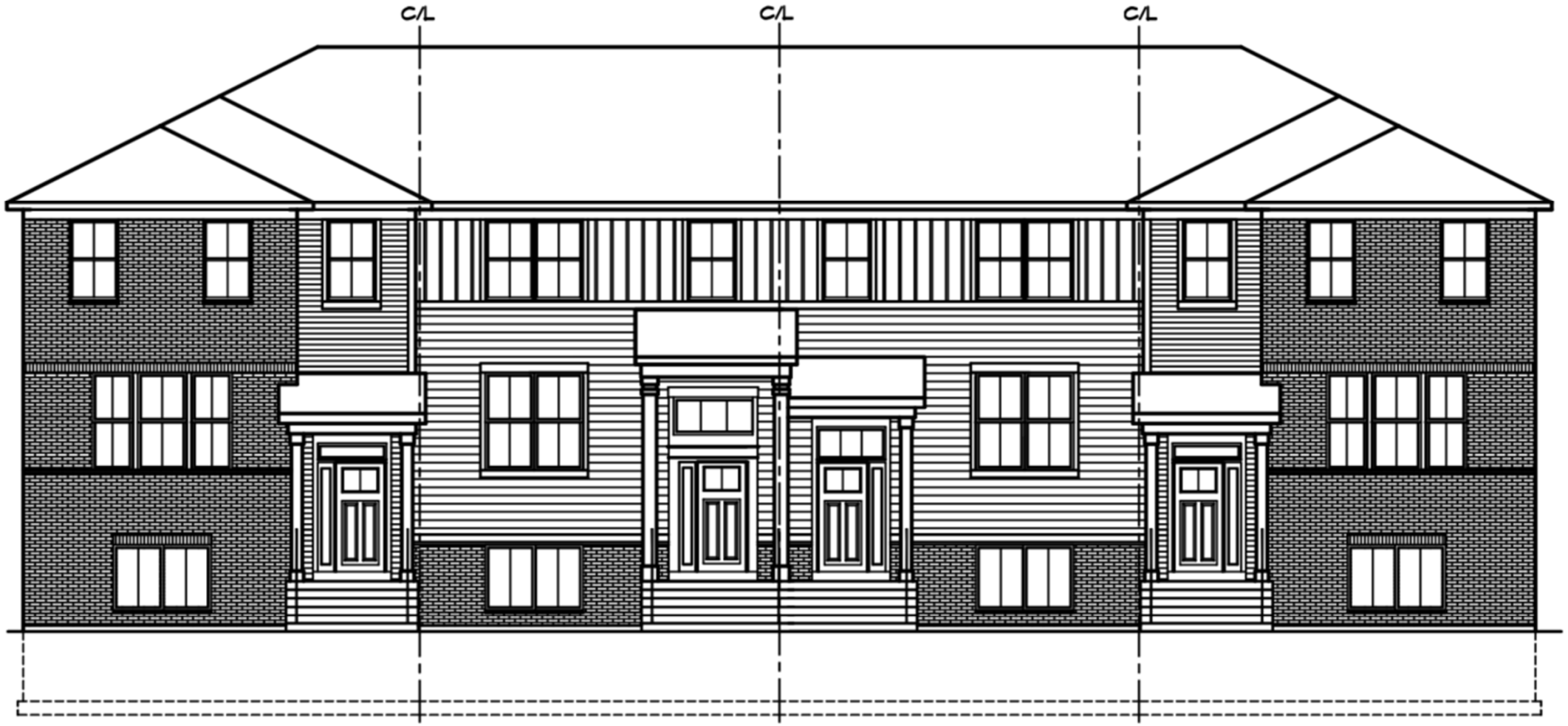


Five-unit townhomes – Rear Right (B)



Waterside at Three Oaks

Four-unit townhomes



*Renderings do not capture front porch elevation difference.

Four-unit townhomes – Color Option ‘A’



*Renderings do not capture front porch elevation difference. See previous slide

Four-unit townhomes – Rear Left (A)



Four-unit townhomes – Rear Right (A)



Four-unit townhomes – Color Option ‘B’



*Renderings do not capture front porch elevation difference. See B&W slide

Four-unit townhomes – Rear Left (B)



Four-unit townhomes – Rear Right (B)



Waterside at Three Oaks

Glazing Exhibit

WATERSIDE AT THREE OAKS EXHIBIT

OVERALL GLAZING PERCENTAGES TO MEET STANDARD - ALL TYPES OVER 10%

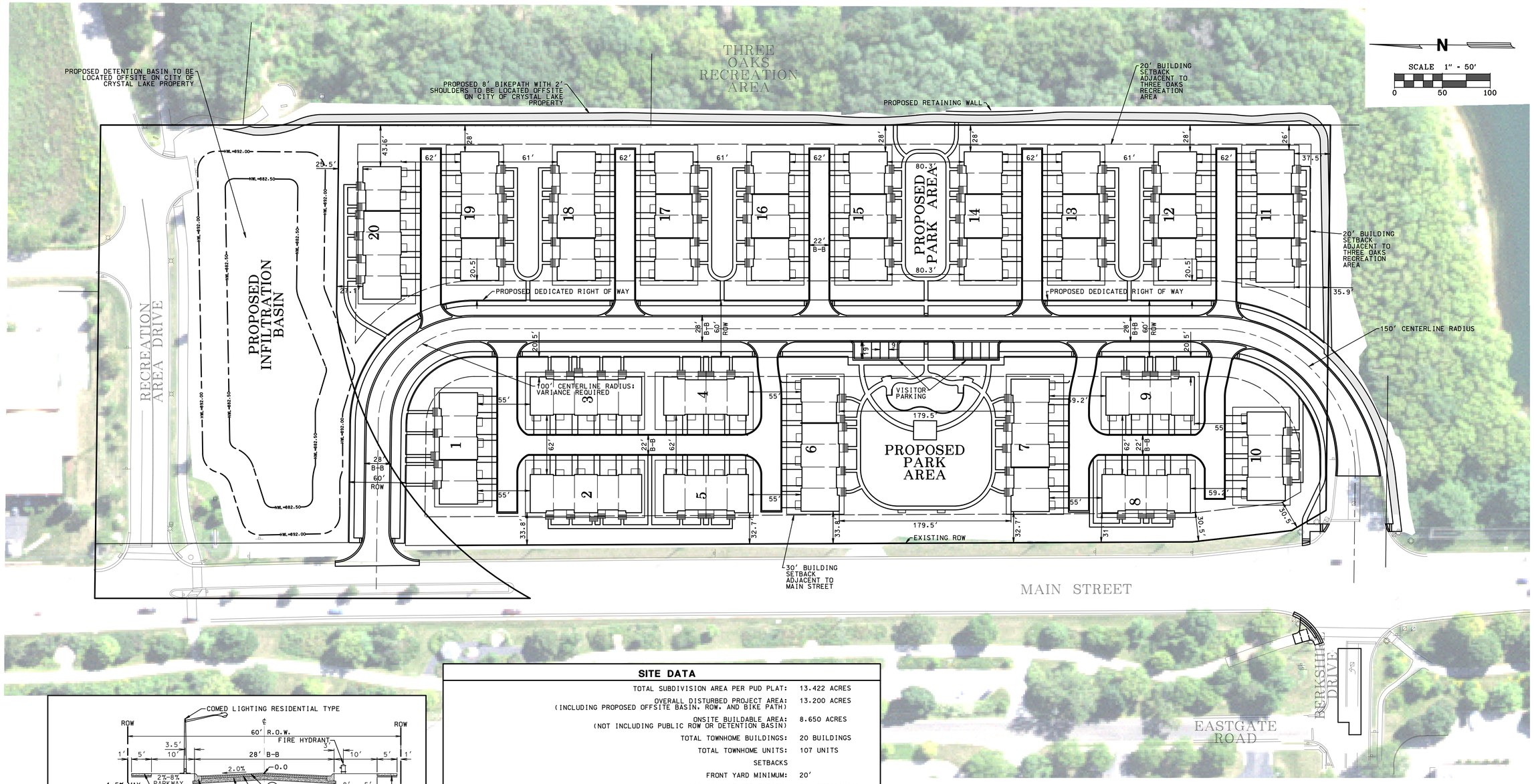
4 UNIT	Glazing		Front			Rear			Side			OVERALL		
			Glazed	Total	%	Glazed	Total	%	Glazed	Total	%	GLAZED	TOTAL	%
1	Chelsea	End	117	516	22.7%	106	543	19.5%	36	1035	3.5%	259	2094	12.4%
1	Amherst	Interior	105	468	22.4%	106	489	21.7%				211	957	22.0%
1	Amherst	Interior	105	468	22.4%	106	489	21.7%				211	957	22.0%
1	Chelsea	End	117	516	22.7%	106	543	19.5%	36	1035	3.5%	259	2094	12.4%
													OVERALL	15.4%

5 UNIT	Glazing		Front			Rear			Side			OVERALL		
			Glazed	Total	%	Glazed	Total	%	Glazed	Total	%	GLAZED	TOTAL	%
1	Chelsea	End	117	516	22.7%	106	543	19.5%	36	1035	3.5%	259	2094	12.4%
1	Amherst	Interior	105	468	22.4%	106	489	21.7%				211	957	22.0%
1	Chelsea	Interior	117	516	22.7%	106	543	19.5%				223	1059	21.1%
1	Amherst	Interior	105	468	22.4%	106	489	21.7%				211	957	22.0%
1	Chelsea	End	117	516	22.7%	106	543	19.5%	36	1035	3.5%	259	2094	12.4%
													OVERALL	16.2%

6 UNIT	Glazing		Front			Rear			Side			OVERALL		
			Glazed	Total	%	Glazed	Total	%	Glazed	Total	%	GLAZED	TOTAL	%
1	Chatham	End	117	464	25.2%	106	489	21.7%	36	1035	3.5%	259	1988	13.0%
1	Amherst	Interior	105	468	22.4%	106	489	21.7%				211	957	22.0%
1	Chelsea	Interior	117	516	22.7%	106	543	19.5%				223	1059	21.1%
1	Chatham	Interior	105	468	22.4%	106	489	21.7%				211	957	22.0%
1	Amherst	Interior	105	468	22.4%	106	489	21.7%				211	957	22.0%
1	Chatham	End	117	464	25.2%	106	489	21.7%	36	1035	3.5%	259	1988	13.0%
													OVERALL	17.4%

Glazing ratio is simply the ratio of window to wall in a building. It affects the energy utilization of a home.

End units naturally have a lower glazing ratio due to a higher wall surface area. However, Lennar's end units have a ratio above the minimum 10%



Ⓐ = 1½" HOT ASPHALT SURFACE COURSE, MIX C, N50
Ⓑ = 2½" HOT-MIX ASPHALT BINDER COURSE, IL19.0, N50
Ⓒ = 12" CRUSHED COURSE AGGREGATE SUBBASE, GRADE 9 CA-6
Ⓓ = B-6.12 CURB & GUTTER (SAWED DEPRESSIONS AT DRIVE)

PROPOSED ONSITE ROADWAY
TYPICAL LOCAL ROADWAY SECTION
NOT TO SCALE

SITE DATA

TOTAL SUBDIVISION AREA PER PUD PLAT:	13.422 ACRES
OVERALL DISTURBED PROJECT AREA: (INCLUDING PROPOSED OFFSITE BASIN, ROW, AND BIKE PATH)	13.200 ACRES
ONSITE BUILDABLE AREA: (NOT INCLUDING PUBLIC ROW OR DETENTION BASIN)	8.650 ACRES
TOTAL TOWNHOME BUILDINGS:	20 BUILDINGS
TOTAL TOWNHOME UNITS:	107 UNITS
SETBACKS	
FRONT YARD MINIMUM:	20'
SIDE TO SIDE SEPARATION:	20' SEPARATION
FRONT TO SIDE SEPARATION:	55' SEPARATION
REAR TO REAR SEPARATION:	60' SEPARATION
FRONT TO FRONT SEPARATION:	60' SEPARATION
MINIMUM YARD ABUTTING MAIN STREET SETBACK:	30'
MINIMUM HORIZONTAL CURVE:	100'
BUILDING 4 AND 5 (4-UNIT) DIMENSION:	40' x 88.5'
BUILDING 8, 9, AND 10 (4-UNIT) DIMENSION:	40' x 92.5'
BUILDING 1, 2, AND 3 (5-UNIT) DIMENSION:	40' x 116.5'
BUILDING 6, 7, 11-20 (6-UNIT) DIMENSION:	40' x 134.5'
BUILDING 10-19 (6-UNIT) DIMENSION:	40' x 138.5'
TYPICAL PARKING STALL DIMENSION:	9' x 19'
TYPICAL DRIVEWAY DIMENSION:	16.25' x 21'
MAXIMUM NET DENSITY USING ONSITE BUILDABLE AREA (DU/ACRE):	12.37 DU/ACRE
MAXIMUM BUILDING COVERAGE:	30%
MAXIMUM IMPERVIOUS SURFACE COVERAGE:	65%
FLOOR AREA RATIO:	0.60

Mackie Consultants, LLC
9575 W. Higgins Road, Suite 500
Rosemont, IL 60018
(847)696-1400
www.mackieconsult.com

CLIENT:
LENNAR
1700 E. GOLF ROAD, SUITE 100
SCHAUMBURG, IL 60173
PHONE: 224-293-3100
FAX: 224-293-3101

DATE	DESCRIPTION OF REVISION	BY
12-18-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/13/2024
SCALE	1" = 50'

PUD SITE PLAN
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 1 OF 1
PROJECT NUMBER: 4782
© MACKIE CONSULTANTS LLC, 2024
ILLINOIS FIRM LICENSE 184-002694

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ENGINEER'S OPINION OF PROBABLE COST
FOR
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS
November 25, 2024

TOTAL PROBABLE COST (PUBLIC IMPROVEMENTS)	$1,474,025.00
TOTAL PROBABLE COST INCLUDING 20% CONTINGENCY (PUBLIC IMPROVEMENTS)	**$1,768,830.00**
TOTAL PROBABLE COST (PRIVATE IMPROVEMENTS)	$2,444,121.90
TOTAL PROBABLE COST (PUBLIC & PRIVATE SITE IMPROVEMENTS)	**$3,918,146.90**

General Notes:

1. This Engineer's Opinion of Probable Cost is based on Final Engineering Plans, dated November 22, 2024 prepared by Mackie Consultants, LLC. This Engineer's Opinion of Probable Cost does not include landscaping, dewatering, review fees, or permit fees or any other item not include.
2. The above trench backfill quantities assume trench backfill is required for only when the trench is within 2-feet of the edge of pavement. Furthermore, the trench backfill quantities assume trench backfill is not required for the majority of the work within the parkway.
3. Erosion control quantities are based off of a single phase plan and do not include items necessary due to temporary conditions or phasing. Additional erosion control devices may become necessary as construction progresses onsite. The above Engineer's Opinion of Probable Cost does not include monies for ongoing maintenance of erosion control devices.
4. The unit price is based on best available data from the best available knowledge at this time. Mackie Consultants, LLC cannot guarantee the pricing will not increase.
5. The Landscape Work is based on the Cost Opinion for Landscape Work for Landscape Plans dated 11/25/2024, prepared by Gary R. Weber Associates, Inc.

Prepared by: Mackie Consultants, LLC.
9575 W. Higgins Road, Suite 500
Rosemont, Illinois 60018
(847) 696-1400

ENGINEER'S OPINION OF PROBABLE COST
FOR
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS
PUBLIC SITE IMPROVEMENTS
11/25/2024

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
SCHEDULE I - EROSION CONTROL					
1.	Silt Fence, Non-Woven	4740	LF	$1.50	$7,110.00
2.	Inlet Filter Basket	84	EA	$195.00	$16,380.00
3.	Erosion Control Blanket	15975	SY	$1.50	$23,962.50
TOTAL SCHEDULE I - EROSION CONTROL					$47,452.50
SCHEDULE II - UNDERGROUND UTILITY IMPROVEMENTS					
A.	**SANITARY SEWER IMPROVEMENTS**				
1.	8" Sanitary Sewer, <12' Deep, (PVC)	520	LF	$42.00	$21,840.00
2.	8" Sanitary Sewer, >12' Deep, (PVC)	500	LF	$48.00	$24,000.00
3.	8" Sanitary Sewer, In Steel Casing, (PVC)	315	LF	$42.00	$13,230.00
4.	48" Diameter Manhole <12' Deep	5	EA	$2,910.00	$14,550.00
5.	48" Diameter Manhole, 12'-20' Deep	1	EA	$3,500.00	$3,500.00
6.	48" Diameter Drop Manhole	3	EA	$5,500.00	$16,500.00
7.	Construct Internal Drop in Existing Manhole	1	EA	$3,500.00	$3,500.00
8.	External Chimney Seal	9	EA	$750.00	$6,750.00
9.	Granular Trench Backfill, <12' Deep	520	LF	$50.00	$26,000.00
10.	Granular Trench Backfill, 12'-20' Deep	500	LF	$65.00	$32,500.00
11.	Core and Connect to Existing Sanitary Manhole	1	EA	$2,500.00	$2,500.00
12.	Auger and Jack 24" Steel Casing	202	LF	$300.00	$60,600.00
13.	Pavement Restoration	1	LS	$6,100.00	$6,100.00
SUBTOTAL A - SANITARY SEWER IMPROVEMENTS					$231,570.00
B.	**WATER MAIN IMPROVEMENTS**				
1.	1" Type K Copper Service, Short	19	EA	$1,400.00	$26,600.00
2.	1" Type K Copper Service, Long	88	EA	$1,800.00	$158,400.00
3.	8" Ductile Iron Water Main, Class 52	2810	LF	$60.00	$168,600.00
4.	8" x 10" Pressure Connection with Valve Vault	1	EA	$5,000.00	$5,000.00
5.	8" x 10" Dry Connection	1	EA	$3,000.00	$3,000.00
6.	Fire Hydrant, Complete	10	EA	$7,330.00	$73,300.00
7.	8" Valve and 48" Vault	12	EA	$5,484.00	$65,808.00
9.	Granular Trench Backfill	1315	LF	$35.00	$46,025.00
10.	Auger and Jack 24" Steel Casing	202	LF	$300.00	$60,600.00
11.	Pavement Restoration	1	LS	$5,200.00	$5,200.00
SUBTOTAL B - WATER MAIN IMPROVEMENTS					$612,533.00
C.	**STORM SEWER IMPROVEMENTS**				
1.	12" Storm Sewer, (RCP)	100	LF	$40.00	$4,000.00
2.	15" Storm Sewer, (RCP)	105	LF	$45.00	$4,725.00
3.	18" Storm Sewer, (RCP)	25	LF	$50.00	$1,250.00
4.	30" Storm Sewer, (RCP)	25	LF	$66.00	$1,650.00
5.	24" Diameter Inlet	9	EA	$1,472.00	$13,248.00
6.	48" Diameter Catch Basin, Type A	15	EA	$2,845.00	$42,675.00
7.	Granular Trench Backfill	255	LF	$35.00	$8,925.00
SUBTOTAL C - STORM SEWER IMPROVEMENTS					$90,338.00

ENGINEER'S OPINION OF PROBABLE COST
FOR
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS
PUBLIC SITE IMPROVEMENTS
11/25/2024

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
TOTAL SCHEDULE II - UNDERGROUND IMPROVEMENTS					$934,441.00
SCHEDULE III - PAVEMENT IMPROVEMENTS					
1.	1.5" HMA Surface Course, N50	4020	SY	$6.50	$26,130.00
2.	2.5" HMA Binder Course, N50	4020	SY	$17.50	$70,350.00
3.	12" Aggregate Base Course, CA-6	4020	SY	$12.50	$50,250.00
4.	4" Portland Cement Concrete Pavement	11565	SF	$7.00	$80,955.00
5.	2" Aggregate Base Course, CA-6	11565	SF	$2.10	$24,286.50
6.	Asphalt Bike Path 2" HMA Surface Course, N50	1480	SY	$14.00	$20,720.00
7.	Asphalt Bike Path Base 6" Aggregate Base, Type B	1480	SY	$12.50	$18,500.00
8.	B6.12 Curb and Gutter	3835	LF	$16.00	$61,360.00
9.	4" Aggregate Base Course Under Curb, CA-6	3835	LF	$8.00	$30,680.00
10.	ADA Detectable Warnings	26	EA	$150.00	$3,900.00
11.	Pavement Markings	1	LS	$5,000.00	$5,000.00
12.	Street Sign	20	EA	$275.00	$5,500.00
13.	Traffic Control	1	LS	$3,000.00	$3,000.00
14.	Signal Head and Main Street Improvements	1	LS	$50,000.00	$50,000.00
15.	Relocate Existing Road Signs	1	EA	$200.00	$200.00
TOTAL SCHEDULE III - PAVEMENT IMPROVEMENTS					$450,831.50
SCHEDULE IV - STREET LIGHTING					
1.	Street Light, Single, Complete	5	EA	$7,500.00	$37,500.00
TOTAL SCHEDULE IV - STREET LIGHTING					$37,500.00
SCHEDULE V - MISCELLANEOUS					
1.	Retaining Wall	95	SF	$40.00	$3,800.00
TOTAL SCHEDULE V - MISCELLANEOUS					$3,800.00
TOTAL PROBABLE COST (SCHEDULES I-V)					$1,474,025.00
CONTINGENCY (20%)					$294,805.00
TOTAL PROBABLE COST					**$1,768,830.00**

ENGINEER'S OPINION OF PROBABLE COST
FOR
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS
PRIVATE SITE IMPROVEMENTS
11/25/2024

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
SCHEDULE I - EXCAVATION AND EMBANKMENT IMPROVEMENTS					
1.	Topsoil Stripping and Placement	8,800	CY	$4.50	$39,600.00
2.	Topsoil Respread	2,000	CY	$4.50	$9,000.00
3.	Material Excavation and Embankment	34,500	CY	$6.00	$207,000.00
4.	Subgrade Preparation (Roadways)	8,195	SY	$2.50	$20,487.50
5.	Backfill Curb and Gutter	4,065	LF	$1.40	$5,691.00
TOTAL SCHEDULE I - EARTHWORK IMPROVEMENTS					$281,778.50
SCHEDULE II - EROSION CONTROL					
1.	Stabilized Construction Entrance	1	EA	$4,200.00	$4,200.00
2.	Concrete Washout	1	EA	$1,500.00	$1,500.00
3.	Rip Rap	40	CY	$85.00	$3,400.00
TOTAL SCHEDULE II - EROSION CONTROL					$9,100.00
SCHEDULE III - UNDERGROUND UTILITY IMPROVEMENTS					
A.	**SANITARY SEWER IMPROVEMENTS**				
1.	6" Sanitary Service, Short	83	EA	$1,000.00	$83,000.00
2.	6" Sanitary Service, Long	24	EA	$2,656.00	$63,744.00
3.	6" Sanitary Sewer, <12' Deep, (PVC)	1255	LF	$38.00	$47,690.00
4.	8" Sanitary Sewer, <12' Deep, (PVC)	680	LF	$48.00	$32,640.00
5.	48" Diameter Manhole <12' Deep	13	EA	$2,910.00	$37,830.00
6.	External Chimney Seal	13	EA	$750.00	$9,750.00
7.	Granular Trench Backfill, <12' Deep	1915	LF	$50.00	$95,750.00
SUBTOTAL A - SANITARY SEWER IMPROVEMENTS					$370,404.00
B.	**WATER MAIN IMPROVEMENTS**				
1.	1" Type K Copper Service, Short	19	EA	$1,400.00	$26,600.00
2.	1" Type K Copper Service, Long	88	EA	$1,800.00	$158,400.00
SUBTOTAL B - WATER MAIN IMPROVEMENTS					$185,000.00
C.	**STORM SEWER IMPROVEMENTS**				
1.	12" Storm Sewer, (RCP)	1555	LF	$40.00	$62,200.00
2.	15" Storm Sewer, (RCP)	1025	LF	$45.00	$46,125.00
3.	18" Storm Sewer, (RCP)	610	LF	$50.00	$30,500.00
4.	24" Storm Sewer, (RCP)	470	LF	$66.00	$31,020.00
5.	30" Storm Sewer, (RCP)	415	LF	$88.00	$36,520.00
6.	Dry Well	8	EA	$10,000.00	$80,000.00
7.	24" Diameter Inlet	7	EA	$1,472.00	$10,304.00
8.	48" Diameter Catch Basin, Type A	14	EA	$2,845.00	$39,830.00
9.	48" Diameter Manhole, Type A	33	EA	$2,365.00	$78,045.00
10.	18" Flared End Section w/ Grate	2	EA	$3,073.00	$6,146.00
11.	30" Flared End Section w/ Grate	1	EA	$4,727.00	$4,727.00
12.	Granular Trench Backfill	915	LF	$35.00	$32,025.00
SUBTOTAL C - STORM SEWER IMPROVEMENTS					$457,442.00

ENGINEER'S OPINION OF PROBABLE COST
FOR
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS
PRIVATE SITE IMPROVEMENTS
11/25/2024

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
TOTAL SCHEDULE III - UNDERGROUND IMPROVEMENTS					$1,012,846.00
SCHEDULE IV - PAVEMENT IMPROVEMENTS					
1.	2" HMA Surface Course, N50	4545	SY	$11.00	$49,995.00
2.	2" HMA Binder Course, N50	4545	SY	$14.00	$63,630.00
3.	8" Aggregate Base Course, CA-6	4545	SY	$8.50	$38,632.50
7.	4" Portland Cement Concrete Pavement	15345	SF	$7.00	$107,415.00
8.	2" Aggregate Base Course, CA-6	15345	SF	$2.10	$32,224.50
11.	Ribbon Curb	3515	LF	$12.00	$42,180.00
TOTAL SCHEDULE IV - PAVEMENT IMPROVEMENTS					$334,077.00
SCHEDULE V - DEMOLITION					
1.	Sawcut Existing Pavement	240	LF	$8.00	$1,920.00
2.	Remove Existing Bituminous Pavement	2230	SY	$7.00	$15,610.00
3.	Remove Existing Bike Path	20	SF	$30.00	$600.00
4.	Remove Existing Curb and Gutter	335	LF	$15.00	$5,025.00
5.	Remove Existing Monitoring Wells	4	EA	$1,000.00	$4,000.00
6.	Remove Existing Valve Vault	1	EA	$1,000.00	$1,000.00
7.	Remove Existing Trees	1	LS	$19,500.00	$19,500.00
8.	Remove Existing Fence	2650	LF	$5.00	$13,250.00
TOTAL SCHEDULE V - DEMOLITION					$60,905.00
SCHEDULE VI - LANDSCAPING					
1.	Total Land Development Landscaping	1	LS	$356,604.40	$356,604.40
2.	Houseline Landscape Plantings	1	LS	$98,901.00	$98,901.00
3.	Remove Existing Trees	1	LS	$273,860.00	$273,860.00
TOTAL SCHEDULE V - DEMOLITION					$729,365.40
SCHEDULE V - MISCELLANEOUS					
1.	CBU (Mailboxes)	107	EA	$150.00	$16,050.00
TOTAL SCHEDULE V - MISCELLANEOUS					$16,050.00
TOTAL PROBABLE COST (SCHEDULES I-V)					$2,444,121.90

Cost Opinion for Landscape Work for Landscape Plans dated 11.25.2024

SUMMARY

THREE OAKS LAND DEVELOPMENT

LAND DEVELOPMENT LANDSCAPE PLANTINGS	**$2,760.00**
NATURALIZED AREAS	**$11,607.40**
MONUMENT & AMENITIES	**$192,627.00**
PLAY APPARATUS	**$57,005.00**
LANDSCAPE MAINTENANCE	**$92,605.00**
TOTAL - LAND DEVELOPMENT LANDSCAPING	**$356,604.40**

THREE OAKS HOUSELINE PLANTINGS

HOUSELINE LANDSCAPE PLANTINGS	**$98,901.00**

THREE OAKS FOUNDATION PLANTINGS

4 UNIT -REAR-LOADED PLANT LIST A *(2 BUILDINGS TOTAL)*	**$15,488.00**
4 UNIT - REAR-LOADED PLANT LIST B *(3 BUILDINGS TOTAL)*	**$46,254.00**
5 UNIT - REAR-LOADED PLANT LIST A *(2 BUILDINGS TOTAL)*	**$80,073.00**
5 UNIT - REAR-LOADED PLANT LIST B *(1 BUILDINGS TOTAL)*	**$17,874.00**
6 UNIT - REAR-LOADED PLANT LIST A *(6 BUILDINGS TOTAL)*	**$93,789.00**
6 UNIT - REAR-LOADED PLANT LIST B *(6 BUILDINGS TOTAL)*	**$20,382.00**
TOTAL - FOUNDATION PLANTINGS	**$273,860.00**
GRAND TOTAL THREE OAKS LANDSCAPING	**$729,365.40**

Cost Opinion for Landscape Work for Landscape Plans dated 11.25.2024

LAND DEVELOPMENT LANDSCAPE PLANTINGS

Key	Quantity	Botanical Name	Common Name	Size	Remarks	Cost		Extension
		SHADE TREES						
AR	11	Acer x freemanii 'Redpointe'	REDPOINTE MAPLE	2/1/2" Cal.		550.00	$	6,050.00
AM	16	Acer miyabei 'Morton'	STATE STREET MAPLE	2/1/2" Cal.		550.00	$	8,800.00
QB	6	Quercus bicolor	SWAMP WHITE OAK	2/1/2" Cal.		550.00	$	3,300.00
QI	7	Quercus imbricaria	SHINGLE OAK	2/1/2" Cal.		550.00	$	3,850.00
QR	13	Quercus rubra	RED OAK	2/1/2" Cal.		550.00	$	7,150.00
QM	5	Quercus macrocarpa	BUR OAK	2/1/2" Cal.		550.00	$	2,750.00
UM	3	Ulmus 'Morton Glossy'	TRIUMPH ELM	2/1/2" Cal.		525.00	$	1,575.00
		ORNAMENTAL TREES						
AG	2	Amelanchier x grandiflora	APPLE SERVICEBERRY	6' Tall	Multi-Stem	450.00	$	900.00
CC	12	Cercis canadensis	EASTERN REDBUD	6' Tall	Multi-Stem	450.00	$	5,400.00
CT	6	Crataegus crusgalli var. inermis	THORNLESS COCKSPUR HAWTHORN	2" Cal.	Single-Stem	450.00	$	2,700.00
MP	5	Malus x 'Prairiefire'	PRAIRIEFIRE CRABAPPLE	6' Tall	Multi-Stem	450.00	$	2,250.00
		EVERGREEN TREES						
PA	12	Picea abies	NORWAY SPRUCE	8' Tall		650.00	$	7,800.00
TF	3	Thuja occidentalis 'Fairview'	FAIRVIEW ARBORVITAE	8' Tall		650.00	$	1,950.00
		DECIDUOUS SHRUBS						
HA	27	Hydrangea arborescens 'Abetwo'	INCREDIBALL HYDRANGEA	24" Tall	4' O.C.	65.00	$	1,755.00
HJ	7	Hydrangea paniculata 'Jane'	LITTLE LIME HYDRANGEA	24" Tall	4' O.C.	65.00	$	455.00
HP	57	Hydrangea paniculata 'SMHPLQF'	LITTLE QUICKFIRE HYDRANGEA	24" Tall	3' O.C.	65.00	$	3,705.00
SM	12	Syringa meyeri 'Palabin'	DWARF KOREAN LILAC	24" Tall	4' O.C.	65.00	$	780.00
VJ	3	Viburnum x Juddii	JUDD VIBURNUM	36" Tall	4' O.C.	100.00	$	300.00
		EVERGREEN SHRUBS						
BG	6	Buxus 'Green Velvet'	GREEN VELVET BOXWOOD	18" Wide	30" O.C.	75.00	$	450.00
JK	10	Juniperus chinensis 'Kally's Compact'	KALLY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.	75.00	$	750.00
TM	10	Taxus x media 'Densiformus'	DENSE YEW	24" Wide	4' O.C.	75.00	$	750.00

Cost Opinion for Landscape Work for Landscape Plans dated 11.25.2024

LAND DEVELOPMENT LANDSCAPE PLANTINGS (cont.)

Key	Quantity	Botanical Name	Common Name	Size	Remarks	Cost		Extension
		ORNAMENTAL GRASSES						
CK	33	Calamagrostis x acutiflora 'Karl Foerster'	FEATHER REED GRASS	#1	30" O.C.	20.00	$	660.00
PV	42	Panicum virgatum 'Northwind'	NORTHWIND SWITCHGRASS	#1	30" O.C.	20.00	$	840.00
PB	24	Pennisetum alopecuroides 'Desert Plains'	DESERT PLAINS FOUNTAIN GRASS	#1	18" O.C.	20.00	$	480.00
PE	64	Pennisetum alopecuroides 'Hameln'	DWARF FOUNTAIN GRASS	#1	24" O.C.	20.00	$	1,280.00
		PERENNIALS						
AB	121	Allium 'Summer Beauty'	SUMMER BEAUTY ONION	#1	18" O.C.	20.00	$	2,420.00
CN	138	Calamintha nepeta ssp.Nepeta	LESSER CALAMINT	#1	18" O.C.	20.00	$	2,760.00
GM	57	Geranium macrorrhizum 'Bevan's Variety'	BEVAN'S BIGROOT GERANIUM	#1	18" O.C.	20.00	$	1,140.00
NM	45	Nepeta racemosa 'Walker's Low'	WALKER'S LOW CATMINT	#1	18" O.C.	20.00	$	900.00
		MISC. MATERIALS						
	87	Shredded Hardwood Mulch		C.Y.		90.00	$	7,830.00
	9,557	Sod		S.Y.		5.50	$	52,563.50
	1.20	Turf Seed & Erosion Control Blanket		AC.		12,000.00	$	14,400.00
TOTAL - LAND DEVELOPMENT LANDSCAPE PLANTINGS							**$**	**148,693.50**

NATURALIZED AREAS

Quantity	Item	Description	Size	Remarks	Cost		Extension
593	Emergent Plugs		EA.		6.80	$	4,032.40
0.6	Emergent Seed Mix		AC.		4,500.00	$	2,700.00
0.10	Wet Prairie Seed Mix & Erosion Control Blanket		AC.		12,500.00	$	1,250.00
0.10	Lo Profile Prairie Seed Mix & Erosion Control Blanket		AC.		12,500.00	$	1,250.00
5	Naturalized Area Protection Signs		EA.		475.00	$	2,375.00
TOTAL - NATURALIZED AREA PLANTINGS						**$**	**11,607.40**

Cost Opinion for Landscape Work for Landscape Plans dated 11.25.2024

ENTRANCE FEATURE & AMENITIES

Quantity	Item	Description	Size	Remarks	Cost		Extension
1	Entrance Monument		ALLOW		40,000.00	$	40,000.00
190	Concrete Curb		L.F.		55.00	$	10,450.00
87	Thickened Edge		L.F.		55.00	$	4,785.00
3158	Concrete Walk & Bench Pads		S.F.		12.00	$	37,896.00
4	6' Bench	Dumor 165-60TMR	EA.		2,000.00	$	8,000.00
1987	Engineered Wood Surface	Fibar	S.F.		8.00	$	15,896.00
2	Concrete Ramp		EA.		2,300.00	$	4,600.00
	Excavation & Drainage		ALLOW		18,000.00	$	18,000.00
1	Shade Structure	Poligon MAR-20X24	EA.		35,000.00	$	35,000.00
4	6' Picnic Table	DuMor 475-60TMR	EA.		2,500.00	$	10,000.00
	Amenities Installation	Shade Structure, Picnic Tables, Benches	ALLOW		8,000.00	$	8,000.00
TOTAL - MONUMENT & AMENITIES						**$**	**192,627.00**

PLAY APPARATUS

Quantity	Item	Description	Size	Remarks	Cost		Extension
1	2-12 Yr. Old Play Equipment	Landscape Structures	EA.		32,195.00	$	32,195.00
1	Navigator Reach Panel	Landscape Structures	EA.		1,935.00	$	1,935.00
1	Bongo Reach Panel	Landscape Structures	EA.		1,135.00	$	1,135.00
1	Seesaw 2-Seat	Landscape Structures	EA.		3,595.00	$	3,595.00
1	Wee Planet Climber	Landscape Structures	EA.		3,145.00	$	3,145.00
	Play Structures Installation		ALLOW		15,000.00	$	15,000.00
TOTAL - PLAY APPARATUS						**$**	**57,005.00**

TRADITIONAL LANDSCAPE MAINTENANCE

Acreage	Year	Item	Description	Size	Remarks	Cost		Extension
3.8	1	Landscape Maintenance	Costs to maintain lawn and mulch beds	Year		20,000.00	$	76,000.00
0.9	3	Native Landscape Maintainence	Cost to maintain native areas	Year		3,300.00	$	8,910.00
0.9	3	Native Area Monitoring and Reporting	GRWA Costs	EA.		2,850.00	$	7,695.00
TOTAL - TRADITIONAL LANDSCAPE MAINTENANCE							**$**	**92,605.00**

Cost Opinion for Landscape Work for Landscape Plans dated 11.25.2024

HOUSELINE LANDSCAPE PLANTINGS

Key	Quantity	Botanical Name	Common Name	Size	Remarks	Cost		Extension
		SHADE TREES						
AM	9	Acer miyabei 'Morton'	STATE STREET MAPLE	2/1/2" Cal.		550.00	$	4,950.00
AR	4	Acer x freemanii 'Redpointe'	REDPOINTE MAPLE	2/1/2" Cal.		550.00	$	2,200.00
GT	13	Gleditsia triacanthos var. inermis 'Skycole'	SKYLINE HONEYLOCUST	2/1/2" Cal.		550.00	$	7,150.00
PM	18	Platanus x acerifolia 'Morton Circle'		2/1/2" Cal.		550.00	$	9,900.00
QR	2	Quercus rubra	RED OAK	2/1/2" Cal.		550.00	$	1,100.00
TT	8	Tilia tomentosa 'Sterling'	STERLING SILVER LINDEN	2/1/2" Cal.		550.00	$	4,400.00
UM	15	Ulmus 'Morton Glossy'	TRIUMPH ELM	2/1/2" Cal.		525.00	$	7,875.00
		ORNAMENTAL TREES						
BN	6	Betula nigra 'Cully'	HERITAGE RIVER BIRCH	8' Tall	Multi-Stem	550.00	$	3,300.00
CC	3	Cercis canadensis	EASTERN REDBUD	6' Tall	Multi-Stem	450.00	$	1,350.00
		EVERGREEN TREES						
PG	10	Picea glauca var. densata	BLACK HILLS SPRUCE	8' Tall		650.00	$	6,500.00
PO	12	Picea omorika	SERBIAN SPRUCE	8' Tall		650.00	$	7,800.00
TF	18	Thuja occidentalis 'Fairview'	FAIRVIEW ARBORVITAE	8' Tall		650.00	$	11,700.00
		MISC. MATERIALS						
	14	Shredded Hardwood Mulch		C.Y.		$70.00		$2,660.00
	2,464	Sod		S.Y.		$4.00		$28,016.00
HOUSELINE LANDSCAPE PLANTINGS								**$98,901.00**

Cost Opinion for Landscape Work for Landscape Plans dated 11.25.2024

4-UNIT FRONT-LOADED PLANT LIST - A (BUILDINGS 5,8)

Key	Quantity	Botanical Name	Common Name	Size	Remarks	Cost	Extension
		ORNAMENTAL TREES					
OT1	2	Amelanchier x grandiflora	APPLE SERVICEBERRY	6' Ht.	Multi-Stem	$425.00	$850.00
		EVERGREEN TREES					
ET1	6	Thuja occidentalis 'Smaragd'	EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.	$275.00	$1,650.00
		DECIDUOUS SHRUBS					
DS1	2	Hydrangea paniculata 'Bulk'	QUICK FIRE HYDRANGEA	30" Tall	5' O.C.	$65.00	$130.00
DS2	5	Cornus sericea 'Farrow'	ARCTIC FIRE DOGWOOD	24" Tall	3'-6" O.C.	$55.00	$275.00
DS3	16	Rhus aromatica 'Gro-Low'	GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.	$55.00	$880.00
		EVERGREEN SHRUBS					
ES1	7	Juniperus chinensis 'Kallay's Compact'	KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.	$70.00	$490.00
ES2	6	Taxus x media 'Densiformis'	DENSE YEW	24" Wide	4' O.C.	$70.00	$420.00
		ORNAMENTAL GRASSES					
OG1	25	Calamagrostis x acutiflora 'Karl Foerster'	FEATHER REED GRASS	#1	30" O.C.	$24.00	$600.00
OG2	16	Sporobolus heterolepis	PRAIRIE DROPSEED	#1	24" O.C.	$24.00	$384.00
		PERENNIALS					
P1	23	Hemerocallis 'Rosy Returns'	ROSY RETURNS DAYLILY	#1	18" O.C.	$20.00	$460.00
P2	13	Allium 'Summer Beauty'	SUMMER BEAUTY ONION	#1	18" O.C.	$20.00	$260.00
		GROUNDCOVER					
GC	30	Pachysandra terminalis 'Green Carpet'	GREEN CARPET JAPANESE SPURGE	#SP4	12" O.C.	$20.00	$600.00
		MISC. MATERIALS					
	3	2 1/2" Clean River Rock		C.Y.		$120.00	$360.00
	7	Shredded Hardwood Mulch		C.Y.		$55.00	$385.00

TOTAL - 4-UNIT FRONT-LOADED PLANT LIST **$7,744.00**

2 BUILDINGS TOTAL **$15,488.00**

Cost Opinion for Landscape Work for Landscape Plans dated 11.25.2024

4-UNIT FRONT-LOADED PLANT LIST - B (BUILDINGS 4,9, & 10)

Key	Quantity	Botanical Name	Common Name	Size	Remarks	Cost	Extension
		ORNAMENTAL TREES					
OT1	2	Syringa pekinensis 'Morton'	CHINA SNOW PEKING LILAC	6' Ht.	Multi-Stem	$425.00	$850.00
		EVERGREEN TREES					
ET1	6	Thuja occidentalis 'Smaragd'	EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.	$275.00	$1,650.00
		DECIDUOUS SHRUBS					
DS1	2	Syringa 'SMSJBP7'	DARK PURPLE BLOOMERANG LILAC	30" Tall	5' O.C.	$70.00	$140.00
DS2	7	Weigela florida 'Bramwell'	FINE WINE WEIGELA	24" Tall	3'-6" O.C.	$70.00	$490.00
DS3	16	Rhus aromatica 'Gro-low'	GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.	$55.00	$880.00
		EVERGREEN SHRUBS					
ES1	7	Juniperus chinensis 'Kallay's Compact'	KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.	$70.00	$490.00
ES2	6	Taxus x media 'Densiformis'	DENSE YEW	24" Wide	4' O.C.	$70.00	$420.00
		ORNAMENTAL GRASSES					
OG1	10	Calamagrostis x acutiflora 'Karl Foerster'	FEATHER REED GRASS	#1	30" O.C.	$24.00	$240.00
OG2	16	Pennisetum alopecuroides 'Desert Plains'	PRAIRIE WINDS FOUNTAIN GRASS	#1	24" O.C.	$24.00	$384.00
		PERENNIALS					
P1	23	Hemerocallis 'Rosy Returns'	ROSY RETURNS DAYLILY	#1	18" O.C.	$20.00	$460.00
P2	18	Nepeta racemosa 'Blue Wonder'	BLUE WONDER CATMINT	#1	18" O.C.	$20.00	$360.00
		GROUNDCOVER					
GC	30	Liriope spicata	CREEPING LILYTURF	#SP4	12" O.C.	$20.00	$600.00
		MISC. MATERIALS					
	3	2 1/2" Clean River Rock		C.Y.		$120.00	$360.00
	7	Shredded Hardwood Mulch		C.Y.		$55.00	$385.00

TOTAL - 4-UNIT FRONT-LOADED PLANT LIST - B **$7,709.00**

3 BUILDINGS TOTAL **$46,254.00**

Cost Opinion for Landscape Work for Landscape Plans dated 11.25.2024

5-UNIT FRONT-LOADED PLANT LIST - A (BUILDINGS 1,2)

Key	Quantity	Botanical Name	Common Name	Size	Remarks	Cost	Extension
		ORNAMENTAL TREES					
OT1	2	Amelanchier x grandiflora	APPLE SERVICEBERRY	6' Ht.	Multi-Stem	$425.00	$850.00
		EVERGREEN TREES					
ET1	6	Thuja occidentalis 'Smaragd'	EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.	$275.00	$1,650.00
		DECIDUOUS SHRUBS					
DS1	4	Hydrangea paniculata 'Bulk'	QUICK FIRE HYDRANGEA	30" Tall	5' O.C.	$65.00	$260.00
DS2	5	Cornus sericea 'Farrow'	ARCTIC FIRE DOGWOOD	24" Tall	3'-6" O.C.	$55.00	$275.00
DS4	16	Rhus aromatica 'Gro-Low'	GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.	$55.00	$880.00
		EVERGREEN SHRUBS					
ES1	7	Juniperus chinensis 'Kallay's Compact'	KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.	$70.00	$490.00
ES2	6	Taxus x media 'Densiformis'	DENSE YEW	24" Wide	4' O.C.	$70.00	$420.00
		ORNAMENTAL GRASSES					
OG1	15	Calamagrostis x acutiflora 'Karl Foerster'	FEATHER REED GRASS	#1	30" O.C.	$24.00	$360.00
OG2	13	Sporobolus heterolepis	PRAIRIE DROPSEED	#1	24" O.C.	$24.00	$312.00
		PERENNIALS					
P1	26	Hemerocallis 'Rosy Returns'	ROSY RETURNS DAYLILY	#1	18" O.C.	$20.00	$520.00
P2	52	Allium 'Summer Beauty'	SUMMER BEAUTY ONION	#1	18" O.C.	$20.00	$1,040.00
		GROUNDCOVER					
GC	46	Pachysandra terminalis 'Green Carpet'	GREEN CARPET JAPANESE SPURGE	#SP4	12" O.C.	$20.00	$920.00
		MISC. MATERIALS					
	4	2 1/2" Clean River Rock		C.Y.		$120.00	$480.00
	8	Shredded Hardwood Mulch		C.Y.		$55.00	$440.00

TOTAL - 5-UNIT FRONT-LOADED PLANT LIST - A **$8,897.00**

2 BUILDINGS TOTAL **$80,073.00**

Cost Opinion for Landscape Work for Landscape Plans dated 11.25.2024

5-UNIT FRONT-LOADED PLANT LIST - B (BUILDINGS 3)

Key	Quantity	Botanical Name	Common Name	Size	Remarks	Cost	Extension
		ORNAMENTAL TREES					
OT1	2	Syringa pekinensis 'Morton'	CHINA SNOW PEKING LILAC	6' Ht.	Multi-Stem	$425.00	$850.00
		EVERGREEN TREES					
ET1	6	Thuja occidentalis 'Smaragd'	EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.	$275.00	$1,650.00
		DECIDUOUS SHRUBS					
DS1	4	Syringa 'SMSJBP7'	DARK PURPLE BLOOMERANG LILAC	30" Tall	5' O.C.	$70.00	$280.00
DS2	5	Weigela florida 'Bramwell'	FINE WINE WEIGELA	24" Tall	3'-6" O.C.	$70.00	$350.00
DS4	16	Rhus aromatica 'Gro-low'	GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.	$55.00	$880.00
		EVERGREEN SHRUBS					
ES1	7	Juniperus chinensis 'Kallay's Compact'	KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.	$70.00	$490.00
ES2	6	Taxus x media 'Densiformis'	DENSE YEW	24" Wide	4' O.C.	$70.00	$420.00
		ORNAMENTAL GRASSES					
OG1	15	Calamagrostis x acutiflora 'Karl Foerster'	FEATHER REED GRASS	#1	30" O.C.	$24.00	$360.00
OG2	13	Pennisetum alopecuroides 'Desert Plains'	PRAIRIE WINDS FOUNTAIN GRASS	#1	24" O.C.	$24.00	$312.00
		PERENNIALS					
P1	26	Hemerocallis 'Rosy Returns'	ROSY RETURNS DAYLILY	#1	18" O.C.	$20.00	$520.00
P2	52	Nepeta racemosa 'Blue Wonder'	BLUE WONDER CATMINT	#1	18" O.C.	$20.00	$1,040.00
		GROUNDCOVER					
GC	46	Liriope spicata	CREEPING LILYTURF	#SP4	12" O.C.	$20.00	$920.00
		MISC. MATERIALS					
	4	2 1/2" Clean River Rock		C.Y.		$120.00	$480.00
	7	Shredded Hardwood Mulch		C.Y.		$55.00	$385.00

TOTAL - 5-UNIT FRONT-LOADED PLANT LIST - B **$8,937.00**

1 BUILDINGS TOTAL **$17,874.00**

Cost Opinion for Landscape Work for Landscape Plans dated 11.25.2024

6-UNIT FRONT-LOADED PLANT LIST - A (BUILDINGS 7,12,14,16,18 & 20)

Key	Quantity	Botanical Name	Common Name	Size	Remarks	Cost	Extension
		ORNAMENTAL TREES					
OT1	2	Amelanchier x grandiflora	APPLE SERVICEBERRY	6' Ht.	Multi-Stem	$425.00	$850.00
		EVERGREEN TREES					
ET1	6	Thuja occidentalis 'Smaragd'	EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.	$275.00	$1,650.00
		DECIDUOUS SHRUBS					
DS1	2	Hydrangea paniculata 'Bulk'	QUICK FIRE HYDRANGEA	30" Tall	5' O.C.	$65.00	$130.00
DS2	12	Cornus sericea 'Farrow'	ARCTIC FIRE DOGWOOD	24" Tall	3'-6" O.C.	$55.00	$660.00
DS4	16	Rhus aromatica 'Gro-Low'	GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.	$55.00	$880.00
		EVERGREEN SHRUBS					
ES1	7	Juniperus chinensis 'Kallay's Compact'	KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.	$70.00	$490.00
ES2	17	Taxus x media 'Densiformis'	DENSE YEW	24" Wide	4' O.C.	$70.00	$1,190.00
		ORNAMENTAL GRASSES					
OG1	10	Calamagrostis x acutiflora 'Karl Foerster'	FEATHER REED GRASS	#1	30" O.C.	$24.00	$240.00
OG2	4	Sporobolus heterolepis	PRAIRIE DROPSEED	#1	24" O.C.	$24.00	$96.00
		PERENNIALS					
P1	55	Hemerocallis 'Rosy Returns'	ROSY RETURNS DAYLILY	#1	18" O.C.	$20.00	$1,100.00
P2	38	Allium 'Summer Beauty'	SUMMER BEAUTY ONION	#1	18" O.C.	$20.00	$760.00
		GROUNDCOVER					
GC	64	Pachysandra terminalis 'Green Carpet'	GREEN CARPET JAPANESE SPURGE	#SP4	12" O.C.	$20.00	$1,280.00
		MISC. MATERIALS					
	5	2 1/2" Clean River Rock		C.Y.		$120.00	$600.00
	9	Shredded Hardwood Mulch		C.Y.		$55.00	$495.00

TOTAL - 5-UNIT FRONT-LOADED PLANT LIST - A **$10,421.00**

6 BUILDINGS TOTAL **$93,789.00**

Cost Opinion for Landscape Work for Landscape Plans dated 11.25.2024

6-UNIT FRONT-LOADED PLANT LIST - B (BUILDINGS 6,11,13,15,17 & 19)

Key	Quantity	Botanical Name	Common Name	Size	Remarks	Cost	Extension
		ORNAMENTAL TREES					
OT1	2	Syringa pekinensis 'Morton'	CHINA SNOW PEKING LILAC	6' Ht.	Multi-Stem	$425.00	$850.00
		EVERGREEN TREES					
ET1	6	Thuja occidentalis 'Smaragd'	EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.	$275.00	$1,650.00
		DECIDUOUS SHRUBS					
DS1	2	Syringa 'SMSJBP7'	DARK PURPLE BLOOMERANG LILAC	30" Tall	5' O.C.	$70.00	$140.00
DS2	12	Weigela florida 'Bramwell'	FINE WINE WEIGELA	24" Tall	3'-6" O.C.	$70.00	$840.00
DS4	16	Rhus aromatica 'Gro-low'	GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.	$55.00	$880.00
		EVERGREEN SHRUBS					
ES1	9	Juniperus chinensis 'Kally's Compact'	KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.	$70.00	$630.00
ES2	17	Taxus x media 'Densiformis'	DENSE YEW	24" Wide	4' O.C.	$70.00	$630.00
		ORNAMENTAL GRASSES					
OG1	10	Calamagrostis x acutiflora 'Karl Foerster'	FEATHER REED GRASS	#1	30" O.C.	$24.00	$240.00
OG2	4	Pennisetum alopecuroides 'Desert Plains'	PRAIRIE WINDS FOUNTAIN GRASS	#1	24" O.C.	$24.00	$96.00
		PERENNIALS					
P1	55	Hemerocallis 'Rosy Returns'	ROSY RETURNS DAYLILY	#1	18" O.C.	$20.00	$1,100.00
P2	38	Nepeta racemosa 'Blue Wonder'	BLUE WONDER CATMINT	#1	18" O.C.	$20.00	$760.00
		GROUNDCOVER					
GC	64	Liriope spicata	CREEPING LILYTUF	#SP4	12" O.C.	$20.00	$1,280.00
		MISC. MATERIALS					
	5	2 1/2" Clean River Rock		C.Y.		$120.00	$600.00
	9	Shredded Hardwood Mulch		C.Y.		$55.00	$495.00

TOTAL - 5-UNIT FRONT-LOADED PLANT LIST - B **$10,191.00**

6 BUILDINGS TOTAL **$20,382.00**

Final Landscape Plan

WATERSIDE AT THREE OAKS

Crystal Lake, Illinois

December 19, 2024

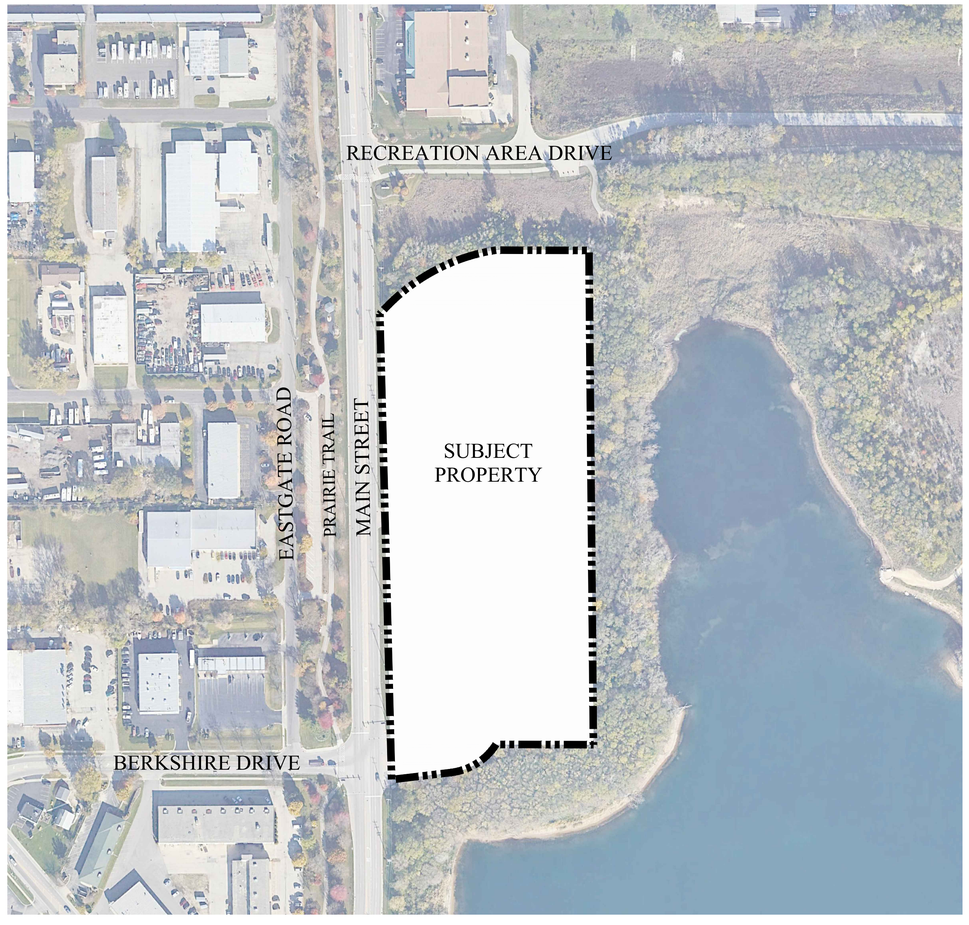
CONSULTANTS:

LANDSCAPE ARCHITECT:

GARY R. WEBER ASSOCIATES, INC
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187

CIVIL ENGINEER:

MACKIE CONSULTANTS, LLC.
9575 W. HIGGINS ROAD, SUITE 500
ROSEMONT, ILLINOIS 60018



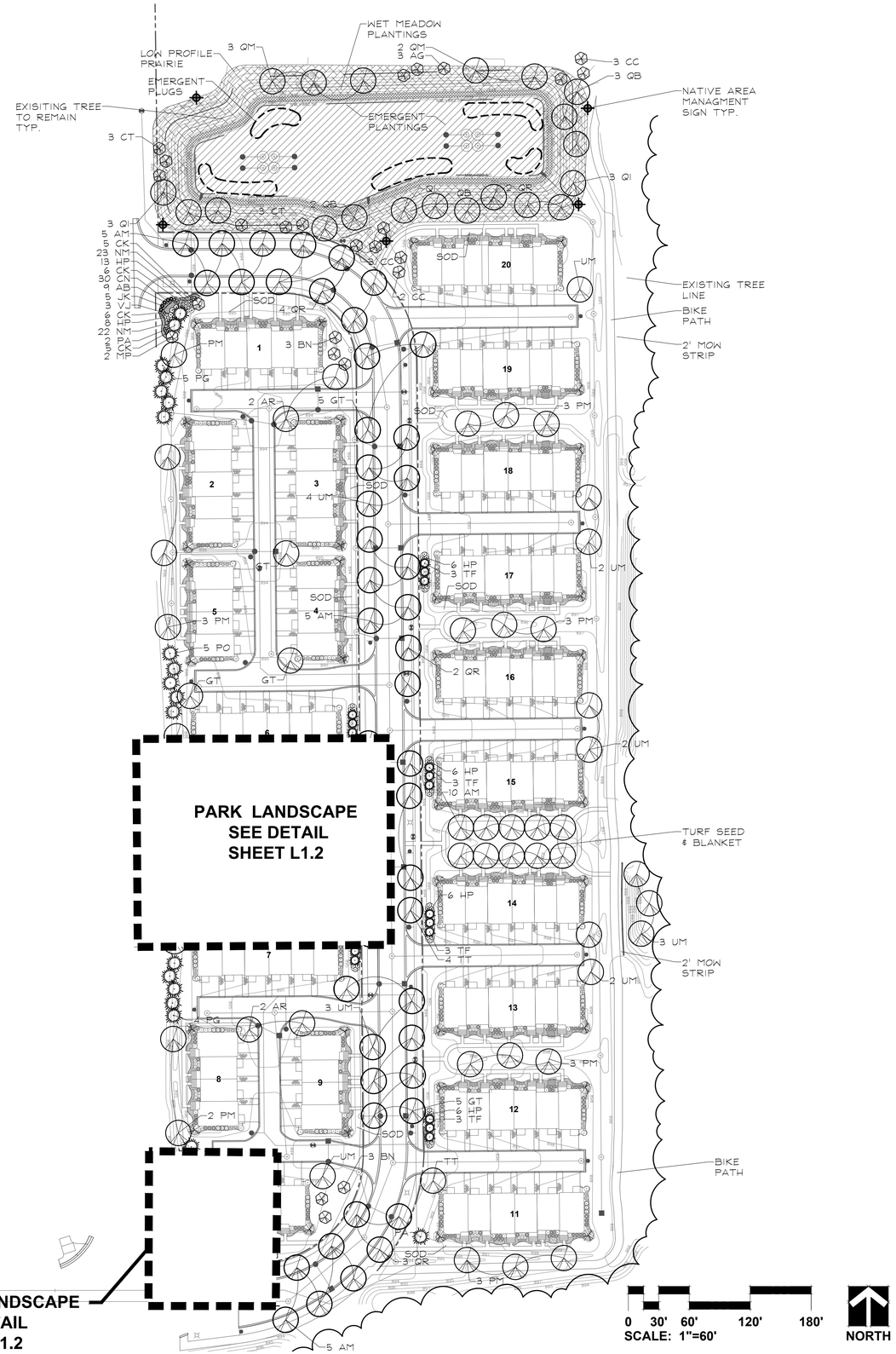
LOCATION MAP

SCALE: 1"=150'

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
L1.0	COVER SHEET
L1.1	OVERALL LANDSCAPE PLAN
L1.2	LANDSCAPE DETAILS
L1.3	AMENITY LAYOUT PLAN
L1.4	AMENITY CALLOUT PLAN
L1.5	AMENITY DETAILS
L1.6	TYPICAL TOWNHOME FOUNDATION PLANS
L1.7	TYPICAL TOWNHOME FOUNDATION PLANS
L1.8	MONUMENT DETAILS
L1.9	TREE PRESERVATION PLAN
L1.10	TREE INVENTORY
L1.11	SEED & SOD EXHIBIT
L1.12	SPECIFICATIONS
L1.13	SPECIFICATIONS

LENNAR®



NATIVE LEGEND

Key	Qty	Description
	.7 AC.	LOW PROFILE PRAIRIE SEED MIX
	.7 AC.	EMERGENT SEED MIX
	.1 AC.	WET MEADOW SEED MIX
	5	NSMA SIGN
	.1 AC.	EMERGENT PLUG LIMITS

GENERAL LANDSCAPE NOTES

1. Contractor shall verify underground utility lines and is responsible for any damage.
2. Contractor shall verify all existing conditions in the field prior to construction and shall notify landscape architect of any variance.
3. Material quantities shown are for contractors convenience only. The Contractor must verify all material and supply sufficient materials to complete the job per plan.
4. The landscape architect reserves the right to inspect trees and shrubs either at place of growth or at site before planting, for compliance with requirements of variety, size and quality.
5. Work shall conform to American Standard for Nursery Stock, State of Illinois Horticultural Standards, and Local Municipal requirements.
6. Contractor shall secure and pay for all permits, fees, and inspections necessary for the proper execution of this work and comply with all codes applicable to this work.
7. See General Conditions and Specifications for landscape work for additional requirements.

PLANT LIST

Key	Qty	Botanical/Common Name	Size	Remarks
		SHADE TREES		
AR	15	Acer x freemanii 'Redpointe' REDPOINTE MAPLE	2 1/2" Cal.	
AM	25	Acer miyabei 'Morton' STATE STREET MAPLE	2 1/2" Cal.	
GT	13	Gleditsia triacanthos var. inermis 'Skycole' SKYLINE HONEYLOCUST	2 1/2" Cal.	
PM	18	Platanus x acerifolia 'Morton Circle' EXCLAMATION! LONDON PLANETREE	2 1/2" Cal.	
QB	6	Quercus bicolor SWAMP WHITE OAK	2 1/2" Cal.	
QI	7	Quercus imbricaria SHINGLE OAK	2 1/2" Cal.	
QM	5	Quercus macrocarpa BURR OAK	2 1/2" Cal.	
QR	15	Quercus rubra RED OAK	2 1/2" Cal.	
TT	7	Tilia tomentosa 'Sterling' STERLING SILVER LINDEN	2 1/2" Cal.	
UM	19	Ulmus 'Morton Glossy' TRIUMPH ELM	2 1/2" Cal.	
		ORNAMENTAL TREES		
AG	5	Amelanchier x grandiflora APPLE SERVICEBERRY	6' Ht.	Clump Form
BN	6	Betula nigra 'Cully' HERITAGE RIVER BIRCH	8' Ht.	Multi-Stem
CC	14	Cercis canadensis EASTERN REDBUD	6' Ht.	Multi-Stem
CT	6	Crataegus crusgalli var. inermis THORNLESS COCKSPUR HAWTHORN	2" Cal.	Single Stem
MP	5	Malus 'Prairifire' PRAIRIFIRE CRABAPPLE	6' Ht.	Multi-Stem
		EVERGREEN TREES		
PA	11	Picea abies NORWAY SPRUCE	8' Ht.	
PG	16	Picea glauca var. densata BLACK HILLS SPRUCE	8' Ht.	
PO	13	Picea omorika SERBIAN SPRUCE	8' Ht.	
TF	21	Thuja occidentalis 'Fairview' FAIRVIEW ARBORVITAE	8' Ht.	
		DECIDUOUS SHRUBS		
HA	27	Hydrangea arborescens 'Abetwo' INCREDIBALL HYDRANGEA	24" Tall	4' O.C.
HJ	7	Hydrangea paniculata 'Jane' LITTLE LIME HYDRANGEA	24" Tall	4' O.C.
HP	57	Hydrangea paniculata 'SMHPLQF' LITTLE QUICK FIRE HYDRANGEA	24" Tall	3' O.C.
SM	12	Syringa meyeri 'Palibin' DWARF KOREAN LILAC	24" Tall	4' O.C.
VJ	3	Viburnum x juddii JUDD VIBURNUM	36" Tall	4' O.C.
		EVERGREEN SHRUBS		
BG	6	Buxus 'Green Velvet' GREEN VELVET BOXWOOD	18" Wide	30" O.C.
JK	10	Juniperus chinensis 'Kallays Compact' KALLAYS COMPACT PFITZER JUNIPER	24" Wide	4' O.C.
TM	10	Taxus x media 'Densiformis' DENSE YEW	24" Wide	4' O.C.
		ORNAMENTAL GRASSES		
CK	33	Calamagrostis x acutiflora 'Karl Foerster' FEATHER REED GRASS	#1	30" O.C.
PV	42	Panicum virgatum 'Northwind' NORTHWIND SWITCHGRASS	#1	30" O.C.
PB	24	Pennisetum alopecuroides 'Burgundy Bunny' BURGUNDY BUNNY FOUNTAIN GRASS	#1	24" O.C.
PE	64	Pennisetum alopecuroides 'Hameln' DWARF FOUNTAIN GRASS	#1	24" O.C.
		PERENNIALS		
AB	121	Allium 'Summer Beauty' SUMMER BEAUTY ONION	#1	18" O.C.
CN	138	Calamintha nepeta ssp. nepeta LESSER CALAMINT	#1	18" O.C.
GM	57	Geranium macrorrhizum 'Bevan's Variety' BEVAN'S BIGROOT GERANIUM	#1	18" O.C.
NM	45	Nepeta racemosa 'Walker's Low' WALKER'S LOW CATMINT	#1	18" O.C.
		MISC. MATERIALS		
	87	SHREDDED HARDWOOD MULCH	C.Y.	
	12,021	SOD	S.Y.	
	1.2	TURF SEED & EROSION CONTROL BLANKET	AC.	

GARY R. WEBER ASSOCIATES, INC.
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CLIENT:
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1700 E. GOLF ROAD
SUITE 1100
SCHAUMBURG, IL 60173

CIVIL ENGINEER:
MACKIE CONSULTANTS, LLC
9575 W. HIGGINS ROAD
SUITE 500
ROSEMONT, IL 60018

WATERSIDE AT THREE OAKS

CRYSTAL LAKE, ILLINOIS

OVERALL LANDSCAPE PLAN

2	12.19.2024
1	11.25.2024

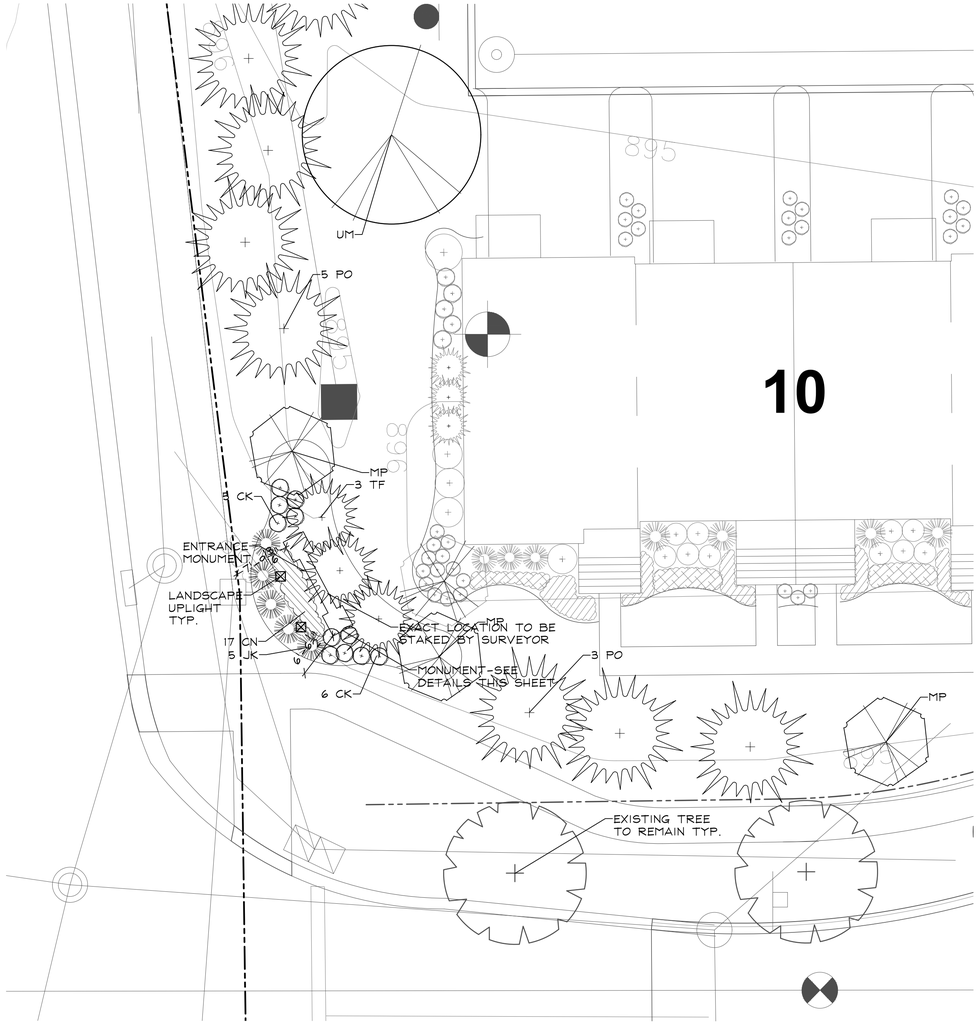
REVISIONS

DATE	9.4.2024
PROJECT NO.	LN22128
DRAWN	GEH
CHECKED	ZML
SHEET NO.	L1.1

811 Know what's below. Call before you dig.

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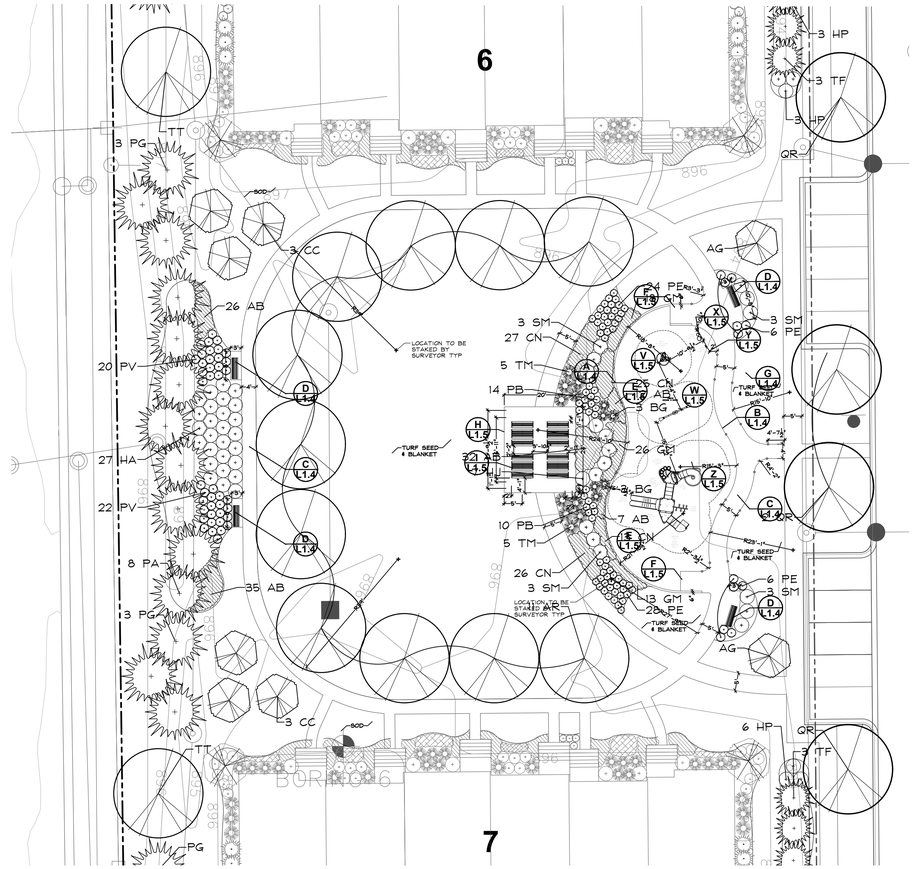
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ENTRANCE PLANTING DETAIL

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NORTH

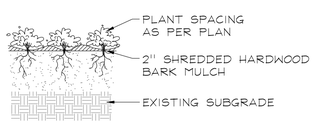


PARK PLANTING DETAIL

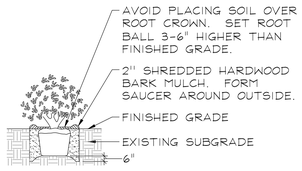
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NORTH

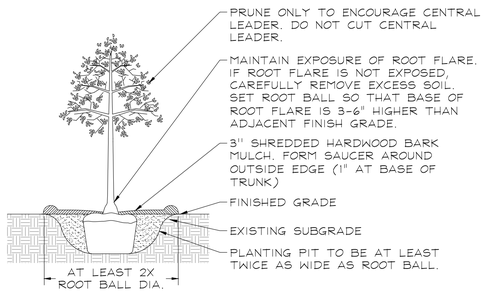
PLANTING DETAILS



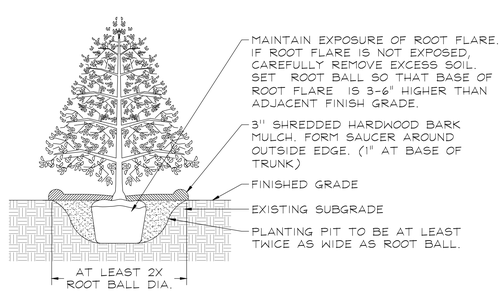
PERENNIALS AND GROUNDCOVERS
NOT TO SCALE



DECIDUOUS AND EVERGREEN SHRUBS
NOT TO SCALE



DECIDUOUS TREES
NOT TO SCALE



EVERGREEN TREES
NOT TO SCALE

GARY R. WEBER ASSOCIATES, INC.
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9575 W. HIGGINS ROAD
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WATERSIDE AT THREE OAKS

CRYSTAL LAKE, ILLINOIS

LANDSCAPE DETAILS

2	12.19.2024
1	11.25.2024

REVISIONS

DATE	9.4.2024
PROJECT NO.	LN22128
DRAWN	GEH
CHECKED	ZML

SHEET NO.

L1.2

811 Know what's below. Call before you dig.

XREFS

PLOT CONFIG

NATIVE PLANTING LIST

Emergent Wetland Plant Mix

Shoreline Emergent
Stormwater basin bottoms from NWL to 4" below NWL

Botanical Name	Common Name	lbs / AC	Plugs / AC.
Alisma subcordatum	Water Plantain	1.250	494
Carex comosa	Bristly Sedge	0.125	494
Carex vulpinoidea	Fox Sedge	0.250	988
Eleocharis obtusa	Blunt Spike Rush	0.250	494
Iris virginica shrevei	Blue Flag	0.500	988
Juncus effusus	Common Rush	0.500	494
Juncus torreyi	Torreys Rush	0.125	494
Leersia oryzoides	Rice Cut Grass	1.250	494
Pontederia cordata	Pickerel Weed	0.250	988
Sagittaria latifolia	Common Arrowhead	1.250	494
	Total Emergent Wetland Mix	**5.750**	**6422**

Deep Water Emergent
Stormwater basin bottoms from 4" to 12" below NWL

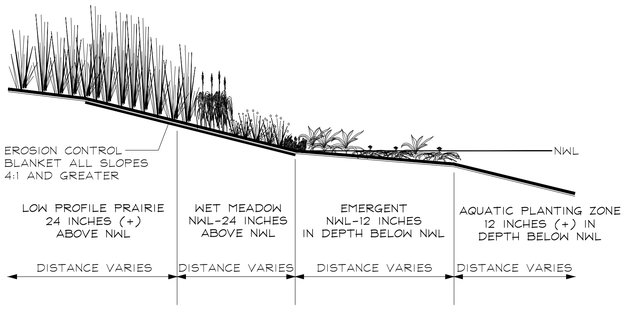
Botanical Name	Common Name	Plugs / AC.
Acorus americanus	Sweet Flag	988
Scirpus acutus	Hardstem Bulrush	988
Scirpus fluviatilis	River Bulrush	988
Schoenoplectus pungens	Chairmakers Rush	988
Schoenoplectus tabernaemontani	Softstem Bulrush	988
Sparganium eurycarpum	Bur Reed	988
	Total Emergent Wetland Mix	**5928**

Wet Meadow Seed Mixture
Lower slopes of basin

Botanical Name	Common Name	lbs / AC
Grasses / Sedges		
Carex bebbii	Bebbs Oval Sedge	0.250
Carex bicknellii	Bicknells Sedge	0.125
Carex brevior	Plains Oval Sedge	0.250
Carex cristatella	Crested Oval Sedge	0.060
Carex molesta	Field Oval Sedge	0.250
Carex normalis	Spreading Oval Sedge	0.015
Carex scoparia	Pointed Broom Sedge	0.190
Carex stipata	Common Fox Sedge	0.060
Carex vulpinoidea	Brown Fox Sedge	0.250
Elymus virginicus	Virginia Wild Rye	3.000
Glyceria striata	Fowl Manna Grass	0.130
Juncus dudleyi	Dudleys Rush	0.020
Juncus torreyi	Torreys Rush	0.031
Panicum virgatum	Switch Grass	3.000
Scirpus atrovirens	Dark Green Bulrush	0.060
Scirpus cyperinus	Wool Grass	0.030
	Total Grasses / Sedges	**7.721**
Wildflowers/Broadleaves		
Asclepias incarnata	Swamp Milkweed	0.125
Bidens cernua	Nodding Bur Marigold	0.190
Boltonia asteroids	False Aster	0.031
Chamaecrista fasciculate	Partridge pea	0.188
Euthamia grammifolia	Grassleaved Goldenrod	0.300
Eupatorium perfoliatum	Common Boneset	0.015
Helenium autumnale	Sneezeweed	0.063
Iris virginica shrevei	Blue Flag Iris	1.000
Lobelia siphilitica	Great Blue Lobelia	0.031
Mimulus ringens	Monkey Flower	0.031
Symphyotrichium novae-angliae	New England Aster	0.250
Pycnanthemum virginianum	Common Mountain Mint	0.063
Rudbeckia fulgida var. sullivantii	Showy Black-Eyed Susan	0.250
Zizia aurea	Golden Alexanders	0.500
	Total Forbs	**3.037**
	Total Wet Meadow Seed Mix	**10.758**

Low Profile Prairie with Flowers Seed Mix
Upper basin slopes

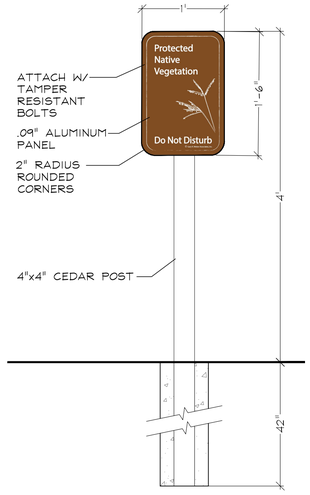
Botanical Name	Common Name	lbs / AC
Grasses		
Bouteloua curtipendula	Side Oats Grama	8.000
Panicum virgatum	Prairie Switch Grass	0.125
Elymus trachycaulus	Slender Wheatgrass	2.000
Elymus canadenesis	Prairie Wild Rye	1.000
Schizachyrium scoparium	Little Bluestem	6.000
	Total Grasses	**17.125**
Wildflowers/Broadleaves		
Allium cernuum	Nodding Wild Onion	0.190
Amorpha canscens	Lead Plant	0.125
Asclepia canadensis	Whorled Milkweed	0.063
Asclepias tuberosa	Butterflyweed	0.500
Astragalus canadensis	Canada Milk Vetch	0.063
Coreopsis palmata	Prairie Coreopsis	0.025
Echinacea pallida	Pale Purple Coneflower	1.000
Echinacea purpurea	Purple Coneflower	0.500
Eryngium yuccifolium	Rattlesnake Master	0.125
Lespedeza capitata	Round-Headed Bush Clover	0.125
Liatris aspera	Rough Blazing Star	0.250
Liatris pycnostachya	Prairie Blazing Star	0.188
Monarda fistulosa	Prairie Bergamot	0.063
Parthenium integrifolium	Wild Quinine	0.016
Penstemon digitalis	Foxglove Beard Tongue	0.125
Petalostemum candidum	White Prairie Clover	0.125
Petalostemum purpureum	Purple Prairie Clover	0.156
Potentilla arguta	Prairie Cinquefoil	0.031
Pycnanthemum tenuifolium	Slender Mountain Mint	0.031
Ratibida pinnata	Yellow Coneflower	0.125
Rudbeckia fulgida var. sullivantii	Showy Black-Eyed Susan	0.500
Rudbeckia hirta	Black-Eyed Susan	0.500
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	0.063
Symphoyrichum leave	Smooth Blue Aster	0.063
Tradescantia ohiensis	Common Spiderwort	0.063
Verbena stricta	Hoary Vervain	0.125
Zizia aurea	Golden Alexanders	0.500
	Total Forbs	**5.640**
	Total Low Profile Prairie Seed Mix	**22.765**



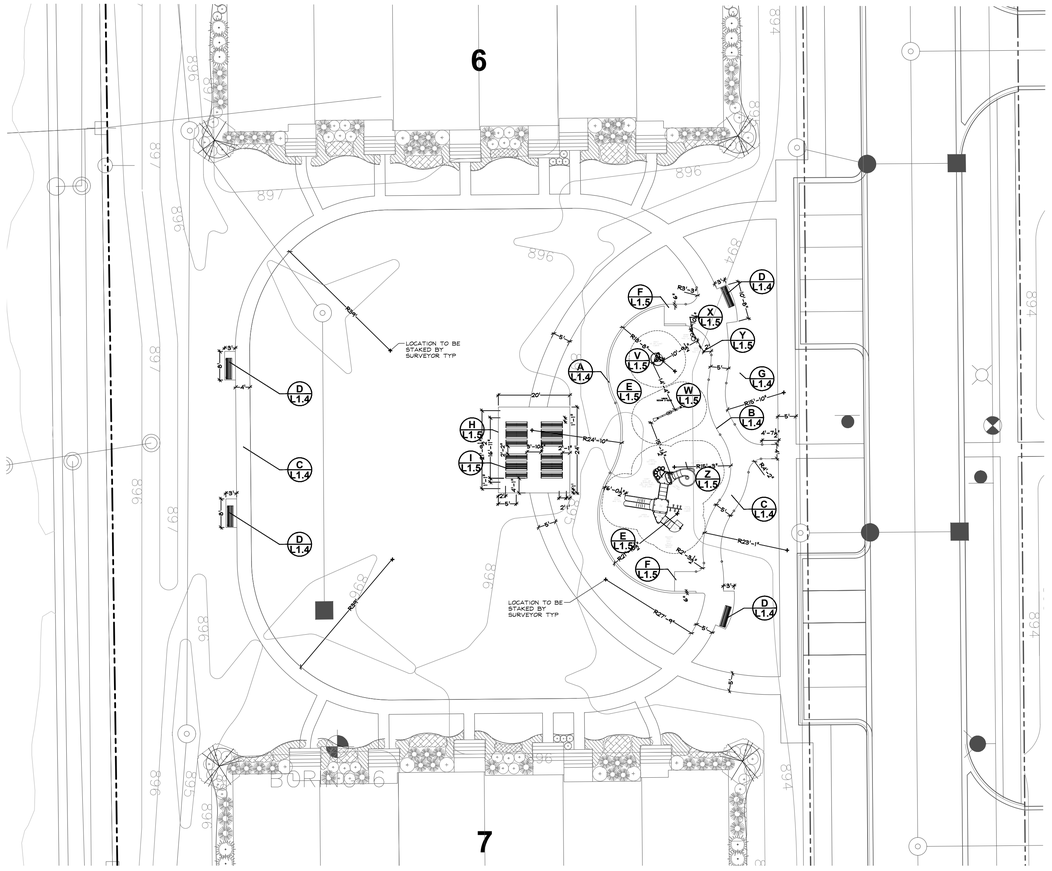
NATURALIZED STORMWATER BASIN SECTION
NOT TO SCALE

SIGN NOTES:

1. SIGN BACKGROUND COLOR: C=40, M=70, Y=100, K=28 SIGN FONT AND GRAPHIC COLOR: WHITE
2. FONT STYLE: MYRIAD PRO FONT SIZE: 116 PT.
3. SIGN ARTWORK SHALL BE PROVIDED BY GARY R. WEBER ASSOCIATES, INC.
4. CONTRACTOR TO SUBMIT SHOP DRAWING AN COLOR SAMPLE FOR THE PROTECTED NATIV VEGETATION SIGN FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO FABRICATION AND INSTALLATION.



NATIVE AREA SIGN DETAIL



PARK LAYOUT PLAN
0 10' 20' 40' 60'
SCALE: 1"=20'
NORTH

PLAY LOT GENERAL NOTES:

1. CONCRETE WALK. SCORE WALK IN 5' MODULES OR AS SHOWN AND PROVIDE 1/2" EXPANSION JOINTS AT 30' INTERVALS OR AS SHOWN.
2. CONCRETE WALK. EXCAVATE TO SUBGRADES INDICATED AND INSTALL NEW CONC. PITCH WALKWAY AT A MIN. 2% IN THE DIRECTION OF THE DRAINAGE PATTERN SHOWN. BACKFILL WALK WITH TOPSOIL & BLEND INTO SURROUNDING GRADE.
3. ALL CONCRETE CURVES SHALL BE SMOOTH AND CONTINUOUS AS SHOWN IN THE DRAWINGS. SHARP BENDS OR KINKS IN THE PAVEMENT SHALL BE REMOVED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
4. DASHED LINE AROUND APPARATUS COMPONENTS AND INDEPENDENT PLAY COMPONENTS REPRESENTS THE MINIMUM REQUIRED SAFETY ZONE (USE ZONE) CLEARANCE OF 6'-0" UNLESS OTHERWISE NOTED.
5. THE REQUIRED USE ZONE IN FRONT OF ALL SLIDE EXIT CHUTES SHALL EXTEND A MINIMUM DISTANCE OF THE HEIGHT OF THE SLIDE (ABOVE THE PLAYGROUND SURFACE) + 4'-0".
6. FOR PLAY APPARATUS CLUSTERS AND INDEPENDENT PLAY COMPONENTS, SEE THE APPARATUS SCHEDULE FOR ITEM DESCRIPTIONS.
7. CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LINES AND IS RESPONSIBLE FOR ANY DAMAGE.
8. CONTRACTER SHALL SURVEY AND LAYOUT SIDEWALK AND CURB.
9. CONTRACTER SHALL INSTALL TEMPORARY PROTECTION FENCING WHILE UNDER CONSTRUCTION
10. CONTRACTER SHALL GRADE AND EXCAVATE AREAS NECESSARY TO INSTALL THE HARDSCAPE AND PLAY EQUIPMENT AS DETAILED.
11. CONTRACTOR SHALL GUARANTEE ALL CONCRETE FOR TWO YEARS.
12. CONTRACTOR TO VERIFY POSITIVE DRAINAGE IN ALL AREAS WITHIN LIMITS OF WORK.

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WATERSIDE AT THREE OAKS

CRYSTAL LAKE, ILLINOIS

PARK LAYOUT PLAN

REVISIONS	
2	12.19.2024
1	11.25.2024

DATE	9.4.2024
PROJECT NO.	LN22128
DRAWN	GEH
CHECKED	ZML
SHEET NO.	L1.3

Know what's below. Call before you dig.

XREFS

PLOT CONFIG

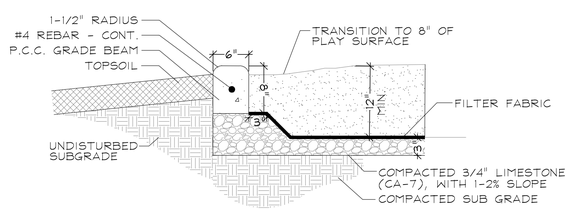
SITE FURNISHINGS SCHEDULE

	ITEM	MODEL	MANUFACTURER	QUANTITY	COMMENTS/CONTACT
A L1.4	CONCRETE CURB			190 LF	
B L1.4	THICKENED EDGE			87 LF	
C L1.4	CONCRETE WALK & BENCH PADS			3158 SF	
D L1.4	6' BENCH	165-60TMR	DUMOR	4	SLATS: THERMALLY MODIFIED RED OAK COLOR: TEXTURED CHARCOAL
E L1.5	ENGINEERED WOOD FIBER SURFACE			1987 SF	
F L1.5	CONCRETE RAMP			2	
G L1.5	TURF DRAIN			2	
H L1.5	SHADE STRUCTURE	MAR-20X24	POLIGON	1	ROOF COLOR: SLATE FRAME COLOR:WHITE ROOF TYPE: MULTI-RIB
I L1.5	6' PICNIC TABLE	475-60TMR	DUMOR	4	SLATS: THERMALLY MODIFIED RED OAK COLOR: TEXTURED CHARCOAL

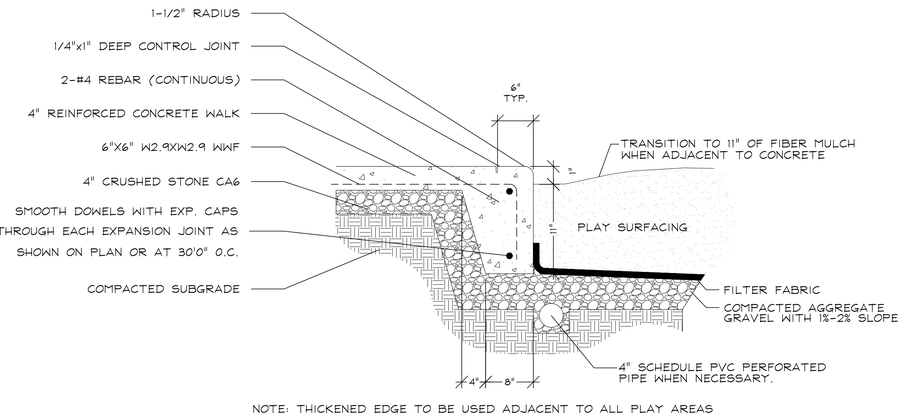
PLAY APPARATUS SCHEDULE

NOTE: INSTALL PER MANUFACTURER'S SPECIFICATION.

	DESCRIPTION	MODEL	MANUFACTURER	QUANTITY	COMMENTS/CONTACT
Z L1.5	2-12 YR OLD PLAY EQUIPMENT	SEE DETAIL SHEET L1.5	LANDSCAPE STRUCTURES	1	
Y L1.5	NAVIGATOR REACH PANEL	SEE DETAIL SHEET L1.5	LANDSCAPE STRUCTURES	1	
X L1.5	BONGO REACH PANEL	SEE DETAIL SHEET L1.5	LANDSCAPE STRUCTURES	1	
W L1.5	SEESAW 2-SEAT	SEE DETAIL SHEET L1.5	LANDSCAPE STRUCTURES	1	
V L1.5	WEE PLANET CLIMBER	SEE DETAIL SHEET L1.5	LANDSCAPE STRUCTURES	1	

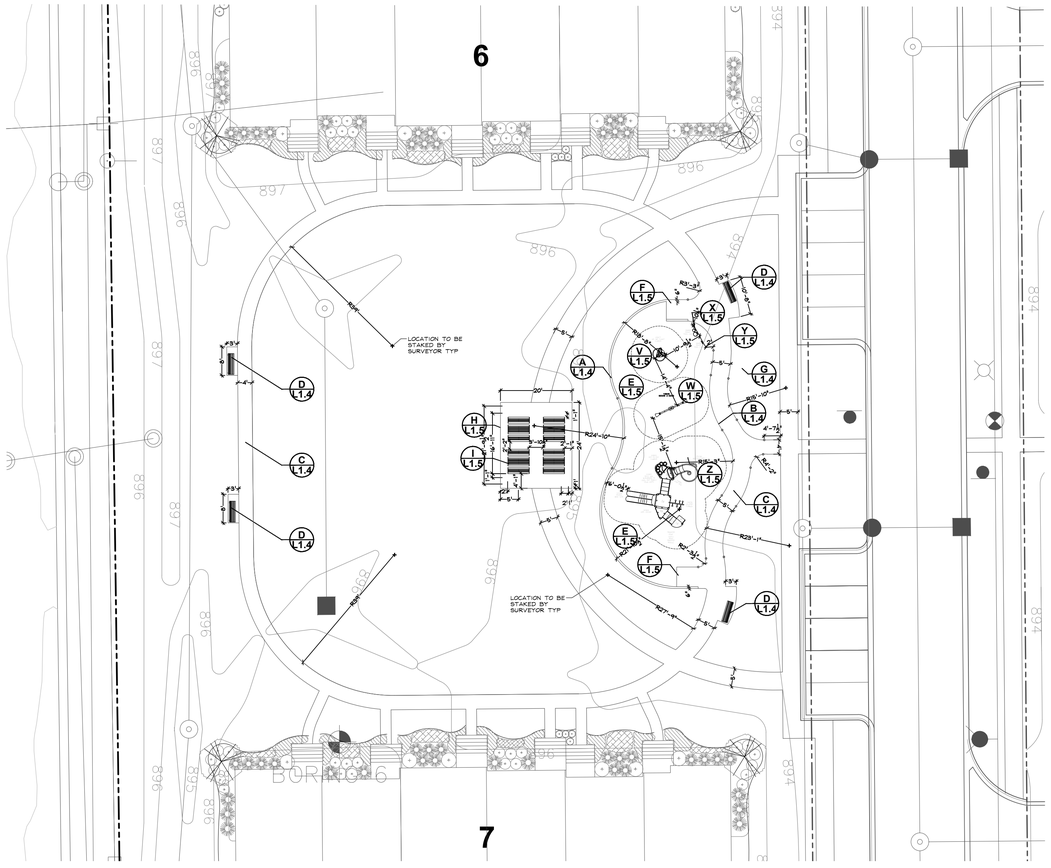


A L1.4 CONCRETE CURB DETAIL
SCALE: 1" = 1'-0"

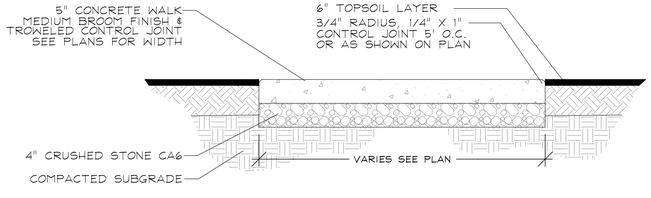


NOTE: THICKENED EDGE TO BE USED ADJACENT TO ALL PLAY AREAS

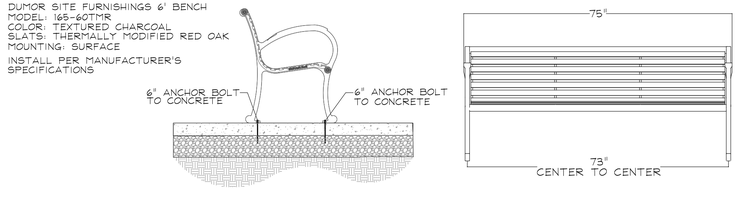
B L1.4 THICKENED EDGE DETAIL
SCALE: 1" = 1'-0"



PARK CALL OUT PLAN
0 10' 20' 40' 60'
SCALE: 1"=20'
NORTH



C L1.4 CONCRETE WALK DETAIL
SCALE: 1" = 1'-0"



D L1.4 BENCH DETAIL
NOT TO SCALE

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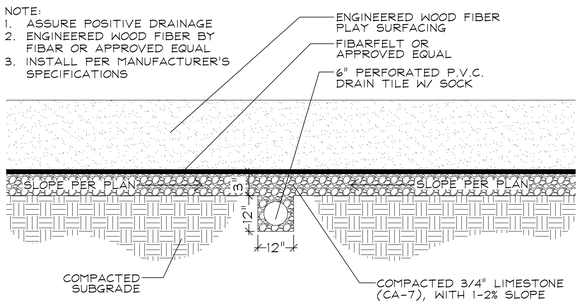
PARK PLAN

2	12.19.2024
1	11.25.2024
REVISIONS	

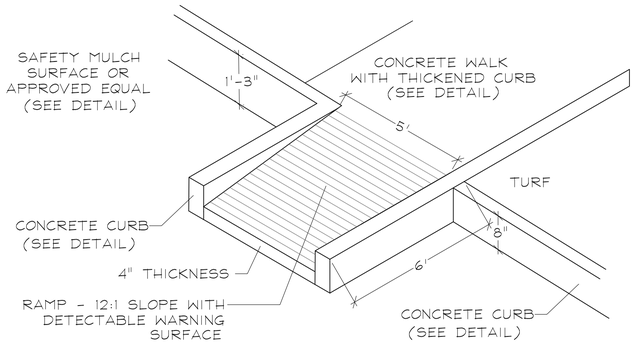
DATE	9.4.2024
PROJECT NO.	LN22128
DRAWN	GEH
CHECKED	ZML
SHEET NO.	L1.4

811 Know what's below. Call before you dig.

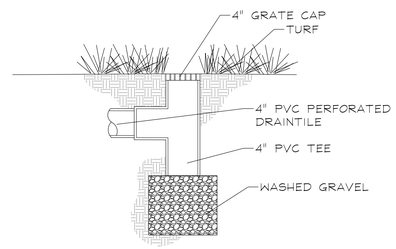
XREFS:
PLOT CONFIG:



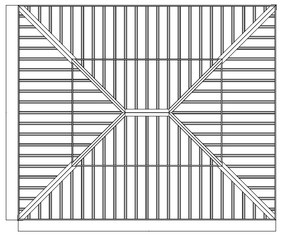
E L1.5 ENGINEERED WOOD FIBER SURFACING DETAIL
NOT TO SCALE

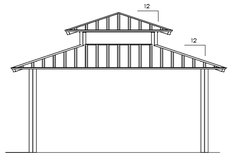


F L1.5 RAMP DETAIL
NOT TO SCALE



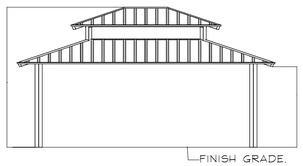
G L1.5 TURF DRAIN DETAIL
NOT TO SCALE

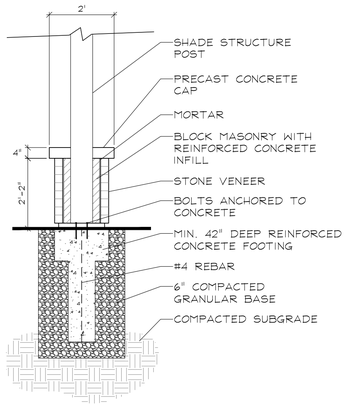




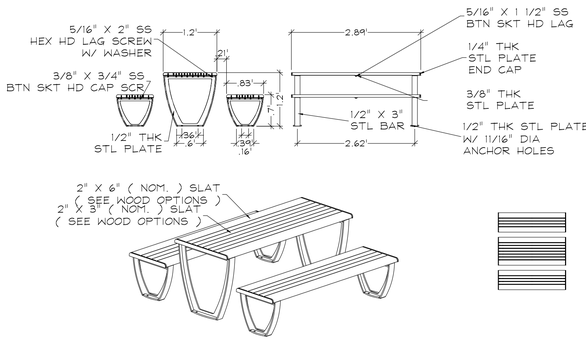
GENERAL ROOF NOTES:

1. METAL ROOFING:
   - 24 GAUGE
   - GALVALUME COATED
   - KYNAR 500 PAINTED
2. TRIM COLOR MATCHES ROOF
3. SEE POLIGON.COM FOR COLOR OPTIONS





H L1.5 SHADE STRUCTURE DETAIL
NOT TO SCALE



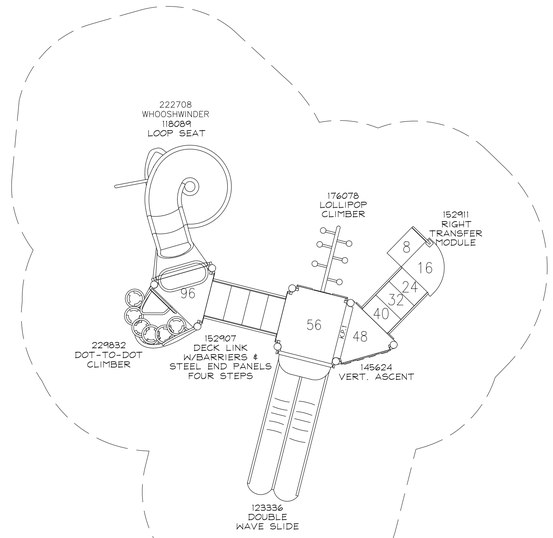
NOTES

1.) ALL STL. MEMBERS COATED W/ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.

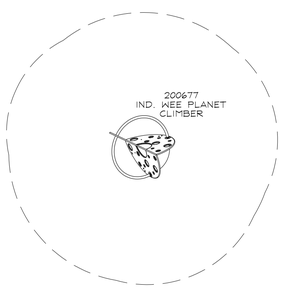
2.) 1/2" X 3 3/4" EXPANSION ANCHOR BOLT PROVIDED.

DUMOR SITE FURNISHINGS
MODEL: 475-60-TMR
COLOR: TEXTURED CHARCOAL
SLATS: THERMALLY MODIFIED RED OAK
MOUNTING: SURFACE MOUNTED
INSTALL PER MANUFACTURER'S SPECIFICATIONS

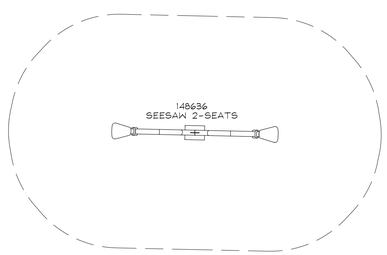
I L1.5 PICNIC TABLE DETAIL
NOT TO SCALE



Z L1.5 2-12 PLAY EQUIPMENT DETAIL
NOT TO SCALE



V L1.5 WEE PLANET CLIMBER
NOT TO SCALE



W L1.5 SEE SAW DETAIL
NOT TO SCALE



X L1.5 BONGO REACH PANEL
NOT TO SCALE

Y L1.5 NAVIGATOR REACH PANEL
NOT TO SCALE

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WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

AMENITY DETAILS

2	12.19.2024
1	11.25.2024

REVISIONS

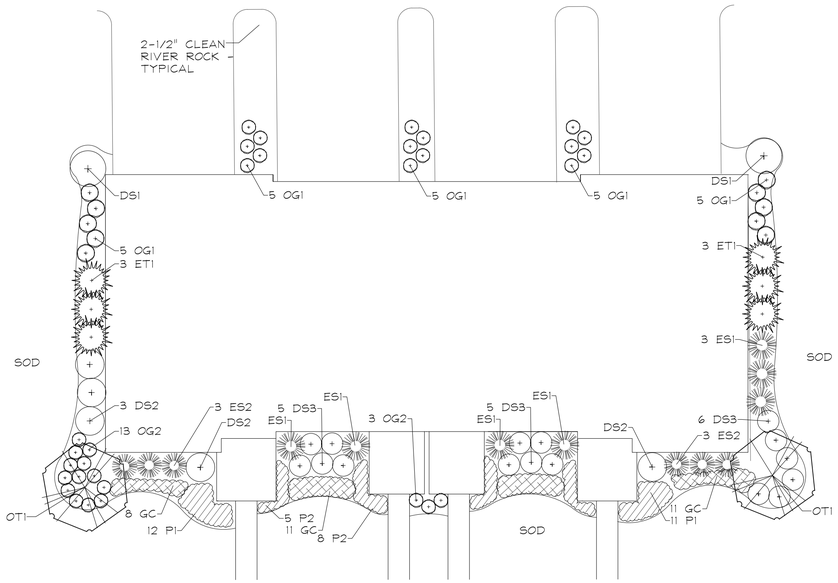
DATE	9.4.2024
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DRAWN	GEH
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SHEET NO.

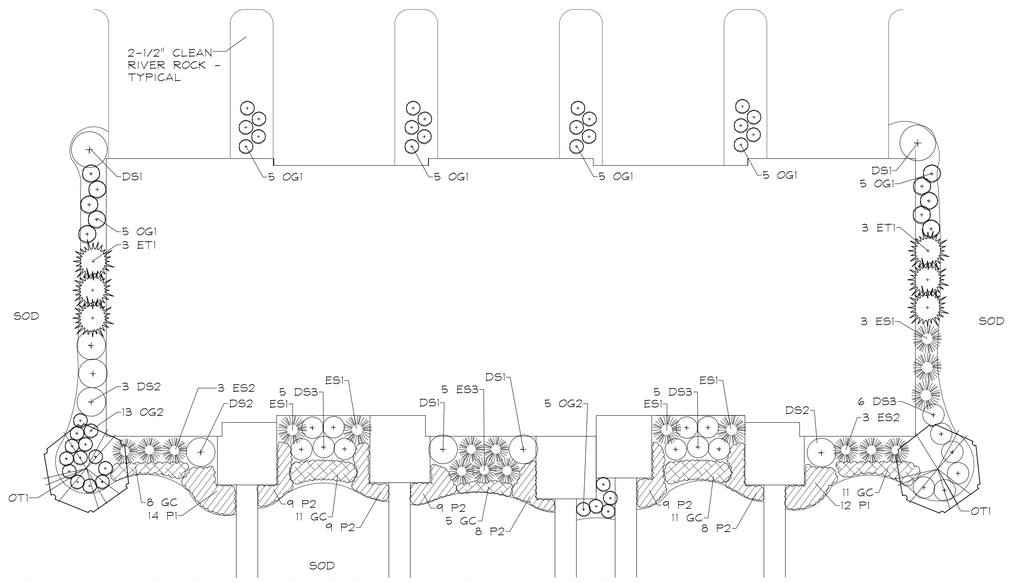
L1.5

Know what's below. Call before you dig.

PLOT DRAWN: 9/18/24



REAR-LOADED TOWNHOME TYPICAL FOUNDATION
SCALE: 1"=10'



REAR-LOADED TOWNHOME TYPICAL FOUNDATION
SCALE: 1"=10'

4-UNIT TOWNHOME PLANT LIST- A
(BLDG. 5,8)

Key	Qty	Botanical/Common Name	Size	Remarks
		ORNAMENTAL TREES		
OT1	2	Amelanchier x grandiflora APPLE SERVICEBERRY	6' Ht.	Multi-Stem
		EVERGREEN TREES		
ET1	6	Thuja occidentalis 'Smaragd' EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.
		DECIDUOUS SHRUBS		
DS1	2	Hydrangea paniculata 'Bulk' QUICK FIRE HYDRANGEA	30" Tall	5' O.C.
DS2	5	Cornus sericea 'Farrow' ARCTIC FIRE DOGWOOD	24" Tall	3'-6" O.C.
DS3	16	Rhus aromatica 'Gro-Low' GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.
		EVERGREEN SHRUBS		
ES1	7	Juniperus x pfitzeriana 'Kallay's Compact' KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.
ES2	6	Taxus x media 'Densiformis' DENSE YEW	24" Wide	4' O.C.
		ORNAMENTAL GRASSES		
OG1	25	Calamagrostis x acutiflora 'Karl Foerster' FEATHER REED GRASS	#1	30" O.C.
OG2	16	Sporobolus heterolepis PRAIRIE DROPSEED	#1	24" O.C.
		PERENNIALS		
P1	23	Hemerocallis 'Rosy Returns' ROSY RETURNS DAYLILY	#1	18" O.C.
P2	13	Allium 'Summer Beauty' SUMMER BEAUTY ONION	#1	18" O.C.
		GROUNDCOVER		
GC	30	Pachysandra terminalis 'Green Carpet' GREEN CARPET JAPANESE SPURGE	#5P4	12" O.C.
		MISC. MATERIALS		
	7	SHREDDED HARDWOOD MULCH	C.Y.	
	3	2-1/2" CLEAN RIVER ROCK	C.Y.	

4-UNIT TOWNHOME PLANT LIST- A
(BLDG. 4,9 AND 10)

Key	Qty	Botanical/Common Name	Size	Remarks
		ORNAMENTAL TREES		
OT1	2	Syringa pekinensis 'Morton' CHINA SNOW PEKING LILAC	6' Ht.	Multi-Stem
		EVERGREEN TREES		
ET1	6	Thuja occidentalis 'Smaragd' EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.
		DECIDUOUS SHRUBS		
DS1	2	Syringa 'SMSJBP7' DARK PURPLE BLOOMERANG LILAC	30" Tall	5' O.C.
DS2	5	Weigela florida 'Bramwell' FINE WINE WEIGELA	24" Tall	3'-6" O.C.
DS3	16	Rhus aromatica 'Gro-Low' GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.
		EVERGREEN SHRUBS		
ES1	7	Juniperus x pfitzeriana 'Kallay's Compact' KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.
ES2	6	Taxus x media 'Densiformis' DENSE YEW	24" Wide	4' O.C.
		ORNAMENTAL GRASSES		
OG1	25	Calamagrostis x acutiflora 'Karl Foerster' FEATHER REED GRASS	#1	30" O.C.
OG2	16	Pennisetum alopecuroides 'Desert Plains' PRAIRIE WINDS FOUNTAIN GRASS	#1	24" O.C.
		PERENNIALS		
P1	23	Hemerocallis 'Rosy Returns' ROSY RETURNS DAYLILY	#1	18" O.C.
P2	13	Nepeta racemosa 'Blue Wonder' BLUE WONDER CATMINT	#1	18" O.C.
		GROUNDCOVER		
GC	30	Liriope spicata CREEPING LILYTURF	#5P4	12" O.C.
		MISC. MATERIALS		
	7	SHREDDED HARDWOOD MULCH	C.Y.	
	3	2-1/2" CLEAN RIVER ROCK	C.Y.	

5-UNIT TOWNHOME PLANT LIST - A
(BLDGS. 1,2)

Key	Qty	Botanical/Common Name	Size	Remarks
		ORNAMENTAL TREES		
OT1	2	Amelanchier x grandiflora APPLE SERVICEBERRY	6' Ht.	Multi-Stem
		EVERGREEN TREES		
ET1	6	Thuja occidentalis 'Smaragd' EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.
		DECIDUOUS SHRUBS		
DS1	4	Hydrangea paniculata 'Bulk' QUICK FIRE HYDRANGEA	30" Tall	5' O.C.
DS2	5	Cornus sericea 'Farrow' ARCTIC FIRE DOGWOOD	24" Tall	3'-6" O.C.
DS3	16	Rhus aromatica 'Gro-Low' GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.
		EVERGREEN SHRUBS		
ES1	7	Juniperus x pfitzeriana 'Kallay's Compact' KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.
ES2	6	Taxus x media 'Densiformis' DENSE YEW	24" Wide	4' O.C.
		ORNAMENTAL GRASSES		
OG1	35	Calamagrostis x acutiflora 'Karl Foerster' FEATHER REED GRASS	#1	30" O.C.
OG2	13	Sporobolus heterolepis PRAIRIE DROPSEED	#1	24" O.C.
		PERENNIALS		
P1	26	Hemerocallis 'Rosy Returns' ROSY RETURNS DAYLILY	#1	18" O.C.
P2	52	Allium 'Summer Beauty' SUMMER BEAUTY ONION	#1	18" O.C.
		GROUNDCOVER		
GC	46	Pachysandra terminalis 'Green Carpet' GREEN CARPET JAPANESE SPURGE	#5P4	12" O.C.
		MISC. MATERIALS		
	8	SHREDDED HARDWOOD MULCH	C.Y.	
	4	2-1/2" CLEAN RIVER ROCK	C.Y.	

5-UNIT TOWNHOME PLANT LIST - B
(BLDGS. 3)

Key	Qty	Botanical/Common Name	Size	Remarks
		ORNAMENTAL TREES		
OT1	2	Syringa pekinensis 'Morton' CHINA SNOW PEKING LILAC	6' Ht.	Multi-Stem
		EVERGREEN TREES		
ET1	6	Thuja occidentalis 'Smaragd' EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.
		DECIDUOUS SHRUBS		
DS1	4	Syringa 'SMSJBP7' DARK PURPLE BLOOMERANG LILAC	30" Tall	5' O.C.
DS2	5	Weigela florida 'Bramwell' FINE WINE WEIGELA	24" Tall	3'-6" O.C.
DS3	16	Rhus aromatica 'Gro-Low' GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.
		EVERGREEN SHRUBS		
ES1	7	Juniperus x pfitzeriana 'Kallay's Compact' KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.
ES2	6	Taxus x media 'Densiformis' DENSE YEW	24" Wide	4' O.C.
		ORNAMENTAL GRASSES		
OG1	35	Calamagrostis x acutiflora 'Karl Foerster' FEATHER REED GRASS	#1	30" O.C.
OG2	13	Pennisetum alopecuroides 'Desert Plains' PRAIRIE WINDS FOUNTAIN GRASS	#1	24" O.C.
		PERENNIALS		
P1	26	Hemerocallis 'Rosy Returns' ROSY RETURNS DAYLILY	#1	18" O.C.
P2	52	Nepeta racemosa 'Blue Wonder' BLUE WONDER CATMINT	#1	18" O.C.
		GROUNDCOVER		
GC	46	Liriope spicata CREEPING LILYTURF	#5P4	12" O.C.
		MISC. MATERIALS		
	8	SHREDDED HARDWOOD MULCH	C.Y.	
	4	2-1/2" CLEAN RIVER ROCK	C.Y.	

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CIVIL ENGINEER:
MACKIE CONSULTANTS, LLC
9575 W. HIGGINS ROAD
SUITE 500
ROSEMONT, IL 60018

WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

TYPICAL TOWNHOME FOUNDATION PLANS

2	12.19.2024
1	11.25.2024

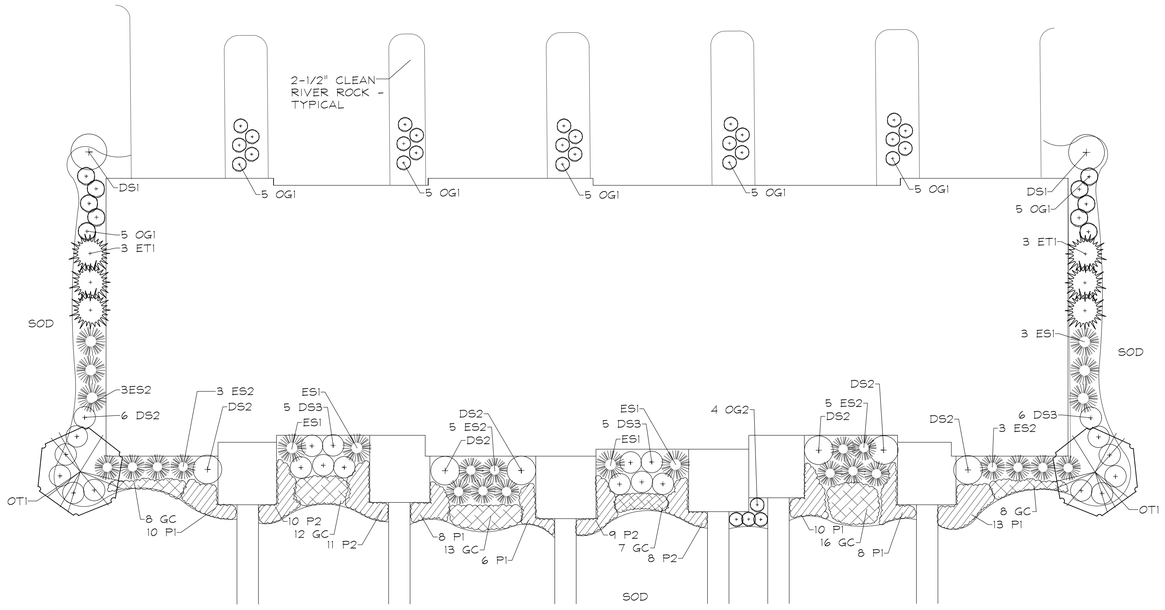
REVISIONS

DATE	9.4.2024
PROJECT NO.	LN22128
DRAWN	GEH
CHECKED	ZML
SHEET NO.	

L1.6

Know what's below. Call before you dig.

XREFS:
PLOT CONFIG:



REAR-LOADED TOWNHOME TYPICAL FOUNDATION
SCALE: 1"=10'

6-UNIT TOWNHOME PLANT LIST - A
(BLDGS. 7,12,14,16,18 AND 20)

Key	Qty	Botanical/Common Name	Size	Remarks
		ORNAMENTAL TREES		
OT1	2	Amelanchier x grandiflora APPLE SERVICEBERRY	6' Ht.	Multi-Stem
		EVERGREEN TREES		
ET1	6	Thuja occidentalis 'Smaragd' EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.
		DECIDUOUS SHRUBS		
DS1	2	Hydrangea paniculata 'Bulk' QUICK FIRE HYDRANGEA	30" Tall	5' O.C.
DS2	12	Cornus sericea 'Farrow' ARCTIC FIRE DOGWOOD	24" Tall	3'-6" O.C.
DS3	16	Rhus aromatica 'Gro-Low' GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.
		EVERGREEN SHRUBS		
ES1	7	Juniperus x pfitzeriana 'Kallay's Compact' KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.
ES2	17	Taxus x media 'Densiformis' DENSE YEW	24" Wide	4' O.C.
		ORNAMENTAL GRASSES		
OG1	35	Calamagrostis x acutiflora 'Karl Foerster' FEATHER REED GRASS	#1	30" O.C.
OG2	4	Sporobolus heterolepis PRAIRIE DROPSEED	#1	24" O.C.
		PERENNIALS		
P1	55	Hemerocallis 'Rosy Returns' ROSY RETURNS DAYLILY	#1	18" O.C.
P2	38	Allium 'Summer Beauty' SUMMER BEAUTY ONION	#1	18" O.C.
		GROUNDCOVER		
GC	64	Pachysandra terminalis 'Green Carpet' GREEN CARPET JAPANESE SPURGE	#5P4	12" O.C.
		MISC. MATERIALS		
	9	SHREDDED HARDWOOD MULCH	C.Y.	
	5	2-1/2" CLEAN RIVER ROCK	C.Y.	

6-UNIT TOWNHOME PLANT LIST - B
(BLDGS. 6,11,13,15,17 AND 19)

Key	Qty	Botanical/Common Name	Size	Remarks
		ORNAMENTAL TREES		
OT1	2	Syringa pekinensis 'Morton' CHINA SNOW PEKING LILAC	6' Ht.	Multi-Stem
		EVERGREEN TREES		
ET1	6	Thuja occidentalis 'Smaragd' EMERALD GREEN ARBORVITAE	5' Ht.	4' O.C.
		DECIDUOUS SHRUBS		
DS1	2	Syringa 'SMSJBP7' DARK PURPLE BLOOMERANG LILAC	30" Tall	5' O.C.
DS2	12	Weigela florida 'Bramwell' FINE WINE WEIGELA	24" Tall	3'-6" O.C.
DS3	16	Rhus aromatica 'Gro-Low' GRO-LOW FRAGRANT SUMAC	24" Wide	3'-6" O.C.
		EVERGREEN SHRUBS		
ES1	7	Juniperus x pfitzeriana 'Kallay's Compact' KALLAY'S COMPACT PFITZER JUNIPER	24" Wide	4' O.C.
ES2	17	Taxus x media 'Densiformis' DENSE YEW	24" Wide	4' O.C.
		ORNAMENTAL GRASSES		
OG1	35	Calamagrostis x acutiflora 'Karl Foerster' FEATHER REED GRASS	#1	30" O.C.
OG2	4	Pennisetum alopecuroides 'Desert Plains' PRAIRIE WINDS FOUNTAIN GRASS	#1	24" O.C.
		PERENNIALS		
P1	55	Hemerocallis 'Rosy Returns' ROSY RETURNS DAYLILY	#1	18" O.C.
P2	38	Nepeta racemosa 'Blue Wonder' BLUE WONDER CATMINT	#1	18" O.C.
		GROUNDCOVER		
GC	64	Liriope spicata CREEPING LILYTURF	#5P4	12" O.C.
		MISC. MATERIALS		
	9	SHREDDED HARDWOOD MULCH	C.Y.	
	5	2-1/2" CLEAN RIVER ROCK	C.Y.	

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WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

TYPICAL TOWNHOME FOUNDATION PLANS

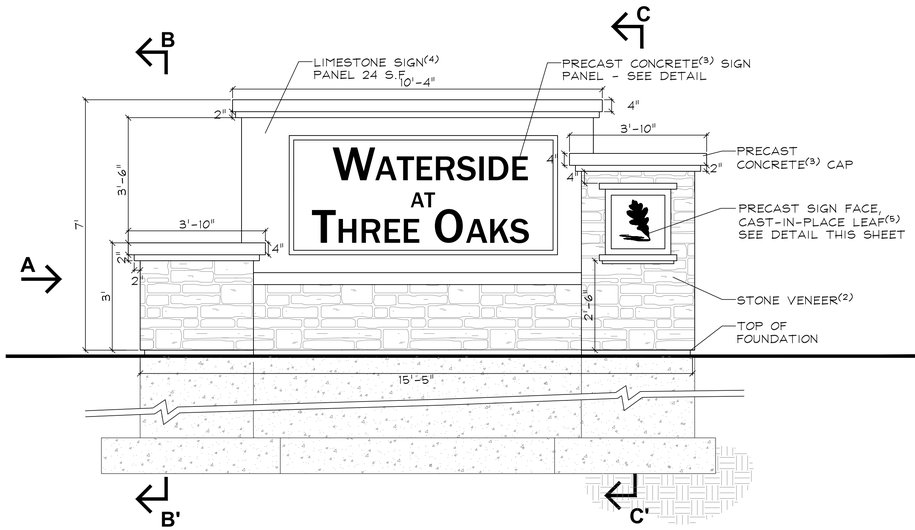
2	12.19.2024
1	11.25.2024
REVISIONS	

DATE	9.4.2024
PROJECT NO.	LN22128
DRAWN	GEH
CHECKED	ZML
SHEET NO.	

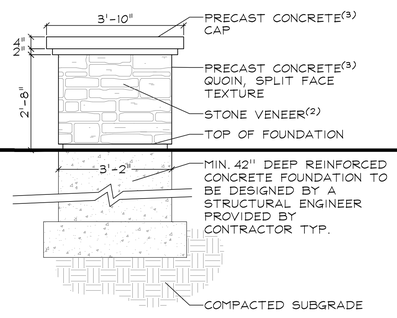
L1.7

Know what's below. Call before you dig.

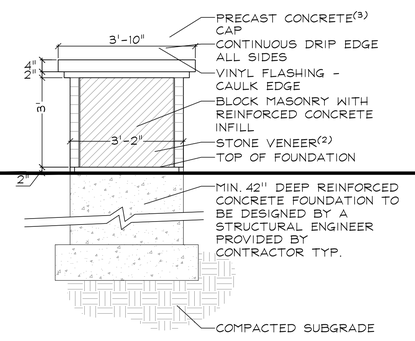
XREFS
PLOT CONFIG



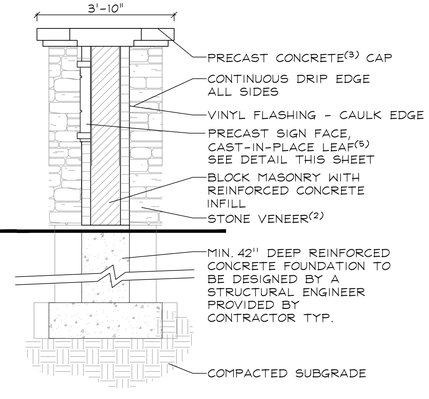
MONUMENT FRONT ELEVATION
SCALE: 1/2"=1'-0"



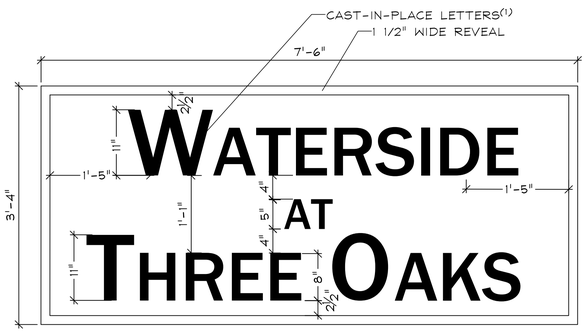
ELEVATION A



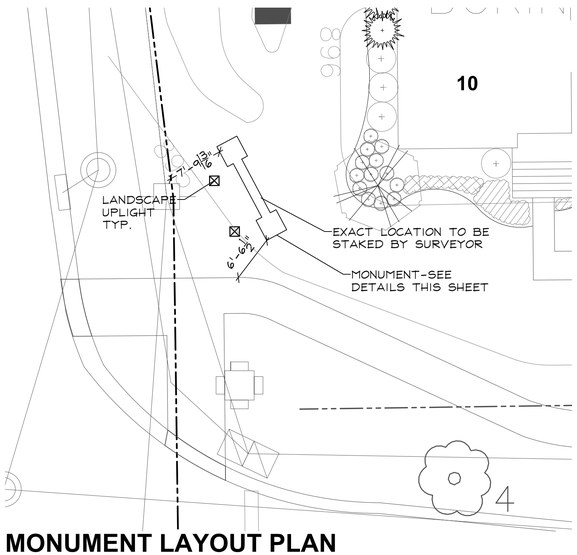
SECTION B-B'



SECTION C-C'



SIGN PANEL DETAILS
SCALE: 1"=1'-0"



MONUMENT LAYOUT PLAN
SCALE: 1"=10'

(1) FONT: FRANKLIN GOTHIC MEDIUM
"T" AND "O": 12" HEIGHT
"HREE": 10" HEIGHT
"AKS": 10" HEIGHT
ETCHED AND PAINTED BLACK

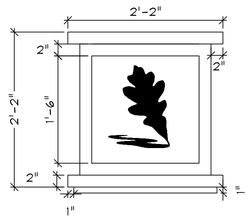
(2) STONE VENEER: BARNWOOD BLUE TAILORED FIELDLEDGE BUECHEL STONE CORP. OR APPROVED EQUAL
SUBMIT COLOR & GROUT SAMPLE TO DEVELOPER & LANDSCAPE ARCHITECT.

(3) PRE-CAST CONCRETE COLOR: WHITE BY CUSTOM CAST STONE OR APPROVED EQUAL.
CAPS AND PANEL: SMOOTH FACE
SUBMIT COLOR SAMPLE TO DEVELOPER & LANDSCAPE ARCHITECT.

(4) LIMESTONE PANEL, FINISH: BRUSH HAMMER
COLOR: INDIANA LIMESTONE
SUBMIT COLOR SAMPLE TO DEVELOPER & LANDSCAPE ARCHITECT

(5) CAST-IN-PLACE LEAF, COLOR: BENJAMIN MOORE CLASSICS 'WARMED COGNAC'
MONUMENT LEAF HEIGHT: 15"
SUBMIT COLOR SAMPLE TO LANDSCAPE ARCHITECT & DEVELOPER
REQUEST ARTWORK FROM LANDSCAPE ARCHITECT

(6) UPLIGHTS: KIM LIGHTING MICRO-FLOOD
MODEL#: EL218F3 8L3K UV DB FH215
TOTAL OF 2
UPLIGHTS TO BE CONNECTED TO STREET LIGHT CIRCUIT.
GFI DUPLEX OUTLET WITH IN-USE COVER TO BE PROVIDED AT LEFT UPLIGHT.



LEAF DETAIL
SCALE: 1"=1'-0"

ENTRANCE MONUMENT SPECIFICATIONS

1.0 DESCRIPTION OF WORK

A. The work consists of all labor, materials, work and equipment necessary and required to complete monuments, fence and foundations as shown on drawings or specified herein, including, but not limited to:

1. Submission of color and material samples
2. Submission of shop drawings
3. Submission of construction schedule
4. Verification of existing conditions and underground utilities
5. Secure and pay for all permits, fees, inspections and schedule all inspections related to work, including J.U.L.I.E. locates.
6. Comply with all applicable codes

2.0 QUALITY ASSURANCE

A. Construction shall conform to ©Building Code Requirements for Engineered Brick Masonry," BIA, latest edition.

B. All brick and stone shall be finest architectural grade free of cracks, chips, defects, etc.

C. Installation shall be by a company continuously and regularly employed in the installation of brick and stone monuments for a period of at least 5 consecutive years.

D. No masonry shall be laid when the temperature is expected to fall below 40 degrees F, unless suitable means, submitted in writing to the owner, are provided to heat materials and protect the work. Protect work from cold and frost and insure that mortar will harden without freezing. N o additives shall be used, unless approved in writing by the owner.

E. All corners of monuments and piers are to be staked by engineer and verified by the contractor.

3.0 JOB CONDITIONS

A. Examine and evaluate grades, and soils. Provide soil testing and verify soils structural integrity. Observe the conditions under which work is to be performed and notify the owner of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

B. Utilities: Review underground utility location maps and plans; Notify J.U.L.I.E.; demonstrate an awareness of utility locations; and certify acceptance of liability for the protection of utilities during course of work. Contractor shall be responsible for any damage to utilities or property.

C. All streets and curbs must be cleaned at the end of each working day.

D. All OSHA requirements for safety must be adhered to at all times.

4.0 GUARANTEES

A. Guarantee monuments 1 year from final acceptance on owner's representative on workmanship and materials.

B. Where failures have occurred resulting from the concrete not meeting the specified design strength, or workmanship, it shall be the responsibility of the subcontractors in connection with the supplier to take whatever corrective actions are necessary to eliminate the problem. In addition, it shall be their responsibility to make restitution for their resulting repair work created by the problem.

5.0 SUBMITTALS

A. Construction Schedule: After award of the Contract, the Contractor shall prepare and submit to the owner or an owner authorized representative an estimated construction progress schedule for the work, including sub-schedules of related activities which are essential to its progress, as well as lead-time for materials.

1. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction. Schedule to represent a continuous flow of construction activities so that there are no days of non-activity on site.

B. Product Samples: Submit samples of stone, architectural pre-cast, mortars and sealants, slate, light fixtures, tile, and ornamental fencing for the owner's design conformance review prior to delivery to site.

C. Product Data: Submit product data for stone, limestone, architectural pre-cast, mortars and joint sealants, slate, tile, light fixtures, and ornamental fencing.

D. Provide certificate of insurance per the owner's requirements.

E. Provide names and contact information for any subcontractors and suppliers.

F. Shop Drawings:

1. Prepare and submit to the Owner's Representative for design conformance review complete cutting and setting drawings for all masonry work:
2. Submit one (1) set prints with following items in detail:
   a) Sizes
   b) Sections
   c) Dimensions and numbering of stone and brick.
   d) Arrangements of joints and bond.
3. Show jointing as indicated on the contract drawings, unless modification is reviewed for design conformance by Owner's Representative prior to preparation of shop drawings.
4. Establish jointing in accordance with industry standards and practices where not indicated on contract drawings.

6.0 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Loading and Shipment:

1. Pack carefully for transportation, with exercise of all customary and reasonable precautions against damage in transit, all brick, and limestone to be used for the work.
2. Load and ship all brick and cut stone in a sequence mutually agreed upon by the General Contractor and the material supplier.

B. Unloading and Storage:

1. Receive and unload at site all brick and stone with necessary care in handling to avoid damage or soiling.
2. Store brick and stone clear of ground on non-staining skids. Wood containing tannin, chemical treatment, or excessive amounts of resin shall not be used.
3. Cover brick and stone with waterproof, clean canvas, or polyethylene for protection from construction or natural elements.

7.0 INSTALLATION

A. Mortar:

1. Cement: white, non-staining masonry cement, conforming to ASTM-C91.
2. Sand: Clean, sharp, and washed, capable of passing a No. 16 sieve, and in conformance with ASTM-CIAA. Carefully select sand for use in pointing mortar for color to match limestone. For pointing mortar, select a white sand.
3. Lime: Hydrated, conforming to ASTM-C207, Type S.
4. Water: Clear, non-alkaline, potable and free of oils, salts, and other harmful elements.

B. Foundation

Concrete mix air entrainment, compressive strength at twenty-eight (28) days, and slump are to be designed and specified by the contractor's structural engineer.

C. Mortar Beds:

1. Lay brick with full mortar coverage on horizontal and vertical joints in all courses.
2. Provide sufficient mortar on ends of brick to completely fill head joints.
3. Rock closure into place with head joints thrown against two adjacent bricks in place.

D. Mortar Joints; Horizontal and vertical face joints:

1. Nominal thickness: 3/8 inch.
2. Construct uniform joints.
3. Shove vertical joints tight.
4. Tool concave joints in exposed surfaces when thumbprint hard.
5. Width, depth, and tooling of all mortar joints shall be consistent and shall not vary more than 1/8".
6. Movement joints: Keep clean of all mortar and debris.

E. Flashing:

1. Install complete and continuous under stone copings and other projections.
2. Lap joints 6". Seal entire contact surface with mastic.
3. Provide a mortar wash at the base of the cavity, underneath the through-wall flashing, pitching out.
4. Cover flashing with mortar.

F. Weepholes

1. Provide 3/8" cotton rope weeps. Rope weeps shall extend thru the veneer face and inside the cavity, lying on top and along the bottom length of the flashing. Cut rope flush with wall face.
2. Maximum spacing: rope weeps: 16 inches o.c., at wall base; 16 inches o.c. at lintels above openings.
3. Keep weepholes and area above flashing free of mortar droppings.

8.0 CLEAN UP AND PROTECTION

A. All material shall be washed with fiber brushes, soap powder, and clean water or Owner reviewed mechanical cleaning process.

B. Sand blasting, wire brushes, or acids shall not be used. Exceptions may be considered if reviewed by the Owner or an Owner authorized representative.

C. During work, store materials and equipment as directed by the owner.

D. Protect work and materials from damage due to operations by other trades and trespassers. Maintain protection during installation.

9.0 INSPECTION AND ACCEPTANCE

A. The Owner and or the Owner's representative reserves the right to inspect materials and workmanship at the site prior to, during construction, or at the time of inspection for compliance with these specifications.

B. Notify the Owner's representative when completed, for final design conformance review.

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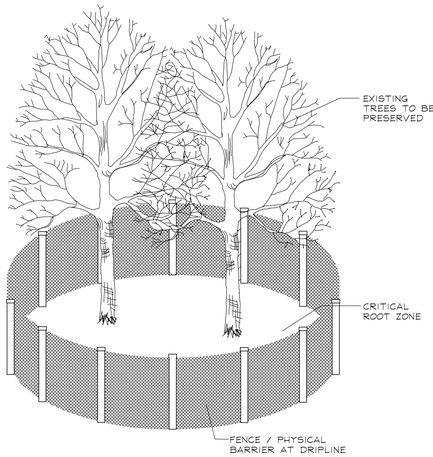
MONUMENT DETAILS

2	12.19.2024
1	11.25.2024
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DRAWN	GEH
CHECKED	ZML
SHEET NO.	L1.8

811 Know what's below. Call before you dig.

XREFS:
PLOT CONFIG:

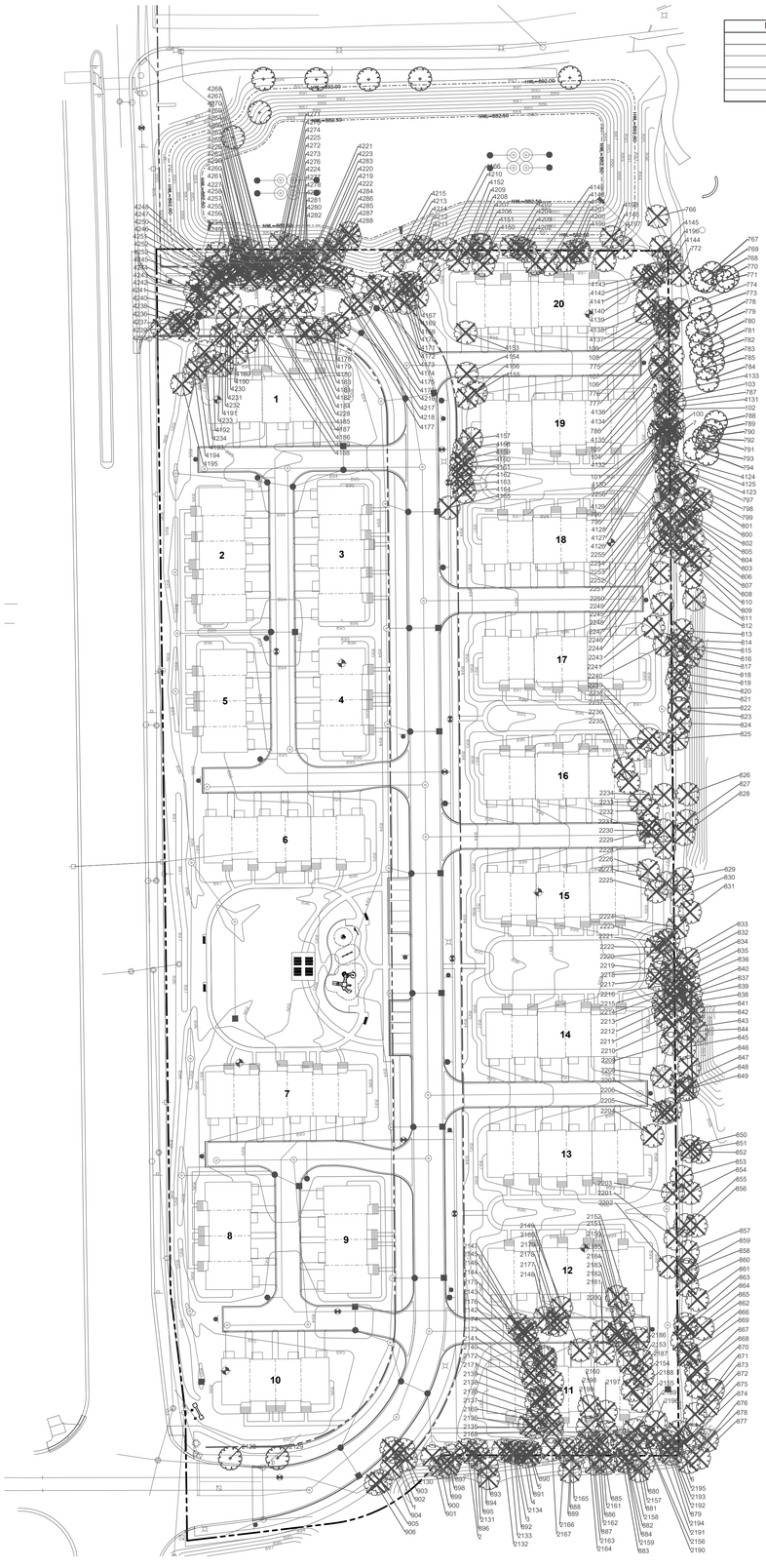


TREE PRESERVATION DETAIL

(NOT TO SCALE)
SEE NOTES

TREE PRESERVATION NOTES

1. 48'' high snow fence or wood barriers shall extend to the dripline of the tree or tree mass whenever possible, shall be installed before construction begins, and should not be removed until the completion of construction.
2. All accidental damage to existing trees that are to be preserved shall be promptly treated as required in accordance with recognized horticultural practices and the instructions of the professional Arborist, Landscape Architect or Horticulturist.
3. Broken or badly bruised branches shall be removed with a clean cut. If recommended by the professional Arborist, Landscape Architect or Horticulturist.
4. Care shall be exercised by the contractors to protect all overhead limbs and branches from damage by contact with material, machinery or equipment and by damage from engine exhaust.
5. Contractors shall protect trees and vegetation against spills or discharge of fuels,lubricating oils, hydraulic fluids, anti-freeze and coolants, calcium chloride, lime and all other similar hydrocarbons, organic chemicals, and other materials which can be harmful.
6. When underground utilities are proposed within 5' of a preserved tree trunk, they must be augered if possible.



Rating	Description	Criteria
1	Excellent	Less than 10% dead wood, typical growth for species, no observed defects
2	Good	Less than 20% dead wood, minor defects, sound structure, no decay
3	Fair	Less than 30% dead wood, minor crown die-back, minor trunk damage or cavities
4	Fair to Poor	Approximately 30-50% dead wood, lacking full crown, minor disease evidence, trunk damage
5	Poor	Over 50% dead wood, lacking full crown, disease or decay evident, structural damage/cavities
6	Dead	Less than 10% living wood, greater than 50% missing bark, adventitious growth only, decay

LEGEND

TREE TO BE PRESERVED

TREE TO BE REMOVED

0 50' 100' 200' 300'
SCALE: 1"=100'

NORTH

Know what's below. Call before you dig. 811

GARY R. WEBER ASSOCIATES, INC.
LAND PLANNING
ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187
PHONE: 630-668-7197
www.grwainc.com

CLIENT:
LENNAR
1700 E. GOLF ROAD
SUITE 1100
SCHAUMBURG, IL 60173

CIVIL ENGINEER:
MACKIE CONSULTANTS, LLC
9575 W. HIGGINS ROAD
SUITE 500
ROSEMONT, IL 60018

WATERSIDE AT THREE OAKS

CRYSTAL LAKE, ILLINOIS

TREE PRESERVATION PLAN

2	12.19.2024
1	11.25.2024

REVISIONS

DATE	9.4.2024
PROJECT NO.	LN22128
DRAWN	GEH
CHECKED	ZML
SHEET NO.	L1.9

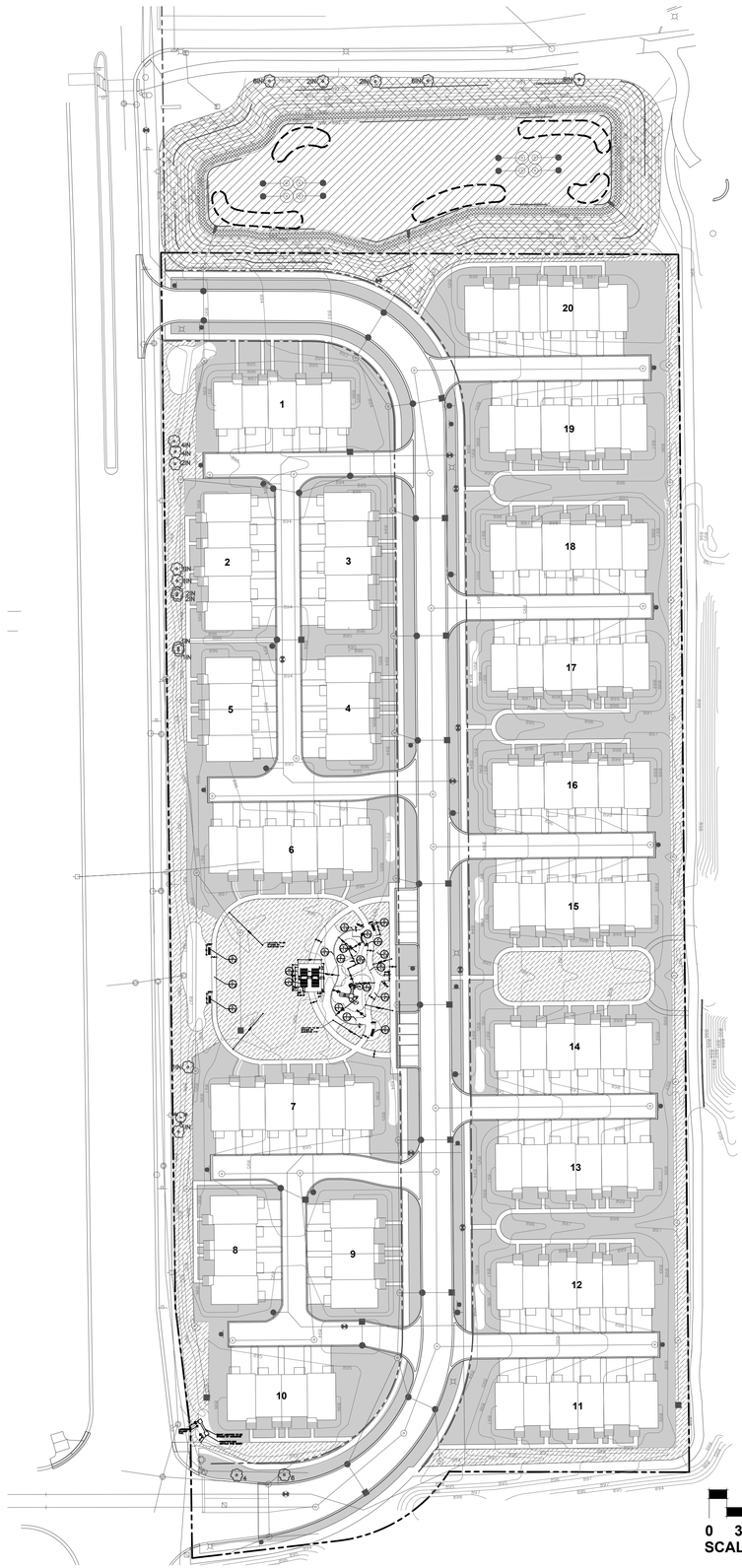
XREFs

PLOT CONFIG

Rating	Description	Criteria
1	Excellent	Less than 10% dead wood, typical growth for species, no observed defects
2	Good	Less than 20% dead wood, minor defects, sound structure, no decay
3	Fair	Less than 30% dead wood, minor crown die-back, minor trunk damage or cavities
4	Fair to Poor	Approximately 30-50% dead wood, lacking full crown, minor disease evidence, trunk damage
5	Poor	Over 50% dead wood, lacking full crown, disease or decay evident, structural damage/cavities
6	Dead	Less than 10% living wood, greater than 50% missing bark, adventitious growth only, decay

TAG NO.	SCIENTIFC NAME	COMMON NAME	DBH (inches)	CONDITION	STRUCTURE	HEALTH	PROPOSED ACTION
1	*Populus deltoides*	Eastern Cottonwood	12	3 - Fair	Unbalanced|Crowded	Barbed wire girdling	Remove
2	*Populus deltoides*	Eastern Cottonwood	8	3 - Fair	Lean		Remove
3	*Ulmus americana*	American Elm	7	3 - Fair	Unbalanced	Barbed wire damage	Remove
4	*Populus deltoides*	Eastern Cottonwood	10	3 - Fair	Crown Lean|Crowded		Remove
5	*Ulmus americana*	American Elm	7	4 - Fair/Poor	Crown Lean	Trunk Scar|Callus|Fence girdling	Remove
6	*Ulmus pumila*	Siberian Elm	10,5	4 - Fair/Poor	V-shaped joint|Lean|Unbalanced	20% dead wood	Remove
7	*Populus deltoides*	Eastern Cottonwood	20,20	4 - Fair/Poor	V-shaped joint|Double Leader|Split Risk|Lean	Included bark	Remove
8	*Ulmus pumila*	Siberian Elm	8	4 - Fair/Poor	Lean|Unbalanced|Crown Lean	20% dead wood	Remove
100	*Ulmus pumila*	Siberian Elm	5	4 - Fair/Poor	Lean|Crown Lean|Crowded	20% dead wood	Remove
101	*Ulmus pumila*	Siberian Elm	4	4 - Fair/Poor	Crown Lean|Crowded	20% dead wood	Remove
102	*Juniperus virginiana*	Red Cedar	5,25	tall|5 - Poor	Crown Lean|Crowded	50% dead wood	Remove
103	*Ulmus pumila*	Siberian Elm	17	4 - Fair/Poor	Crown Lean|Crowded	20% dead wood|Dead Limbs	Remove
104	*Populus deltoides*	Eastern Cottonwood	28	4 - Fair/Poor	Crown Lean|Crowded	20% dead wood|Dead Limbs	Remove
105	*Populus deltoides*	Eastern Cottonwood	38	4 - Fair/Poor	V-shaped joint|Double Leader|Split Risk|Unbalanced|Crown Lean		Remove
106	*Juniperus virginiana*	Red Cedar	7	5 - Poor	Crown Lean|Crowded	>50% dead wood	Remove
107	*Ulmus pumila*	Siberian Elm	8	5 - Poor	Strong lean|Crown Lean|Crowded	40% dead wood	Remove
108	*Ulmus pumila*	Siberian Elm	7	4 - Fair/Poor	Crown Lean|Crowded	30% dead wood|Dead Limbs	Remove
109	*Ulmus pumila*	Siberian Elm	22	4 - Fair/Poor	Lean|Crown Lean|Crowded		Remove
766	*Populus deltoides*	Eastern Cottonwood	7	3 - Fair	Lean|Crowded	10% dead wood	Remove
767	*Populus deltoides*	Eastern Cottonwood	11	3 - Fair	Lean|Unbalanced|Crowded		Preserve
768	*Populus deltoides*	Eastern Cottonwood	9	3 - Fair	Unbalanced|Crown Lean|Crowded		Preserve
769	*Salix nigra*	Black Willow	11,7	4 - Fair/Poor	U-shaped joint|Double Leader|Lean|Unbalanced	10% dead wood	Preserve
770	*Populus deltoides*	Eastern Cottonwood	23	3 - Fair	Lean|Unbalanced	10% dead wood	Preserve
771	*Ulmus pumila*	Siberian Elm	10,9,6,5,3,3	5 - Poor	Multi Leader|Split Risk|Lean	20% dead wood|Dead Leader|Cavit	Preserve
772	*Prunus virginiana*	Choke Cherry	7,3,4	3 - Fair	Double Leader|Strong lean|Crown Lean|Crowded	20% dead wood	Preserve
773	*Populus deltoides*	Eastern Cottonwood	12	3 - Fair	Lean|Crown Lean|Crowded	10% dead wood	Preserve
774	*Ulmus americana*	American Elm	7	4 - Fair/Poor	Crown Lean|Crowded	30% dead wood|Dead Leader	Remove
775	*Ulmus pumila*	Siberian Elm	7	4 - Fair/Poor	Lean|Crown Lean|Crowded	30% dead wood|Dead Leader	Remove
776	*Ulmus pumila*	Siberian Elm	8	4 - Fair/Poor	Lean|Unbalanced|Crown Lean	20% dead wood	Remove
777	*Juniperus virginiana*	Red Cedar	6	4 - Fair/Poor	Unbalanced|Crown Lean|Crowded	40% dead wood	Remove
778	*Robinia pseudoacacia*	Black Locust	12	3 - Fair	Unbalanced	20% dead wood	Preserve
779	*Robinia pseudoacacia*	Black Locust	9	3 - Fair	Unbalanced	10% dead wood	Preserve
780	*Populus deltoides*	Eastern Cottonwood	12	3 - Fair	Lean|Unbalanced	10% dead wood	Preserve
781	*Populus deltoides*	Eastern Cottonwood	11	4 - Fair/Poor	Lean|Unbalanced	40% dead wood|Trunk Scar	Preserve
782	*Populus deltoides*	Eastern Cottonwood	6	3 - Fair	Lean|Unbalanced|Crowded		Preserve
783	*Robinia pseudoacacia*	Black Locust	16	4 - Fair/Poor		20% dead wood|Fungus-Stem|Trun	Preserve
784	*Robinia pseudoacacia*	Black Locust	14	3 - Fair		10% dead wood	Preserve
785	*Ulmus pumila*	Siberian Elm	6	3 - Fair	Crown Lean|Crowded	10% dead wood	Preserve
786	*Ulmus pumila*	Siberian Elm	12,6	4 - Fair/Poor	Double Leader|Strong lean|Unbalanced|Crown Le	20% dead wood|Trunk Scar	Remove
787	*Ulmus pumila*	Siberian Elm	16	4 - Fair/Poor	Unbalanced|Crown Lean	30% dead wood|Dead Leader	Remove
788	*Robinia pseudoacacia*	Black Locust	10,10	5 - Poor	V-shaped joint|Double Leader|Split Risk|Lean	30% dead wood	Preserve
789	*Robinia pseudoacacia*	Black Locust	15	3 - Fair	Crown Lean	20% dead wood	Preserve
790	*Acer negundo*	Box Elder	6	3 - Fair	Lean|Unbalanced|Crown Lean|Crowded	10% dead wood	Preserve
791	*Acer negundo*	Box Elder	7	3 - Fair	Lean|Unbalanced|Crowded		Preserve
792	*Acer negundo*	Box Elder	7	3 - Fair	Lean|Unbalanced|Crowded		Preserve
793	*Ulmus pumila*	Siberian Elm	6	3 - Fair	Unbalanced|Crown Lean|Crowded	10% dead wood	Preserve
794	*Robinia pseudoacacia*	Black Locust	14	3 - Fair		20% dead wood	Preserve
795	*Ulmus pumila*	Siberian Elm	6	4 - Fair/Poor	Lean|Unbalanced|Crown Lean|Crowded	20% dead wood	Remove
796	*Ulmus pumila*	Siberian Elm	6	3 - Fair	Lean|Crown Lean|Crowded	20% dead wood	Remove
797	*Ulmus pumila*	Siberian Elm	6	3 - Fair	Lean|Unbalanced	10% dead wood	Remove
798	*Ulmus pumila*	Siberian Elm	6	4 - Fair/Poor	Strong lean|Crown Lean|Crowded	30% dead wood	Remove
799	*Ulmus pumila*	Siberian Elm	7	3 - Fair		10% dead wood	Remove
800	*Ulmus pumila*	Siberian Elm	8	3 - Fair	Unbalanced	20% dead wood	Remove
801	*Ulmus pumila*	Siberian Elm	7	3 - Fair	Lean|Unbalanced	10% dead wood	Remove
802	*Ulmus pumila*	Siberian Elm	10	3 - Fair	Unbalanced|Crown Lean|Crowded	20% dead wood	Remove
803	*Ulmus pumila*	Siberian Elm	7	3 - Fair	Unbalanced|Crown Lean|Crowded	20% dead wood	Remove
804	*Ulmus pumila*	Siberian Elm	10	3 - Fair	Unbalanced|Crown Lean	20% dead wood|Trunk Scar	Remove
805	*Ulmus pumila*	Siberian Elm	9	3 - Fair	Unbalanced|Crown Lean		Remove
806	*Ulmus pumila*	Siberian Elm	8	3 - Fair	Unbalanced|Crown Lean	10% dead wood	Remove
807	*Robinia pseudoacacia*	Black Locust	9,9	5 - Poor	V-shaped joint|Double Leader|Split Risk|Crown Lean		Remove
808	*Acer negundo*	Box Elder	14	5 - Poor	Unbalanced|Crown Lean	50% dead wood|Dead Leader	Remove
809	*Ulmus americana*	American Elm	6	3 - Fair	Unbalanced|Crown Lean|Crowded		Remove
810	*Acer negundo*	Box Elder	13	4 - Fair/Poor	Unbalanced|Crown Lean|Broken Limb	20% dead wood|Cavity	Remove
811	*Ulmus pumila*	Siberian Elm	23	4 - Fair/Poor	Unbalanced|Crown Lean	40% dead wood|Dead Leader	Remove
812	*Acer negundo*	Box Elder	19	3 - Fair	U-shaped joint|Double Leader|Unbalanced|Crowd	20% dead wood	Remove
813	*Acer negundo*	Box Elder	9,6	4 - Fair/Poor	V-shaped joint|Double Leader|Strong lean|Crown Lean		Remove
814	*Acer negundo*	Box Elder	10	4 - Fair/Poor	Strong lean|Unbalanced|Crown Lean	30% dead wood|Dead Leader	Remove
815	*Acer negundo*	Box Elder	8	4 - Fair/Poor	Lean|Crown Lean|Crowded	30% dead wood|Dead Leader|Cavit	Remove
816	*Ulmus pumila*	Siberian Elm	22,18,18	5 - Poor	V-shaped joint|Multi Leader|Split Risk	30% dead wood|Dead Leader	Remove
817	*Acer negundo*	Box Elder	7	4 - Fair/Poor	Strong lean|Unbalanced|Crown Lean|Crowded	Cavity	Remove
818	*Acer negundo*	Box Elder	12	4 - Fair/Poor	Strong lean|Unbalanced|Crown Lean|Crowded		Remove
819	*Acer negundo*	Box Elder	10	4 - Fair/Poor	Strong lean|Crown Lean|Crowded		Remove
820	*Acer negundo*	Box Elder	7	4 - Fair/Poor	Strong lean|Crown Lean|Crowded	30% dead wood	Remove
821	*Acer negundo*	Box Elder	8	4 - Fair/Poor	Lean|Unbalanced|Crown Lean|Crowded	30% dead wood	Remove
822	*Acer negundo*	Box Elder	8	4 - Fair/Poor	Unbalanced|Crown Lean	40% dead wood	Remove
823	*Acer negundo*	Box Elder	8	4 - Fair/Poor	Strong lean|Unbalanced|Crown Lean|Horizontal G	Growing in fence	Remove
824	*Acer negundo*	Box Elder	20	4 - Fair/Poor	V-shaped joint|Double Leader|Split Risk	30% dead wood|Dead Leader	Remove
825	*Acer negundo*	Box Elder	17,16	5 - Poor	Unbalanced|Crown Lean	>50% dead wood|Dead Leader|Ca	Remove
826	*Prunus serotina*	Black Cherry	12	3 - Fair		30% dead wood	Remove
827	*Prunus serotina*	Black Cherry	8	4 - Fair/Poor	Strong lean|Unbalanced|Crown Lean	20% dead wood	Remove
828	*Morus alba*	White Mulberry	7	3 - Fair	Lean|Unbalanced|Crowded		Remove
829	*Acer negundo*	Box Elder	12,11	6 - Dead	Unbalanced|Crown Lean|Broken Leader	>50% dead wood|Dead Leader	Remove
830	*Acer negundo*	Box Elder	24	3 - Fair	U-shaped joint|Double Leader|Lean|Unbalanced|C	Crown Lean	Remove
831	*Ulmus pumila*	Siberian Elm	9	3 - Fair	Unbalanced|Crown Lean	10% dead wood	Remove
832	*Robinia pseudoacacia*	Black Locust	13,12	5 - Poor	V-shaped joint|Double Leader|Split Risk|Lean		Remove
833	*Ulmus pumila*	Siberian Elm	9	3 - Fair	Lean|Unbalanced|Crowded		Remove
834	*Ulmus pumila*	Siberian Elm	10	3 - Fair	Lean|Unbalanced		Remove
835	*Ulmus pumila*	Siberian Elm	11	3 - Fair	Unbalanced|Crown Lean	Dead Limbs	Remove
836	*Ulmus pumila*	Siberian Elm	12	3 - Fair	Crown Lean		Remove
837	*Ulmus pumila*	Siberian Elm	10	3 - Fair	Unbalanced|Crown Lean		Remove
838	*Robinia pseudoacacia*	Black Locust	10	3 - Fair	Unbalanced|Crown Lean	10% dead wood	Remove
839	*Robinia pseudoacacia*	Black Locust	11,3,3	4 - Fair/Poor	Multi Leader|Unbalanced|Crown Lean	40% dead wood|Dead Leader	Remove
840	*Robinia pseudoacacia*	Black Locust	10	3 - Fair	Lean|Unbalanced|Crown Lean		Remove
841	*Robinia pseudoacacia*	Black Locust	8	4 - Fair/Poor	Crown Lean|Crowded	40% dead wood	Remove
842	*Robinia pseudoacacia*	Black Locust	10	4 - Fair/Poor	Crown Lean	20% dead wood|Fungus-Stem	Remove
843	*Robinia pseudoacacia*	Black Locust	12	3 - Fair	Unbalanced|Crown Lean		Remove
844	*Robinia pseudoacacia*	Black Locust	12	3 - Fair	Unbalanced		Remove
845	*Robinia pseudoacacia*	Black Locust	10	3 - Fair	Lean|Unbalanced		Remove
846	*Robinia pseudoacacia*	Black Locust	13,6	4 - Fair/Poor	V-shaped joint|Multi Leader|Crown Lean	20% dead wood|Fungus-Stem	Remove
847	*Robinia pseudoacacia*	Black Locust	8	3 - Fair	Unbalanced|Crown Lean|Crowded		Remove
848	*Robinia pseudoacacia*	Black Locust	9	3 - Fair	Lean|Unbalanced		Remove
849	*Robinia pseudoacacia*	Black Locust	8	3 - Fair	Unbalanced|Crown Lean|Crowded		Remove
850	*Ulmus pumila*	Siberian Elm	8,7	5 - Poor	V-shaped joint|Double Leader|Split Risk|Lean	30% dead wood|Dead Leader	Remove
851	*Ulmus pumila*	Siberian Elm	12	3 - Fair	Unbalanced|Crown Lean		Remove
852	*Ulmus pumila*	Siberian Elm	14	4 - Fair/Poor		30% dead wood|Trunk Scar	Remove
853	*Ulmus pumila*	Siberian Elm	6	4 - Fair/Poor	Unbalanced|Crown Lean	30% dead wood|Trunk Scar	Remove
854	*Ulmus pumila*	Siberian Elm	42,18,14	4 - Fair/Poor	Multi Leader|Split Risk|Fused Leaders|Lean	30% dead wood	Remove
855	*Ulmus pumila*	Siberian Elm	10	3 - Fair	Unbalanced|Crown Lean		Remove
856	*Ulmus pumila*	Siberian Elm	11,11	5 - Poor	V-shaped joint|Double Leader|Split Risk|Lean|Cr	20% dead wood	Remove
857	*Ulmus pumila*	Siberian Elm	18	5 - Poor	V-shaped joint|Double Leader|Split Risk|Fused Le	20% dead wood	Remove
858	*Ulmus pumila*	Siberian Elm	10	3 - Fair	Lean|Unbalanced|Crown Lean		Remove
859	*Ulmus pumila*	Siberian Elm	7	6 - Dead		>50% dead wood|Resprouts only	Remove
860	*Ulmus pumila*	Siberian Elm	11,8	5 - Poor	V-shaped joint|Double Leader|Split Risk|Crown L	30% dead wood|Dead Leader|Trun	Remove
861	*Ulmus pumila*	Siberian Elm	13	3 - Fair	Unbalanced|Crown Lean	10% dead wood	Remove
862	*Robinia pseudoacacia*	Black Locust	6	3 - Fair	Unbalanced|Crown Lean|Crowded		Remove
863	*Ulmus pumila*	Siberian Elm	10	3 - Fair	Lean|Crown Lean|Crowded		Remove
864	*Ulmus pumila*	Siberian Elm	8	3 - Fair	Unbalanced|Crown Lean|Crowded		Remove
865	*Ulmus pumila*	Siberian Elm	22	3 - Fair	Unbalanced	20% dead wood	Remove
866	*Robinia pseudoacacia*	Black Locust	8	3 - Fair	Unbalanced|Crown Lean		Remove
867	*Robinia pseudoacacia*	Black Locust	8	3 - Fair	Lean|Unbalanced		Remove
868	*Robinia pseudoacacia*	Black Locust	7	3 - Fair	Unbalanced|Crown Lean		Remove
869	*Robinia pseudoacacia*	Black Locust	7	5 - Poor	Lean|Unbalanced	10% dead wood	Remove
870	*Ulmus pumila*	Siberian Elm	20	3 - Fair	Unbalanced	20% dead wood	Remove
871	*Acer negundo*	Box Elder	6	3 - Fair	Lean|Unbalanced|Crowded		Remove
872	*Ulmus pumila*	Siberian Elm	6	3 - Fair	Crowded		Remove
873	*Ulmus pumila*	Siberian Elm	10	3 - Fair		20% dead wood	Remove
874	*Acer negundo*	Box Elder	6	3 - Fair	Lean|Unbalanced|Crowded		Remove
875	*Acer negundo*	Box Elder	8	3 - Fair	Lean|Crown Lean|Crowded		Remove
876	*Ulmus pumila*	Siberian Elm	8	3 - Fair	Unbalanced|Crown Lean|Crowded	20% dead wood	Remove
877	*Ulmus pumila*	Siberian Elm	8	3 - Fair	Crown Lean	20% dead wood	Remove
878	*Acer negundo*	Box Elder	7	3 - Fair	Unbalanced|Crown Lean		Remove
879	*Acer negundo*	Box Elder	7	3 - Fair	Lean|Unbalanced		Remove
880	*Ulmus pumila*	Siberian Elm	12	3 - Fair		10% dead wood	Remove
881	*Acer negundo*	Box Elder	6	6 - Dead	Broken Leader	>50% dead wood|Resprouts only	Remove
882	*Ulmus pumila*	Siberian Elm	10	3 - Fair		Trunk Scar	Remove
883	*Acer negundo*	Box Elder	6	4 - Fair/Poor	Unbalanced|Crown Lean|Crowded	20% dead wood|Trunk Scar	Remove
884	*Acer negundo*	Box Elder	6	4 - Fair/Poor	Strong lean|Unbalanced|Crown Lean|Crowded		Remove
885	*Acer negundo*	Box Elder	8	3 - Fair	Unbalanced|Crown Lean	10% dead wood	Remove
886	*Ulmus americana*	American Elm	10	3 - Fair	Lean|Unbalanced		Remove
887	*Acer negundo*	Box Elder	9,7	3 - Fair	U-shaped joint|Double Leader|Lean|Crown Lean	20% dead wood	Remove
888	*Acer negundo*	Box Elder	6,4	4 - Fair/Poor	U-shaped joint|Double Leader|Strong lean|Unbal	30% dead wood|Dead Leader|Trun	Remove
889	*Acer negundo*	Box Elder	6,4	4 - Fair/Poor	U-shaped joint|Double Leader|Lean	30% dead wood|Dead Leader	Remove
890	*Ulmus americana*	American Elm	8	4 - Fair/Poor	Unbalanced|Crown Lean	Trunk Scar	Remove
891	*Populus deltoides*	Eastern Cottonwood	12	3 - Fair	Unbalanced	Trunk Scar	Remove
892	*Ulmus americana*	American Elm	7	3 - Fair	Crown Lean	20% dead wood	Remove
893	*Acer negundo*	Box Elder	7	3 - Fair	Unbalanced|Crown Lean	20% dead wood	Remove
894	*Acer negundo*	Box Elder	6	4 - Fair/Poor	Strong lean|Unbalanced|Crown Lean		Remove
895	*Acer negundo*	Box Elder	8,3	3 - Fair	U-shaped joint|Double Leader|Lean|Unbalanced|Crown Lean		Remove
896	*Populus deltoides*	Eastern Cottonwood	8	3 - Fair	Crown Lean		Remove
897	*Populus deltoides*	Eastern Cottonwood	7	4 - Fair/Poor	Crown Lean|Crowded	Trunk Scar	Remove
898	*Acer negundo*	Box Elder	8	6 - Dead		>50% dead wood|Resprouts only	Remove
899	*Ulmus pumila*	Siberian Elm	13	3 - Fair	Unbalanced|Crown Lean	20% dead wood	Remove
900	*Ulmus pumila*	Siberian Elm	13	3 - Fair		20% dead wood	Remove

901	*Ulmus pumila*	Siberian Elm	9	4 - Fair/Poor	Unbalanced|Crown Lean	30% dead wood	Remove
902	*Populus deltoides*	Eastern Cottonwood	13	4 - Fair/Poor		30% dead wood|Growing around ba	Remove
903	*Ulmus americana*	American Elm	6	3 - Fair	Crowded	20% dead wood	Remove
904	*Acer negundo*	Box Elder	8	4 - Fair/Poor	Lean|Unbalanced	40% dead wood	Remove
905	*Populus deltoides*	Eastern Cottonwood	9	3 - Fair	Unbalanced|Crown Lean		Remove
906	*Populus deltoides*	Eastern Cottonwood	11	3 - Fair	Lean|Crown Lean|Crowded		Remove
2128	*Gymnocladus dioicus*	Kentucky Coffee	4	2 - Good			
2129	*Ulmus sp.*	Elm Cultivar	8	3 - Fair		Trunk Scar|Callus	Remove
2130	*Ulmus americana*	American Elm	7	4 - Fair/Poor		Callus|Girdling from fence, growing	Remove
2131	*Ulmus americana*	American Elm	7	6 - Dead			Remove
2132	*Populus deltoides*	Eastern Cottonwood	5	4 - Fair/Poor	Lean|Crown Lean	Trunk Scar|Callus	Remove
2133	*Populus deltoides*	Eastern Cottonwood	7	3 - Fair		Trunk Scar|Callus	Remove
2134	*Populus deltoides*	Eastern Cottonwood	12	4 - Fair/Poor	Crown Lean	20% dead wood|Grown around fenc	Remove
2135	*Populus deltoides*	Eastern Cottonwood	6	4 - Fair/Poor	Lean|Unbalanced|Crown Lean	Concrete piled at base	Remove
2136	*Populus deltoides*	Eastern Cottonwood	8	3 - Fair	Lean|Unbalanced		Remove
2137	*Populus deltoides*	Eastern Cottonwood	10	2 - Good			Remove
2138	*Populus deltoides*	Eastern Cottonwood	9	3 - Fair	Crown Lean	Dead Leader	Remove
2139	*Populus deltoides*	Eastern Cottonwood	7,7	4 - Fair/Poor	V-shaped joint|Double Leader|Split Risk|Lean		Remove
2140	*Populus deltoides*	Eastern Cottonwood	8,4	4 - Fair/Poor	V-shaped joint|Double Leader|Split Risk|Crown Lean		Remove
2141	*Populus deltoides*	Eastern Cottonwood	8	3 - Fair	Unbalanced|Crown Lean		Remove
2142	*Ulmus pumila*	Siberian Elm	9	4 - Fair/Poor	V-shaped joint	Trunk Scar|Callus	Remove
2143	*Ulmus pumila*	Siberian Elm	6,6	4 - Fair/Poor	V-shaped joint|Double Leader|Split Risk		Remove
2144	*Populus deltoides*	Eastern Cottonwood	12	4 - Fair/Poor		30% dead wood|Trunk Scar	Remove
2145	*Ulmus pumila*	Siberian Elm	10	4 - Fair/Poor	Unbalanced|Crown Lean	20% dead wood	Remove
2146	*Populus deltoides*	Eastern Cottonwood	7	4 - Fair/Poor	Strong lean|Crown Lean	20% dead wood	Remove
2147	*Populus deltoides*	Eastern Cottonwood	8	3 - Fair	Unbalanced	20% dead wood	Remove
2148	*Ulmus pumila*	Siberian Elm	7	4 - Fair/Poor	Lean|Unbalanced|Crown Lean	20% dead wood	Remove
2149	*Ulmus pumila*	Siberian Elm	7	4 - Fair/Poor	Lean|Unbalanced	20% dead wood	Remove
2150	*Ulmus pumila*	Siberian Elm	7,4	4 - Fair/Poor	V-shaped joint|Double Leader|Split Risk|Lean	Cavity	Remove
2151	*Ulmus pumila*	Siberian Elm	7	4 - Fair/Poor	Lean|Unbalanced	20% dead wood	Remove
2152	*Ulmus pumila*	Siberian Elm	8,2	4 - Fair/Poor	V-shaped joint|Double Leader	20% dead wood	Remove
2153	*Ulmus pumila*	Siberian Elm	8	4 - Fair/Poor	Unbalanced	30% dead wood	Remove
2154	*Ulmus pumila*	Siberian Elm	10	3 - Fair	Unbalanced	20% dead wood	Remove
2155	*Populus deltoides*	Eastern Cottonwood	12	4 - Fair/Poor	Lean|Unbalanced	30% dead wood	Remove
2156	*Populus deltoides*	Eastern Cottonwood	8	6 - Dead			Remove
2157	*Acer negundo*	Box Elder	8	6 - Dead			Remove
2158	*Acer negundo*	Box Elder	8	4 - Fair/Poor	Crown Lean	30% dead wood	Remove
2159	*Acer negundo*	Box Elder	8	6 - Dead			Remove
2160	*Acer negundo*	Box Elder	10	4 - Fair/Poor	V-shaped joint|Unbalanced	30% dead wood	Remove
2161	*Acer negundo*	Box Elder	6	5 - Poor		40% dead wood	Remove
2162	*Acer negundo*	Box Elder	6	6 - Dead		>50% dead wood	Remove
2163	*Acer negundo*	Box Elder	6	5 - Poor	Lean|Unbalanced	40% dead wood	Remove
2164	*Acer negundo*	Box Elder	6	5 - Poor		>50% dead wood	Remove
2165	*Acer negundo*	Box Elder	8	4 - Fair/Poor	Lean|Unbalanced	30% dead wood	Remove
2166	*Acer negundo*	Box Elder	8	4 - Fair/Poor	Unbalanced	30% dead wood	Remove
2167	*Ulmus pumila*	Siberian Elm	14	4 - Fair/Poor	V-shaped joint|Lean|Unbalanced	30% dead wood	Remove
2168	*Ulmus americana*	American Elm	7	4 - Fair/Poor	Lean|Crown Lean	20% dead wood	Remove
2169	*Ulmus pumila*	Siberian Elm	6	4 - Fair/Poor	Unbalanced	30% dead wood	Remove
2170	*Ulmus pumila*	Siberian Elm	8	4 - Fair/Poor	Unbalanced	30% dead wood	Remove
2171	*Ulmus americana*	American Elm	8	4 - Fair/Poor	Lean|Crown Lean	20% dead wood	Remove
2172	*Ulmus pumila*	Siberian Elm	8	3 - Fair	Unbalanced	20% dead wood	Remove
2173	*Morus alba*	White Mulberry	7,6	5 - Poor	V-shaped joint|Double Leader|Split Risk|Strong l	40% dead wood	Remove
2174	*Ulmus pumila*	Siberian Elm	12,7,7	4 - Fair/Poor	V-shaped joint|Double Leader|Split Risk|Lean|Crown Lean		Remove
2175	*Populus deltoides*	Eastern Cottonwood	10,8,8	4 - Fair/Poor	V-shaped joint|Multi Leader|Split Risk|Lean		Remove
2176	*Ulmus americana*	American Elm	8	3 - Fair	Lean|Crown Lean	20% dead wood	Remove
2177	*Ulmus americana*	American Elm	8	3 - Fair	Unbalanced	20% dead wood	Remove
2178	*Ulmus pumila*	Siberian Elm	7,7	4 - Fair/Poor	V-shaped joint|Double Leader|Split Risk		Remove
2179	*Ulmus americana*	American Elm	8	4 - Fair/Poor	V-shaped joint|Double Leader|Lean|Unbalanced	30% dead wood	Remove
2180	*Acer negundo*	Box Elder	6	4 - Fair/Poor	Strong lean|Unbalanced		Remove
2181	*Ulmus pumila*	Siberian Elm	8,8	4 - Fair/Poor	V-shaped joint|Double Leader	30% dead wood	Remove
2182	*Ulmus pumila*	Siberian Elm	10	3 - Fair	Unbalanced	20% dead wood	Remove
2183	*Ulmus pumila*	Siberian Elm	6	4 - Fair/Poor	Strong lean	30% dead wood	Remove
2184	*Ulmus americana*	American Elm	6	4 - Fair/Poor	Unbalanced	30% dead wood	Remove
2185	*Populus deltoides*	Eastern Cottonwood	12	6 - Dead			Remove
2186	*Ulmus pumila*	Siberian Elm	14	4 - Fair/Poor	V-shaped joint	30% dead wood|Adventitous Growt	Remove
2187	*Ulmus americana*	American Elm	10	3 - Fair	Unbalanced	30% dead wood	Remove
2188	*Acer negundo*	Box Elder	7	5 - Poor	Strong lean	30% dead wood	Remove
2189	*Acer negundo*	Box Elder	10	4 - Fair/Poor	Lean|Unbalanced|Crown Lean	20% dead wood	Remove
2190	*Acer negundo*	Box Elder	7	4 - Fair/Poor	Strong lean|Crown Lean	30% dead wood	Remove
2191	*Acer negundo*	Box Elder	7	4 - Fair/Poor	Lean|Crown Lean	20% dead wood	Remove
2192	*Acer negundo*	Box Elder	6	4 - Fair/Poor		30% dead wood|Adventitous Growt	Remove
2193	*Acer negundo*	Box Elder	6	5 - Poor		>50% dead wood	Remove
2194	*Acer negundo*	Box Elder	6	4 - Fair/Poor	Lean|Unbalanced|Crown Lean	20% dead wood	Remove
2195	*Ulmus pumila*	Siberian Elm	10	4 - Fair/Poor	Unbalanced|Crown Lean	20% dead wood	Remove
2196	*Acer negundo*	Box Elder	7	4 - Fair/Poor	Strong lean	30% dead wood	Remove
2197	*Ulmus americana*	American Elm	10	3 - Fair	Unbalanced|Crown Lean	20% dead wood	Remove
2198	*Populus deltoides*	Eastern Cottonwood	15	6 - Dead			Remove
2199	*Ulmus pumila*	Siberian Elm	14	4 - Fair/Poor	V-shaped joint|Unbalanced	30% dead wood	Remove
2200	*Populus deltoides*	Eastern Cottonwood	15	4 - Fair/Poor			Remove
2201	*Ulmus pumila*	Siberian Elm	14	4 - Fair/Poor	Crown Lean|Crowded	20% dead wood	Remove
2202	*Juniperus virginiana*	Eastern Red Cedar	10, 25' tall	5 - Poor	Lean|Unbalanced	>50% dead wood	Remove
2203	*Ulmus americana*	American Elm	11	4 - Fair/Poor	Unbalanced|Crown Lean	30% dead wood	Remove
2204	*Populus deltoides*	Eastern Cottonwood	10	4 - Fair/Poor	Unbalanced	30% dead wood	Remove
2205	*Ulmus pumila*	Siberian Elm	8	5 - Poor	Strong lean	>50% dead wood|Dead Leader	Remove
2206	*Ulmus pumila*	Siberian Elm	13	4 - Fair/Poor	Lean|Unbalanced	30% dead wood	Remove
2207	*Acer platanoides*	Norway Maple	20	3 - Fair	Lean	Cavity	Remove
2208	*Robinia pseudoacacia*	Black Locust	12	4 - Fair/Poor	Lean|Unbalanced	20% dead wood	Remove
2209	*Robinia pseudoacacia*	Black Locust	12	3 - Fair	Unbalanced	20% dead wood	Remove
2210	*Robinia pseudoacacia*



LEGEND

Key	Description	Description
	TURF SEED & BLANKET	
	SOD	
	LOW PROFILE PRAIRIE SEED MIX	
	EMERGENT SEED & PLUG MIX	
	WET MEADOW SEED MIX	
	EMERGENT PLUG LIMITS	

0 30' 60' 120' 180'
SCALE: 1"=60'

NORTH

GARY R. WEBER ASSOCIATES, INC.
LAND PLANNING
ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187
PHONE: 630-668-7197
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CLIENT:
LENNAR
1700 E. GOLF ROAD
SUITE 1100
SCHAUMBURG, IL 60173

CIVIL ENGINEER:
MACKIE CONSULTANTS, LLC
9575 W. HIGGINS ROAD
SUITE 500
ROSEMONT, IL 60018

WATERSIDE AT THREE OAKS

CRYSTAL LAKE, ILLINOIS

SEED & SOD EXHIBIT

2	12.19.2024
1	11.25.2024

REVISIONS

DATE	9.4.2024
PROJECT NO.	LN22128
DRAWN	GEH
CHECKED	ZML
SHEET NO.	

L1.11

811 Know what's below. Call before you dig.

PLOT DOWG
KREPS

I. GENERAL SPECIFICATIONS

A. Scope of Work

1. This work shall consist of preparing the planting beds, seedbed or ground surface, and furnishing, transporting and placing plants, mulch, seed, sod, fertilizer and other materials required in the specified operations.
2. Planting required for this work is indicated on the Landscape Plans and, in general consists of the following:
   a. The establishment of trees, shrubs, perennials, annuals, lawn and natural areas as shown on the Landscape Plans;
   b. The provision of post-planting management as specified herein;
   c. Any remedial operations necessary for conformance with The Landscape Plans as specified in this document;
   d. The design, furnishing and installation of a complete underground sprinkler system at locations noted on plan.

B. General

1. Permits

   The Landscape Contractor shall be responsible for obtaining any permits required for the completion of the work and shall be responsible for the cost of the same.

2. Field Verification

   Upon notice to begin work the Landscape Contractor shall verify all existing conditions of the site and shall report any conditions that will impede the beginning of work to the Landscape Architect in writing. The Landscape Contractor shall examine areas, conditions, grades, soils and water levels under which work is to be performed and notify the Landscape Architect of conditions detrimental to the proper and timely completion of the work.

3. Existing Utilities

   The Landscape Contractor shall verify location of all underground utilities before construction. Contact J.U.L.I.E at 1.800.892.0123; 48 hours prior to digging. Notification of any disturbance of existing utilities shall be given to the Landscape Architect immediately. Should uncharted or incorrect utilities be encountered, notify the Landscape Architect immediately.

4. Inspections of Project

   During the construction period, all phases of work shall be available for inspections by the Landscape Architect. All plant material shall be subject to inspection and approval, and the Landscape Architect reserves the right to reject any plants which fail to meet the standards of this inspection. The Landscape Architect reserves the right to inspect nursery stock either at place of growth or at site for compliance with requirements of variety, size and quality.

C. Quality Assurance

1. The Landscape Contractor shall provide at least one person who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed and the best methods for their installation and who shall direct all work performed under this Section and shall comply with work site requirements.
2. The Landscape Contractor must verify with the Landscape Architect at the commencement of work that he has the most current set of plans for the project and that one set of the current plans, clearly marked "Field Set", must be on the jobsite at all times.
3. The Landscape Contractor shall provide protection for structures, utilities, roads, trees and vegetation from damages caused by settlement, undermining, washout and other hazards created by landscape operations.
4. The Landscape Contractor shall provide and maintain fences, planking, guard lights, barricades, warning signs and guards as necessary for protection of material storage, curbs, sidewalks, streets, drives and adjoining property.
5. Any damage to utilities, structures, plantings, or lawns which result from the Landscape Contractor's course of work will be repaired at the Landscape Contractor's expense, to the satisfaction of the Landscape Architect, in a reasonably timely manner with as little inconvenience to the Owner as possible.
6. Existing trees, shrubs and plant material to remain shall be protected. Damage to existing plants which result from the Landscape Contractor's course of work shall be repaired by a qualified nurseryman or replaced with approved material per village ordinance at the expense of the Landscape Contractor.
7. All planting techniques and methods shall be consistent with the latest edition of "Horticulture Standards of Nurseryman" and as detailed on the drawings.
8. Landscape Contractor shall maintain all relevant erosion control devises destroyed or disrupted during landscape installation. Erosion control devises include measures shown on the approved erosion control plans, plus any additional measures deemed necessary by the Owner or public agency having jurisdiction over erosion control. Erosion control devices include, but are not limited to, silt fence, straw bales, erosion control logs, filter fabric in storm structures, filter baskets ditch checks and siltation basins.

D. Substitutions

1. Substitution from the approved plans will be accepted only when satisfactory evidence in writing is submitted to the Landscape Architect,showing that the plant specified is not available.
2. Landscape Contractor shall submit request for approval to substitute plant material available and shall include Common and Botanical names and size of substitute material.
3. Only those substitutions of equivalent size and having essential characteristics similar to the originally specified material will be approved.
4. Acceptance or rejection of substitute plant materials will be issued in writing by the Landscape Architect, following approval by Lennar and the governing Municipality or Regulatory Agency.
5. Any unauthorized substitutions will be removed and replaced by the Landscape Contractor at the expense of the Landscape Contractor.

E. Submittals

1. Nursery List: In Bid Proposal Form Landscape Contractor shall identify a list of area nurseries from where nursery stock for the job will be obtained.
2. Materials List: Before any plant materials are delivered to the job site, submit to the Landscape Architect a complete list of all plants and other items to be installed and the nursery sources.
3. Certification of Inspection: Shall accompany each shipment of plants as may be required by law for transportation. File certificates with the Landscape Architect prior to acceptance of the material. Inspection by Federal or State authorities at place of growth does not preclude rejection of the plants at the site.
4. Planting Schedule: Submit proposed planting schedule with dates for review and inspection of plants by the Landscape Architect prior to planting.
5. Soil Tests: Submit two (2) copies of soils test of existing topsoil with recommendations for soil amendments for Landscape Architect's review.
6. Seed: Submit seed vendor's certification for required grass seed mixture, indicating percentage by weight, and percentage of purity, germination, and weed seed for each grass species and date tested.
7. Sod: Submit sod grower's certification of grass species. Identify source location in Bid Proposal Form.
8. Mulch and Erosion Control Blankets: Submit two (2) samples of shredded hardwood bark mulch, erosion control blankets, and all other products and materials as specified on plans to Landscape Architect for review and written approval.
9. Maintenance Instructions: Submit to the Landscape Architect typewritten instructions recommending procedures to be established by the Owner for the maintenance of landscape work after preliminary acceptance of plantings and turf areas. Submit prior to beginning of warranty period. Instructions shall include: watering, fertilizing, spraying, mulching and pruning for plant material and trimming groundcover. Instructions for watering, fertilizing and mowing grass areas shall be submitted prior to request for preliminary inspection for acceptance.

F. Product Handling

1. Delivery and Storage
   a. Deliver all items to the site in their original containers with all labels intact and legible at the time of inspection.
   b. Immediately remove from the site all plants which are not true to name and all materials which do not comply with the provisions of these Specifications.
   c. Use all means necessary to protect plant materials before, during, and after installation and to protect the installed work and materials of all other trades.
   d. Cover all plant material transported in open vehicles with a protective covering to prevent windburn.
2. Time of Planting
   a. All planting shall be performed during favorable weather conditions and only during normal and accepted planting seasons when satisfactory growing conditions exist.
   b. The planting operations shall not be performed during times of extreme drought, when ground is frozen or during times of other unfavorable climatic conditions unless otherwise approved by the Landscape Architect. The Landscape Contractor assumes full and complete responsibility for such plantings and operations.

G. Materials

1. Plant Material

   Provide plants typical of their species or variety with normal, densely developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sunscald injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces.
   a. Balled and burlapped plants shall have a firm natural ball of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock". Cracked or mushroomed balls are not acceptable
   b. Tree spade transplanting is acceptable for plants 6" caliper and larger after acceptance of plant by the Landscape Architect. Tree spade must be of a size generally accepted in the trade to safely move the tree size.
   c. Container grown stock shall be grown in a container for a sufficient length of time for the root system to have developed to hold its soil together, firm and whole.
      (i) No plants shall be loose in the container.
      (ii) Container stock shall not be pot bound.
      (iii) All container plants used on the project shall conform to the sizes indicated on the plant list and on the drawings.
   d. No evidence of wounds and/or pruning cuts shall be permitted unless approved by the Landscape Architect.
   e. When specified by caliper, provide shade and ornamental trees with a single main trunk. When specified by height, provide shade and ornamental trees as multi-stemmed plants with not less than three main trunks and side branches that are generous and well twigged.
   f. Evergreen trees shall be branched to the ground unless otherwise specified and accepted.
   g. Provide plants matched in form when arranged in groups.
   h. All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of two years. Comply with sizing and grading standards of the latest edition of "American Standards of Nursery Stock" A plant shall be dimensioned as it stands in its natural position. No plants shall be loose in the container.
      (i) Shade Tree and Ornamental Tree caliper shall be measured at a point on the trunk six (6) inches above natural ground line for trees up to and including four (4) inches in diameter, and at a point twelve (12) inches above the natural ground line for trees over four (4) inches in diameter.
      (ii) Height of Evergreen Trees is measured from the natural ground line to the first lateral branch closest to the top.
      (iii) Height of Clump Ornamental Trees is measured from the natural ground line to the beginning last year's growth.
      (iv) Shrub and small plants shall meet the requirements for spread and/or height indicated on the plant list and with not less than the minimum number of canes required by ANSI Z60.1 for the type and height of shrub required.
2. Sub-drainage Systems
   a. Provide piping types and sizes indicated. Provide matching reducers, adapters, couplings, fittings and accessory components to ensure continuity of the sub-drainage system.
      i) Plastic tubing shall be ASTM F405, corrugated Polyethylene drainage tubing, perforated or solid as required.
      ii) Sub-drainage fill shall be AASHTO M43 (3/8" to 3/4") clean uniformly graded stone or gravel.
      iii) Sub-drainage filter fabric shall be DuPont "Typar" or other non-woven porous polypropylene fabric approved by the Landscape Architect.
3. Grass Seed
   a. All seeds shall be guaranteed by the vendor to be true to name and variety.
   b. Seed mixtures shall be fresh, clean new crop with a tolerance for purity and germination established by the Official Seed Analysts of North America. Seed will not contain any noxious weed seeds.
   c. Seed mixtures shall be proportioned by weight and shall be as specified on the drawings. If no seed mix is specified, the following general turf seed mix shall be used:

      65% Improved Kentucky Bluegrass (minimum three (3) varieties)

      25% Improved Perennial Ryegrass (minimum two (2) varieties with endophytes)

      10% Creeping Red Fescue

      If this general turf seed mix is used, the Landscape Contractor must submit the vendor's seed varieties, composition and application rate to the Landscape Architect for approval prior to ordering.
4. Erosion Control Blanket
   a. North American Green seed blanket matting shall be used. Secure with 4" biostakes.
5. Sod

   Sod used shall be an approved blend of improved Kentucky Bluegrass (such as: Midnight, Allure, Viva, Washington and Liberty) with a mineral back that is adapted to the locality of work. It shall be either nursery grown or field grown and be well rooted. The consistency of adherent soil shall be such that it will not break, crumble, or tear during handling and placing of the sod. Landscape Architect reserves the right to reject unacceptable sod.
   a. Each piece of sod shall be well covered with turf grass, shall not be less than two (2) years old, shall be free from noxious weeds and other objectionable plants, and shall not contain substances injurious to growth.
   b. All sod used shall comply with state and federal laws with respect to inspection for plant diseases and insect infestation.
   c. Each sod shipment shall be accompanied by an invoice from the vendor giving quantity and certifying that the sod received meets all requirements contained in these specifications.
6. Seed Fertilizer
   a. Fertilizer for seeded areas shall be a granular non-burning product from a commercial source composed of not less than 50% organic slow acting, guaranteed analysis professional fertilizer, uniform in composition, free flowing and suitable for application with approved equipment. Fertilizer types and ratios shall be as follows:
      i) Starter fertilizer with an approximate analysis of 13-25-12 at the rate of 4 lbs. per 1,000 S.F. or similar composition approved by the Landscape Architect.
      ii) Post emergent fertilizer with an approximate analysis of 25-0-5 at a rate of 4 lbs. per 1,000 S.F. or similar composition approved by the Landscape Architect.
7. Sod Fertilizer
   a. Fertilizer for sod areas shall be a granular non-burning professional product from a commercial source, uniform in composition, free flowing and suitable for application with approved equipment. Fertilizer ratio shall be a ratio of 13-25-12 at the rate of 4 lbs. per 1,000 S.F.
8. Plant Fertilizer
   a. Fertilizer for plants shall be a granular non-burning standard commercial grade product, uniform in composition, free flowing and suitable for application with approved equipment and an analysis of 14-14-14 at the rate of 6 lbs. per 1,000 S.F.
9. Native Planting Mixtures

   Provide fresh, clean, new crop of the species and proportions as specified. Native seed and live plant material shall be obtained from a reputable supplier (approved by Landscape Architect) that has collected from sources west of the Mississippi River within the same EPA Level III Ecoreqion as the project site (Central Corn Belt Plains). Any material sourced from outside this ecoregion must be approved by the Landscape Architect prior to installation.

   For each species, the amount of seed indicated on the specifications shall mean the total amount of pure live seed (PLS) per acre. Seed tags and PLS testing information shall be provided to the Landscape Architect prior to seeding.

   It is the sole responsibility of the Native Landscape Contractor to provide approved seed that meets industry-standard PLS requirements.
10. Mulch
    a. Mulch for tree and shrub planting beds shall be dark shredded hardwood bark mulch, six month old, not larger than 4" in length and 1/2" in width, free of woodchips and sawdust. Submit sample to Landscape Architect for approval.
    b. Mulch for perennial flower, annual flower and groundcover planting beds shall be pinebark fines. Submit sample to Landscape Architect for approval.
11. Topsoil
    a. Topsoil shall be available adjacent to the community site for use on project or in backfill mixes as specified. Initial fine grading to be done by Excavation Contractor.
    b. Touch up movement and placement of this topsoil shall be at the sole expense of the Landscape Contractor.
    c. Topsoil stockpile placement will be coordinated with Excavator to ensure easy access to Contractor.
12. Planting Bed Soil Mixture (Perennial, Annual and Groundcover Beds)
    a. Provide planting soil mixture consisting of equal parts cooled mushroom compost and pinebark fines (Same as Midwest Trading CM30 mix) at 1 C.Y. per 100 S.F. incorporated into all perennial, annual and groundcover areas. Planting pits shall be excavated and filled with friable topsoil (stockpiled at site) to a depth of 8" prior to adding and incorporating planting bed soil mixture.
13. Accessories
    a. Water: Water provided by the Landscape Contractor shall be free of substances harmful to plant growth. All necessary hose piping, tank truck and other methods of transportation shall be supplied by the Landscape Contractor.
    b. Downspout Splash Areas:
       i) Downspout splash areas in lawns shall be 24" concrete splash blocks.
       ii) Downspout splash areas in mulch shall be washed gravel sub-base 0.5-0.75" diameter and 3-4" diameter granite cobblestone surface with geotextile filter fabric lining sides and bottom of trench.
    c. Sand: Sand shall be coarse "torpedo" sand.
    d. Pea gravel: Pea gravel shall be 1/8" to 1/4" washed gravel.
    e. Retaining Walls: Retaining walls must always be installed in strict compliance with manufacture's recommendations for sizing and reinforcement
       i) Retaining wall material shall be as specified on the drawings or as approved by the Landscape Architect
    f. Anti-Desiccant: Anti-Desiccant shall be an applicable emulsion which forms a transparent protective film over plant surface, permeable enough to permit transpiration. (Wilt-Pruf, manufactured by Nursery Specialty Products, Inc. or approved equal).
    g. Herbicide: Herbicide shall be a granular form of herbicide applied in shrub and ground cover beds in strict accordance with the manufacturer's directions and recommendations. Acceptable products are "Treflan", "Ronstar" or approved equal.

H. Installation and Execution

1. Inspection
   a. Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that such work is complete to the point where this installation may properly commence. Verify that planting may be completed in accordance with the original design and the referenced standards. Work will commence only when satisfactory conditions exist.
   b. Check that grading, including spreading of topsoil and all other sub-surface work in lawn areas have been completed and accepted by Lennar. Start of work in this section shall constitute acceptance of grade. Lawn irrigation system must be completed and in operation before seeding and sodding begins.
   c. Saturate and fill tree and shrub pits with water to test drainage before planting. Provide gravel drains and venting tubes at pits, which are more than half full of water after 24 hours.
   d. Landscape Contractor shall notify the Landscape Architect prior to plant installation. The Landscape Architect, at his discretion, may inspect all plant material and layout prior to planting.
2. Preparation

   Trees, Shrubs, Perennials, Annuals and Groundcovers
   a. Planting shall be performed only by experienced workmen familiar with planting procedures under the supervision of a qualified supervisor.
   b. Locate plants as indicated or as approved in the field by the Landscape Architect after staking by the Landscape Contractor. If obstructions are encountered that are not shown on the drawings, do not proceed with planting operations until alternate locations have been selected by the Landscape Architect.
   c. Excavate circular plant pits with tapered sides as shown on the drawing details. In general, all plant pits shall have a rounded bottom with the depth of the pit equal to the depth of the ball to be planted. The diameter of the pit shall be a minimum of two (2) times the width of the ball.
   d. Excavate all clay and debris to 8" depth beneath all perennial, ornamental grass, annual flower, and groundcover beds. Backfill with 12" amended topsoil, thus resulting in all these areas being elevated or crowned by 4" wherever site drainage allows.

   Seeding and Sodding
   a. Seed and sod bed preparation shall not be started until all stones, boulders, debris, and similar material larger than 1 inch in diameter have been removed. The area to be seeded shall be worked to a minimum depth of 6 inches with a disk or other equipment, reducing all soil particles to a size not larger than 1 inch in the largest dimension. Bed prep shall occur on the contour, where possible. The prepared surface shall be relatively free from all weeds, stones, roots, sticks, rivulets, gullies, crusting and caking. Do not overwork or powder final seedbed.
   b. Upon completion of the above, any rocks or stones larger than one (1) inch in diameter shall be removed from the surface prior to seeding. If excessive amount of rocks are present in native soil Contractor should contact the Landscape Architect immediately.
   c. Landscape Contractor shall remove all debris and dispose of such material legally off-site.
   d. The areas to be seeded shall be assumed to be at final grades established by Excavator. The Landscape Contractor, however, shall be responsible for the proper drainage of the entire area. The Landscape Contractor shall fine grade all turf areas including any grading necessary to eliminate ponding of water, ruts or ridges. Limit preparation to areas which will be grassing within 48 hours.
   e. Immediately prior to the seed and sod bed preparation, specified fertilizer nutrients shall be uniformly spread at the following rate:
      i) 5 lbs. per 1000 S.F.
   f. Final surface of topsoil immediately before seeding shall be within plus or minus 1/2" of required elevation, with no pockets or low spots in which water can collect. Restore prepared areas to specific condition if eroded, settled, or otherwise disturbed after fine grading and prior to seeding or sodding. Finish grade surface with a drag or rake, Round out all breaks in grade, smooth down all lumps and ridges, fill in all holes and crevices.
   g. In the event of settlement, re-adjust the work to required finish grade.
3. Planting

   Plant nursery stock immediately upon delivery to the site and approval by the Landscape Architect. If immediate planting is not possible a holding area on-site must be established in a location approved by Lennar. All plant material in the holding area must have the rootball heeled in damp mulch and be protected from excessive sun and wind. The Landscape Contractor must operate and maintain the holding area in a neat and orderly appearance.

   All planting shall be performed during favorable weather conditions and only during normal and accepted planting seasons when satisfactory growing conditions exist. The planting operations shall not be performed during times of extreme drought, when ground is frozen or during times of other unfavorable climatic conditions unless otherwise approved by the Landscape Architect. The Contractor assumes full and complete responsibility for such plantings and operations.

   Trees and Shrubs
   a. Set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb and faced to give best appearance or relationship to each other or adjacent structure. Set plant material 2" above the adjacent grade. The Contractor is responsible for planting to correct grades and alignment and all plants shall be set so that when settled will bear the same relationship to finished grade as they did before being transported.
   b. Remove all non-biodegradable strings and twine from top of ball. Remove non-biodegradable burlap from to 1/3 of ball after the tree is set in the planting hole. The wire basket should remain. Fold the top portion of the wire basket into the hole.
   c. Any topsoil excavated from plant pits shall be used in the backfill soil mixture. No filling will be permitted around trunks or stems. Backfill the pit with topsoil. Do not use frozen or muddy mixture for backfilling. Form a ring of soil around the edge of each planting pit to retain water.
   d. After setting plants in pit to proper grade compact 6" of soil around base of ball. Fill the entire planting hole with water and allow to soak in. Gradually backfill remaining space around the ball or roots and compact the soil thoroughly using water to eliminate all voids and thoroughly soak the plant root ball.
   e. Within 24 hours of planting slowly re-water the plant thoroughly soaking the root ball again.
   f. Install enough topsoil to insure finished grades are met after settling.
   g. All excess soil, other than topsoil, excavated from pits, shall be removed from the holes and left on site in locations designated by Lennar.
   h. After planting apply specified commercial pre-emergent herbicide per manufacturer's directions to all shrub beds.

   Perennials, Ornamental Grasses, Annual Flowers and Groundcovers
   a. Where perennials, ornamental grasses, annual flowers and groundcovers are specified on the plans, prepare entire plant bed incorporating a 1 C.Y. layer of planting soil mixture per 100 S.F. Incorporate commercial 14-14-14 fertilizer into prepared soil mixture at a approximate rate of 6 lbs. per 1000 S. F.
   b. Space plants in accordance with dimensions indicated on the plans. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 18" of the trunks of trees and shrubs or at edge of plant ball whichever is closest. Plant to within 12" of edge of bed.
   c. After planting apply specified commercial pre-emergent herbicide per manufacturer's directions to all planting beds. Confirm herbicide compatibility with all plant material in beds and notify the Landscape Architect immediately if a conflict exists.

   Seeding
   a. Install seed under favorable weather conditions unless approved by the Landscape Architect. The conditions of the guarantee apply regardless of the date of installation. The generally accepted times for seeding are:

      Spring - April 1st to June 15th

      Fall - September 15th to just before first frost
   b. Seed indicated areas within contract limits and areas adjoining contract limits disturbed as a result of construction operations.
   c. Seed with specified seed mix at rate specified on the drawings or at a rate of 5 lbs. per 1000 S.F.
   d. Broadcast Seeding: Using a broadcast seeder, sow seed evenly over entire area by sowing equal quantities in two directions at right angles to each other. Do not seed when wind speed exceeds five (5) miles per hour. Seeding by hand is not allowed.
   e. Following seeding the area shall be lightly raked to incorporate seed into top 1/8" to 1/4" of soil. Remove all stones and other debris greater than 1 inch in any dimension which are visible shall be removed and disposed of legally off-site. Areas shall then be smoothed by rolling with a hand roller.
   f. Mechanical Seeding: Using a "Brillion-type" seeder and cultipacker, sow seed evenly over entire area sowing equal quantities in two directions at right angles to each other. Using this method raking and rolling is not required.
   g. Following seeding, all seed areas will be covered with specified erosion control seed matting and stapled in place.
   h. Following seeding, raking and matting, the entire area shall be watered by use of lawn sprinklers or other means approved by the Landscape Architect. Landscape Contractor shall assure initial watering continues until the equivalent of two inches of water has been applied to entire seed surface, at a rate which will not dislodge the seed.
   i. Landscape Contractor shall assure watering is repeated thereafter as frequently as required to prevent drying of the surface and to ensure proper establishment.
   j. Landscape Contractor shall mow the lawn area as soon as top growth reaches a 3 inch height. Cut back to 2 inch height. Not more than 33% of grass leaf shall be removed at any single mowing. The contract shall include a minimum of 3 (three) mowings. Repeat mowing as required to maintain specific height until Landscape Architect issues preliminary acceptance of completed work.
   k. It shall be the Landscape Contractor's responsibility to determine and implement whatever procedures deemed necessary to establish the turf as part of the work. Reseed bare areas and provide erosion control as necessary until complete establishment achieved.
   l. Areas of seed installation will not be accepted unit it meets the growth coverage specifications detailed by Illinois Department of Transportation.

   Sodding
   a. Transport sod in either a closed van or in properly covered open trucks.
   b. Maintain sod in a moist condition from cutting until placement. Any sod that has dried out, or excessively heated will be rejected and shall be immediately removed and legally disposed of off-site by the Landscape Contractor. Replacement of rejected sod shall be at the expense of the Landscape Contractor.
   c. Sod shall be placed within 24 hours of cutting. Do not use sod cut for more than 24 hours without the approval of the Landscape Architect.
   d. Sod shall be placed when the ground is in a workable condition and temperatures are less than 90oF. Do not lay dormant sod or install sod on saturated or frozen soil or during an extended drought.
   e. The sod shall be placed on the prepared surface with the edges in close contact and alternate courses staggered. Lay sod to form a solid mass with tightly-fitted joints. Butt ends and sides of sod strips. Do not overlay edges. Stagger strips to offset joints in adjacent courses. Remove excess sod to avoid smothering of adjacent grass. Provide sod pad top flush with adjacent curbs, sidewalks, drains, and seeded areas.
   f. In ditches, the sod shall be placed with the longer dimension perpendicular to the flow of water in the ditch. On slopes, install preliminary row of sod in a straight line, starting at the bottom of the slope, the sod shall be placed with the longer dimension parallel to the contours of the ground. Place subsequent rows parallel to and lightly against previously installed row. The exposed edges of sod shall be buried flush with the adjacent soil.
   g. All sod shall be rolled with a light drum roller to ensure contact with sub-grade, uniformity and foster root knitting.
   h. The sod shall be staked on all slopes of 3:1 or steeper to prevent slippage. Sod shall be staked with ±2 stakes per square yard of sod as necessary to stabilize with at least one stake for each piece of sod.
   i. Sodded areas shall be watered to ensure proper establishment. Sod shall be watered thoroughly with fine spray immediately after laying and not be allowed to dry out. Any sod that has shrunk shall be replaced. Landscape Contractor shall assure initial watering continues until the equivalent of two inches of water has been applied to entire sod surface, at a rate which will not dislodge the sod.
   j. Landscape Contractor shall assure watering is repeated thereafter as frequently as required to prevent drying of the surface and watering shall continue through preliminary acceptance to ensure proper establishment.
   k. Landscape Contractor shall mow the lawn area as soon as top growth reaches a 3 inch height. Cut back to 2 inch height. Not more than 40% of grass leaf shall be removed at any single mowing. The contract shall include a minimum of 3 (three) mowings. Repeat mowing as required to maintain specific height until Landscape Architect issues preliminary acceptance of completed work.

   Native Seeding and Planting
   a. The period for planting prairie seed shall be between April 1st and June 15th, or as soon thereafter as the soil is free of frost and in workable condition, and from September 15 to freeze up. If these dates are adjusted, it shall be the responsibility of the Landscape Contractor to ensure establishment of the seed.
   b. Remove existing grass, vegetation and turf. Dispose of such material legally off-site. Do not turn over into soil being prepared for lawns.
   c. If present, compacted soils shall be disked or raked prior to seeding. Remedial measures for the access area may at the direction of the Wetland Consultant, involve ripping from 12-18 inches of the soil horizon prior to disking.
   d. Prior to seeding, planting areas shall have at least twelve inches of clean un-compacted topsoil. Clumps, clods, stones of 2" diameter, roots and other extraneous matter shall be removed and disposed of legally offsite.
   e. Granular mycorrhizal inoculants shall be installed with the seed mix at a rate of 40 lbs\acre. Inoculant can be banded under seed, worked into seed or added into spray tanks. NATIVE AREAS SHALL NOT RECEIVE FERTILIZER.
   f. Contractor shall be solely responsible for the proper handling and storage of the seed according to the best seed handling and storage practices, including fungicide treatments and stratification considerations. Owner shall make no compensation for damage to the seed because of improper storage, cleaning, threshing or screening operations.

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CRYSTAL LAKE, ILLINOIS

LANDSCAPE SPECIFICATIONS

2	12.19.2024
1	11.25.2024
REVISIONS	

DATE	9.4.2024
PROJECT NO.	LN22128
DRAWN	GEH
CHECKED	ZML
SHEET NO.	

L1.12

XREFS
PLOT CONFIG

I. GENERAL SPECIFICATIONS CONTINUED

g. Seeding operations, including installation of erosion control matting, must be accomplished within 24 hours of any area which is fine graded. Fine grade, plant and cover only areas small enough to be completed within the required time frame.

h. Except where site conditions preclude their use, seeding shall be performed using a Truax drill, Truax Trillion seeder, or comparable equipment designed specifically for the installation of native seed. For areas where site conditions preclude the use of specialized equipment, seed may be installed through hand broadcasting and followed by light raking. Hand broadcast seed shall be spread at twice the specified rate. Other methods of seed installation may be used with prior approval from the Landscape Architect.

i. Do not seed when wind velocity exceeds five (5) miles per hour. Equipment shall be operated in a manner to insure even distribution of seed and complete coverage of the entire area to be seeded.

j. Prior to starting work, all seeding equipment shall be calibrated and adjusted to sow seeds at the proper seeding rate. In general, the optimum seeding depth is 0.25 inch below the soil surface. Areas where the seed has not been incorporated into the soil to the proper depths will not be accepted, and no compensation for materials or labor for the rejected work will be made by the owner.

k. Seed mixture shall be as specified on the drawings or the specified Prairie planting mixture. Sow not less than specified rate.

l. If a broadcast method of seeding is used, the following requirements shall be met. Within twelve hours, if conditions permit or as soon thereafter as is practical rake prairie seed lightly into top 1/4" of soil, roll at right angles to the run-off with an approved type roller to compact the seedbed and place the seed in contact with the soil.

m. If a drill-seed method is used, rolling of the seedbed will not be required.

n. After the seeding, raking and rolling operations are completed, water with a fine spray and install specified erosion control blanket per manufacturer's specifications over the entire prairie area.

o. The Landscape Contractor shall monitor all seeded areas to insure at least one inch of water per week from a combination of watering and natural rainfall and shall mow plantings to a height of 6-10 inches for the enhancement of native species until preliminary acceptance by the Landscape Architect.

p. It shall be the Landscape Contractor's responsibility to determine and implement whatever procedures deemed necessary to establish the turf as part of the work.

q. Wet mesic and emergent areas shall be planted and seed allowed to germinate (if possible), prior to the flooding with significant amounts of water. Any areas of significant permanent water located within the planting area will receive live plugs in lieu of seed.

r. After seeding operation is completed, install erosion control blanket per manufacturer's specifications.

s. Emergent plugs, if used, shall be planted in natural groupings within designed areas containing saturated soils or inundation. Plants within groupings shall be planted at 2 foot centers.

t. Emergent plugs shall not be planted less than the specified rate and shall be protected with goose enclosures surrounding all natural groupings of plugs.

4. Preparation of Reconditioned Naturalized Areas

The Contractor chosen for the enhancement and maintenance of native areas must be experienced in the restoration, installation, and management of said areas. They must have a minimum of five years' experience in the field and shall be able to identify non-native and native plants by genus and species. It is imperative that a qualified Native Landscape Contractor perform the initial installation and maintenance.

A basic work procedure is outlined below. The contractor is required to evaluate all existing conditions prior to bidding the work. Any proposed changes to the work plan shall be submitted to the Landscape Architect as required under Section 1.3 (A)(B)

a. Woody Vegetation Removal

i. All woody, non-planted species shall be removed from basin slopes and bottoms for existing ponds

ii. Contractor will cut all woody species to be removed with hand tools including, but not, limited to gas powered chainsaws, gas powered clearing saws, bow saws, and loppers.

iii. All stumps shall be cut flat with no sharp points and to within two inches of surrounding grade. Stumps shall be painted with Garlon 4, or equivalent, immediately after cutting.

iv. A supply of chemical absorbent shall be kept on-site. Spills shall be properly cleaned up and reported immediately to the owner.

v. The contractor shall maintain copies at the project site of all current pesticide applicator's licenses, herbicide labels, and MSDS's (Material Safety Data Sheets) for all chemicals utilized during completion of work.

vi. Cut brush piles shall be disposed of off site legally. No cut brush shall be burned within city limits.

vii. A prescribed burn can be conducted on existing basins as per the Maintenance Section 3.4. Following burn, over-seed lower slopes and bottoms of existing basins with Wet Meadow species as necessary (see section 2.4B)

viii. Spot treat invasive and undesirable herbaceous species on existing basin slopes with glycophosphate to remove undesirable species in planted areas. Undesirable species are included, but not limited to, species list in 1.5C Guarantees.

ix. Over-seed slopes of existing basins with low profile prairie grasses (see section 2.4C) as necessary. Seeding protocol should follow Section 3.2D 8-12 noted below.

x. If adequate top soil is not present, top soil can be added to slopes with approval of Landscape Architect.

Repair: Repair any damages caused by Contractor during completion of the work. Said damages may include but are not limited to tire ruts in the ground, damage to lawn areas, damage to trails, etc. In the event any vegetation to be preserved is damaged, notify the owner within 24 hours. The Contractor will be liable for remedying damages to plant materials to the satisfaction of the owner.

5. Reconditioning Existing Turf

a. Recondition existing turf damaged by Contractor's operations, including storage of materials or equipment and movement of construction vehicles.

b. Provide fertilizer, seed and soil amendments as specified for new lawns and as required to provide a satisfactory reconditioned lawn. Provide topsoil as required to fill low areas and meet new finished grades.

c. Prior to over-seeding cultivate or rototill bare and compacted areas thoroughly to a depth of four (4) inches. Remove all rocks, stones, turf clumps and other debris larger than one (1) inch in diameter and rake smooth.

d. Remove diseased or unsatisfactory lawn areas. Do not bury into soil. Remove topsoil containing foreign materials resulting from contractor's operations, including oil drippings, stone, gravel and other construction materials.

e. Where substantial, but thin lawn remains, rake, aerate if compacted, and cultivate soil, fertilize and seed.

f. Water newly seeded areas. Maintain adequate soil moisture as specified for new lawns, until new grass is established.

6. Mulching

Trees and Shrubs

a. Apply the specified mulch to a depth of two (2) inches, evenly spread over the entire area of each tree basin and shrub bed. Maintain exposed root flare at all times. Thoroughly water mulched bed areas. After watering, rake mulch to provide a uniform finished surface.

Perennials, Ornamental Grasses, Annual Flowers and Groundcovers

a. Apply the specified mulch to a depth of one (1) inch, evenly spread over the entire area of each planting bed using care to keep foliage exposed. Thoroughly water mulched bed areas.

7. Pruning

a. Prune branches of deciduous stock, after planting, to preserve the natural character appropriate to the particular plant requirements. Remove or cut back dead and badly bruised branches, broken and tangled branches, damaged and unsymmetrical growth of the new wood, suckers, water sprout growth and unnatural growth habits. No plants will be sheared for any reason.

b. Prune with clean, sharp tools.

c. Prune trees and evergreens at the direction of the Landscape Architect and in accordance with standard horticulture practice to preserve the natural character of the plant.

d. In general, tree pruning requires removing 1/4 to 1/3 of the leaf bearing buds. Prune multiple leader plants to preserve the leader which best promote the symmetry of the plant. Do not apply paint to pruning marks.

8. Care of Existing Trees

a. Selectively prune existing trees in construction limits as required, at the direction of the Landscape Architect. Remove shoots, dead, rubbing and damaged branching.

b. Clean up miscellaneous organic debris within construction limits and dispose of legally off-site.

9. Clean-up

a. The Landscape Contractor shall store materials and equipment, during landscape work, where directed by the landscape architect.

b. The Landscape Contractor shall thoroughly clean the project area daily during the progress of work and upon completion of the work.

c. Landscape Contractor shall keep pavement clean and all work areas and adjoining areas in an orderly condition. The Landscape Contractor shall remove and clean any excess dirt or mud left on the streets adjacent to the site as a result of this work daily. The Landscape Contractor shall be liable for any future charges incurred to clean streets affected by his work.

d. No storing of rubbish or debris will be allowed on the site.

e. No debris shall be buried at the site.

f. No landscaping debris is allowed on the site dumpsters.

g. The Landscape Contractor shall protect the property of the owner and the work of other contractors.

h. The Landscape Contractor shall be directly responsible for all damage caused by the Landscape Contractor's activities and shall remove and properly dispose of all resultant dirt, rubbish, debris and other waste materials resulting from the work daily.

10. Inspections

In addition to normal progress inspections, the Landscape Contractor shall schedule and conduct the following inspections, giving the Landscape Architect at least 48 hours prior notice of readiness for inspection.

a. Inspection of plants and containers prior to planting.

b. Inspection of plant locations to verify compliance with the current revisions of the Landscape Plans and As-Built Drawings.

c. Preliminary acceptance inspection after completion of planting. Schedule this inspection sufficiently in advance and in cooperation with the Landscape Architect so that the inspection may be conducted in a timely manner.

d. Final acceptance inspection at the end of the maintenance period provided that all previous deficiencies have been corrected.

e. All other inspections necessary for replacement warranty work and completion of the project.

I. Maintenance and Monitoring

1. Traditional Landscaping: Landscape Contractor shall maintain all planting, starting with the planting operations and continuing until all planting for that portion of the project is complete and through preliminary acceptance in writing from the Landscape Architect.

a. Maintenance of plants and planting beds shall include resetting plants to proper grades or upright position, restoring planting saucers, tightening and repair of guy wires and stakes, weeding, cultivating, pruning, application of appropriate insecticides and fungicides necessary to keep the plant materials in a healthy growing condition and to keep the planted areas neat and attractive.

b. Maintenance of lawn areas shall be as specified, including spot weeding, mowing, application of weed and insect controls and reseeding necessary to promote proper establishment the lawn areas.

c. Contractor shall water all sod and plantings for the first two weeks following installation.

2. Native Planting Areas: The Owner shall notify the City upon completion of plantings. The Owner's Environmental Specialist shall inspect the plantings and provide the City with a copy of the planting locations, species, and quantities for verification by applicable regulatory authority.

a. Native planting areas shall be maintained as specified below, continue for the three full (3) years after preliminary installation acceptance, and meet annual establishment performance criteria:

i. First Season - With the exception of the emergent area, native seeding areas should be mowed to a height of 6" to control annual nonnative and invasive species early in the growing season. Mowing, including weed whipping, should be conducted during prior to weed seed production. Mowing height and timing may need to be adjusted per target species. Small quantities of undesirable plant species, shall be controlled by hand pulling prior to the development and maturity of the plant. Hand removal shall include the removal of all above-ground and below-ground stems, roots and flower masses prior to development of seeds. Herbicide should be applied as necessary by a trained and licensed operator that is competent in the identification of native and nonnative herbaceous plants. Debris and litter shall be removed from the native areas and storm structures shall be inspected and maintained as necessary.

ii. Second Season - Control of undesirable plant species during the second growing season shall consist primarily of precise herbicide application. Mowing and weed whipping shall be conducted as needed during the early growing season and as needed to a height of 6 to 8 inches to prevent annual weeds from producing seed. Debris and litter shall be removed from the native areas and storm structures shall be inspected and maintained as necessary.

iii. Third Year - Seasonal mowing and herbicide will continue as above but should be reduced over time. Debris and litter shall be removed from the native areas and storm structures shall be inspected and maintained as necessary. At the completion of the third growing season (dependent on fuel availability; dominance of graminoid species; and favorable weather conditions), fire may be introduced to the planted areas as a management tool.

b. General performance criteria is outlined below. Contractor is responsible to ensure native areas meet Federal, County and local requirements as necessary.

i. 1st Full Growing Season: 90% of cover crop shall be established. There shall be no bare areas greater than two (2) square feet in seeded areas. At least 25% of vegetation coverage shall be native, non-invasive species. At least 50% of the emergent species, if planted as plugs shall be alive and apparent.

ii. 2nd Full Growing Season: All areas with the exception of emergent zones shall exhibit full vegetative cover. At least 50% of the vegetation coverage shall be native, non-invasive species.

iii. 3rd Full Growing Season: At least 75% of vegetation coverage shall be native, non-invasive species. Non-native species shall constitute no more than 25% relative aerial coverage of the planted area. Invasive species for this project shall include the following: Ambrosia artemisiifolia & trifida (Common & Giant Ragweed), Cirsium arvense (Canada Thistle), Dipsacus laciniatus (Cut-leaved Teasel), Dipsacus sylvestris (Common Teasel), Lythrum salicaria (Purple Loosestrife), Mellilotus sp. (Sweet Clover), Phalaris arundinacea (Reed Canary Grass), Phragmites australis (Giant Reed), Fallopia japonica (Japanese Knotweed), Rhamnus cathartica & frangula (Common & Glossy Buckthorn), Typha sp. (Broadleaf, Narrowleaf, and Hybrid Cattail) Lonicera sp. (Honeysuckle).

c. Long Term Wetland and Prairie Management/Maintenance

A Long -Term Operation and Maintenance Plan is included in the Home Owner's Association covenants with guidelines and schedules for burning, mowing, application of herbicide, debris/litter removal and inspection schedule for storm structures and sediment removal.

i. State and local permits shall be required prior to controlled burning. Burning shall be conducted by trained professionals experienced in managing smoke in urban environments. Prior to a controlled burn, surrounding property owners as well as local fire and police departments shall be notified. A burn plan detailing preferred wind direction and speed, location of fire breaks, and necessary personnel and equipment shall be prepared and utilized in planning and burn implementation.

ii. The initial burn shall be dependent on fuel availability which is directly related to the quantity and quality of grasses contained within the plant matrix. Timing of the burn shall be determined based on results of the annual monitoring indicating species composition of the management area and other analysis of management goals. Generally, burns shall be scheduled from spring to fall on a rotational basis. Burn frequency shall also be dependent on the species composition within the management area. Generally, a new prairie restoration area shall be burned annually for two years after the second or third growing season after planting and then every 2-3 years thereafter, burning 50-75% of the area.

iii. Owner to provide all supplemental watering and proper care and maintenance of all plant materials, seed and sod areas (except for native planting areas) after preliminary acceptance of the Landscape Contractor's work.

J. Preliminary Acceptance

1. When the preliminary landscape work is completed, including maintenance, the Landscape Architect will, upon request, make a preliminary inspection of initial installation to determine acceptability.

2. The inspection for preliminary acceptance of the initial installation will be for general conformance to establishment of turf areas, specified size, character and quality of plant materials, workmanship and maintenance and shall not relieve the Landscape Contractor of responsibility for full conformance of the contract documents, including correct species.

3. It shall be the responsibility of the Landscape Contractor to verify all work is completed for the initial installation and maintained as per plan prior to notifying the Landscape Architect for preliminary inspection.

4. For preliminary acceptance of the initial installation all plant material shall be in a healthy growing condition. Any plants, lawn areas, workmanship, etc. not meeting the standards will be rejected and the Landscape Contractor will be instructed to make the necessary corrections immediately before preliminary acceptance of the initial installation will be granted.

5. Seeded areas will be inspected for acceptance after the first mowing by the Landscape Contractor and will be satisfactory provided requirements, including maintenance, have been complied with and a uniform healthy close stand of the specified grass is established, free of weeds, bare spots exceeding 5 by 5 inches, undesirable grass species, disease, insects and surface irregularities.

6. Sodded areas will be inspected for acceptance after the first mowing by the Landscape Contractor and will be satisfactory provided requirements, including maintenance, have been complied with and when all areas show a uniform stand of the specified grass in a healthy, well-rooted, even-colored, viable lawn condition, free of weeds, undesirable grass species, open joints, bare areas, disease, insects and irregular surfaces.

7. The Landscape Contractor shall assume liability for the correction of his work and liability for any other charges incurred due to the correction of his work. The cost of follow-up inspections of the initial installation required to receive acceptance will be charged to the Landscape Contractor.

8. Upon the receipt of written acceptance of the preliminary inspection of the initial installation the Owner will be responsible for maintenance.

9. The warranty period will begin upon receipt of written acceptance of the preliminary inspection for initial installation from the Landscape Architect.

10. After preliminary acceptance of the initial installation and receipt of notification in writing from the Landscape Architect, the Landscape Architect will recommend the release of payment, less retainers deemed necessary by the Owner, for the completed work.

11. The release of all fees will be at the discretion of Lennar upon receipt of written invoice from the Landscape Contractor.

K. Warranty Agreement

1. The Landscape Contractor shall provide a replacement warranty for all plant material and shall guarantee all work free of any defect in quality or workmanship for a minimum period of one (1) year or until final inspection and written acceptance by the Landscape Architect.

a. Warranties of native plantings are excluded from this section and shall conform to the specified establishment performance criteria.

2. The warranty period will be from the date of the Landscape Architect's written preliminary acceptance of the initial installation and will continue through the end of the following years growing season upon the final inspection and written acceptance of the work.

3. The warranty shall provide against defects including death, unsatisfactory growth, and provides the material to be in good, healthy and flourishing condition, except for defects resulting from neglect by the owner, abuse or damage by others or unusual phenomena or incidents which are beyond Landscape Contractor's control. For verification of such defects, neglect, abuse or damage by others the Landscape Contractor must notify the Landscape Architect in writing immediately upon identifying said occurrences.

4. Annual increases in the size of required replacements shall serve to maintain the continuity of the landscape design. At the time of the scheduled replacements, the required landscape replacement material shall be increased in size from the original plan to match the new growth size of the surrounding plants.

5. The Landscape Contractor shall make as many periodic inspections as necessary, at no extra cost to the Owner during the warranty period to determine what changes, if any, should be made to the Owner's maintenance program. The Landscape Contractor shall submit, in writing to the Landscape Architect, any recommended changes.

6. During the warranty period, should the appearance of any plant die, indicate weakness and/or probability of dying, the Landscape Contractor shall immediately begin replacement of said plants with new and healthy plants of the same type and size as soon as weather conditions permit and within a specified planting period after notification of such occurrences from the Landscape Architect without additional cost to the Owner.

7. The Landscape Contractor shall make all necessary repairs of damage due to plant replacements. Such repairs shall be done at no extra cost to the Owner.

8. Replacements shall be in accordance with and subject to all requirements of landscape installation, mulching, maintenance, warranty and acceptance procedures.

9. The Contractor is responsible for the watering and maintenance necessary to ensure establishment of the replacement plants until the Landscape Architect inspects the replacement plants and issues preliminary acceptance in writing.

10. The Landscape Contractor, prior to notifying Landscape Architect for preliminary acceptance, shall maintain the replacement plants for a period of 45 days at no additional cost to the owner.

11. The Landscape Contractor shall notify the Landscape Architect in writing, upon completion of replacements and extended maintenance period, for preliminary acceptance and written notification of new warranty period.

12. The Landscape Contractor, upon written preliminary acceptance of the replacements, shall warranty all replacements until the end of the following growing season and written final acceptance. The Landscape Contractor shall notify the Landscape Architect in writing at the end of the warranty period of replacement plants for final inspection and acceptance.

13. The Landscape Contractor shall remove tree wrapping, tree guy wires, stakes and tags from all established plants prior to contacting the Landscape Architect for final acceptance inspection. Tags, tree wrap, guy wires and stakes shall remain on all replacements until completion of additional warranty period.

14. All subsequent inspections required due to unacceptability of the replacements will be at the cost of the Contractor.

L. Final Acceptance

1. Inspection of all work will be made by the Landscape Architect at the end of the warranty periods upon written request of the Landscape Contractor.

2. The Landscape Architect shall prepare and submit, to Lennar and the Landscape Contractor, a list of warranty replacement items to be completed before final acceptance shall be deemed to have occurred. The failure to include any items on such list does not alter the responsibility of the Landscape Contractor to complete all work in accordance with the contract.

3. The Landscape Contractor shall complete all warranty replacement work as deemed necessary by the Landscape Architect, shall verify completion of all work required to satisfy the contract and shall notify the Landscape Architect upon completion of all work for review and final acceptance.

4. The Landscape Architect will perform a final inspection of the completed work with the Landscape Contractor and a representative from Lennar. At that time if all work is satisfactory, a written statement will be issued by the Landscape Architect that will constitute final acceptance of completed work to date.

5. After the final inspection and acceptance of the work, the Landscape Architect will notify Lennar in writing and will recommend release of fees in retention for the completed work, except for retention fees deemed necessary by Lennar and the Landscape Architect for work still under additional warranty.

6. The Landscape Architect will make a follow-up inspection of all additional warranty replacements at the written request of the Landscape Contractor and issue a written report accepting satisfactory completion of the warranty obligations and request release of the remaining retention fees.

7. The release of all retention fees will be at the discretion of Lennar after receipt of written notification from the Landscape Architect and upon receipt of written invoice from the Landscape Contractor.

8. The written final acceptance of all work following any necessary replacements shall terminate the Landscape Contractor's plant warranty period.

II. DAMAGES: STREET AND SITE

1. The Landscape Contractor shall be responsible for any damages to streets, curbs or site improvements as a result of his work or his employees. The Landscape Contractor shall be responsible for any future charges resulting from the repair/replacement of damage.

2. Curb damage will be billed to the contractor at fault at a rate of $25.00/lineal foot with a ten foot minimum

3. Subcontractor shall not park on any asphalt or concrete driveways at any time. Violators will be fined $500 per occurrence.

IV. TRADITIONAL LANDSCAPE MAINTENANCE

A. Turf Maintenance

1. Mowing

a. All litter (i.e. paper, cans and bottles) will be removed from turf and plant bed areas prior to mowing.

b. All lawn areas will be mowed weekly to a height of 3" from April through November, or as needed. No more than 1/3 of the grass blade is to be removed per cutting. Mowing height may be seasonally adjusted depending upon weather conditions in order to reduce stress and promote healthy turf.

c. Mowing patterns shall be altered on a weekly basis wherever possible. Mowing patterns shall create straight lines for a more manicured appearance.

d. Clippings shall be bagged and removed when clipping buildup is such that the excess clipping lay in an unsightly matted condition on the lawn.

e. The turf shall be cut in such a manner as to avoid blowing clippings toward structures, patios, air conditioners, and planting beds.

f. If the turf could potentially be damaged by equipment due to weather, mowing should not be performed.

g. Turf bordering vertical surfaces such as foundations, fences, and utility boxes shall be trimmed to match the mowing height.

h. Clippings shall be removed from all pavement areas.

2. Edging

a. Turf areas adjacent to walks, driveways and curbing will be mechanically edged monthly in a uniform manner.

b. Shrub beds and tree rings shall be neatly and uniformly edged twice per year; once during the spring cleanup, and again in August or September weather permitting.

3. Fertilizer & Weed Control

a. Pesticides must be applied by a licensed individual.

b. Notice shall be given to the homeowners association or owner's representative 1 week prior to any pesticide application.

c. The lawn shall be fertilized three (3) times with a high quality granular or liquid formula. The applications should be made approximately in April, May and September. Timing, frequency and rate of application shall be adjusted to meet the development's current needs and conditions

d. A pre-emergent weed control application for annual grass prevention shall be incorporated into the first turf fertilization in spring.

e. The entire turf area will be treated one (1) time with a post emergent broad leaf weed control at the appropriate time of year. Spot treatment should be done as necessary.

f. Flags shall be posted throughout the community following each fertilizer application. Remove flags once the application is dry or as directed by the product's label.

B. Planting Bed Maintenance

1. Pruning

a. Trees, shrubs and evergreens should be pruned, trimmed or sheared at the appropriate time for each species to maintain the plant's proper form. Methods and timing shall conform to standard horticultural practices. The initial spring pruning will include:

1. Removal of dead or injured limbs.

2. Removal of branches that are touching structures.

3. Shaping and internal thinning of the plant to allow for its natural form and habit.

b. Shrubs will be pruned two (2) additional times at the appropriate time so as not to interfere with flowering.

c. Trees over 6" in diameter will not be pruned other than removal of low branches hazardous to pedestrian traffic and sucker growth which may occur.

d. Groundcovers should be pruned twice during the season to maintain a neat appearance.

e. Ornamental grasses should be trimmed during the spring cleanup.

f. All pruning debris shall be removed from the site by the contractor immediately after the work is complete.

2. Fertilizer & Weed Control

a. Pesticides must be applied by a licensed individual.

b. Notice shall be given to the homeowner's association 1 week prior to any pesticide application.

c. Pre-emergent weed control shall be applied at the beginning of the growing season.

d. Post emergent applications or hand pulling shall be used on any weeds that appear throughout the season.

e. Trees, shrubs and groundcover shall be fertilized one (1) time during the season. The application rate will be determined by the specific needs of the plant material.

C. Spring & Fall Cleanup

1. Spring Cleanup

a. Lawn areas and planting beds will be raked as necessary to remove leaves, dead branches, litter and debris.

b. All mulch beds shall be cultivated to break up any existing compaction in the mulch.

c. Fresh mulch should be applied to any bare spots in the planting beds.

d. Monitor plant health and notify homeowner's association or owner's representative of any dead plants.

e. Debris generated during the cleanup shall be disposed of legally off site.

2. Fall Cleanup

a. All lawn areas will have leaves removed either by raking or through the mowing process so as to prevent leaf buildup on the turf on a weekly basis.

b. All planting beds will have leaves and debris removed at the end of the season.

c. Perennials without winter interest shall be cut back.

d. Monitor plant health and notify homeowner's association or owner's representative of any dead plants.

e. Debris generated during the cleanup shall be disposed of legally off site.

IV. PERSONAL CONDUCT / SAFETY

1. Consumption of alcoholic beverages or drugs on the job site is strictly prohibited.

2. Any offensive or obnoxious behavior (loud radio, profanity, etc.) is strictly prohibited.

3. Reckless operation of vehicles or equipment by Subcontractor's employees while in the subdivision will not be tolerated.

4. Hard hats to be worn by all employees at all times.

5. Failure to comply with Lennar's Safety Policy, OSHA or any other presiding safety institution could result in fines starting at $100.00 per occurrence.

6. Subcontractor to provide a competent person trained in OSHA requirements on site at all times.

Landscape Contractor Name _____

Landscape Contractor Company_____

Landscape Contractor Signature_____ Date_____

811 Know what's below. Call before you dig.

GRWA
GARY R. WEBER ASSOCIATES, INC.
LAND PLANNING
ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187
PHONE: 630-668-7197
www.grwainc.com

CLIENT:
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SUITE 1100
SCHAUMBURG, IL 60173

CIVIL ENGINEER:
MACKIE CONSULTANTS, LLC
9575 W. HIGGINS ROAD
SUITE 500
ROSEMONT, IL 60018

WATERSIDE AT THREE OAKS

CRYSTAL LAKE, ILLINOIS

LANDSCAPE SPECIFICATIONS

2	12.19.2024
1	11.25.2024
REVISIONS	

DATE	9.4.2024
PROJECT NO.	LN22128
DRAWN	GEH
CHECKED	ZML
SHEET NO.	

L1.13

XREFS:
PLOT CONFIG:

FINAL ENGINEERING PLANS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

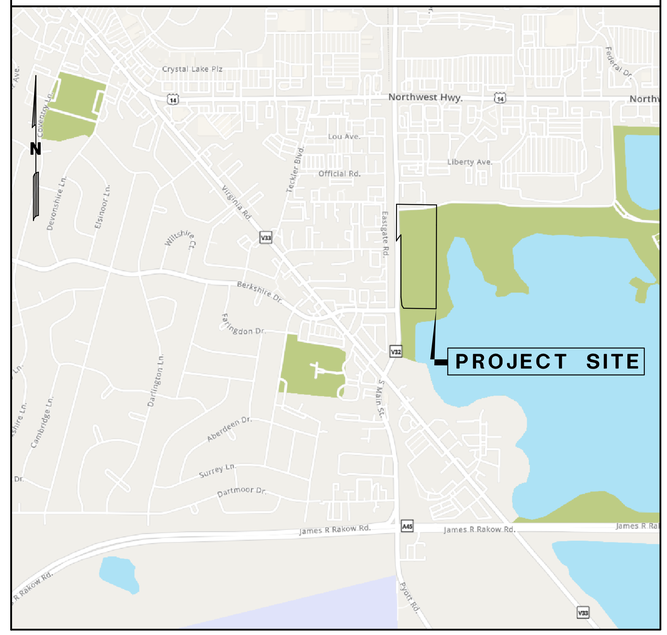
LEGEND

	EXISTING	PROPOSED
SANITARY SEWER	8" PVC	8" PVC
FORCE MAIN	FM	FM
STORM SEWER	12" RCP	12" RCP
UNDERDRAIN	UD	UD
MANHOLE	◎	⊙
CATCH BASIN	◯	●
INLET	▭	■
CLEANOUT	◍	◍
WATER MAIN	WM	8" WM
VALVE VAULT	◎	⊖
VALVE BOX	◯	⊟
FIRE HYDRANT	◯	⊻
FLARED END SECTION	△	▬
COMBINED SEWER		
STREET LIGHT/PARKING LOT LIGHT	⌑	⌑
POWER POLE	⊡	■
STREET SIGN	⊓	⊤
FENCE	x x x	x x x
GAS MAIN	G G G G	G G G G
OVERHEAD LINE	OH OH	OH OH OH
TELEPHONE LINE	T T T T	T T T T
ELECTRIC LINE	E E E E	E E E E
CABLE TV LINE	CATV CATV	CATV CATV
HIGH WATER LEVEL		HWL XXX
NORMAL WATER LEVEL	NWL XXX	NWL XXX
CONTOUR LINE	XXX.XX	XXX.XX
TOP OF CURB ELEVATION	TC XXX.XX	TC XXX.XX
TOP OF DEPRESSED CURB	TDC XXX.XX	TDC XXX.XX
PAVEMENT ELEVATION	P XXX.XX	P XXX.XX
SPOT ELEVATION	XXX.XX	XXX.XX
FINISHED FLOOR ELEVATION	FF = XXX.XX	FF = XXX.XX
TOP OF FOUNDATION	TF = XXX.XX	TF = XXX.XX
GRADE AT FOUNDATION	GF = XXX.XX	GF = XXX.XX
HIGH OR LOW POINT		Ⓛ = Ⓗ
OVERLAND FLOOD ROUTE		
PAVEMENT FLOW DIRECTION		2.0%
SWALE FLOW DIRECTION		
DEPRESSED CURB AND GUTTER		
REVERSE CURB AND GUTTER		

INDEX OF SHEETS

1 COVER SHEET
2 OVERALL SITE PLAN
3 EXISTING CONDITIONS AND DEMOLITION PLAN
4 GRADING PLAN - NORTH
5 GRADING PLAN - SOUTH
6 ADA GRADING DETAILS
7 GRADING DETAILS
8 STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
9 SWPPP DETAILS
10 SWPPP SPECIFICATIONS
11 OVERALL UTILITY PLAN
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13 PLAN AND PROFILE
14 ALLEYWAY PROFILES
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16 CONSTRUCTION DETAILS
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22 CONSTRUCTION DETAILS
23 PROJECT SPECIFICATIONS

LOCATION MAP



THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AS WELL AS SUPERVISION, DIRECTION AND MEANS & METHODS OF CONSTRUCTION

ABBREVIATIONS

AC	ACRE	HWL	HIGH WATER ELEVATION	SAN	SANITARY SEWER
BC	BACK OF CURB	INL	INLET	SMH	SANITARY MANHOLE
BTM	BOTTOM	INV	INVERT	STA	STATION
CB	CATCH BASIN	LF	LINEAL FEET/FOOT	STM	STORM SEWER
CFS	CUBIC FEET PER SECOND	LP	LIGHT POLE	SY	SQUARE YARD
CY	CUBIC YARD	LT	LEFT	SWPP	STORMWATER POLLUTION PREVENTION PLAN
DIA	DIAMETER	L/W	LOWEST GRADE ADJACENT TO RETAINING WALL	TDC	TOP OF DEPRESSED CURB
DIWM	DUCTILE IRON WATER MAIN	MAX	MAXIMUM	TC	TOP OF CURB
EL	ELEVATION	MH	STORM MANHOLE	TF	TOP OF FOUNDATION
EP	EDGE OF PAVEMENT	MIN	MINIMUM	T/W	TOP OF RETAINING WALL
FF	FINISHED FLOOR	NWL	NORMAL WATER ELEVATION	TYP	TYPICAL
FES	FLARED END SECTION	OCS	OUTLET CONTROL STRUCTURE	VB	VALVE BOX
FT	FOOT/FEET	P	PAVEMENT ELEVATION	VC	VERTICAL CURVE
G	GUTTER ELEVATION	PVC	POLYVINYL CHLORIDE PIPE	VV	VALVE VAULT
GF	GRADE AT FOUNDATION	R	RADIUS	W	WALK ELEVATION
GR	GRADE RING ELEVATION	RCP	REINFORCED CONCRETE PIPE	WM	WATER MAIN
HDPE	HIGH DENSITY POLYETHYLENE PIPE	RIM	RIM ELEVATION	VPI	VERTICAL POINT OF INTERSECTION
HYD	FIRE HYDRANT	RT	RIGHT		
HMA	HOT MIX ASPHALT	ROW	RIGHT OF WAY		

BENCHMARKS

SITE BENCHMARK #1:
CROSS CUT ON NORTHEAST CORNER OF DOUBLE TRAFFIC SIGNAL HANDHOLE AT THE NORTHEAST CORNER OF SOUTH MAIN STREET AND BERKSHIRE DRIVE
ELEVATION = 894.48

SITE BENCHMARK #2:
TAG FLANGE BOLT ON FIRE HYDRANT AT THE SOUTHEAST CORNER OF SOUTH MAIN STREET AND THREE OAKS RECREATION AREA DRIVE
ELEVATION = 897.64

JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS
CALL JULIE TOLL FREE 1-800-892-0123
Call 48 hours before you dig (Excluding Sat, Sun, & Holidays)
1-800-892-0123

NOTES:

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING, EXCEPT AS MODIFIED HEREIN OR ON THE PLANS:

- STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT SS) FOR ALL IMPROVEMENTS EXCEPT SANITARY SEWER AND WATER MAIN CONSTRUCTION;
- STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSWS) FOR SANITARY SEWER AND WATER MAIN CONSTRUCTION;
- STANDARD SPECIFICATIONS AND DETAILS PER THE CITY OF CRYSTAL LAKE UNIFIED DEVELOPMENT ORDINANCE

IN CASE OF CONFLICT BETWEEN THE APPLICABLE ORDINANCES NOTED, THE MORE STRINGENT SHALL TAKE PRECEDENCE AND SHALL CONTROL ALL CONSTRUCTION.

DRAINAGE CERTIFICATION

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DRAINAGE OF SURFACE WATERS WILL NOT BE CHANGED BY THE CONSTRUCTION OF SAID IMPROVEMENTS OR ANY PART THEREOF, OR, THAT IF SUCH SURFACE WATER DRAINAGE WILL BE CHANGED, REASONABLE PROVISION HAS BEEN MADE FOR COLLECTION AND DIVERSION OF SUCH SURFACE WATERS INTO PUBLIC AREA, OR DRAINS WHICH THE SUBDIVIDER HAS A RIGHT TO USE AND THAT SUCH SURFACE WATERS WILL BE PLANNED FOR IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES SO AS TO REDUCE THE LIKELIHOOD OF DAMAGE TO THE ADJOINING PROPERTY BECAUSE OF THE CONSTRUCTION OF THE IMPROVEMENTS.

LICENSED ENGINEER

ILLINOIS PROFESSIONAL ENGINEER — MADELINE T. LARSON — 062-060517 — STATE OF ILLINOIS

ENGINEER'S SEAL

Mackie Consultants, LLC
9575 W. Higgins Road, Suite 500
Rosemont, IL 60018
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www.mackieconsult.com

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SCHAUMBURG, IL 60173
PHONE: 224-293-3100
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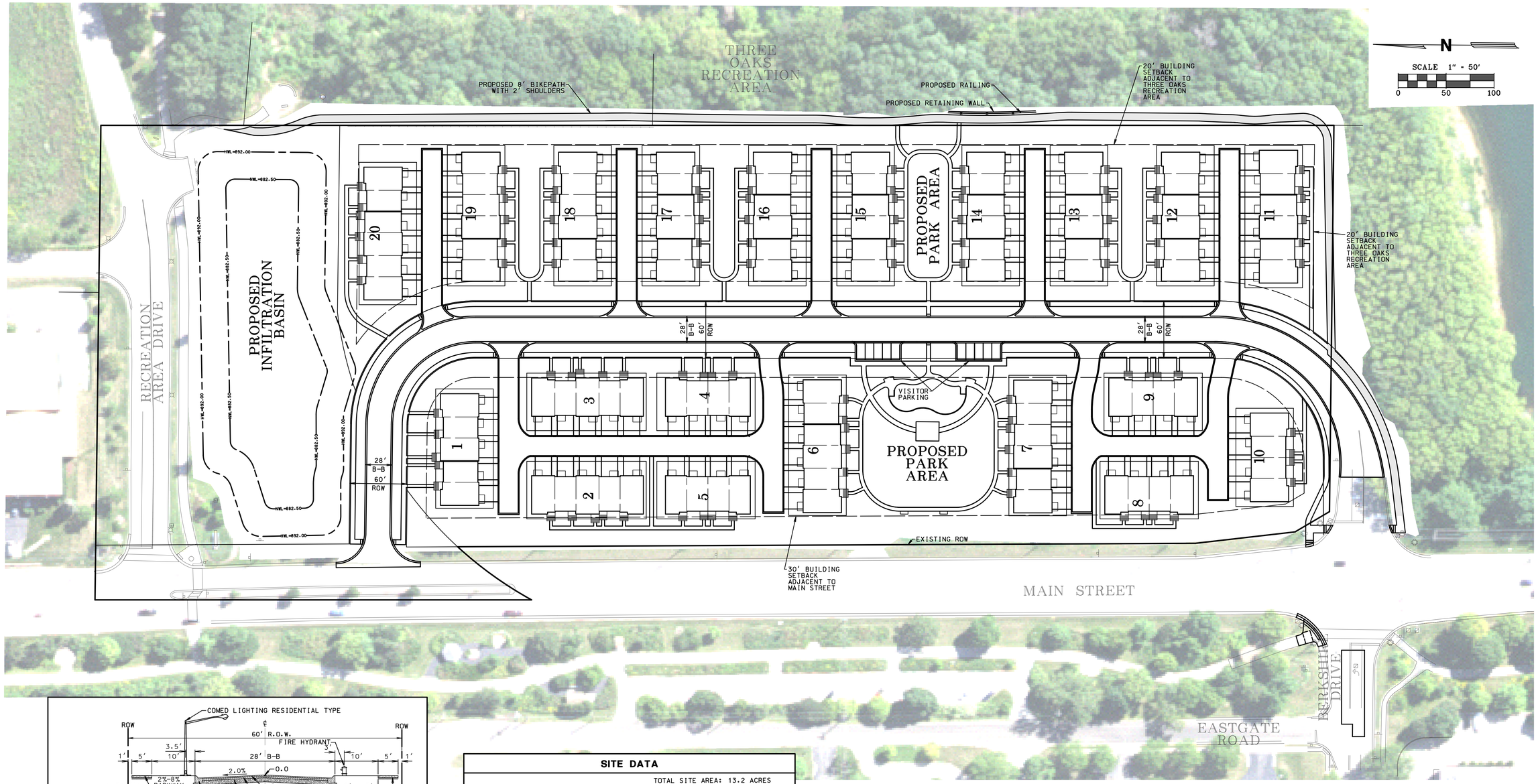
DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	N.T.S.

COVER SHEET
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 1 OF 23
PROJECT NUMBER: 4782
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Ⓐ = 1½" HOT ASPHALT SURFACE COURSE, MIX C, N50
Ⓑ = 2½" HOT-MIX ASPHALT BINDER COURSE, IL19.0, N50
Ⓒ = 12" CRUSHED COURSE AGGREGATE SUBBASE, GRADE 9 CA-6
Ⓓ = B-6.12 CURB & GUTTER (SAWED DEPRESSIONS AT DRIVE)

PROPOSED ONSITE ROADWAY
TYPICAL LOCAL ROADWAY SECTION
NOT TO SCALE

SITE DATA

TOTAL SITE AREA:	13.2 ACRES
TOTAL TOWNHOME BUILDINGS:	20 BUILDINGS
TOTAL TOWNHOME UNITS:	107 UNITS
SETBACKS	
FRONT YARD MINIMUM:	20'
SIDE TO SIDE SEPARATION:	20' SEPARATION
FRONT TO SIDE SEPARATION:	55' SEPARATION
REAR TO REAR SEPARATION:	60' SEPARATION
FRONT TO FRONT SEPARATION:	60' SEPARATION
MINIMUM YARD ABUTTING MAIN STREET SETBACK:	30'
BUILDING 4 AND 5 (4-UNIT) DIMENSION:	40' x 88.5'
BUILDING 8, 9, AND 10 (4-UNIT) DIMENSION:	40' x 92.5'
BUILDING 1, 2, AND 3 (5-UNIT) DIMENSION:	40' x 116.5'
BUILDING 6, 7, 11-20 (6-UNIT) DIMENSION:	40' x 134.5'
BUILDING 10-19 (6-UNIT) DIMENSION:	40' x 138.5'
TYPICAL PARKING STALL DIMENSION:	9' x 19'
TYPICAL DRIVEWAY DIMENSION:	16.25' x 21'

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PHONE: 224-293-3100
FAX: 224-293-3101

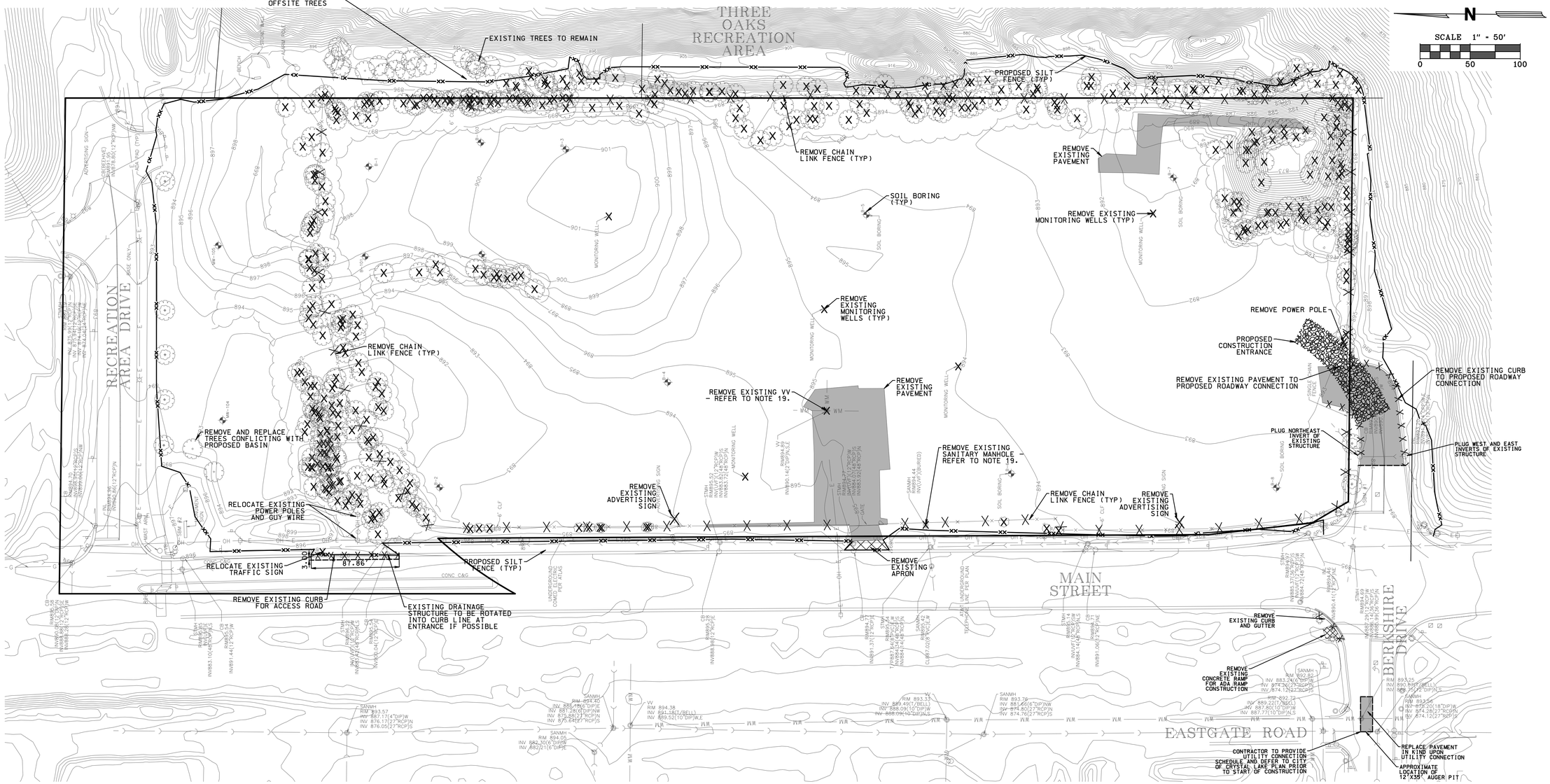
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12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	1" = 50'

OVERALL SITE PLAN
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 2 OF 23
PROJECT NUMBER: 4782
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DEMOLITION LEGEND

EXISTING CONCRETE TO BE REMOVED	
EXISTING HMA PAVEMENT TO BE REMOVED	
EXISTING CURB TO BE REMOVED	
EXISTING UTILITY TO BE REMOVED	WM
EXISTING UTILITY TO BE ABANDONED	WM
EXISTING UTILITY TO BE REMOVED OR ABANDONED AS NEEDED	WM
EXISTING STRUCTURE, TREE, MISCELLANEOUS OBJECT TO BE REMOVED	

DEMOLITION PLAN GENERAL NOTES:

1. CONTRACTOR SHALL PERFORM ALL DEMOLITION WORK IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR DEMOLITION WORK AND ASSOCIATED UTILITY DISCONNECT FEES.
3. THE MUNICIPALITY AND THE OWNER SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
4. THIS PLAN WAS PREPARED FROM TOPOGRAPHIC SURVEY PREPARED BY MACKIE CONSULTANTS, LLC, DATED 06/05/2024 AND AVAILABLE RECORDS. CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES SHOWN AND NOT SHOWN BEFORE COMMENCING WORK AND NOTIFY THE ENGINEER OR OWNER OF ANY DISCREPANCIES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO BEGINNING DEMOLITION WORK FOR THE EXACT LOCATIONS OF THE UTILITIES. THE CONTRACTOR SHALL ARRANGE FOR THE DISCONNECTION, PROTECTION OR RELOCATION OF ANY EXISTING UTILITY SERVICES, INCLUDING WATER, SEWER, GAS, ELECTRIC, TELEPHONE AND CABLE.
6. THE CONTRACTOR IS REQUIRED TO ASSURE HIMSELF OF LOCATION AND DEPTH OF EXISTING UTILITIES AND RELATED FEATURES AND SHALL REPORT AT ONCE TO THE OWNER OR ENGINEER ANY DISCREPANCIES WITH RESPECT TO INFORMATION INDICATED IN THE CONTRACT DOCUMENTS.
7. ALL HMA PAVEMENT MATERIALS SHALL BE REMOVED TO AN OFFSITE LOCATION. GRAVEL BASE MATERIALS SHALL BE STOCKPILED ONSITE AND USED FOR TEMPORARY ROADS OR GENERAL FILL, AS APPROVED BY THE OWNER OR DEVELOPER. ANY BASE MATERIALS REMAINING UPON COMPLETION OF THE PROPOSED IMPROVEMENTS SHALL BE HAULED TO AN OFFSITE LOCATION.
8. ALL UTILITIES TO REMAIN AS NOTED SHALL BE ADJUSTED TO THE FINAL GRADES AS PROVIDED ON THE UTILITY PLANS.
9. GAS, TELEPHONE AND ELECTRIC DISTRIBUTION SYSTEM REMOVALS AND ADJUSTMENTS SHALL BE DONE BY RESPECTIVE UTILITY AND PAID FOR SEPARATELY BY OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THIS WORK INCIDENTAL TO THE CONTRACT. ALL ENVIRONMENTAL REMEDIATION WILL BE COMPLETED BY OWNER PRIOR TO START OF CONSTRUCTION.
10. ALL EXISTING UTILITIES ARE TO REMAIN IN SERVICE UNLESS SPECIFICALLY SHOWN TO BE REMOVED.
11. ALL UTILITIES AND STRUCTURES LOCATED WITHIN 10 FEET OF THE PROPOSED BUILDING LOCATION SHALL BE COMPLETELY REMOVED AND THE EXCAVATION BACKFILLED WITH SELECT GRANULAR MATERIAL. ALL REMAINING UTILITIES AND STRUCTURES LOCATED WITHIN THE PROJECT AREA SHALL BE REMOVED TO A DEPTH OF 2-FEET BELOW PROPOSED FINISHED GRADE.
12. ALL PIPES TO BE ABANDONED IN PLACE SHALL BE PLUGGED AT BOTH ENDS WITH A MINIMUM OF TWO (2) FEET NON-SHRINK CONCRETE MORTAR PLUGS. ANY STRUCTURES TO REMAIN SHALL HAVE THE BOTTOM BROKEN TO FACILITATE DRAINAGE AND FILLED WITH SAND OR PEA GRAVEL.
13. ALL EXISTING TREES, BRUSH, AND MISCELLANEOUS APPURTENANCES, SUCH AS FENCES, WHEEL STOPS, POLES LIGHTS AND MISCELLANEOUS DEBRIS SHALL BE HAULED TO AN OFFSITE LOCATION.
14. ANY EXISTING PAVEMENT TO REMAIN SHALL BE BROKEN UP IN PLACE TO PROVIDE ADEQUATE DRAINAGE.
15. THE CONTRACTOR SHALL ENSURE THAT ALL ADJOINING AREAS, INCLUDING ADJACENT STREETS AND DRIVEWAYS, SHALL BE FREE OF DEBRIS AT ALL TIMES.
16. PAVEMENT, CURB AND GUTTER AND SIDEWALK SHALL BE SAWCUT FULL DEPTH AT THE LIMITS OF REMOVAL.
17. ALL TREES TO REMAIN SHALL BE PROTECTED WITH SILT FENCE OR ORANGE CONSTRUCTION FENCES. PROTECTIVE FENCING SHALL BE PLACED AT THE DRIP LINE OF THE TREE TO BE SAVED. CONSTRUCTION WITHIN THE FENCE WITHOUT PERMISSION FROM THE OWNER OR MUNICIPALITY IS STRICTLY PROHIBITED.
18. ANY DAMAGE DONE TO EXISTING STRUCTURES OR OBJECTS NOT SHOWN TO BE REMOVED OR REPLACED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
19. CONTRACTOR TO FIELD VERIFY, DISCONNECT AND PLUG EXISTING SERVICE CONNECTION AT CITY MAIN.

ALL ROADS SHALL REMAIN FREE OF DIRT AND DEBRIS AT ALL TIMES

REFER TO SHEETS 8-10 FOR EROSION CONTROL DETAILS, SPECIFICATIONS, CONSTRUCTION SEQUENCING, AND GENERAL NOTES

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DESIGNED	MS
DRAWN	JD
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SCALE	1" = 50'

EXISTING CONDITIONS AND DEMOLITION PLAN
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 3 OF 23

PROJECT NUMBER: 4782

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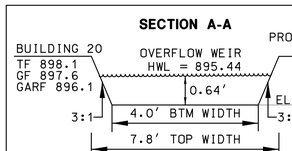
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GRADING PLAN GENERAL NOTES

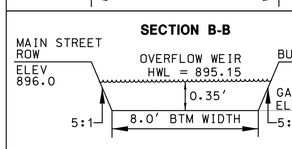
1. EXISTING TOPOGRAPHY SHOWN REPRESENTS SITE CONDITIONS ON 06/05/2024. CONTRACTOR SHALL FIELD CHECK EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION AND NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES.
2. ALL DISTURBED AREAS SHALL BE RESTORED WITH 6-INCHES OF TOPSOIL AND SEEDED.
3. EXCAVATION AND EMBANKMENT SHALL BE PERFORMED PER THE DETAILED SPECIFICATIONS AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
4. ALL CURB ELEVATIONS ARE TO BE TOP OF CURB. ALL GUTTER ELEVATIONS ARE 0.5' BELOW TOP OF CURB ELEVATION UNLESS OTHERWISE NOTED.
5. DRIVEWAY SLOPES FROM THE RIGHT-OF-WAY SHALL BE A MINIMUM OF 2% AND A MAXIMUM OF 10%.
6. GRADING INDICATED MAY NEED TO BE ADJUSTED BASED ON FIELD CONDITIONS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES WITH FIELD CONDITIONS PRIOR TO FINE GRADING.
7. CONTRACTOR SHOULD TAKE SPECIAL NOTE THAT THERE ARE VARYING SETBACKS. THE LOCATION OF THE BUILDING PAD MUST BE CONSTRUCTED TO CORRESPOND TO THE LOCATIONS INDICATED.
8. ALL DRAIN TILES ENCOUNTERED DURING MASS GRADING/UTILITY WORK MUST BE CONNECTED TO THE PROPOSED STORM SEWER SYSTEM. A RECORD MUST BE KEPT, OF ANY DRAIN TILE ENCOUNTERED, TO BE INCLUDED IN RECORD DRAWINGS.
9. OVERFLOW DRAINAGE ROUTES AND SWALES MUST BE INSTALLED AT THE ELEVATION AND LOCATION SHOWN.
10. DO NOT INTERRUPT DRAINAGE FROM OFF SITE DURING CONSTRUCTION OPERATIONS. PROVIDE TEMPORARY DRAINAGE DITCHES WHERE REQUIRED.
11. CONTRACTOR SHALL MEET EXISTING GROUND ELEVATIONS AT PROPERTY LINE, UNLESS OTHERWISE NOTED AND THE APPROPRIATE EASEMENTS OR PERMISSION HAS BEEN OBTAINED.

SECTION A-A



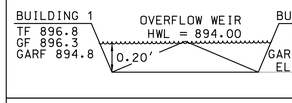
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SECTION B-B



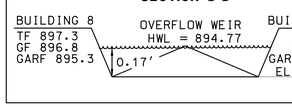
N.T.S.

SECTION C-C



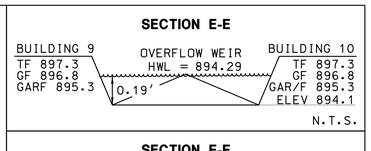
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SECTION D-D



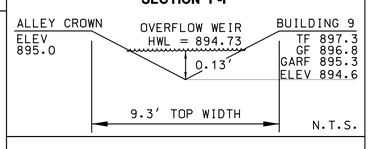
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SECTION E-E



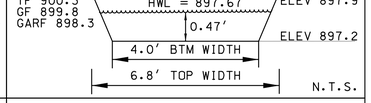
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SECTION F-F



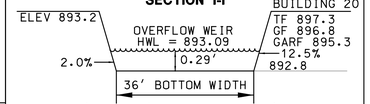
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SECTION G-G

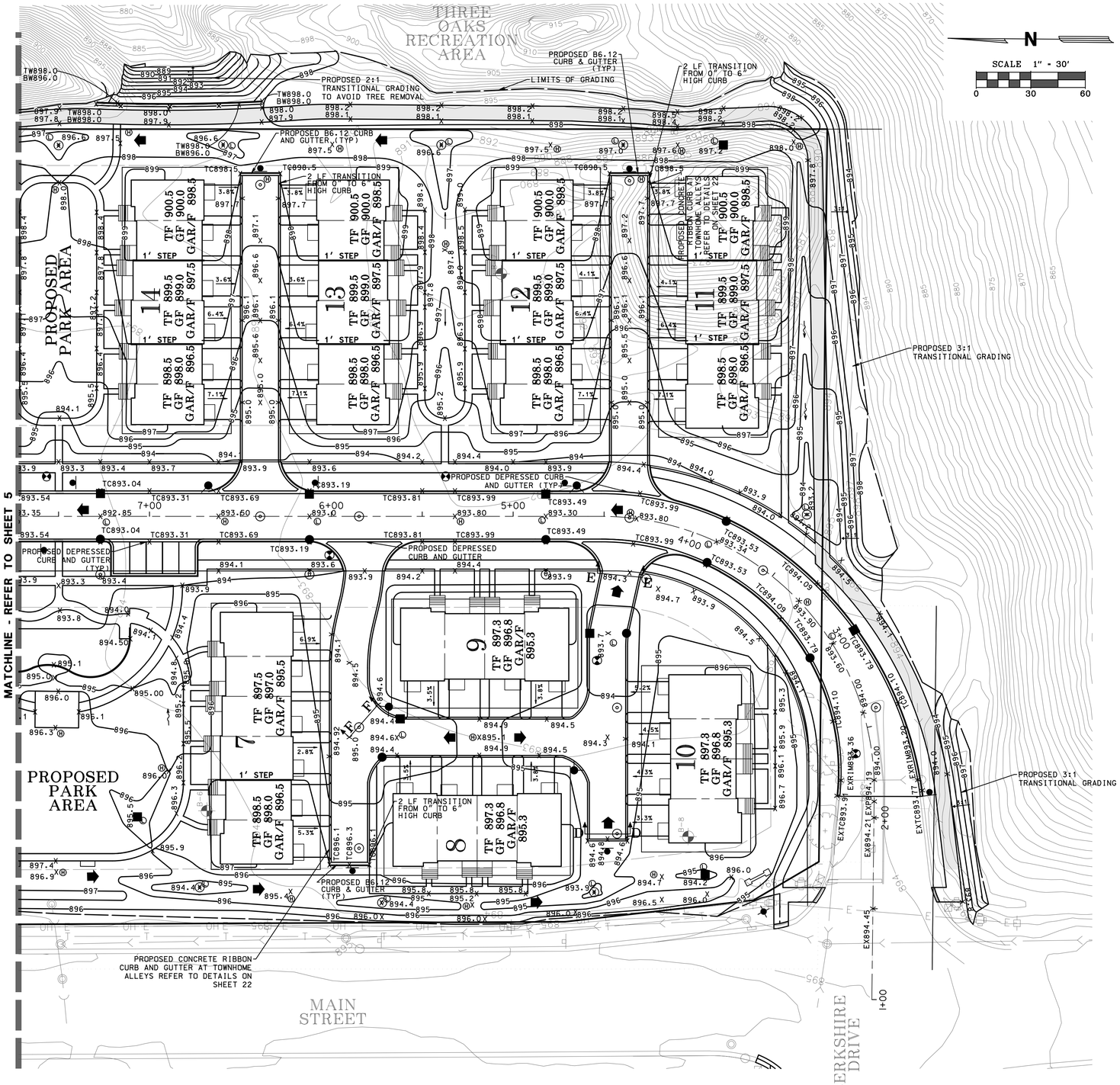


N.T.S.

SECTION I-I



N.T.S.



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(847)696-1400
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CLIENT:
LENNAR
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SCHAUMBURG, IL 60173
PHONE: 224-293-3100
FAX: 224-293-3101

DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	1" = 30'

GRADING PLAN - SOUTH
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 4 OF 23

PROJECT NUMBER: 4782

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ILLINOIS FIRM LICENSE 184-002694

27-09-2024
M:\4782 Engineering Plans\04 Grading Plan - South.dgn

N

SCALE 1" = 30'

0 30 60

EXISTING TREES TO REMAIN

PROPOSED CONCRETE RIBBON CURB AT TOWNHOME ALLEYS REFER TO DETAILS ON SHEET 22

PROPOSED B6.12 CURB AND GUTTER (TYP)

PROPOSED 2:1 TRANSITIONAL GRADING TO AVOID TREE REMOVAL

LIMITS OF GRADING

100-YR 60' EMERGENCY OVERFLOW WEIR

THREE OAKS RECREATION AREA

RECREATION AREA DRIVE

PROPOSED INFILTRATION BASIN

PROPOSED PARK AREA

2 LF TRANSITION FROM 0" TO 6" HIGH CURB (TYP)

1' STEP

PROPOSED DEPRESSED CURB AND GUTTER (TYP)

PROPOSED CONCRETE RIBBON CURB AND GUTTER AT TOWNHOME ALLEYS REFER TO DETAILS ON SHEET 22

MAIN STREET

PROPOSED STORM WATER MANAGEMENT FACILITY

DISTURBED AREA = 13.20 ACRES
TRIBUTARY AREA = 14.73 ACRES
DETENTION REQUIRED = 5.97 AC-FT
COMPENSATORY STORAGE REQUIRED = 2.67 AC-FT
TOTAL DETENTION REQUIRED = 8.64 AC-FT
DETENTION PROVIDED = 8.74 AC-FT
NWL = 882.50
HWL = 892.00
ALLOWABLE RELEASE RATE (2 YEAR) = 0.53 CFS
ALLOWABLE RELEASE RATE (100 YEAR) = 1.98 CFS
PEAK INFILTRATION RATE = 2.21 CFS
ACTUAL 100-YR EMERGENCY OVERFLOW = 69.18 CFS

BASIN EMERGENCY OVERFLOW WEIR H-H

ELEV 893.82 — OVERFLOW WEIR HWL = 892.82 — ELEV 893.82
4.0% — 0.52' — ELEV 892.3
60' BOTTOM WIDTH
N.T.S.

REFER TO SHEET 4 FOR OVERLAND FLOOD ROUTE CROSS SECTIONS

MATCHLINE - REFER TO SHEET 4

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APPROVED	MTL
DATE	09/12/2024
SCALE	1" = 30'

GRADING PLAN - NORTH
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

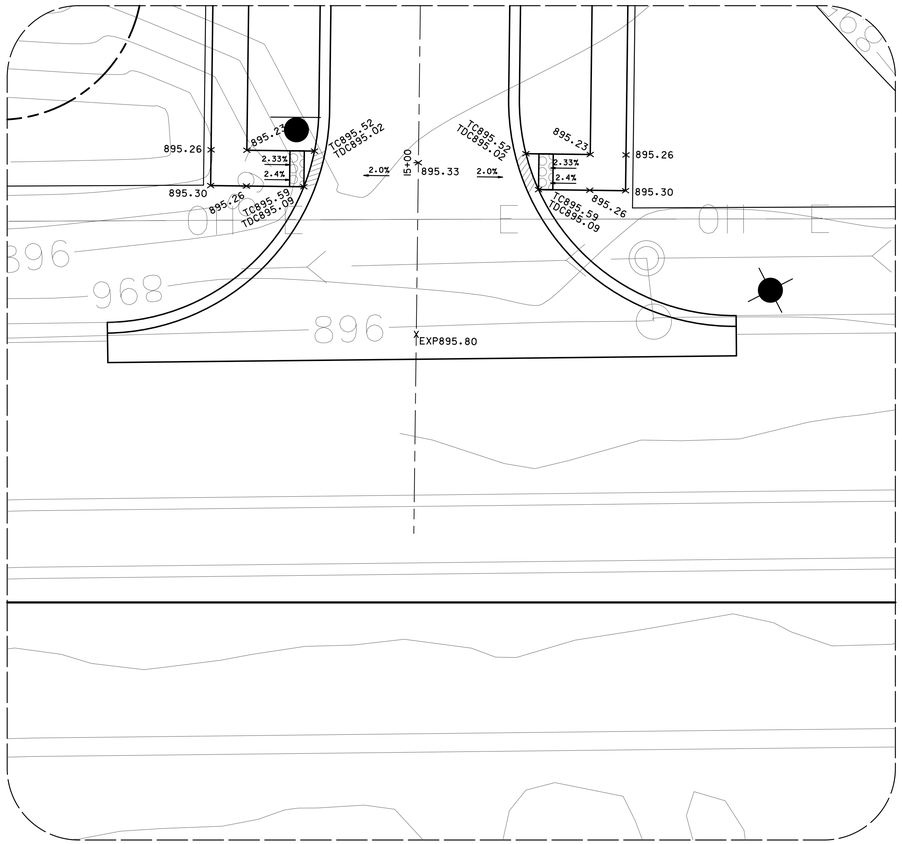
SHEET 5 OF 23

PROJECT NUMBER: 4782

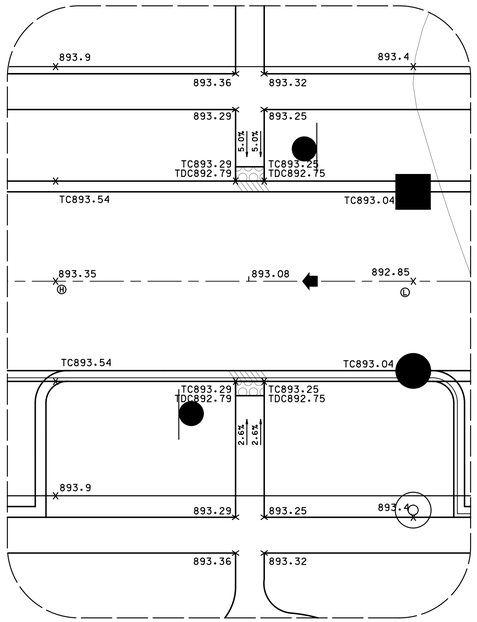
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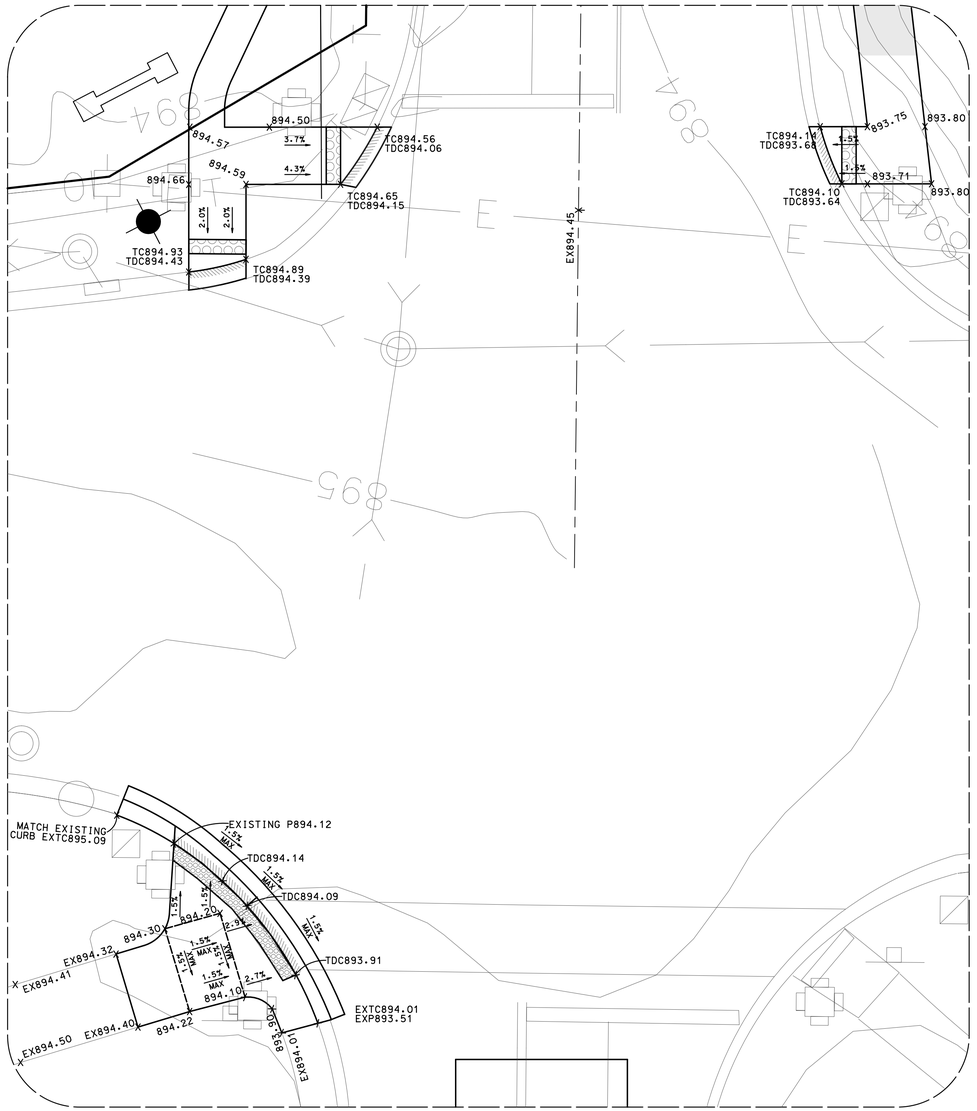
12/18/2024
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ADA SECTION
MAIN STREET AND
ROAD A (NORTH)



ADA SECTION
PARKSITE



ADA SECTION
MAIN STREET AND
ROAD A (SOUTH)

N

SCALE 1" - 10'

0 10 20

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APPROVED	MTL
DATE	09/12/2024
SCALE	1" = 10'

GRADING DETAILS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

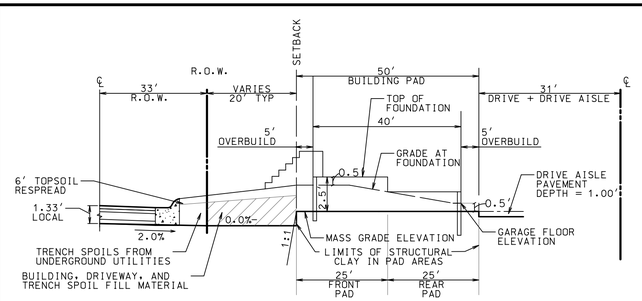
SHEET 6 OF 23

PROJECT NUMBER: 4782

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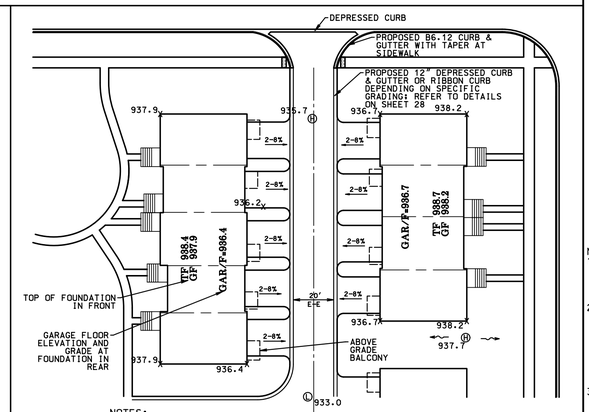
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URBAN TOWNHOMES

N.T.S.

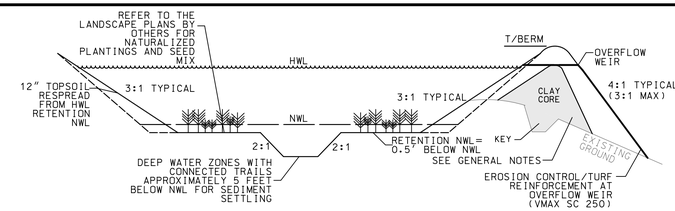


NOTES:

1. ALL HOMES ARE SLAB FOUNDATIONS (NO BASEMENTS).
2. CURB ELEVATIONS ARE TOP OF OF CURB PRIOR TO CURB CUTS.
3. DRIVEWAY CONNECTIONS WHICH FRONT THE PUBLIC STREETS SHALL BE MADE VIA CURB CUT AT TIME OF BUILDING CONSTRUCTION.

"URBAN" REAR-LOADED TOWNHOME TYPICAL GRADING DETAIL

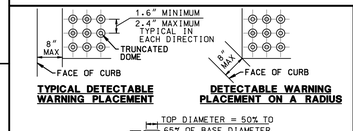
NOT TO SCALE



TYPICAL NATURALIZED DETENTION POND CROSS SECTION

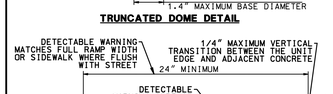
N.T.S.

NOTE:
BASIN CONTAINS DRY WELLS AS A SUPPLEMENT TO TRADITIONAL OUTLET IN ORDER TO ENCOURAGE INFILTRATION. REFER TO UTILITY PLANS AND CITY DETAIL

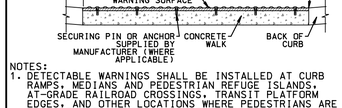


TYPICAL DETECTABLE WARNING PLACEMENT

DETECTABLE WARNING PLACEMENT ON A RADIUS



TRUNCATED DOME DETAIL

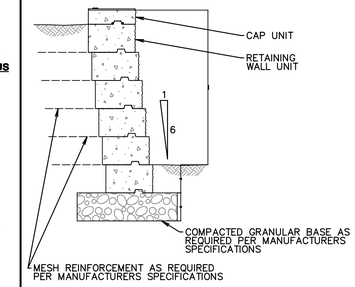


NOTES:

1. DETECTABLE WARNINGS SHALL BE INSTALLED AT CURB RAMPS, MEDIANS AND PEDESTRIAN REFUGE ISLANDS, AT-GRADE RAILROAD CROSSINGS, TRANSIT PLATFORM EDGES, AND OTHER LOCATIONS WHERE PEDESTRIANS ARE REQUIRED TO CROSS A HAZARDOUS VEHICULAR WAY.
2. THE ROWS OF DOMES IN THE DETECTABLE WARNING MATERIAL MUST BE ALIGNED WITH THE PATH OF WHEELCHAIR TRAVEL WHICH IS REQUIRED TO BE PERPENDICULAR TO THE GRADE BREAK AT THE BOTTOM OF THE RAMP TO PERMIT TRACKING BETWEEN DOME ROWS. ON BLENDED TRANSITIONS OR FLUSH TRANSITIONS, WHERE RADIAL UNITS ARE SITUATED ABOUT THE CURB RADIUS, DOME ORIENTATION SHOULD BE PERPENDICULAR TO CURB LINE.
3. DETECTABLE WARNINGS SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKWAY SURFACE.

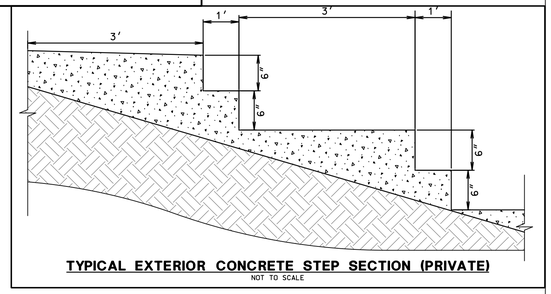
DETECTABLE WARNING DETAIL

NOT TO SCALE



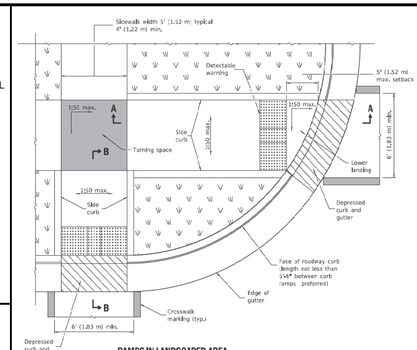
RETAINING WALL TYPICAL CROSS SECTION

NOT TO SCALE

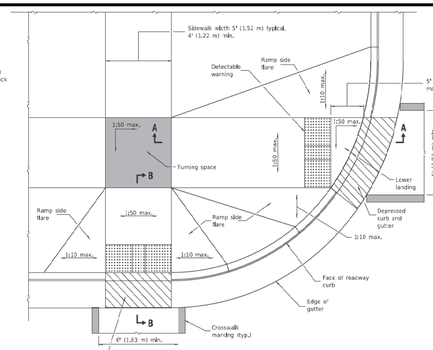


TYPICAL EXTERIOR CONCRETE STEP SECTION (PRIVATE)

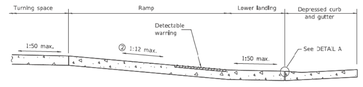
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RAMPS IN LANDSCAPED AREA SETBACK ≤ 5'

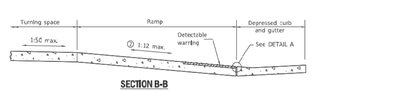


RAMPS IN PAVED AREA SETBACK ≤ 5'



SECTION A-A

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).



SECTION B-B

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

Illinois Department of Transportation
PASSED January 1, 2018
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2018
ENGINEER OF BUREAU OF ENVIRONMENT



DETAIL A

SIDE CURB DETAIL

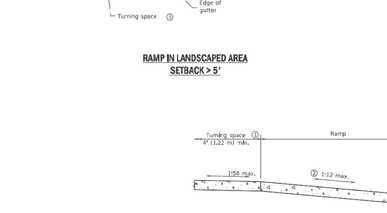
See Sheet 2 for GENERAL NOTES.

DATE	REVISIONS
1-1-18	Omitted diagonal slope at turning spaces and lower landings,
1-1-17	Added 2" dimension to det, warnings for setbacks greater than 5',

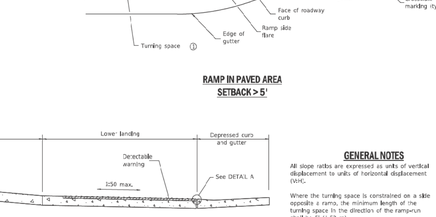
PERPENDICULAR CURB RAMPS FOR SIDEWALKS

(Sheet 1 of 2)

STANDARD 424001-10



RAMP IN LANDSCAPED AREA SETBACK > 5'



RAMP IN PAVED AREA SETBACK > 5'

SECTION C-C

① Turning space not required for ramp slopes flatter than 1:20.

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp-run shall be 5' (1.52 m).

Where 1:50 maximum slope is shown, 1:64 is preferred.

See Standard 606001 for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

PERPENDICULAR CURB RAMPS FOR SIDEWALKS

(Sheet 2 of 2)

STANDARD 424001-10

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12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

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SCALE	N.T.S.

GRADING DETAILS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

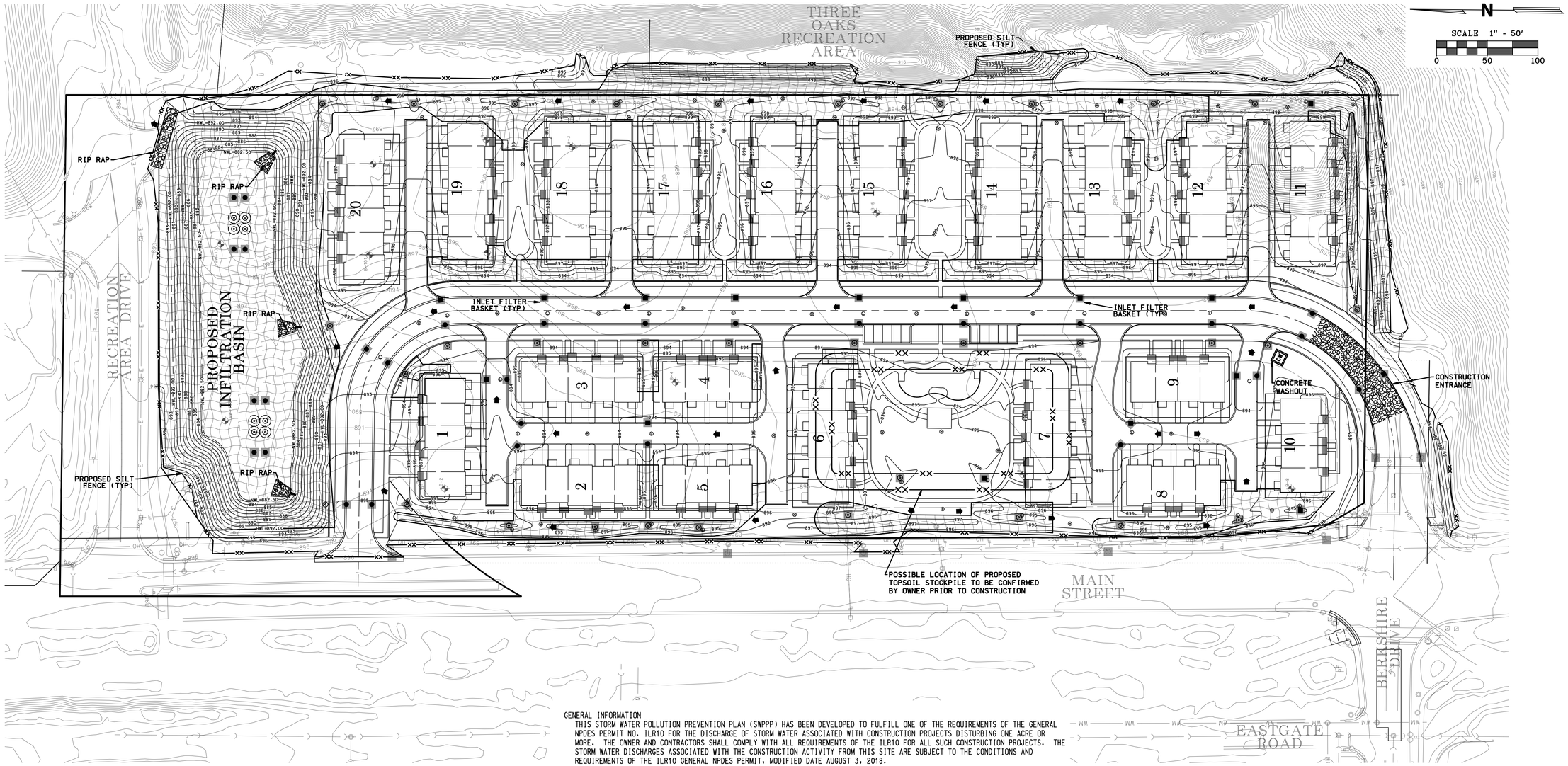
SHEET 7 OF 23

PROJECT NUMBER: 4782

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22-09-2024
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SWPPP LEGEND

INLET PROTECTION – FILTER BASKET	
CONCRETE WASH-OUT	CW
STABILIZED CONST. ENTRANCE	
SILT FENCE	—XX—
RIP-RAP	
EROSION CONTROL BLANKET	
TREE PROTECTION FENCE	—— ——
TOPSOIL STOCKPILE	

THE FOLLOWING ITEMS HAVE NOT BEEN SPECIFICALLY SHOWN BUT ARE REQUIRED AS PART OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND MUST BE INCORPORATED DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED.
- TEMPORARY AND/OR PERMANENT STABILIZATION
- WASTE MANAGEMENT
- CONCRETE WASTE MANAGEMENT (CONCRETE WASH-OUT FACILITY)
- SEDIMENT TRAPS
- DUST CONTROL
- ALLOWABLE DEWATERING OPERATIONS.

DETAILS AND INFORMATION REGARDING THESE MEASURES HAVE BEEN PROVIDED ON SHEET 9.

THE OWNER AND CONTRACTORS SHALL ALSO REVIEW ALL CONSTRUCTION PRACTICES TO MINIMIZE THE POTENTIAL IMPACTS TO STORMWATER DISCHARGES FROM THE SITE. SPECIFIC CONSIDERATIONS ARE PROVIDED ON PAGE 9 FOR THE FOLLOWING ACTIVITIES:
- CONCRETE CUTTING
- VEHICLE STORAGE AND MAINTENANCE
- MATERIAL STORAGE
- SANITARY STATIONS
- SPILL PREVENTION

GENERAL INFORMATION

THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED TO FULFILL ONE OF THE REQUIREMENTS OF THE GENERAL NPDES PERMIT NO. ILR10 FOR THE DISCHARGE OF STORM WATER ASSOCIATED WITH CONSTRUCTION PROJECTS DISTURBING ONE ACRE OR MORE. THE OWNER AND CONTRACTORS SHALL COMPLY WITH ALL REQUIREMENTS OF THE ILR10 FOR ALL SUCH CONSTRUCTION PROJECTS. THE STORM WATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY FROM THIS SITE ARE SUBJECT TO THE CONDITIONS AND REQUIREMENTS OF THE ILR10 GENERAL NPDES PERMIT, MODIFIED DATE AUGUST 3, 2018.

ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH "PROCEDURES AND STANDARDS FOR URBAN SOIL AND EROSION AND SEDIMENTATION CONTROL IN ILLINOIS" AND THE "ILLINOIS URBAN MANUAL."

THE EXECUTED OWNER CERTIFICATION AND THE CONTRACTOR CERTIFICATIONS SHALL BE KEPT ONSITE WITH THE APPROVED SWPPP.

SWPPP AVAILABILITY

THE OWNER SHALL RETAIN A COPY OF THE SWPPP AT THE CONSTRUCTION SITE FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.

KEEPING PLANS CURRENT

THE PERMITTEE SHALL AMEND THE PLAN WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, WHICH HAS A SIGNIFICANT EFFECT ON THE POTENTIAL FOR THE DISCHARGE OF POLLUTANTS TO THE WATERS OF THE STATE AND WHICH HAS NOT OTHERWISE BEEN ADDRESSED IN THE PLAN OR IF THE PLAN PROVES TO BE INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SITE ACTIVITY. IN ADDITION, THE PLAN SHALL BE AMENDED TO IDENTIFY ANY NEW CONTRACTOR AND/OR SUBCONTRACTOR THAT WILL IMPLEMENT A MEASURE OF THE PLAN. AMENDMENTS TO THE PLAN MAY BE REQUIRED BY THE MUNICIPALITY, OWNER, OR OTHER REVIEWING AGENCY. COPIES OF THE AMENDMENTS SHALL BE KEPT ONSITE AS PART OF THE SWPPP.

RETENTION OF RECORDS

THE OWNER SHALL RETAIN COPIES OF THIS PLAN AND ALL REPORTS AND NOTICES REQUIRED BY THIS PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT, FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE PERMIT COVERAGE EXPIRES OR IS TERMINATED. THIS PERIOD MAY BE EXTENDED BY THE REQUEST OF THE AGENCY AT ANY TIME. IN ADDITION, THE OWNER SHALL RETAIN A COPY OF THE PLAN REQUIRED BY THIS PERMIT AT THE CONSTRUCTION SITE FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.

ILR10 NOTICE OF TERMINATION GUIDANCE

WHEN A SITE HAS BEEN FINALLY STABILIZED AND ALL STORM WATER DISCHARGES FROM CONSTRUCTION SITES THAT ARE AUTHORIZED BY THE ILR10 PERMIT ARE ELIMINATED, THE OWNER OF THE FACILITY MUST SUBMIT A COMPLETED NOTICE OF TERMINATION THAT IS SIGNED IN ACCORDANCE WITH PART II.F.1.e (SIGNATORY REQUIREMENTS) OF THE PERMIT.

BEST MANAGEMENT PRACTICES FOR POST CONSTRUCTION STORMWATER MANAGEMENT

THE FOLLOWING POST-CONSTRUCTION PRACTICES HAVE BEEN INCLUDED WITHIN THIS STORMWATER POLLUTION PREVENTION PLAN TO CONTROL POLLUTION UPON COMPLETION OF CONSTRUCTION ACTIVITIES:
- WATER-QUALITY DETENTION BASIN WITH EMERGENT AND NATIVE PLANTINGS;
- POND INLET/OUTLET DESIGN TO PREVENT SHORT-CIRCUITING OF FLOW;
- SEDIMENT POOLS AT DISCHARGE POINTS IN WATER QUALITY PONDS;
- VEGETATED SWALES WITH TURF GRASSES;
- INFILTRATION BASINS;
- INFILTRATION TRENCHING;
- CDS OR EQUAL MANUFACTURED STORMWATER TREATMENT SYSTEM;
- DRY WELL;
- RIP RAP AT STORMWATER DISCHARGE POINTS;
- HOUSE DOWNSPOUTS POSITIONED TO DISCHARGE ON GRADE VEGETATED/PERVIOUS GROUND COVER.

SEDIMENT ACCUMULATED DURING CONSTRUCTION MUST BE CLEARED OUT BEFORE FINAL STABILIZATION TO ENSURE THAT THE PROPOSED STORMWATER FEATURES AND SOIL EROSION AND SEDIMENT CONTROL FEATURES REMAIN FUNCTIONAL

IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION DUMPSTERS AND DEBRIS ARE MONITORED AND PLACED AS TO NOT BLOCK ACCESS FOR FIREFIGHTING OR EMERGENCY MEDICAL SERVICES

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DESIGNED	MS
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APPROVED	MTL
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SCALE	1" = 50'

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 8 OF 23

PROJECT NUMBER: 4782

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12/18/2024 - 10:53 PM
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GENERAL INFORMATION

SITE DESCRIPTION

A. THIS PLAN COVERS THE DEVELOPMENT OF THE THREE OAKS RESIDENTIAL COMMUNITY.

B. THE FOLLOWING IS A DESCRIPTION OF THE INTENDED SEQUENCE OF CONSTRUCTION ACTIVITIES:
1. INSTALL PERIMETER SOIL EROSION AND SEDIMENT CONTROL MEASURES
   - SELECTIVE VEGETATION REMOVAL FOR SILT FENCE INSTALLATION
   - PERIMETER SILT FENCE
   - CONSTRUCTION FENCING AROUND AREAS NOT TO BE DISTURBED
   - STABILIZED CONSTRUCTION ENTRANCE
   - INLET FILTER BASKETS AND INLET SILT FENCE BOXES ON ADJACENT SITE AREAS
2. TREE REMOVAL WHERE NECESSARY (CLEAR & GRUB).
3. CONSTRUCT SEDIMENT TRAPPING DEVICES (SEDIMENT TRAPS, BASINS).
5. STRIP TOPSOIL, STOCKPILE TOPSOIL AND GRADE SITE.
6. TEMPORARY STABILIZE TOPSOIL STOCKPILES (INCLUDING SEED AND SILT FENCE AROUND THE PERIMETER).
7. INSTALL STORM SEWER, SANITARY SEWER, AND WATER MAIN.
8. INSTALL INLET PROTECTION WITHIN ALL STORM STRUCTURES WITH OPEN GRATES.
9. PERMANENTLY STABILIZE DETENTION BASIN WITH SEED AND EROSION CONTROL BLANKET OR AS SHOWN ON APPROVED LANDSCAPE PLAN.
10. TEMPORARY STABILIZE ALL AREAS INCLUDING AREAS THAT HAVE REACHED TEMPORARY GRADE WITHIN 7 DAYS OF LAST CONSTRUCTION ACTIVITY IN THAT AREA.
11. INSTALL ROADWAYS.
12. PERMANENTLY STABILIZE GRASSY AREAS.
13. REMOVAL ALL TEMPORARY CONTROL MEASURES AFTER SITE IS STABILIZED AND RE-SEED AREAS DISTURBED BY THEIR REMOVAL.

C. THE SITE HAS A TOTAL ACREAGE OF APPROXIMATELY 13.2 ACRES. CONSTRUCTION ACTIVITY WILL DISTURB APPROXIMATELY 13.2 ACRES OF THE SITE.

D. THE RUNOFF COEFFICIENT FOR THE SITE FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES IS COMPOSITE "C"= 0.70. THE EXISTING SOILS FROM THE SITE MAINLY CONSIST OF SAND, GRAVEL, AND CLAY.

E. PLEASE REFER TO PAGE 4 & 5 FOR A MAP INDICATING DRAINAGE PATTERNS AND APPROXIMATE SLOPES ANTICIPATED BEFORE AND AFTER MAJOR GRADING ACTIVITIES. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AND CONTROLS TO PREVENT OFFSITE SEDIMENT TRACKING, AREAS OF SOIL DISTURBANCE, THE LOCATION OF MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS IDENTIFIED IN THE PLAN, THE LOCATIONS OF AREAS WHERE STABILIZATION PRACTICES ARE EXPECTED TO OCCUR, SURFACE WATERS (INCLUDING WETLANDS), AND LOCATIONS WHERE STORM WATER IS DISCHARGED TO A SURFACE WATER.

F. THE RECEIVING WATER OF THE PROPOSED DEVELOPMENT IS THE EXISTING DETENTION BASIN NORTHEAST OF THE SITE AND, ULTIMATELY, VULCAN LAKE.

G. POTENTIAL SOURCES OF POLLUTION ASSOCIATED WITH THIS CONSTRUCTION ACTIVITY MAY INCLUDE:
- SEDIMENT FROM DISTURBED SOILS
- FUEL TANKS
- WASTE CONTAINERS
- OIL OR OTHER PETROLEUM PRODUCTS
- TAR
- DETERGENTS
- PAINTS
- CONSTRUCTION DEBRIS
- CONCRETE AND CONCRETE TRUCKS
- SANITARY STATIONS
- STAGING AREAS
- RAW MATERIALS (IE BAGGED PORTLAND CEMENT)
- ADHESIVES
- SOLVENTS
- FERTILIZERS
- LITTER
- LANDSCAPE WASTE

ADDITIONAL MEASURES REQUIRED:

1. STABILIZATION: STABILIZATION PRACTICES MUST BE INITIATED WITHIN ONE (1) WORKING DAY OF PERMANENT OR TEMPORARY CESSATION OF EARTH DISTURBING ACTIVITIES AND SHALL BE COMPLETED AS SOON AS POSSIBLE BUT NOT LATER THAN 14 DAYS FROM THE INITIATION OF STABILIZATION WORK IN ANY AREA. EXCEPTIONS TO THESE TIME FRAMES ARE SPECIFIED AS PROVIDED BELOW:
   A. WHERE THE INITIATION OF STABILIZATION MEASURES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
   B. ON AREAS WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED AND WILL RESUME AFTER 14 DAYS, A TEMPORARY STABILIZATION METHOD CAN BE USED.
   C. THE FOLLOWING PRACTICES ARE ACCEPTABLE STABILIZATION MEASURES:
      - PERMANENT SEEDING: IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN.
      - TEMPORARY SEEDING: MAY CONSIST OF SPRING OATS (100 LBS/ACRE) AND/OR WHEAT OR CEREAL RYE (150 LBS/ACRE).
      - MULCHING
      - GEOTEXTILES
      - SODDING
      - VEGETATIVE BUFFER STRIPS
      - PROTECTION OF TREES
      - PRESERVATION OF MATURE VEGETATION
      - STAGED OR STAGGERED DEVELOPMENT

   THE APPROPRIATE STABILIZATION MEASURE SHALL BE DETERMINED BASED ON SITE CONDITIONS AT THE TIME THE CONSTRUCTION ACTIVITY HAS CEASED, INCLUDING BUT NOT LIMITED TO WEATHER CONDITIONS AND LENGTH OF TIME MEASURE MUST BE EFFECTIVE.

2. WASTE MANAGEMENT

   NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT. ALL WASTE MATERIALS SHOULD BE COLLECTED AND STORED IN APPROVED RECEPTACLES. NO WASTES SHOULD BE PLACED IN ANY LOCATION OTHER THAN IN THE APPROVED CONTAINERS APPROPRIATE FOR THE MATERIALS BEING DISCARDED. THERE SHOULD BE NO LIQUID WASTES DEPOSITED INTO DUMPSTERS OR OTHER CONTAINERS WHICH MAY LEAK. RECEPTACLES WITH DEFICIENCIES SHOULD BE REPLACED AS SOON AS POSSIBLE AND THE APPROPRIATE CLEAN-UP PROCEDURE SHOULD TAKE PLACE, IF NECESSARY. CONSTRUCTION WASTE MATERIAL IS NOT TO BE BURIED ONSITE. WASTE DISPOSAL SHOULD COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS

   ONSITE HAZARDOUS MATERIAL STORAGE SHOULD BE MINIMIZED AND STORED IN LABELED, SEPARATE RECEPTACLES FROM NON-HAZARDOUS WASTE. ALL HAZARDOUS WASTE SHOULD BE STORED AND DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL, STATE, AND FEDERAL REGULATION OR BY THE MANUFACTURER.

3. CONCRETE WASTE MANAGEMENT

   CONCRETE WASTE OR WASHOUT SHOULD NOT BE ALLOWED IN THE STREET OR ALLOWED TO REACH A STORM WATER DRAINAGE SYSTEM OR WATERCOURSE. A SIGN SHOULD BE POSTED AT EACH LOCATION TO IDENTIFY THE WASHOUT. TO THE EXTENT PRACTICABLE, CONCRETE WASHOUT AREAS SHOULD BE LOCATED A REASONABLE DISTANCE FROM A STORM WATER DRAINAGE INLET OR WATERCOURSE. CONCRETE WASHOUT AREAS SHOULD BE LOCATED AT LEAST 10 FEET BEHIND THE CURB. IF THE WASHOUT AREA IS ADJACENT TO A PAVED ROAD. A STABILIZED ENTRANCE THAT MEETS ILLINOIS URBAN MANUAL STANDARDS SHOULD BE INSTALLED AT EACH WASHOUT AREA.

   THE CONTAINMENT FACILITIES SHOULD BE OF SUFFICIENT VOLUME TO COMPLETELY CONTAIN ALL LIQUID AND CONCRETE WASTE MATERIALS INCLUDING ENOUGH CAPACITY FOR ANTICIPATED LEVELS OF RAINWATER. THE DRIED CONCRETE WASTE MATERIAL SHOULD BE PICKED UP AND DISPOSED OF PROPERLY WHEN 75% CAPACITY IS REACHED. HARDENED CONCRETE CAN BE PROPERLY RECYCLED AS APPROVED BY THE MUNICIPALITY AND USED AGAIN ONSITE OR HAULED OFFSITE TO AN APPROPRIATE LANDFILL.

4. DEWATERING OPERATIONS

   DURING DEWATERING/PUMPING OPERATIONS, ONLY UNCONTAMINATED WATER SHOULD BE ALLOWED TO DISCHARGE TO PROTECTED NATURAL AREAS, WATERS OF THE STATE, OR TO A STORM SEWER SYSTEM (IN ACCORDANCE WITH LOCAL PERMITS). DISCHARGES SHALL BE TREATED TO MINIMIZE DISCHARGE OF POLLUTANTS. INLET HOSES SHOULD BE PLACED IN A STABILIZED SUMP PIT OR FLOATED AT THE SURFACE OF THE WATER IN ORDER TO LIMIT THE AMOUNT OF SEDIMENT INTAKE. DISCHARGE OF VISIBLE SOLIDS OR FOAMS IS NOT PERMITTED. PUMPING OPERATIONS SHOULD BE DISCHARGED TO A STABILIZED AREA THAT CONSISTS OF AN ENERGY DISSIPATING DEVICE (I.E. STONE, SEDIMENT FILTER BAG, OR BOTH). WHEN NECESSARY, STABILIZED CONVEYANCE CHANNELS SHOULD BE INSTALLED TO DIRECT WATER TO THE DESIRED LOCATION. ADDITIONAL BMP'S MAY BE REQUIRED AT THE OUTLET AREA AS REQUESTED BY THE MUNICIPALITY, OR OTHER REVIEWING AGENCY.

5. DUST CONTROL

   DUST SHALL BE MINIMIZED ON AREAS OF EXPOSED SOILS THROUGH THE APPROPRIATE APPLICATION OF WATER OR OTHER DUST SUPPRESSION TECHNIQUES AS LISTED BELOW:
   - SPRINKLING/IRRIGATION
   - MULCH
   - TILLAGE
   - WATER TRUCK
   - VEGETATIVE COVER
   - SPRAY-ON SOIL TREATMENTS
   - STONE

6. OFF-SITE VEHICLE TRACKING

   STABILIZED CONSTRUCTION ENTRANCE(S) SHOULD BE INSTALLED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS, TO REDUCE EXCESS SEDIMENT, DIRT OR STONE TRACKED FROM THE SITE. SEDIMENT TRACKED OFFSITE ONTO ADJACENT ROADWAYS SHALL BE CLEANED BY THE END OF THE SAME BUSINESS DAY IN WHICH THE TRACK-OUT OCCURS OR BY THE END OF THE NEXT BUSINESS DAY IF TRACK-OUT OCCURS ON A NON-BUSINESS DAY. ACCUMULATED SEDIMENT AND STONE SHOULD BE REMOVED FROM THE STABILIZED ENTRANCE AS NEEDED. VEHICLES HAULING ERODIBLE MATERIAL TO AND FROM THE CONSTRUCTION SITE SHOULD BE COVERED WITH A TARP. HOSING OR SWEEPING SEDIMENT INTO THE STORMWATER SYSTEM OR WATERS OF THE U.S. IS NOT PERMITTED.

7. CONCRETE CUTTING

   CONCRETE WASTE MANAGEMENT SHOULD BE IMPLEMENTED TO CONTAIN AND DISPOSE OF SAW-CUTTING SLURRIES. CONCRETE CUTTING SHOULD NOT TAKE PLACE DURING OR IMMEDIATELY AFTER A RAINFALL EVENT. WASTE GENERATED FROM CONCRETE CUTTING SHOULD BE CLEANED-UP AND DISPOSED INTO THE CONCRETE WASHOUT FACILITY AS DESCRIBED ABOVE.

8. VEHICLE STORAGE AND MAINTENANCE

   WHEN NOT IN USE, VEHICLES UTILIZED IN THE DEVELOPMENT OPERATIONS OF THE SITE SHOULD BE STORED IN A DESIGNATED UPLAND AREA AWAY FROM ANY NATURAL OR CREATED WATERCOURSE, POND, DRAINAGE-WAY OR STORM DRAIN. WHENEVER POSSIBLE VEHICLE MAINTENANCE, FUELING, AND WASHING SHOULD OCCUR OFFSITE. IF ALLOWED ON-SITE: VEHICLE MAINTENANCE (INCLUDING BOTH ROUTINE MAINTENANCE AS WELL AS ON-SITE REPAIRS) SHOULD BE MADE WITHIN THE DESIGNATED AREA TO PREVENT THE MIGRATION OF MECHANICAL FLUIDS (OIL, ANTIFREEZE, ETC.) INTO WATERCOURSES, WETLANDS OR STORM DRAINS. DRIP PANS OR ABSORBENT PADS SHOULD BE USED FOR ALL VEHICLE AND EQUIPMENT MAINTENANCE ACTIVITIES THAT INVOLVE GREASE, OIL, SOLVENTS, OR OTHER VEHICLE FLUIDS. CONSTRUCTION VEHICLES SHOULD BE INSPECTED FREQUENTLY TO IDENTIFY ANY LEAKS: LEAKS SHOULD BE REPAIRED IMMEDIATELY OR THE VEHICLE SHOULD BE REMOVED FROM SITE. DISPOSE OF ALL USED OIL, ANTIFREEZE, SOLVENTS AND OTHER AUTOMOTIVE-RELATED CHEMICALS ACCORDING TO MANUFACTURER OR MSDS INSTRUCTIONS. CONTRACTORS SHOULD IMMEDIATELY REPORT SPILLS TO THE OWNER FOR PROPER REMEDIATION.

   WASH WATERS, FROM EQUIPMENT OR VEHICLE WASHING, WHEEL WASH WATER AND OTHER WASH WATERS, MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.

9. MATERIAL STORAGE

   MATERIALS AND OR CONTAMINANTS SHOULD BE STORED IN A MANNER THAT MINIMIZES THE POTENTIAL TO DISCHARGE INTO STORM DRAINS OR WATERCOURSES. AN ONSITE AREA SHOULD BE DESIGNATED FOR MATERIAL DELIVERY AND STORAGE. ALL MATERIALS KEPT ONSITE SHOULD BE STORED IN THEIR ORIGINAL CONTAINERS WITH LEGIBLE LABELS, AND IF POSSIBLE UNDER A ROOF OR OTHER ENCLOSURE. LABELS SHOULD BE REPLACED IF DAMAGED OR DIFFICULT TO READ. BERMED-OFF STORAGE AREAS ARE AN ACCEPTABLE CONTROL MEASURE TO PREVENT CONTAMINATION OF STORM WATER. MSDS SHEETS SHOULD BE AVAILABLE FOR REFERENCING CLEAN UP PROCEDURES. ANY RELEASE OF CHEMICALS OR CONTAMINANTS SHOULD BE IMMEDIATELY CLEANED UP AND DISPOSED OF PROPERLY. CONTRACTORS SHOULD IMMEDIATELY REPORT ALL SPILLS TO THE OWNER, WHO SHOULD NOTIFY THE APPROPRIATE AGENCIES, IF NEEDED.

   TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS ONSITE, HAZARDOUS PRODUCTS SHOULD BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RE-SEALABLE. THE ORIGINAL LABELS AND MSDS DATA SHOULD BE RETAINED ONSITE AT ALL TIMES. HAZARDOUS MATERIALS AND ALL OTHER MATERIAL ONSITE SHOULD BE STORED IN COVERED OR DESIGNATED CONTAINMENT AREAS IN ACCORDANCE WITH MANUFACTURER OR MSDS SPECIFICATIONS. WHEN DISPOSING OF HAZARDOUS MATERIALS, FOLLOW MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS.

10. SANITARY STATIONS

    TO THE EXTENT PRACTICABLE, PORT-A-POTTIES SHOULD BE LOCATED AT A MINIMUM 8 FEET BEHIND THE CURB AND GUTTER OF THE INTERNAL ROADS AND BE LOCATED IN AN AREA THAT DOES NOT DRAIN TO ANY PROTECTED NATURAL AREAS, WATERS OF THE STATE, OR STORM WATER STRUCTURES AND SHOULD BE ANCHORED TO THE GROUND TO PREVENT FROM TIPPING OVER. PORT-A-POTTIES LOCATED ON IMPERVIOUS SURFACES SHOULD BE PLACED ON TOP OF A SECONDARY CONTAINMENT DEVICE, OR BE SURROUNDED BY A CONTROL DEVICE (I.E. GRAVEL-BAG BERM).

11. SPILL PREVENTION

    DISCHARGES OF A HAZARDOUS SUBSTANCE OR OIL CAUSED BY A SPILL (E.G., A SPILL OF OIL INTO A SEPARATE STORM SEWER OR WATERS OF THE STATE) ARE NOT AUTHORIZED BY THIS PERMIT. IF A SPILL OCCURS, NOTIFY THE OWNER IMMEDIATELY. THE CONSTRUCTION SITE SHOULD HAVE THE CAPACITY TO CONTROL, CONTAIN, AND REMOVE SPILLS IF THEY OCCUR. SPILLS SHOULD BE CLEANED IMMEDIATELY AFTER DISCOVERY IN ACCORDANCE WITH MSDS AND NOT BURIED ON SITE OR WASHED INTO STORM DRAINS OR WATERS OF THE STATE.

    SPILLS IN EXCESS OF FEDERAL REPORTABLE QUANTITIES (AS ESTABLISHED UNDER 40 CFR PARTS 110 ,117, OR 302), SHOULD BE REPORTED TO THE NATIONAL RESPONSE CENTER BY CALLING (800) 424-8802. MSDS OFTEN INCLUDE INFORMATION ON FEDERAL REPORTABLE QUANTITIES FOR MATERIALS. SPILLS OF TOXIC OR HAZARDOUS MATERIALS SHOULD BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF SIZE. WHEN CLEANING UP A SPILL, THE AREA SHOULD BE KEPT WELL VENTILATED AND APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT SHOULD BE USED TO MINIMIZE INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

    IN ADDITION TO PROPER WASTE MANAGEMENT, CONCRETE WASTE MANAGEMENT, CONCRETE CUTTING, VEHICLE STORAGE AND MAINTENANCE, MATERIAL STORAGE, AND SANITARY STATION PROTECTION, THE FOLLOWING MINIMUM PRACTICES SHOULD BE FOLLOWED TO REDUCE THE RISK OF SPILLS:
    - ON-SITE VEHICLES SHOULD BE MONITORED FOR LEAKS AND SHOULD RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE.
    - PETROLEUM PRODUCTS SHOULD BE STORED IN TIGHTLY SEALED AND CLEARLY LABELED CONTAINERS.
    - ALL PAINT CONTAINERS SHOULD BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT SHOULD BE DISPOSED OF ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS, AND SHOULD NOT BE DISCHARGED TO THE STORM SEWER.
    - CONTRACTORS SHOULD FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL OF MATERIALS.

MAINTENANCE

THE FOLLOWING IS A DESCRIPTION OF PROCEDURES THAT SHOULD BE USED TO MAINTAIN, IN GOOD AND EFFECTIVE OPERATION CONDITIONS, VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES STORMWATER UTILITY STRUCTURES AND OTHER PROTECTIVE MEASURES IDENTIFIED IN THIS PLAN AND STANDARD SPECIFICATIONS.

STABILIZED CONSTRUCTION ENTRANCE: THE ENTRANCES SHOULD BE MAINTAINED TO PREVENT TRACKING OF SEDIMENT ONTO PUBLIC STREETS. MAINTENANCE INCLUDES TOP DRESSING WITH ADDITIONAL STONE AND REMOVING TOP LAYERS OF STONES AND SEDIMENT. THE SEDIMENT RUN-OFF ONTO THE PUBLIC RIGHT OF WAY SHOULD BE REMOVED IMMEDIATELY.

RIPRAP OUTLET PROTECTION: RIPRAP SHOULD BE INSPECTED FOR ANY SCOUR BENEATH THE RIPRAP OR FOR STONES THAT HAVE BEEN DISLODGED. SEDIMENT ACCUMULATION IN THE OUTFALL AREA SHOULD BE REMOVED AS NEEDED.

CONCRETE WASHOUT AREA: EXISTING FACILITIES SHOULD BE CLEANED OUT, OR NEW FACILITIES SHOULD BE CONSTRUCTED AND OPERATIONAL ONCE THE EXISTING WASHOUT IS 75% FULL. WASHOUTS SHOULD BE INSPECTED FREQUENTLY TO ENSURE THAT PLASTIC LININGS ARE INTACT AND SIDEWALLS HAVE NOT BEEN DAMAGED BY CONSTRUCTION ACTIVITIES. WHEN THE WASHOUT AREA IS ADJACENT TO A PAVED ROAD, THE PAVED ROAD SHOULD BE INSPECTED FOR ACCUMULATED CONCRETE WASTE. ANY ACCUMULATED CONCRETE WASTE ON THE ROAD, CURB, OR GUTTER SHOULD BE REMOVED AND PROPERLY DISPOSED.

EROSION CONTROL BLANKET: THE BLANKET AND STAPLES SHOULD BE INSPECTED FREQUENTLY AND SHALL BE INSTALLED TO THE ILLINOIS URBAN MANUAL, UNLESS OTHERWISE INSTRUCTED BY THE MANUFACTURER. EROSION OCCURRING UNDERNEATH THE BLANKET SHOULD BE BACK-FILLED AND SEEDED WITH THE APPROPRIATE SEED MIX. ADDITIONAL BMP'S MAY NEED TO BE INSTALLED TO REDUCE EROSION UNDER THE BLANKET.

SILT FILTER FENCE: SILT FENCES SHOULD BE INSPECTED REGULARLY FOR UNDERCUTTING WHERE THE FENCE MEETS THE GROUND, OVERTOPPING, AND TEARS ALONG THE LENGTH OF THE FENCE. DEFICIENCIES SHOULD BE REPAIRED IMMEDIATELY. REMOVE ACCUMULATED SEDIMENTS FROM THE FENCE BASE WHEN THE SEDIMENT REACHES ONE-HALF THE FENCE HEIGHT. DURING FINAL STABILIZATION, PROPERLY DISPOSE OF ANY SEDIMENT THAT HAS ACCUMULATED ON THE SILT FENCE. INSTANCES WHEN AREAS OF SILT FENCE CONTINUALLY FAIL, REPLACE SILT FENCE WITH ANOTHER BMP AS SEEN FIT.

INLET PROTECTION: INLET FILTERS SHOULD BE INSPECTED FOR PROPER FILTERING. STORMWATER INLET STRUCTURE PROTECTION MEASURES SHALL BE CLEANED OR REMOVED AND REPLACED AS SEDIMENT ACCUMULATES, FILTERS BECOME CLOGGED, FILTER BAGS ARE MORE THAN 50% FILLED, OR PERFORMANCE IS COMPROMISED. SEDIMENT ACCUMULATIONS ADJACENT TO INLET PROTECTION MEASURES SHALL BE CLEANED BY THE END OF THE SAME BUSINESS DAY ON WHICH IT IS FOUND OR BY THE END OF THE FOLLOWING BUSINESS DAY IF REMOVAL IN THE SAME BUSINESS DAY IS NOT FEASIBLE. DO NOT PUNCTURE HOLES IN FILTERS IF PONDING OCCURS.

SEDIMENT BASIN: SEDIMENT BASINS SHALL BE CLEANED WHEN ACCUMULATED SEDIMENT HAS REACHED 50% CAPACITY. POST CONSTRUCTION CLEANING OF ACCUMULATED SEDIMENT SHALL BE CONDUCTED IF THE BASIN IS TO REMAIN AFTER CONSTRUCTION IS COMPLETE.

INSPECTIONS

THE OWNER SHALL DESIGNATE A QUALIFIED PERSONNEL TO BE RESPONSIBLE FOR SEDIMENT AND EROSION CONTROL OBSERVATION REPORTING. THIS QUALIFIED PERSONNEL SHALL MEET THE REQUIREMENTS NOTED IN THE ILR10 PERMIT CONDITIONS AND LOCAL CODES. SITE OBSERVATIONS SHOULD OCCUR AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM OR BY THE END OF THE FOLLOWING BUSINESS OR WORK DAY THAT IS 0.5 INCHES OR GREATER, OR EQUIVALENT SNOWFALL. OBSERVATIONS MAY BE REDUCED TO ONCE A MONTH WHEN CONSTRUCTION ACTIVITIES HAVE CEASED DUE TO FROZEN CONDITIONS. WEEKLY OBSERVATIONS SHOULD RECOMMENCE WHEN CONSTRUCTION ACTIVITIES ARE CONDUCTED, OR IF THERE IS 0.5" OR GREATER RAIN EVENT, OR A DISCHARGE DUE TO SNOWMELT OCCURS. AREAS INACCESSIBLE DURING INSPECTIONS DUE TO FLOODING OR OTHER UNSAFE CONDITIONS SHALL BE INSPECTED WITHIN 72 HOURS OF BECOMING ACCESSIBLE.

SITE OBSERVATION REPORTS SHOULD BE MAINTAINED ONSITE AS PART OF THE SWPPP. EACH SITE OBSERVATION SHALL INCLUDE THE FOLLOWING COMPONENTS:

A. DISTURBED AREAS AND AREAS USED FOR THE STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE CHECKED FOR EVIDENCE OF, OR POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. THE EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY HAVE BEEN INSTALLED AND ARE OPERATING CORRECTLY. WHERE DISCHARGE POINTS ARE ACCESSIBLE, THEY SHOULD BE CHECKED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO THE RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHOULD BE CHECKED FOR OFF-SITE SEDIMENT TRACKING. ALL PUMPING OPERATIONS AND ALL OTHER POTENTIAL NON-STORM WATER DISCHARGES SHOULD BE OBSERVED.

B. BASED ON THE RESULTS OF THE SITE OBSERVATION, THE DESCRIPTION OF POTENTIAL POLLUTANT SOURCES IDENTIFIED, AND THE POLLUTION PREVENTION MEASURES DESCRIBED IN THIS PLAN SHALL BE REVISED AS APPROPRIATE, AS SOON AS PRACTICABLE AFTER THE OBSERVATION. THE MODIFICATIONS, IF ANY, SHALL PROVIDE FOR TIMELY IMPLEMENTATION OF ANY CHANGES TO THE PLAN WITHIN 7 CALENDAR DAYS FOLLOWING THE SITE OBSERVATION.

C. A REPORT SUMMARIZING THE SCOPE OF THE OBSERVATION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE OBSERVATION, THE DATE(S) OF THE OBSERVATION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PARAGRAPH B ABOVE SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE OF FINAL STABILIZATION OR PERMIT COVERAGE IS TERMINATED. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART VI.G (SIGNATORY REQUIREMENTS) OF THE ILR10 NPDES PERMIT.

D. THE OWNER SHALL NOTIFY THE APPROPRIATE AGENCY FIELD OPERATIONS SECTION OFFICE BY EMAIL AT EPA.SWNONCOMP@ILLINOIS.GOV, TELEPHONE, OR FAX WITHIN 24 HOURS OF ANY INCIDENCE OF NONCOMPLIANCE FOR ANY VIOLATION OF THE STORM WATER POLLUTION PREVENTION PLAN OBSERVED DURING A SITE OBSERVATION, OR FOR VIOLATIONS OF ANY CONDITION OF THE PERMIT. THE OWNER SHALL COMPLETE AND SUBMIT WITHIN 5 DAYS AN INCIDENCE OF NONCOMPLIANCE(ION) REPORT FOR ANY VIOLATION OF THE STORM WATER POLLUTION PREVENTION PLAN OBSERVED DURING AN INSPECTION CONDUCTED. SUBMISSION SHALL BE ON FORMS PROVIDED BY THE AGENCY AND INCLUDE SPECIFIC INFORMATION ON THE CAUSE OF NONCOMPLIANCE, ACTIONS WHICH WERE TAKEN TO PREVENT ANY FURTHER CAUSES OF NONCOMPLIANCE, AND A STATEMENT DETAILING ANY ENVIRONMENTAL IMPACT, WHICH MAY HAVE RESULTED FROM THE NONCOMPLIANCE.

E. ALL REPORTS OF NONCOMPLIANCE SHALL BE SIGNED BY A RESPONSIBLE AUTHORITY AS DEFINED IN PART VI.G OF THE ILR10 NPDES PERMIT (SIGNATORY REQUIREMENTS).

F. ALL REPORTS OF NONCOMPLIANCE SHALL BE MAILED TO THE AGENCY AT THE FOLLOWING ADDRESS:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
COMPLIANCE ASSURANCE SECTION
1021 NORTH GRAND AVENUE EAST
POST OFFICE BOX 19276
SPRINGFIELD, ILLINOIS 62794-9276

NON-STORM WATER DISCHARGES

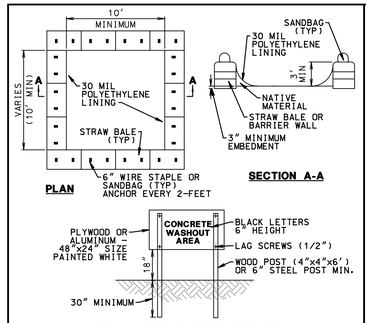
NON-STORM WATER FLOWS THAT MAY BE COMBINED WITH STORM WATER DISCHARGES ARE INCLUDED WITHIN THIS PLAN. THESE DISCHARGES INCLUDE: DISCHARGES FROM FIRE FIGHTING ACTIVITIES; FIRE HYDRANT FLUSHINGS; WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED; WATERS USED TO CONTROL DUST; POTABLE WATER SOURCES INCLUDING UNCONTAMINATED WATERLINE FLUSHINGS; LANDSCAPE IRRIGATION DRAINAGES; ROUTINE EXTERNAL BUILDING WASHDOWN WHICH DOES NOT USE DETERGENTS; PAVEMENT WASH WATERS WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILLED MATERIAL HAS BEEN REMOVED) AND WHERE DETERGENTS ARE NOT USED; UNCONTAMINATED AIR CONDITIONING CONDENSATE; UNCONTAMINATED SPRING WATER; UNCONTAMINATED GROUND WATER; AND FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS SUCH AS SOLVENTS.

THE FOLLOWING NON-STORM WATER DISCHARGES ARE PROHIBITED: CONCRETE AND WASTEWATER FROM WASHOUT OF CONCRETE (UNLESS MANAGED BY AN APPROPRIATE CONTROL), WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS, FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE, SOAPS, SOLVENTS, OR DETERGENTS, TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE, OR ANY OTHER POLLUTANT THAT COULD CAUSE OR TEND TO CAUSE WATER POLLUTION.

DISCHARGES FROM DEWATERING ACTIVITIES, INCLUDING DISCHARGES FROM DEWATERING TRENCHES AND EXCAVATIONS ARE ALLOWABLE IF MANAGED BY APPROPRIATE CONTROLS.

NATURAL BUFFERS

PROJECTS WITHIN 50 FEET OF WATERS OF THE UNITED STATES MUST PROVIDE AN UNDISTURBED NATURAL 50 FOOT BUFFER OR OTHER EROSION AND SEDIMENT CONTROL MEASURES AS IDENTIFIED OR OTHERWISE COORDINATED WITH APPLICABLE LOCAL AND STATE PERMITTING AGENCIES.

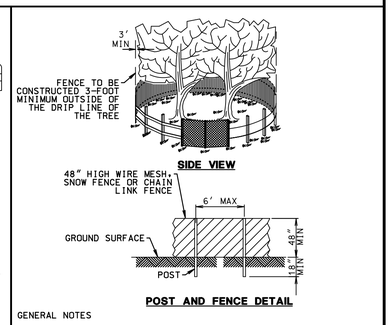


NOTES:

1. LAYOUT AND LOCATION AS SHOWN ON ENGINEERING PLANS OR FIELD LOCATED AS APPROVED BY MUNICIPALITY OR AUTHORIZED AGENT.
2. MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHALL INCLUDE REMOVING AND DISPOSING OF HARDENED CONCRETE AND/OR SLURRY AND RETURNING FACILITY TO A FUNCTIONAL CONDITION.
3. FACILITY SHALL BE CLEANED OR RE-CONSTRUCTED IN A NEW AREA ONCE WASHOUT BECOMES TWO-THIRDS FULL.

CONCRETE WASHOUT FACILITY
NOT TO SCALE

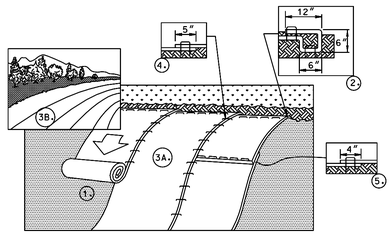
REFER TO SHEET 22 FOR ADDITIONAL SPECIFICATIONS



GENERAL NOTES

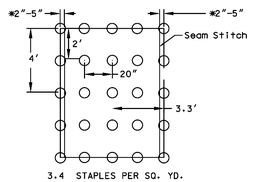
1. TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO IMPLEMENTING CONSTRUCTION ACTIVITIES.
2. NO TREE CUTTING AND/OR PRUNING SHALL BE ALLOWED UNLESS ABSOLUTELY NECESSARY. ANY NECESSARY PRUNING SHALL BE IN ACCORDANCE WITH ANSI A300 STANDARDS.
3. THE FENCE SHALL BE LOCATED A MINIMUM OF 3 FOOT OUTSIDE THE DRIP LINE OF THE TREE TO BE SAVED AND IN NO CASE CLOSER THAN 5 FEET TO THE TRUNK OF ANY TREE.
4. FENCE POSTS SHALL BE EITHER 6-FOOT STEEL POSTS AT 1.33 LB

EROSION CONTROL BLANKET DETAILS



EROSION CONTROL BLANKET SPECIFICATIONS:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S OVER COMPACTED SOIL WITH A ROW OF BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP'S.
3. ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S ARE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM. STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON RECP'S TYPE.
5. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE WITH AN APPROXIMATE 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP'S WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.
6. BURY TOE OF RECP'S IN TRENCH 6" WIDE BY 6" DEEP.

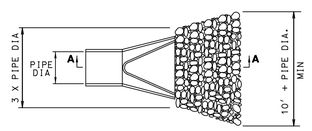


3.4 STAPLES PER SQ. YD.

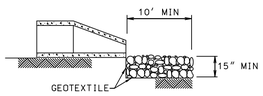
EROSION CONTROL BLANKET STAPLE PATTERN DETAIL

NOT TO SCALE

1. STAPLES SHALL BE PLACED IN A DIAMOND PATTERN AT 2 PER SY FOR STITCHED BLANKETS. NON-STITCHED BLANKETS SHALL USE 4 STAPLES PER SY OF MATERIAL.
2. STAPLE OR PUSH PIN LENGTHS SHALL BE SELECTED BASED ON SOIL TYPE AND CONDITIONS (MINIMUM STAPLE LENGTH IS 6-INCHES.
3. ALL ANCHOR SLOTS SHALL BE STAPLED AT APPROXIMATELY 12-INCH INTERVALS.



PLAN

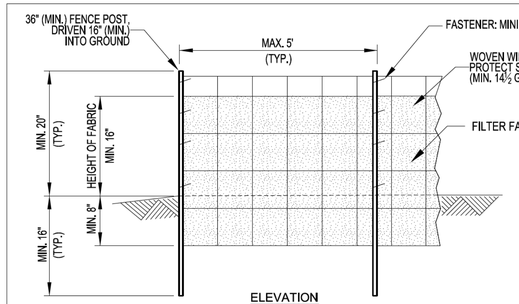


SECTION A-A

NOTES:
REFER TO CITY OF CRYSTAL LAKE DETAILS FOR SPECIFICS

RIP RAP AT STORM OUTLET DETAIL

NOT TO SCALE



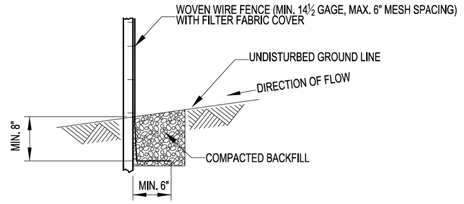
ELEVATION

MATERIAL SPECIFICATIONS:

POSTS:	STEEL (EITHER "T" OR "U" TYPE) OR HARDWOOD WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.
FENCE:	WOVEN WIRE (14 ½ GAGE) WITH 6" MAX. MESH OPENING
FILTER CLOTH:	FILTER X, MIRAFI 100X, STABILINKA T 140N.

NOTES:

1. TEMPORARY SEDIMENT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED, AS NEEDED, THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POST WITH TIES OR STAPLES
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID-SECTION
4. WHEN TWO (2) SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX (6) INCHES AND FOLDED
5. MATERIAL SHALL BE REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE
6. DOUBLE ROWS OF SILT FENCE SPACED FIVE (5) FEET APART SHALL BE PLACED AROUND EXISTING STORMWATER MANAGEMENT FACILITIES OR WETLANDS AS ADDITIONAL PROTECTION WHEN REQUIRED BY CITY ENGINEER

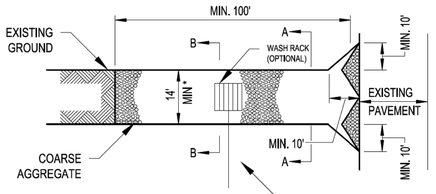


FABRIC ANCHOR DETAIL

EC-01

Revised:	Drawing Name	Drawing Number	City of Crystal Lake Illinois
1. 06/12/2015	SILT FENCE	EC-01	
2.		Date: 12/4/2012	
3.		Drawn DD / Checked AW	
4.			

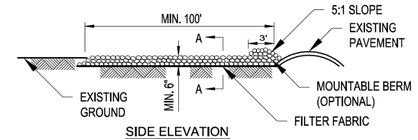
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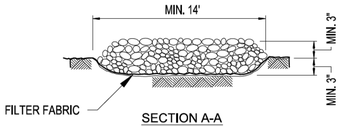
* MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION.

PLAN VIEW

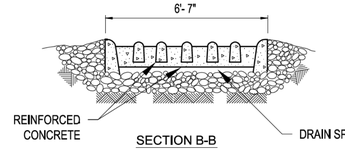
POSITIVE DRAINAGE TO SEDIMENT TRAPPING DEVICE



SIDE ELEVATION



SECTION A-A



SECTION B-B

NOTES:

1. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 282 OF THE IDOT STANDARD SPECIFICATIONS AND SHALL BE PLACED OVER THE CLEARED AREA PRIOR TO THE PLACEMENT OF ROCK.
2. ROCK OR RECLAIMED CONCRETE SHALL MEET ONE OF THE FOLLOWING IDOT COARSE AGGREGATE GRADATIONS, CA-1, CA-2, CA-3 OR CA-4.
3. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHALL BE CONSTRUCTED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
4. IF WASH RACKS ARE USED, THEY SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

EC-02

Revised:	Drawing Name	Drawing Number	City of Crystal Lake Illinois
1. 06/12/2015	CONSTRUCTION ENTRANCE	EC-02	
2.		Date: 07/31/2012	
3.		Drawn DD / Checked AW	
4.			

L:\ENGINEERING AND BUILDING\ENGINEERING DETAILS AND STANDARDS\

ROCK RIPRAP SPECIFICATIONS AND BEDDING

IDOT GRADATION	MAXIMUM ROCK SIZE (lb)*	EQUIVALENT DIAMETER (SPHERICAL)(in)*	MINIMUM BEDDING THICKNESS (in)	MINIMUM THICKNESS (in)
RR-3	50	10	-	8
RR-4	150	15	6	16
RR-5	400	21	8	22
RR-6	600	24	10	26
RR-7	1000	28	12	30

*ASSUMES A MINIMUM SPECIFIC GRAVITY OF 2.450 AND A MINIMUM UNIT WEIGHT OF 153 lb/cf

NOTES:

1. RIPRAP SHALL CONFORM TO SECT. 281 OF THE STANDARD SPECIFICATIONS.
2. INSTALL FILTER FABRIC UNDER ALL RIPRAP AND BEDDING. FILTER FABRIC SHALL CONFORM TO SECT. 282 OF THE STANDARD SPECIFICATIONS.

ROCK RIPRAP SIZE REQUIREMENTS AND THICKNESS

CULVERT DIAMETER (In)	MINIMUM TAILWATER				MAXIMUM TAILWATER			
	MAX CONDUIT VELOCITY = 5 fps		MAX CONDUIT VELOCITY = 10 fps		MAX CONDUIT VELOCITY = 5 fps		MAX CONDUIT VELOCITY = 10 fps	
	IDOT GRADATION	APRON LENGTH (ft)	IDOT GRADATION	APRON LENGTH (ft)	IDOT GRADATION	APRON LENGTH (ft)	IDOT GRADATION	APRON LENGTH (ft)
12	RR-3	10	RR-3	12	RR-3	12	RR-3	15
18	RR-3	14	RR-4	16	RR-3	12	RR-3	16
24	RR-3	16	RR-4	20	RR-3	14	RR-4	17
30	RR-3	18	RR-4	22	RR-3	16	RR-4	20
36	RR-4	20	RR-5	24	RR-3	16	RR-4	22
48	RR-4	24	RR-6	28	RR-4	20	RR-4	24
60	RR-5	32	RR-6	36	RR-4	22	RR-5	26
72	RR-6	40	RR-6	44	RR-5	24	RR-5	29
96	RR-7	50	RR-7	54	RR-5	26	RR-5	32

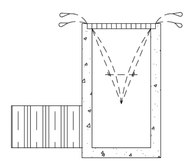
NOTES:

1. IF TAILWATER DEPTH FROM THE PIPE INVERT IS LESS THAN HALF THE DIAMETER OF THE PIPE, THEN MINIMUM TAILWATER CONDITIONS EXIST.
2. ADAPTED FROM THE ILLINOIS URBAN MANUAL

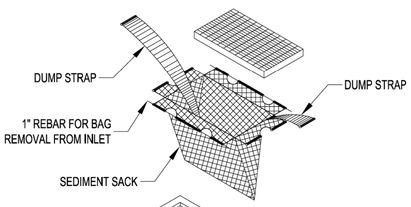
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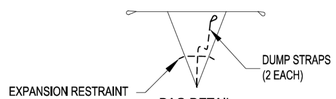
Revised:	Drawing Name	Drawing Number	City of Crystal Lake Illinois
1.	RIPRAP DETAILS	UD-02e	
2.		Date: 08/27/2015	
3.		Drawn DD / Checked AW	
4.			

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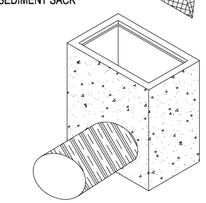


INSTALLATION DETAIL





BAG DETAIL



SEDIMENT CONTROL DEVICE

EC-04

Revised:	Drawing Name	Drawing Number	City of Crystal Lake Illinois
1. 06/12/2015	INLET SEDIMENT CONTROL DEVICE	EC-04	
2.		Date: 11/2/2007	
3.		Drawn EM / Checked AW	
4.			

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DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	N.T.S.

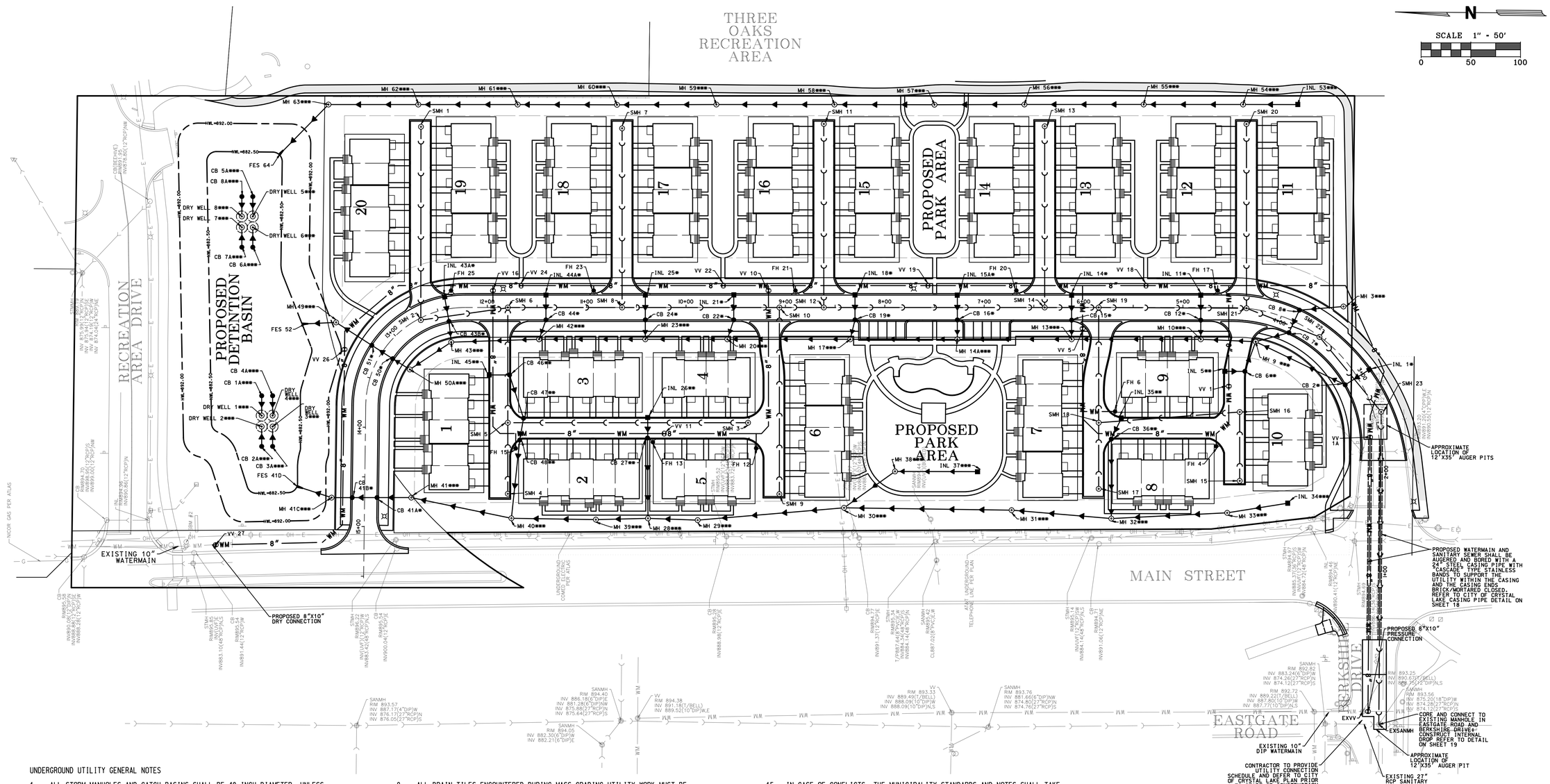
SWPPP DETAILS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 10 OF 23

PROJECT NUMBER: 4782

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12/18/2024 A3456 PM
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UNDERGROUND UTILITY GENERAL NOTES

1. ALL STORM MANHOLES AND CATCH BASINS SHALL BE 48-INCH DIAMETER, UNLESS OTHERWISE INDICATED.
2. ALL SANITARY SEWER, LESS THAN 15 FEET DEEP, SHALL BE PVC, SDR 26, UNLESS OTHERWISE INDICATED OR APPROVED EQUAL LISTED WITHIN THE CONSTRUCTION SPECIFICATIONS AS APPROVED BY THE MUNICIPALITY. PVC SANITARY SEWER SHALL HAVE ELASTOMERIC JOINTS IN CONFORMANCE WITH ASTM D-3212.
3. ALL WATER MAIN SHALL BE DUCTILE IRON PIPE, CLASS 52, AWWA C-600 WITH "PUSH-ON" TYPE JOINTS, UNLESS OTHERWISE INDICATED. ALL WATER MAIN SHALL HAVE A MINIMUM OF 6' OF COVER FROM TOP OF WATERMAIN TO FINISHED GRADE.
4. ALL STORM SEWERS SHALL BE REINFORCED CONCRETE PIPE, MINIMUM CLASS III, WITH ASTM C76 PIPE AND C443 JOINTS, UNLESS OTHERWISE INDICATED. ALL STORM SEWERS WHICH ARE LOCATED IN THE SIDE YARD SHALL HAVE "O" -RING GASKETED JOINTS. ALL OTHER SEWERS SHALL HAVE BITUMINOUS MASTIC JOINTS.
5. GRANULAR TRENCH BACKFILL (CA-6) SHALL BE PROVIDED FOR ALL SANITARY, WATER AND STORM UTILITIES WHEN THE TRENCH LIMITS FALL WITHIN TWO FEET OF PAVEMENT.
6. OVERHEAD SANITARY SEWER IS REQUIRED FOR ALL HOMES.
7. ALL WATERMAIN AND WATER SERVICE LINES SHALL BE PROTECTED FROM OTHER UTILITIES IN ACCORDANCE WITH SECTION 41-2.01 OF THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS.
8. ALL DRAIN TILES ENCOUNTERED DURING MASS GRADING UTILITY WORK MUST BE CONNECTED TO THE PROPOSED STORM SEWER SYSTEM. A RECORD MUST BE KEPT, OF ANY DRAIN TILE ENCOUNTERED, TO BE INCLUDED WITH THE RECORD DRAWINGS.
9. ALL UNDERGROUND UTILITY INFORMATION NOTED ON THE PLANS IS BASED ON INFORMATION OBTAINED FROM THE MUNICIPALITY, UTILITY COMPANIES OR FIELD MEASUREMENTS. THIS INFORMATION, WHILE BELIEVED TO BE COMPLETE AND ACCURATE, CANNOT BE GUARANTEED.
10. CONTRACTOR SHALL VERIFY ALL BUILDING SERVICE LOCATIONS AND SIZES WITH ARCHITECTURAL PLANS PRIOR TO START OF CONSTRUCTION AND NOTIFY THE ENGINEER AND OWNER OF ANY DISCREPANCIES.
11. CONTRACTOR SHALL CONTACT JULIE (1-800-892-0123) PRIOR TO START OF CONSTRUCTION TO LOCATE ALL UTILITIES WITHIN THE RIGHT-OF-WAY.
12. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES AT ALL PROPOSED CONNECTIONS PRIOR TO START OF CONSTRUCTION AND NOTIFY THE ENGINEER AND OWNER OF ANY DISCREPANCIES.
13. FIELD LOCATION OF ALL HOUSE SERVICES TO BE VISIBLY DEMARKED, SUPPLIED BY CONTRACTOR AND SHOWN ON RECORD DRAWINGS. SEE GENERAL SPECIFICATIONS SHEET FOR MARKING WATER AND SANITARY SERVICES ON CURB.
14. A TEN (10) FOOT MINIMUM SEPARATION SHALL BE PROVIDED BETWEEN THE WATERMAIN SERVICE AND THE SANITARY OR STORM SEWER SERVICES.
15. IN CASE OF CONFLICTS, THE MUNICIPALITY STANDARDS AND NOTES SHALL TAKE PRECEDENCE.
16. PLUMBING CONTRACTOR TO MAKE ALL CONNECTIONS WITH BUILDING SERVICES CONSTRUCTED BY UTILITY CONTRACTOR. SITE UTILITY CONTRACTOR TO CONSTRUCT SERVICES TO 5 FEET PAST THE RIGHT OF WAY OR WITHIN 20 FEET OF THE BUILDING.
17. EXISTING PAVEMENT REMOVED FOR PRIVATE UTILITY CONSTRUCTION SHALL BE DONE BY THE RESPECTIVE UTILITY COMPANY AND PAID FOR SEPARATELY BY THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THIS WORK INCIDENTAL TO THE CONTRACT.
18. EXISTING OR PROPOSED MANHOLES, CATCH BASINS, INLETS AND VALVE VAULTS REQUIRING OVER 12-INCHES OF ADJUSTMENT RINGS SHALL USE AN ADDITIONAL BARREL SECTION TO MAINTAIN A MAXIMUM OF 12-INCH TOTAL ADJUSTMENT RING DEPTH.
19. CONTRACTOR SHALL CORE AND BOOT ALL PIPE ENTRANCES TO EXISTING SANITARY MANHOLES.
20. CONTRACTOR SHALL PRESSURE TEST ALL EXISTING WATERMAIN VALVES.
21. ALL VALVE VAULTS SHALL BE 60" DIAMETER STRUCTURES WHEN PLACED ON 8" WATERMAIN.

FRAME AND GRATE SCHEDULE	
*	NEENAH R-3281-A TYPE C
**	NEENAH R-3508-A2 TYPE C
***	NEENAH R-2535 TYPE C

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DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	1" = 50'

OVERALL UTILITY PLAN
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

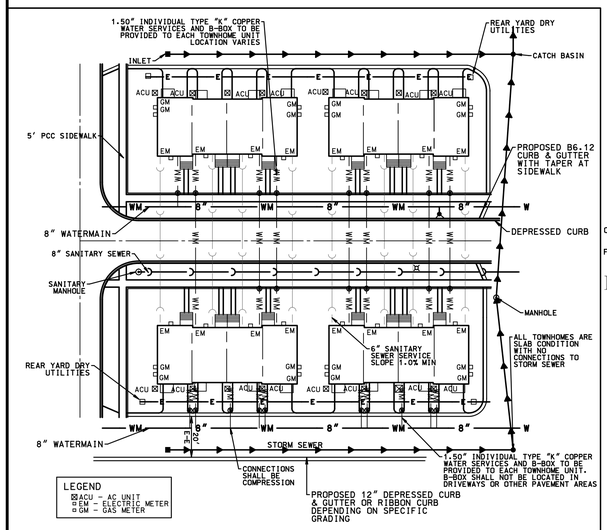
SHEET 11 OF 23

PROJECT NUMBER: 4782

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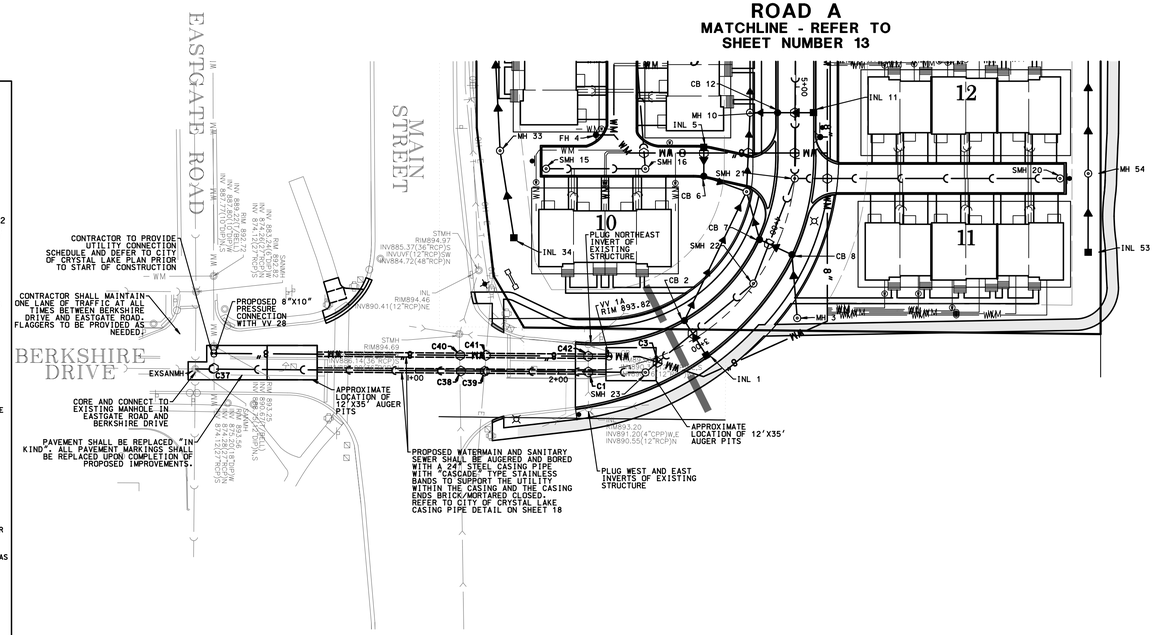
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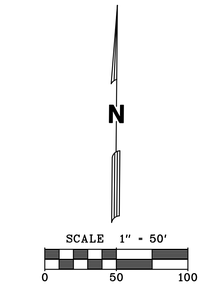
ALL EXISTING AND PROPOSED CATCH BASINS IN THE PAVEMENT ARE TO BE PROVIDED SNOUTS AND BIOSKIRTS PER DETAIL ON SHEET 18



TYPICAL "URBAN" REAR-LOADED TOWNHOME UTILITY LAYOUT AND SERVICE CONNECTIONS

NOT TO SCALE



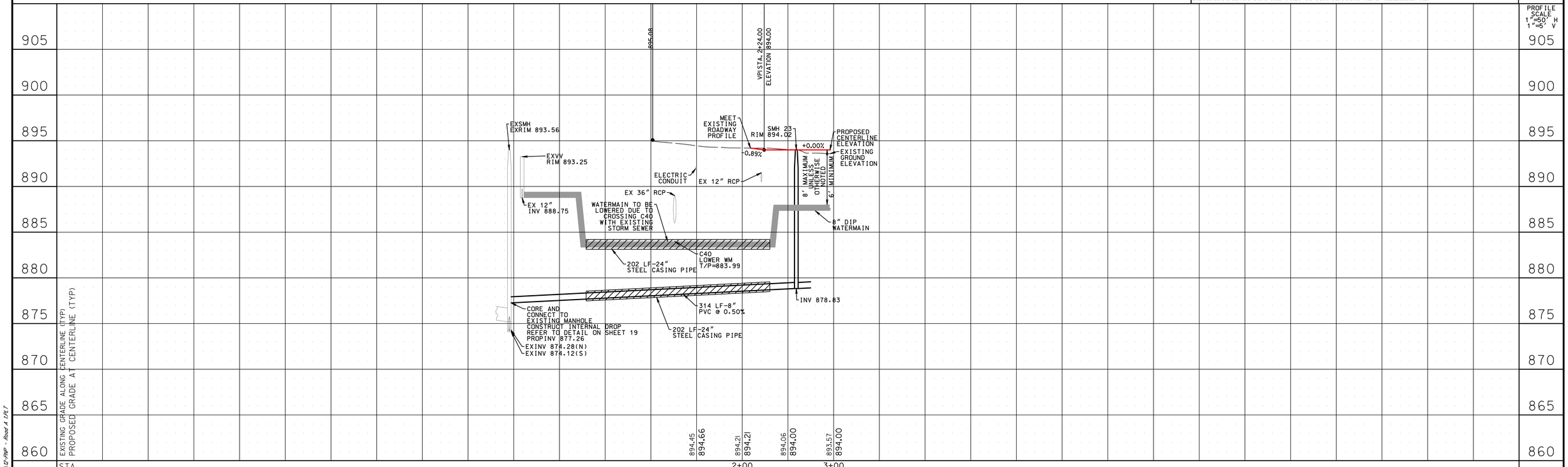


CROSSING	BTM OF PIPE		TOP OF PIPE		SEPARATION
C1	EXSTM	890.13	SAN	879.32	10.81
C3	WTR	888.00	SAN	878.86	9.14
C37	WTR	888.75	SAN	877.92	10.83
C38	STM	885.74	SAN	878.88	6.86
C39	ELEC	891.95	SAN	878.96	12.99
C40	EXSTM	885.99	WTR	883.99	2.00 *
C41	ELEC	891.80	WTR	883.99	7.81
C42	EXSTM	890.13	WTR	888.00	2.13
C43	ELEC	893.00	STM	890.39	2.61

NOTES

*** LOWER WATERMAIN TO ENSURE A MINIMUM 18" SEPARATION**

"WMQ" INDICATES THE STORM OR SANITARY SEWER MUST BE CONSTRUCTED PER SPECIFICATIONS SHEET 18. THIS NOTE APPLIES TO ANY LOCATION WHERE THE STORM OR SANITARY SEWER CROSSES OVER THE WATERMAIN OR WHERE LESS THAN 18" OF VERTICAL SEPARATION OVER A SEWER IS ACHIEVABLE. STORM OR SANITARY SEWER SHALL BE CONSTRUCTED WITH WATER QUALITY PIPE OR VIA CASING PIPE TO PROVIDE ADEQUATE PROTECTION/CLEARANCE. "WMQ" STORM PIPE SHOULD BE TYPE 3, CLASS 4 OR HIGHER RCP AND SANITARY SEWER SHOULD BE ASTM-D2241 FOR PURPOSES OF PROTECTION AND CLEARANCE.



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DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	1" = 50'

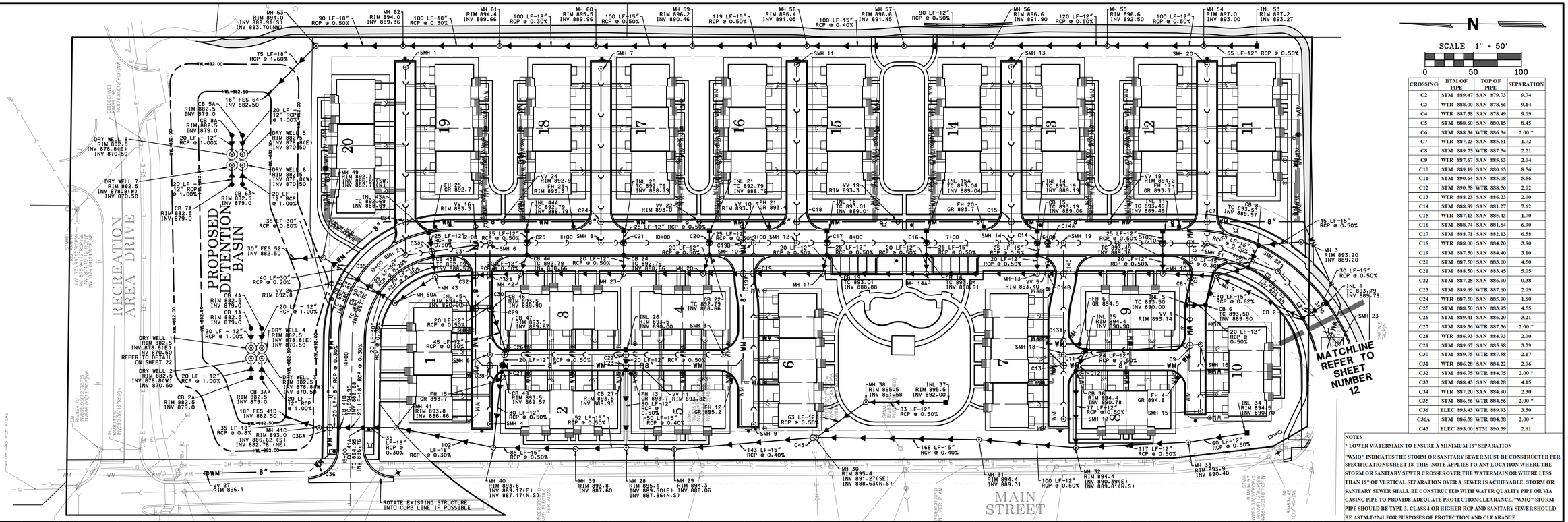
ROAD A - STA. 1+00 - 3+00
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 12 OF 23

PROJECT NUMBER: 4782

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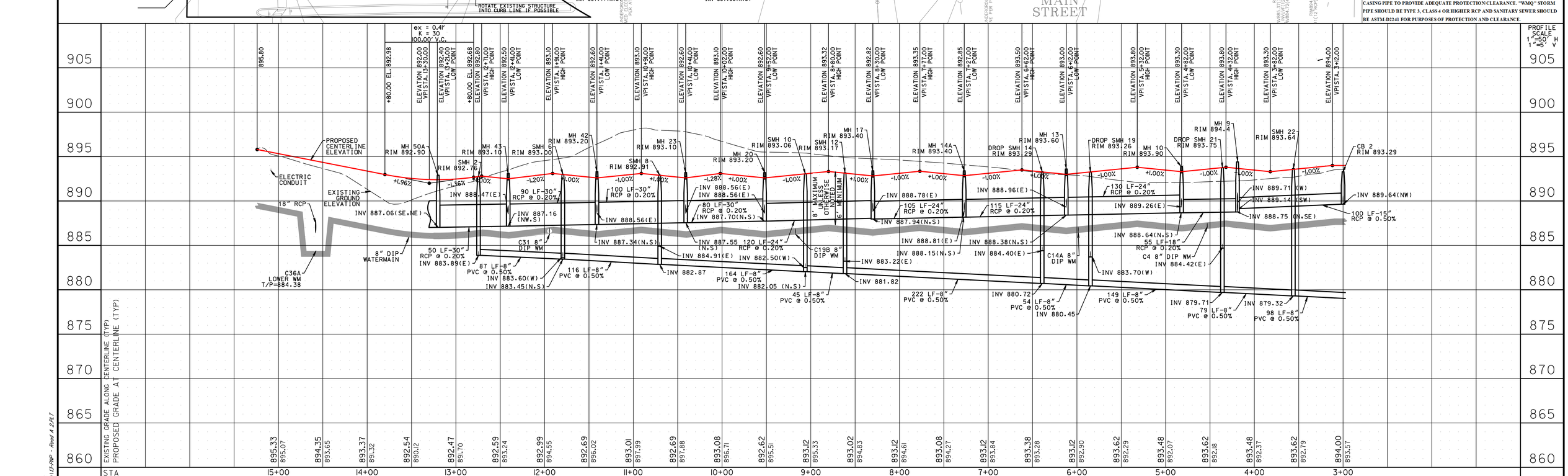


CROSSING	BTM OF PIPE		TOP OF PIPE		SEPARATION
C2	STM	889.47	SAN	879.73	9.74
C3	WTR	888.00	SAN	878.86	9.14
C4	WTR	887.58	SAN	878.49	9.09
C5	STM	888.60	SAN	880.15	8.45
C6	STM	888.34	WTR	886.34	2.00 "
C7	WTR	887.23	SAN	885.51	1.72
C8	STM	889.75	WTR	887.54	2.21
C9	WTR	887.67	SAN	885.63	2.04
C10	STM	889.19	SAN	880.63	8.56
C11	STM	890.64	SAN	885.08	5.56
C12	STM	890.58	WTR	888.56	2.02
C13	WTR	888.23	SAN	886.23	2.00
C14	STM	888.89	SAN	881.27	7.62
C15	WTR	887.13	SAN	885.43	1.70
C16	STM	888.74	SAN	881.84	6.90
C17	STM	888.71	SAN	882.13	6.58
C18	WTR	888.00	SAN	884.20	3.80
C19	STM	887.50	SAN	884.40	3.10
C20	STM	887.50	SAN	883.00	4.50
C21	STM	888.50	SAN	883.45	5.05
C22	STM	887.28	SAN	886.90	0.38
C23	STM	889.69	WTR	887.60	2.09
C24	WTR	887.50	SAN	885.90	1.60
C25	STM	888.50	SAN	883.95	4.55
C26	STM	889.41	SAN	886.20	3.21
C27	STM	889.36	WTR	887.36	2.00 "
C28	WTR	886.93	SAN	884.93	2.00
C29	STM	889.67	SAN	885.88	3.79
C30	STM	889.75	WTR	887.58	2.17
C31	WTR	886.28	SAN	884.22	2.06
C32	STM	886.75	WTR	884.75	2.00 "
C33	STM	888.43	SAN	884.28	4.15
C34	WTR	887.20	SAN	884.90	2.30
C35	STM	886.76	WTR	884.56	2.00 "
C36	ELEC	893.43	WTR	889.93	3.50
C36A	STM	886.38	WTR	884.38	2.00 "
C43	ELEC	893.00	STM	890.39	2.61

NOTES

" LOWER WATERMAIN TO ENSURE A MINIMUM 18" SEPARATION

"WMQ" INDICATES THE STORM OR SANITARY SEWER MUST BE CONSTRUCTED PER SPECIFICATIONS SHEET 18. THIS NOTE APPLIES TO ANY LOCATION WHERE THE STORM OR SANITARY SEWER CROSSES OVER THE WATERMAIN OR WHERE LESS THAN 18" OF VERTICAL SEPARATION OVER A SEWER IS ACHIEVABLE. STORM OR SANITARY SEWER SHALL BE CONSTRUCTED WITH WATER QUALITY PIPE OR VIA CASING PIPE TO PROVIDE ADEQUATE PROTECTION/CLEARANCE. "WMQ" STORM PIPE SHOULD BE TYPE 3, CLASS 4 OR HIGHER RCP AND SANITARY SEWER SHOULD BE ASTM-D2241 FOR PURPOSES OF PROTECTION AND CLEARANCE.



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FAX: 224-293-3101

DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	1" = 50'

ROAD A - STA. 3+00 - 15+51
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 13 OF 23

PROJECT NUMBER: 4782

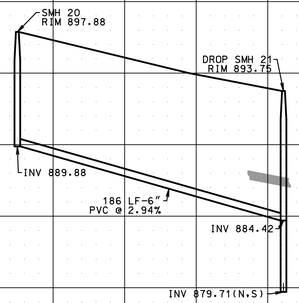
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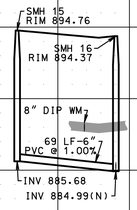
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PROFILE SCALE
1"=50' H
1"=5' V

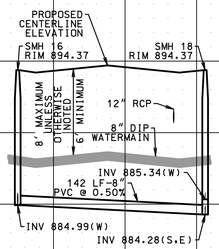
BETWEEN BUILDINGS 11 AND 12



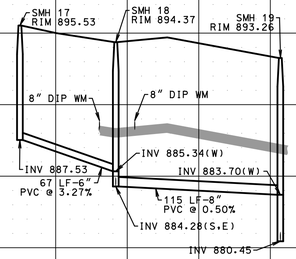
BETWEEN BUILDINGS 8 AND 10



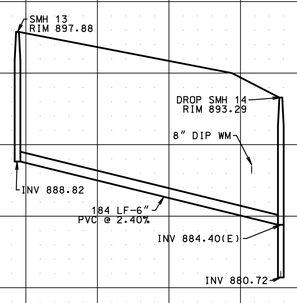
BETWEEN BUILDINGS 8 AND 9



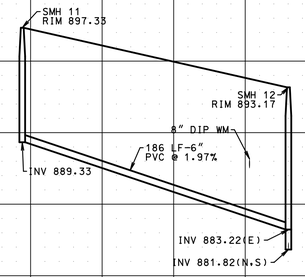
BETWEEN BUILDINGS 7 AND 8



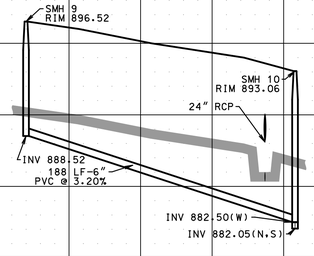
BETWEEN BUILDINGS 13 AND 14



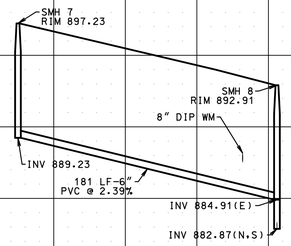
BETWEEN BUILDINGS 15 AND 16



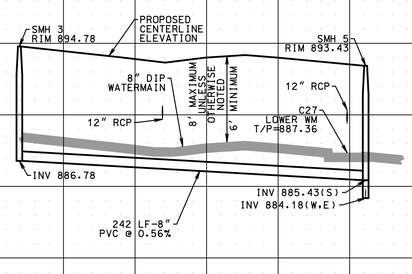
BETWEEN BUILDINGS 5 AND 6



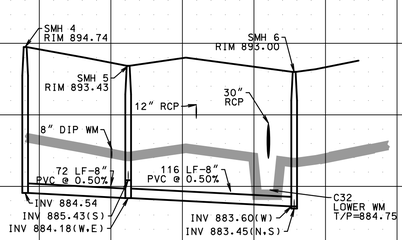
BETWEEN BUILDINGS 17 AND 18



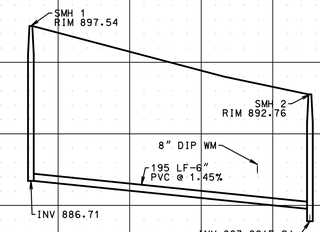
BETWEEN BUILDINGS 4 AND 5



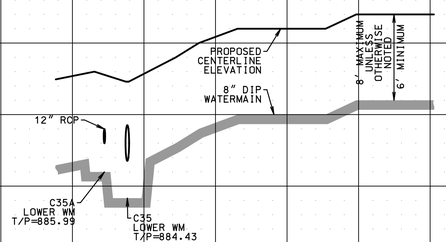
BETWEEN BUILDINGS 1 AND 2



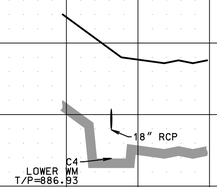
BETWEEN BUILDINGS 19 AND 20



WATERMAIN LOWERING NORTH OF BUILDING 20



WATERMAIN LOWERING SOUTH OF BUILDING 11



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FAX: 224-293-3101

DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	1" = 50'

PROFILES - ALLEYWAYS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

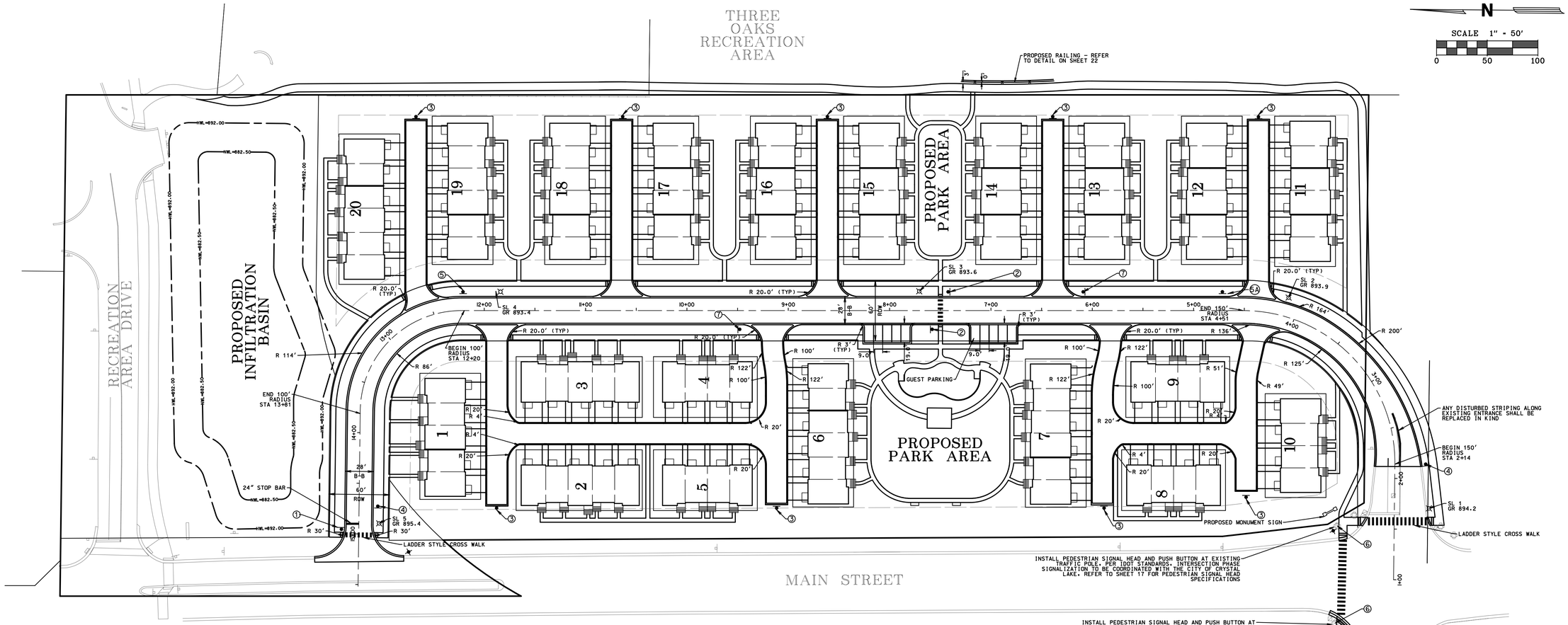
SHEET 14 OF 23

PROJECT NUMBER: 4782

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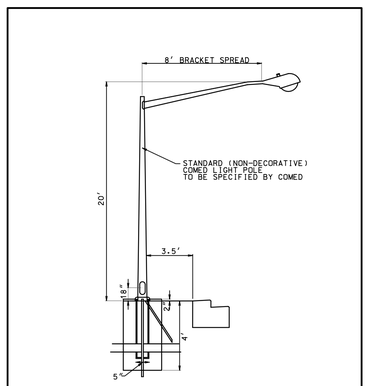
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STREET NAME SIGN (D3-1) (REFER TO DETAIL TR-01 ON SHEET 13)

24" STOP BAR

1. R1-1 STOP SIGN 30"x30" RED
2. W11-2 PEDESTRIAN CROSSING 30"x30" FLUORESCENT YELLOW
   R16-7P ARROW INDICATOR 24"x12" FLUORESCENT YELLOW
3. R8-3A NO PARKING 24"x30" WHITE
4. R8-2 NO PARKING EXCEPT IN DESIGNATED AREAS 24"x30" WHITE
5. R7-10 PARKING PERMITTED 12"x6" WHITE
5A. R7-10 PARKING PERMITTED (MIRRORED) 12"x6" WHITE
6. R10-3i PUSH BUTTON SIGN 12"x6" WHITE
7. W11-2 PEDESTRIAN CROSSING 30"x30" FLUORESCENT YELLOW
   W16-9P AHEAD 24"x12" FLUORESCENT YELLOW



COMED TYPICAL STREET LIGHT - 20' MNTG HT

NOT TO SCALE

CELL: SL-250B REV: 8-15-02 BY: AJS

STREET LIGHTING, SIGNAGE, AND STRIPING GENERAL NOTES

1. TYPICAL STREET LIGHTS SHALL CONFORM TO LATEST COMED RESIDENTIAL STANDARDS:
2. THE MOUNTING HEIGHT SHALL BE 20 FEET.
3. THE DEVELOPER SHALL COORDINATE SITE CONSTRUCTION WITH THE PUBLIC WORKS AND COMED TO ALLOW ELECTRIC FACILITIES TO BE INSTALLED PRIOR TO PAVING AND CURBING.
4. STOP BARS SHALL BE INSTALLED AT ALL STOP LOCATIONS IN ACCORDANCE WITH THE LATEST EDITION OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
5. ALL STOP SIGNS SHALL CONFORM TO THE CITY DETAIL TR-03 AND INSTALLED PER THE MUTCD.
6. CROSSWALKS TO BE 2' WHITE PAINT LADDER STYLE STRIPING (2' APART).

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CLIENT:

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FAX: 224-293-3101

DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	1" = 50'

SIGNAGE AND LIGHTING PLAN WATERSIDE AT THREE OAKS CRYSTAL LAKE, ILLINOIS

SHEET 15 OF 23

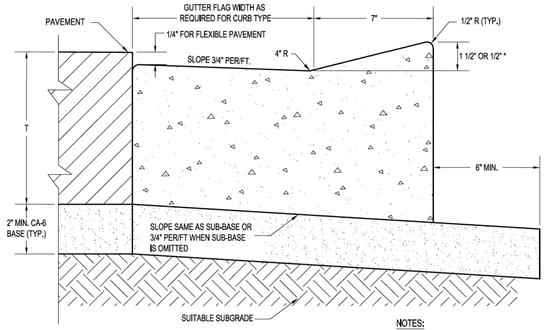
PROJECT NUMBER: 4782

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ILLINOIS FIRM LICENSE 184-002694

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RD-04b



* ADJACENT TO CURB RAMP ACCESSIBLE TO THE DISABLED

NOTES:

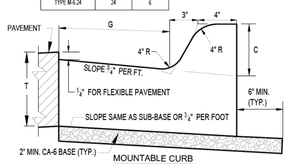
1. THE TOP OF CURB SHALL BE DEPRESSED WHERE THE CURB AND GUTTER IS CONSTRUCTED ACROSS ALLEYS AND FOR PRIVATE DRIVES OR WHERE DIRECTED BY THE ENGINEER.
2. THICKNESS OF PAVEMENT "T". WHEN CURB AND GUTTER IS CONSTRUCTED ADJACENT TO FLEXIBLE PAVEMENT, THE VERTICAL THICKNESS OF THE GUTTER FLAG SHALL BE 9 INCHES. FOR BAM PAVEMENT SECTIONS THE FLAG SHALL BE THE SAME THICKNESS AS THE PAVEMENT.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	DEPRESSED CURB: DETAIL	RD-04b	City of Crystal Lake Illinois
2.		Date: 01/30/15	
3.		Drawn DD / Checked AW	
4.			

L:\ENGINEERING AND BUILDING ENGINEERING DETAILS AND STANDARDS\

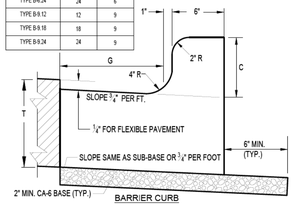
RD-05a

MOUNTABLE CURB DIMENSIONS FOR "G" AND "C"		
CURB TYPE	"G" (INCHES)	"C" (INCHES)
TYPE M-3.24	24	3
TYPE M-4.12	12	4
TYPE M-6.06	6	6
TYPE M-6.12	12	6
TYPE M-6.18	18	6
TYPE M-6.24	24	6



MOUNTABLE CURB

BARRIER CURB DIMENSIONS FOR "G" AND "C"		
CURB TYPE	"G" (INCHES)	"C" (INCHES)
TYPE B-6.12	12	6
TYPE B-6.18	18	6
TYPE B-6.24	24	6
TYPE B-9.12	12	9
TYPE B-9.18	18	9
TYPE B-9.24	24	9



BARRIER CURB

NOTES:

THICKNESS - T - THICKNESS OF PAVEMENT WHEN CURB AND GUTTER IS CONSTRUCTED ADJACENT TO FLEXIBLE OR RIGID PAVEMENT. THE VERTICAL THICKNESS OF THE GUTTER FLAG SHALL BE 9". ALSO, TIE BARS SHALL BE OMITTED.

DRAINAGE OPENINGS - AT ALL LOCATIONS WHERE METAL CASTINGS ARE TO BE INCORPORATED IN THE CURB AND GUTTER, A 1" THICK PRE FORMED EXPANSION JOINT FILLER, CONFORMING TO THE CROSS SECTIONS OF THE CURB AND GUTTER, SHALL BE INSTALLED IN THE CURB AND GUTTER A DISTANCE OF 5 FT. FROM EACH SIDE OF THE METAL CASTING. WHEN THE WIDTH OF THE METAL CASTING IS LESS THAN THE WIDTH OF THE CURB AND GUTTER, 2 - NO. 4 REBARS (L = 12 + CASTING LENGTH + 12") SHALL BE INCORPORATED IN THE CONTINUOUS OF CONCRETE GUTTER IN FRONT OF THE CASTING.

TRANSITIONS - THE TRANSITION FROM FULL HEIGHT CURB TO DEPRESSED CURB SHALL BE MADE AT THE RATE OF 3" PER FOOT OF LENGTH OR FLATTER.

(2) - NO. 4 STEEL REINFORCING BARS SHALL BE INCORPORATED OVER TRENCH CROSSINGS IF REQUIRED BY THE CITY ENGINEER.

JOINTS - IN ADDITION TO THE REQUIREMENTS OF ARTICLE 606.06 OF THE STANDARD SPECIFICATIONS, JOINTS SHALL BE CONSTRUCTED AS FOLLOWS:

CONTRACTION JOINTS AND EXPANSION JOINTS SHALL BE INSTALLED IN THE CURB OR CURB AND GUTTER IN PROLONGATION WITH JOINTS IN ADJACENT P.C.C. PAVEMENT OR BASE COURSE.

WHEN CURB AND GUTTER IS CONSTRUCTED ADJACENT TO FLEXIBLE PAVEMENT, A 1" THICK PRE FORMED EXPANSION JOINT FILLER, CONFORMING TO THE CROSS SECTION OF THE CURB AND GUTTER, SHALL BE INSTALLED AT POINTS OF CURVATURE FOR SHORT RADIUS CURVES AND AT CONSTRUCTION JOINTS. CONTRACTION JOINTS SHALL BE PLACED BETWEEN EXPANSION JOINTS AT DISTANCES NOT TO EXCEED 15 FEET.

ALL EXPANSION JOINTS SHALL BE PROVIDED WITH A 1 ¼" DIA. X 18" COATED SMOOTH DOWEL BAR CONFORMING TO ARTICLE 1006.10 OF THE STANDARD SPECIFICATIONS. THE DOWEL BAR SHALL BE FITTED WITH A CAP HAVING A PINCHED STOP THAT WILL PROVIDE 1" OF EXPANSION.

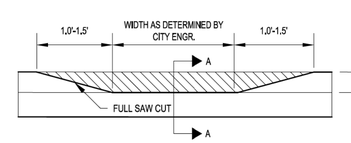
ALL CONSTRUCTION JOINTS SHALL BE PROVIDED WITH 1" DIA. DEFORMED STEEL TIE BARS 30" LONG CONFORMING TO AASHTO M-31 OR M-53. THE BARS SHALL BE PLACED ON 9"" CENTERS (MINIMUM 2 PER JOINT).

EXPANSION JOINTS SHALL BE PLACED AT INTERVALS NOT TO EXCEED 100 FEET.

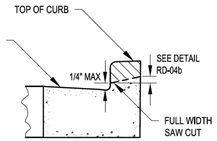
Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	CURB: CONCRETE CURB AND GUTTER	RD-05a	City of Crystal Lake Illinois
2. KL 1/25/2021 M-4.12 ADDED		Date: 08/21/2018	
3.		Drawn DD / Checked AW	
4.			

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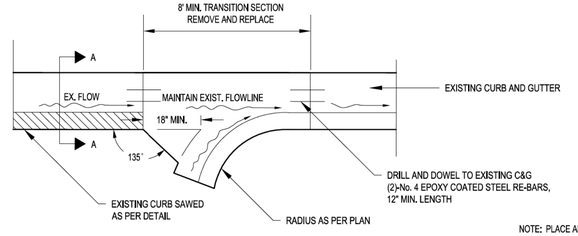
RD-04a



DRIVEWAY OPENING SIDE VIEW



SECTION A-A



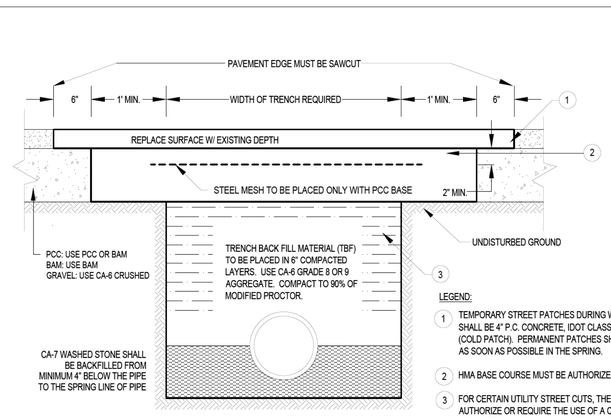
CASE WITH B6.12 RETURN

NOTE: PLACE APPROVED SEAL COAT ON AREA THAT HAS BEEN SAWED.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	DEPRESSED CURB: ENTRANCE BY SAWING	RD-04a	City of Crystal Lake Illinois
2.		Date: 01/30/15	
3.		Drawn DD / Checked AW	
4.			

L:\ENGINEERING AND BUILDING ENGINEERING DETAILS AND STANDARDS\

RD-06



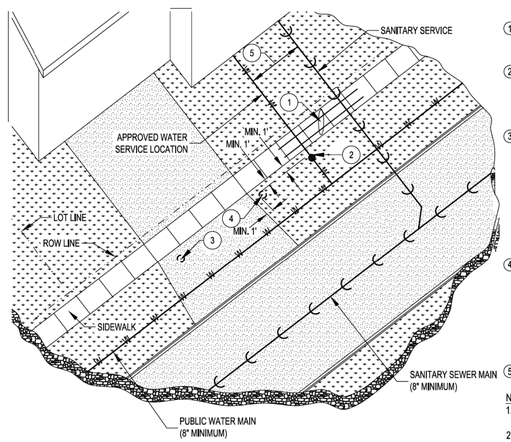
LEGEND:

1. TEMPORARY STREET PATCHES DURING WINTER CONSTRUCTION SHALL BE 4" P.C. CONCRETE, IDOT CLASS SI OR A MIN. 3" OF UPM (COLD PATCH). PERMANENT PATCHES SHALL BE COMPLETED AS SOON AS POSSIBLE IN THE SPRING.
2. HMA BASE COURSE MUST BE AUTHORIZED BY THE CITY ENGINEER.
3. FOR CERTAIN UTILITY STREET CUTS, THE CITY ENGINEER MAY AUTHORIZE OR REQUIRE THE USE OF A CONTROLLED LOW-STRENGTH MATERIAL (CLSM) AS PER THE IDOT SPECIAL PROVISIONS.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	PAVEMENT CUT AND REPLACEMENT	RD-06	City of Crystal Lake Illinois
2. 9/8/2021 KL - CA-7 TO SPRING LINE OF PIPE		Date: 05/19/2015	
3.		Drawn JH / Checked AW	
4.			

L:\ENGINEERING AND BUILDING ENGINEERING DETAILS AND STANDARDS\

UG-05



LEGEND:

1. 2 - No.4 STEEL REINFORCING BARS EXTENDING 3' BEYOND TRENCH OR MIN. 10' CENTERED OVER TRENCH.
2. WATER SHUTOFF BOX MAY NOT BE LOCATED IN PROPOSED DRIVEWAY. THE RELOCATED BOX SHALL BE LOCATED AT THE HOUSE SIDE OF THE DRIVEWAY AS PER DETAIL (CENTERED IN PARKWAY, PREFERRED - MIN. 1' FROM SIDEWALK ALLOWABLE).
3. CASE 1 - EXISTING SHUTOFF BOX IN PROPOSED DRIVEWAY:
   IF WATER SHUTOFF BOX RELOCATION IS REQUIRED, WATER MAIN SHOULD BE RETAPPED OUT OF PROPOSED DRIVEWAY LOCATION (MIN. 1' FROM DRIVEWAY). A CONTINUOUS LENGTH OF COPPER (NO COUPLINGS) SHALL BE RUN FROM THE NEW CORPORATION STOP TO THE RELOCATED SHUTOFF BOX. THE ABANDONED CORPORATION STOP SHALL BE CAPPED AND INSPECTED ACCORDING TO CITY WATER DIVISION STANDARDS.
4. CASE 2 - EXISTING SHUTOFF BOX OUTSIDE PROPOSED DRIVEWAY:
   IF WATER SHUTOFF BOX RELOCATION IS REQUIRED, THE EXISTING CORPORATION STOP MAY REMAIN. A CONTINUOUS LENGTH OF COPPER (NO COUPLINGS) SHALL BE RUN FROM THE CORPORATION STOP TO THE RELOCATED SHUTOFF BOX. RELOCATED BOX SHALL BE LOCATED MIN. 1' FROM DRIVEWAY.
5. 10' WATER AND SANITARY SERVICE SEPARATION OR REFER TO COMMON TRENCH DETAIL.

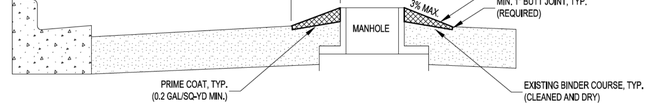
NOTES:

1. FOR FAR SIDE SERVICES CONSULT THE PUBLIC WORK DIRECTOR
2. NO SERVICES SHALL BE LOCATED UNDERNEATH THE DRIVEWAY.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	TYPICAL WATER AND SANITARY SERVICE LOT LOCATION	UG-05	City of Crystal Lake Illinois
2. 08/18/2023 JRG No Services Under Driveways		Date: 04/16/2007	
3.		Drawn EM / Checked AW	
4.			

L:\ENGINEERING AND BUILDING ENGINEERING DETAILS AND STANDARDS\

RD-07



NOTES

1. RAMPING TO BE USED AFTER BINDER IS CONSTRUCTED AND UNTIL FINAL SURFACE COURSE IS PLACED.
2. MANHOLES TO BE RAMPED NO LATER THAN NOVEMBER 1ST.
3. RAMPS TO BE MAINTAINED THROUGHOUT THE WINTER BY DEVELOPER.
4. RAMP MATERIAL TO BE REMOVED BY MILLING OR OTHERWISE REMOVED BEFORE PLACEMENT OF FINAL SURFACE COURSE.

MIX DESIGN FOR EMERGENCY RAMP PATCHING COMPOUND

MIX:
40% QUICKCRETE HYDRAULIC CEMENT
60% MORTAR MIX
ENOUGH WATER TO MAKE IT WORKABLE
(TOO MUCH WATER WILL GREATLY LENGTHEN SET TIME)

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	TEMPORARY MANHOLE AND CURB RAMPING	RD-07	City of Crystal Lake Illinois
2.		Date: 05/19/2015	
3.		Drawn JH / Checked AW	
4.			

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DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	N.T.S.

CONSTRUCTION DETAILS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 16 OF 23

PROJECT NUMBER: 4782

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ILLINOIS FIRM LICENSE 184-002694

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PEDESTRIAN SIGNAL HEAD NOTES

TRAFFIC SIGNAL EQUIPMENT OFFSET

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

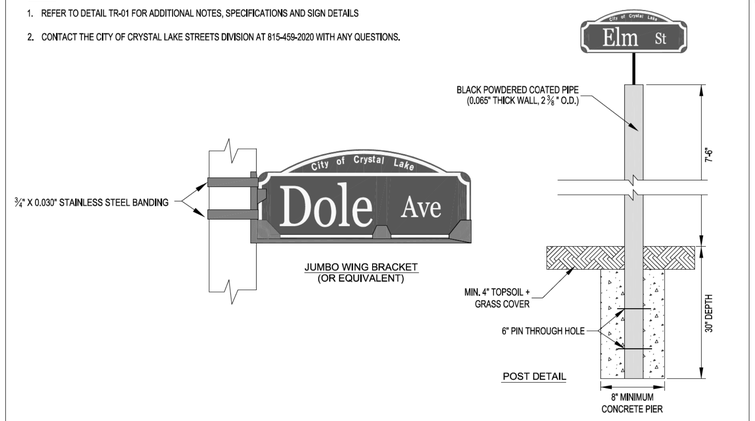
NOTES:

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TOTHE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

TR-02

NOTES:

1. REFER TO DETAIL TR-01 FOR ADDITIONAL NOTES, SPECIFICATIONS AND SIGN DETAILS
2. CONTACT THE CITY OF CRYSTAL LAKE STREETS DIVISION AT 815-459-2020 WITH ANY QUESTIONS.



Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	SIGN POST AND BRACKET	TR-02	Date: 04/15/2008
2.		Drawn JH	Checked AW
3.			
4.			

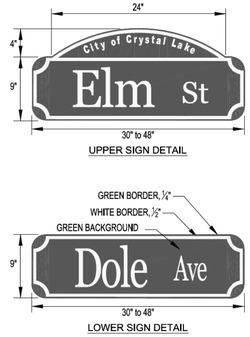
City of Crystal Lake Illinois

L:\ENGINEERING AND BUILDING\ENGINEERING DETAILS AND STANDARDS\

TR-01

NOTES:

1. ALL SIGNS AND POSTS ARE TO BE FURNISHED BY THE DEVELOPER. THE DEVELOPER SHALL INSTALL ALL TRAFFIC CONTROL SIGNS, INCLUDING STREET NAME SIGNS, AND PROVIDE THE CITY WITH TWO (2) SPARE PLATES PER STREET NAME PER INTERSECTION.
2. STREET NAME SIGNS
   FOR MOUNTING ON ORNAMENTAL OR DECORATIVE STREET LIGHT POLES:
   - JUMBO WING BRACKETS OR EQUIVALENT SHALL BE USED, WITH EXTENSIONS IF NEEDED, FOR FLAT ALUMINUM SIGN BLANKS, TO ACCOMMODATE STREET NAME SIGNS FROM 30" TO 54" IN LENGTH
   - 3/4" x 0.030" STAINLESS STEEL BANDING, BAND-IT 3/4" STAINLESS STEEL "VALUE CLIPS", BAND-IT BRACKET D004 STAINLESS STEEL "U" BRACKETS, TWO (2) 5/16" x 1/2" - 18 SIGN BOLTS, AND STREET NAME PLATES.
   - SINGLE STREET NAME SIGNS INSTALLATION USING THE JUMBO WING BRACKETS SHALL HAVE SIGN WITH BONNET.
3. SIGNS AND POSTS SHALL BE INSTALLED PRIOR TO OCCUPANCY AND SHALL BE INSTALLED ACCORDING TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
   A. SIGN PANELS (4 PER POST) SHALL BE IDOT STANDARD 0.080" ALUMINUM BLANKS, 9" HIGH BY 30", 36", 42", 48" OR 54" IN LENGTH WITH A 1 " RADIUS ON ALL CORNERS.
   B. SIGN FACE MATERIAL SHALL BE 3M DG3 REFLECTORIZED SHEETING (ASTM PROPOSED TYPE 11, ILLINOIS TYPE ZZ) WITH WHITE LETTERING ON A GREEN BACKFIELD.
   C. A 1/4" GREEN BORDER SHALL ENCOMPASS THE FRAME OF THE SIGN WITH A 1/2" WHITE BORDER ENCOMPASSING THE MAIN SIGN (MUTCD, 2003 EDITION, SECTION 2A-15, PAGE 2A-8 "SIGN BORDERS").
   D. FONT STYLE IS GEORGIA REGULAR.
   E. MAIN LETTERING SHALL BE 6" HIGH AND ALL ABBREVIATIONS (STREET, AVENUE, ROAD, ETC.) SHALL BE 3" HIGH (MUTCD, 2003 EDITION, SECTION 2D.38, PAGE 2D-17 "STREET NAME SIGN"). LETTERING SHALL UTILIZE BOTH UPPER AND LOWER CASE LETTERS.
   F. THE TOP SIGN SHALL HAVE A BONNET THAT IS 24" LONG x 4" HIGH INCORPORATED WITH THE WORDING "CITY OF CRYSTAL LAKE" USING 2" HIGH LETTERING ARCHED IN THE BONNET AREA.
4. REFER TO DETAIL TR-03 FOR POST SPECIFICATIONS.
5. FOR MOUNTING ON A 2 3/8" X 10' O.D. BLACK POWDERED COATED PIPE:
   A. POSTS SHALL BE 2 3/8" X 10' 0.065" THICK WALL; HEAVY DUTY GALVANIZED PRIME COAT AND A SURFACE COAT OF HIGH GLOSS BLACK POWDER COAT.
   B. HARDWARE SHALL INCLUDE THE E450 BRACKET FOR SIGN INSTALLATION ON 2 3/8" O.D. PIPE TO ACCOMMODATE TWO (2) 9" AND TWO (2) 13" STREET SIGN BLANKS.
   C. STREET SIGNS INSTALLED ON THE 2 3/8" O.D ROUND POST SHALL BE A FOUR (4) SIGN INSTALLATION. THE PRIMARY STREET SHALL BE THE TOP SIGN AND INCLUDE THE BONNET AND THE SECONDARY STREET SHALL BE LOWER SIGN WITHOUT THE BONNET.



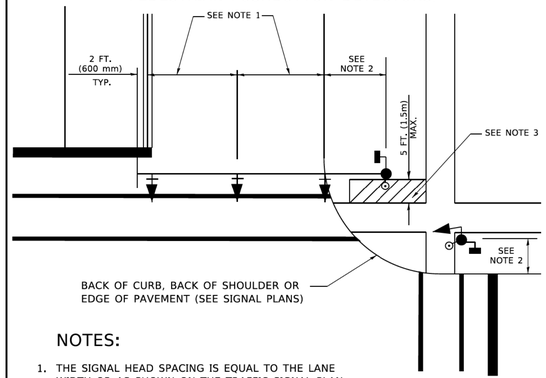
Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STREET NAME SIGNS	TR-01	Date: 04/15/2008
2.		Drawn EM	Checked AW
3.			
4.			

City of Crystal Lake Illinois

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TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

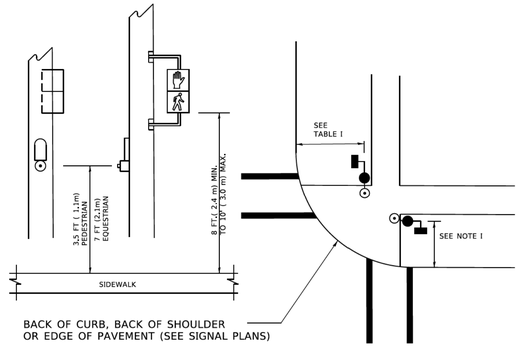
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



NOTES:

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

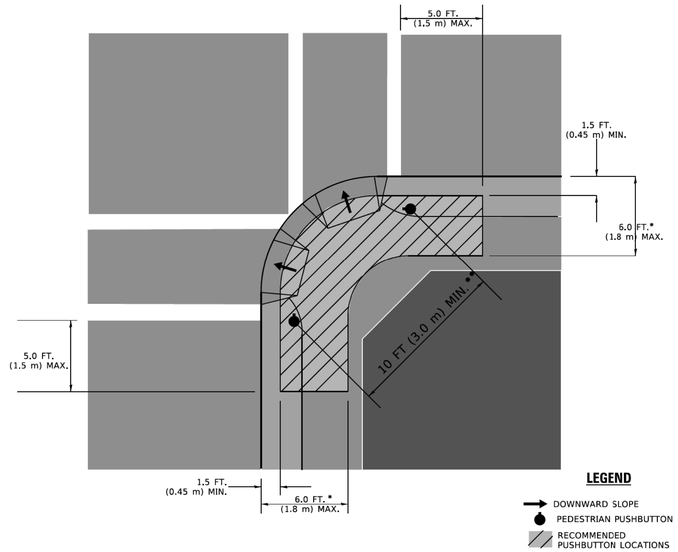
PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



NOTES:

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

RECOMMENDED PUSHBUTTON LOCATIONS



* WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT (1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.

** WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

PEDESTRIAN SIGNAL HEAD NOTES

NOTES:

1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

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DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	N.T.S.

CONSTRUCTION DETAILS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 17 OF 23

PROJECT NUMBER: 4782

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ILLINOIS FIRM LICENSE 184-002694

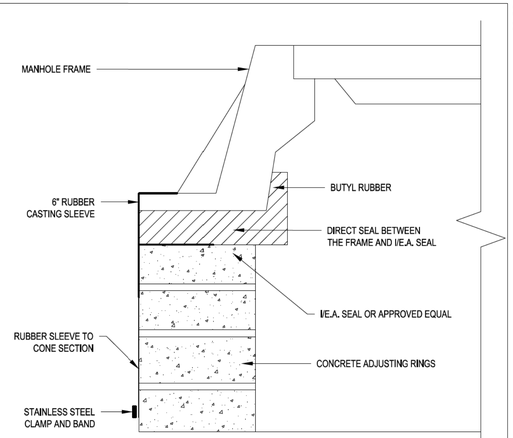
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US-06

INTERNAL / EXTERNAL CHIMNEY SEAL I/E.A. SEAL

ALL SANITARY MANHOLES SHALL BE INSTALLED WITH AN INTERNAL / EXTERNAL CHIMNEY SEAL WITH A RUBBER SLEEVE TO SEAL THE OUTSIDE OF THE CHIMNEY FROM THE TOP OF THE CORBEL TO THE MANHOLE FRAME. THE SEAL SHALL BE INSTALLED PER THE INSTALLATION INSTRUCTIONS AND AS DIRECTED BY THE ENGINEER.

CHIMNEY SEAL TO BE ADAPTER INC. BRAND OR APPROVED EQUAL. THEY SHALL BE INSTALLED DURING CONSTRUCTION AND SET TO FINAL GRADE. ANY STRUCTURE THAT IS IN THE ROADWAY MUST BE RAMPED UNTIL FINAL SURFACE IS PLACED.

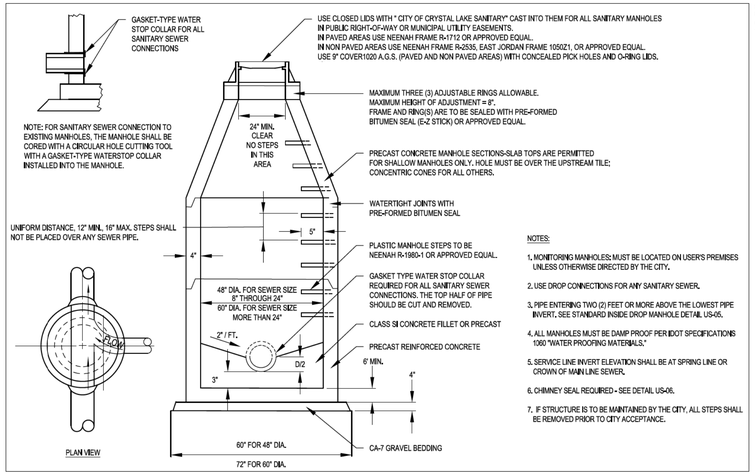


THE INTERNAL/EXTERNAL ADAPTER SEAL IS MANUFACTURED TO FIT ALL MANHOLE FRAMES TO ANY DIMENSIONS OF HEIGHT AND INSIDE OR OUTSIDE DIAMETERS.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	INTERNAL / EXTERNAL CHIMNEY SEAL	US-06	
2.		Date: 05/29/2015	
3.		Drawn JH	Checked VR
4.			City of Crystal Lake Illinois

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US-04



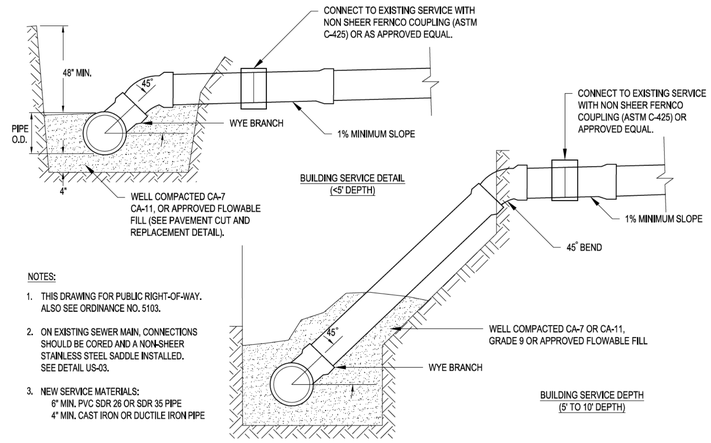
NOTES:

1. MONITORING MANHOLES: MUST BE LOCATED ON USER'S PREMISES UNLESS OTHERWISE DIRECTED BY THE CITY.
2. USE DROP CONNECTIONS FOR ANY SANITARY SEWER.
3. PIPE ENTERING TWO (2) FEET OR MORE ABOVE THE LOWEST PIPE INVERT, SEE STANDARD INSIDE DROP MANHOLE DETAIL US-05.
4. ALL MANHOLES MUST BE DAMP PROOF PERIDOT SPECIFICATIONS 1060 "WATER PROOFING MATERIALS."
5. SERVICE LINE INVERT ELEVATION SHALL BE AT SPRING LINE OR CROWN OF MAIN LINE SEWER.
6. CHIMNEY SEAL REQUIRED - SEE DETAIL US-06.
7. IF STRUCTURE IS TO BE MAINTAINED BY THE CITY, ALL STEPS SHALL BE REMOVED PRIOR TO CITY ACCEPTANCE.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STANDARD SANITARY AND MONITORING MANHOLE	US-04	
2. 08/21/2018		Date: 06/12/2015	
3. JRG NOTE 7. 8-18-2023		Drawn JH	Checked VR
4.			City of Crystal Lake Illinois

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US-01



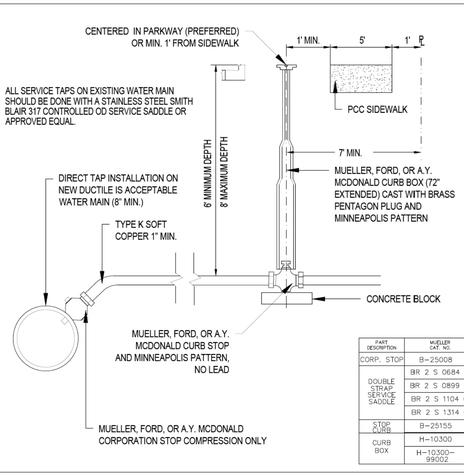
NOTES:

1. THIS DRAWING FOR PUBLIC RIGHT-OF-WAY. ALSO SEE ORDINANCE NO. 5103.
2. ON EXISTING SEWER MAIN, CONNECTIONS SHOULD BE CORED AND A NON-SHEER STAINLESS STEEL SADDLE INSTALLED. SEE DETAIL US-03.
3. NEW SERVICE MATERIALS: 6" MIN. PVC SDR 26 OR SDR 35 PIPE 4" MIN. CAST IRON OR DUCTILE IRON PIPE

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	SANITARY SERVICE RISER (DEPTH <10')	US-01	
2.		Date: 06/10/2015	
3.		Drawn JH	Checked VR
4.			City of Crystal Lake Illinois

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UW-04



NOTES:

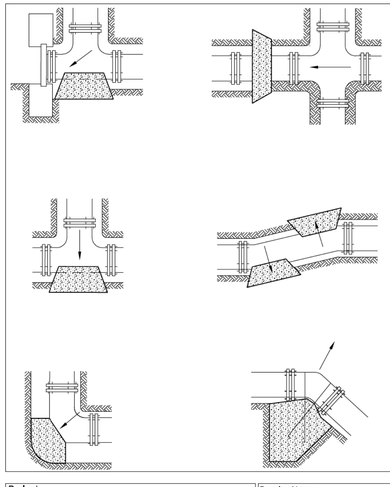
1. NO CORPORATION STOPS OR CURB BOXES MAY BE LOCATED UNDER PAVED AREAS INCLUDING DRIVES AND SIDEWALKS.
2. ALL WATER MAIN HARDWARE SHALL BE MUELLER, A.Y. McDONALD, OR FORD. NO LEAD, COMPRESSION ONLY.
3. SERVICE TO BE CONTINUOUS WITHOUT JOINTS FROM CORPORATION STOP TO CURB STOP.
4. MULTIPLE TAPS INTO MAIN SHALL BE NO CLOSER THAN 2' APART.
5. TRENCH FROM MAIN TO BACK OF SIDEWALK TO BE COMPACTED TRENCH BACKFILL.
6. NO FLARE FITTINGS WILL BE ACCEPTED. COMPRESSION ONLY.
7. ALL CURB BOX ADJUSTMENTS TO BE MADE WITH GALVANIZED PIPE AND COUPLINGS (SCREWED ON).
8. B-BOXES (TWO OR MORE) FOR ALL MULTI-UNIT BUILDINGS MUST BE CLEARLY AND PERMANENTLY LABELED BY WELDING THE UNIT NUMBER/LETTER ONTO THE B-BOX TOP.
9. B-BOXES TO BE USED FOR SERVICES LESS THAN OR EQUAL TO 2".

PART DESCRIPTION	MUELLER CAT. NO.	FORD CAT. NO.	A.Y. MCDONALD CAT. NO.	SERVICE SIZE
CORP. STOP	B-25008	FB1000-Q	4701BQ	
DOUBLE STRAP SERVICE SADDLE	BR 2 S 0684 CC	202BS-750-CC	3855 6	
	BR 2 S 0899 CC	202BS-962-CC	3855 8	
	BR 2 S 1104 CC	202BS-1212-CC	3855 10	
	BR 2 S 1314 CC	202BS-1438-CC	3855 12	
STOP CURB	B-25155	B44-M-Q	6104Q	
CURB BOX	H-10300	EM2-60-56	5614	1"
	H-10300-99002	EM2-60-57	5615	1.5" & 2"

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	WATER SERVICE INSTALLATION FOR DUCTILE AND CAST IRON WATER MAIN	UW-04	
2. 01/25/2021 KL Eliminate 1.25" Services		Date: 03/17/2014	
3.		Drawn DD	Checked VR
4.			City of Crystal Lake Illinois

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UW-03



BEARING AREA (SQ. FT.)					
PIPE SIZE	TEE/PLUG	90°	45°	21 1/2°	11 1/4°
6	4	2	1	1	1
8	6	4	3	1	1
10	7	5	3	1	1
12	8	6	4	2	2
14	12	9	6	3	3
16	15	12	7	3	3
18	18	15	9	4	4
24	40	30	15	5	5

NOTES:

ALL BLOCKING SHALL BE POURED CLASS SI CONCRETE AGAINST UNDISTURBED EARTH.

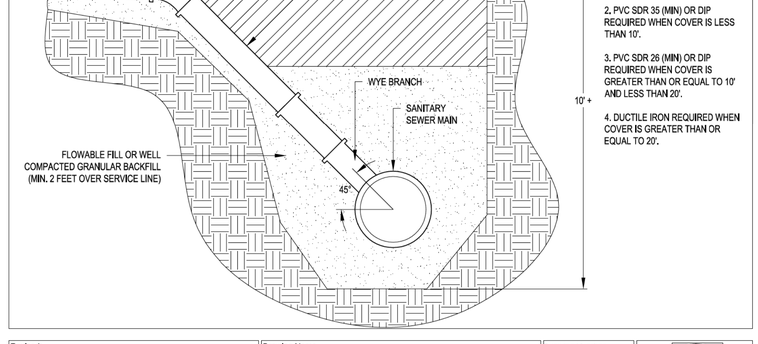
ALL BENDS OR ELBOWS GREATER THAN OR EQUAL TO 11 1/4° SHALL HAVE THRUST BLOCKING. FORM AS TO NOT COVER BOLTS.

IN LIEU OF THRUST BLOCKING, "MEGA LUG" (EBAA) JOINT RESTRAINTS OR APPROVED EQUAL CAN BE USED AS APPROVED BY THE ENGINEER.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	THRUST BLOCK INSTALLATION	UW-03	
2.		Date: 05/29/2015	
3.		Drawn JH	Checked VR
4.			City of Crystal Lake Illinois

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US-02



NOTES:

1. ON EXISTING SEWER MAIN, CONNECTIONS SHOULD BE CORDED AND A NON SHEER SADDLE INSTALLED SEE STANDARD US-03.
2. PVC SDR 35 (MIN) OR DIP REQUIRED WHEN COVER IS LESS THAN 10'.
3. PVC SDR 26 (MIN) OR DIP REQUIRED WHEN COVER IS GREATER THAN OR EQUAL TO 10' AND LESS THAN 20'.
4. DUCTILE IRON REQUIRED WHEN COVER IS GREATER THAN OR EQUAL TO 20'.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	SANITARY SERVICE RISER (DEPTH >= 10')	US-02	
2.		Date: 05/29/2015	
3.		Drawn JH	Checked VR
4.			City of Crystal Lake Illinois

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DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	N.T.S.

CONSTRUCTION DETAILS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

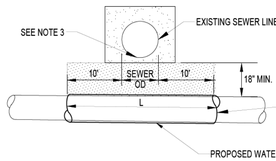
SHEET 18 OF 23

PROJECT NUMBER: 4782

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ILLINOIS FIRM LICENSE 184-002694

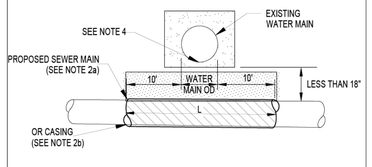
PROPOSED WATER MAIN BELOW EXISTING SEWER LINE WITH 18" MINIMUM SEPARATION



NOTES

1. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER THE TOP OF PROPOSED WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT OVER LENGTH "L".
2. IF THE SELECT GRANULAR BACKFILL EXISTS; REMOVE WITHIN WIDTH OF PROPOSED SEWER TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. PROVIDE ADEQUATE SUPPORT FOR EXISTING SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT.
4. USE A CASING PIPE LENGTH "L" FOR PROPOSED WATER MAIN AND SEAL ENDS OF CASING. SEE UW-14 FOR CASING DETAILS.

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN WITH LESS THAN 18" SEPARATION



NOTES

1. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF PROPOSED SEWER LINE AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT OVER LENGTH "L".

2a. CONSTRUCT "L" FEET OF PROPOSED SEWER OF WATER MAIN MATERIAL AND PRESSURE TEST, OR

2b. CONSTRUCT "L" FEET OF CASING FOR PROPOSED SEWER AND SEAL ENDS OF CASING. SEE UW-14 FOR CASING DETAILS OR

3. POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN.
4. PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

ADDITIONAL NOTES

**THE REQUIREMENTS ON THIS DETAIL ARE TAKEN FROM THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (SEE PAGES 160-173)*

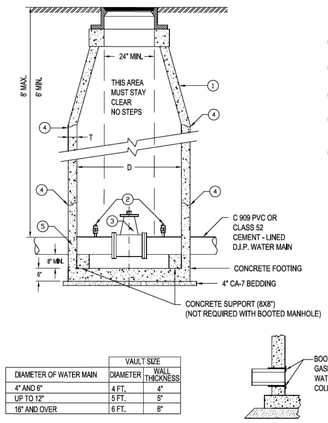
CLASS IV MATERIALS SHALL BE COMPACTED TO 95% OF STANDARDS PROCTOR DENSITY.

OD = OUTSIDE DIAMETER

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 8/30/2021 KL - SEWER AND WATER 2014 UPDATE 3. 4.	WATER AND SEWER SEPARATION REQUIREMENTS	UG-04b Date: 04/15/2007 Drawn EM Checked AW	City of Crystal Lake Illinois

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UG-04b



DIAMETER OF WATER MAIN	VAULT SIZE DIAMETER	WALL THICKNESS
4" AND 6"	4 FT.	4"
UP TO 12"	5 FT.	5"
16" AND OVER	6 FT.	6"

LEGEND:

1. CONCENTRIC CONES REQUIRED
2. 1" (MIN) MUELLER, A.Y. McDONALD, OR FORD NO LEAD CORPORATION STOP EACH SIDE OF VALVE MUST BE A COMPRESSION FITTING.
3. MUELLER 2361 OR AMERICAN FLOW CONTROL 2500-1 RESILIENT SEAT GATE VALVE
4. WATERTIGHT JOINTS USING EZ-6TIK PREMIUM BUTYL SEALANT ASTM C990 OR EQUAL FOR FRAMES ADJUSTING RINGS AND BARREL SECTIONS.
5. GASKET-TYPE WATERSTOP COLLAR FOR ALL WATER MAIN CONNECTIONS

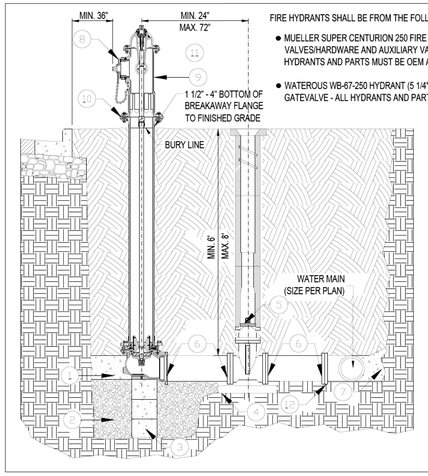
NOTES:

1. ALL MANHOLES MUST BE DAMP PROOF PER IDOT SPECIFICATIONS 1060.
2. DRAIN FOR VALVE VAULT SHALL BE CONSTRUCTED ONLY WHEN SHOWN ON THE PLANS.
3. CAST IRON MANHOLE FRAME & COVER SIMILAR TO NEENAH R-1712, OR EQUAL WITH STANDARD DUTY, NON-ROCKING TYPE LIDS WITH "CITY OF CRYSTAL LAKE WATER" CAST INTO LID, (NEENAH R-2535, OR EQUAL MAY BE USED IN GRASSY AREAS)
4. HDPE PLASTIC MANHOLE ADJUSTING RINGS CONFORMING TO THE REQUIREMENTS OF HS26 OF THE AASHTO STANDARD SPECIFICATIONS AND ASTM D1248-84. ALL ADJUSTING RINGS SHALL BE STABALIZED AGAINST ULTRA VIOLET LIGHT. ADJUSTING RING HEIGHT NOT TO EXCEED 8" WITH A MAXIMUM OF THREE (3) ADJUSTMENT RINGS. THE ANNULAR SPACE BETWEEN RINGS AND CONE BASIN, THE RINGS AND THE RINGS COVER FRAME SHALL BE SEALED UTILIZING AND APPROVED BUTYL SEALANT. ALL ADJUSTMENT FOR MATCHING ROAD GRADE SHALL BE MADE UTILIZING A MOLDED AND INDEXED SLOPE RING.
5. ALL UNDERGROUND NUTS, BOLTS & WASHERS MUST BE STAINLESS STEEL.
6. VALVE VAULT REQUIRED FOR WATER SERVICES GREATER THAN OR EQUAL TO 4". SEE VAULT SIZE TABLE.
7. STEPS WITHIN VAULT TO BE REMOVED PRIOR TO CITY ACCEPTANCE.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 08/18/2023 - JRG 1" CORP AND STEPS REMOVED 3. 4.	STANDARD VALVE VAULT	UW-01 Date: 05/29/2015 Drawn JH Checked VR	City of Crystal Lake Illinois

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UW-01



FIRE HYDRANTS SHALL BE FROM THE FOLLOWING LIST, AS APPROVED BY THE CITY:

- MUELLER SUPER CENTURION 250 FIRE HYDRANT, A423 (5 1/4" BARREL) WITH MUELLER VALVES/HARDWARE AND AUXILIARY VALVE 6" GATE VALVE NO. 2361RESILIENT WEDGE - ALL HYDRANTS AND PARTS MUST BE OEM AND COMPLY WITH NO LEAD REQUIREMENTS.
- WATEROUS WB-67-250 HYDRANT (5 1/4" PACER) WITH SERIES 2500-1 RESILIENT WEDGE GATEVALVE - ALL HYDRANTS AND PARTS MUST COMPLY WITH NO LEAD REQUIREMENTS

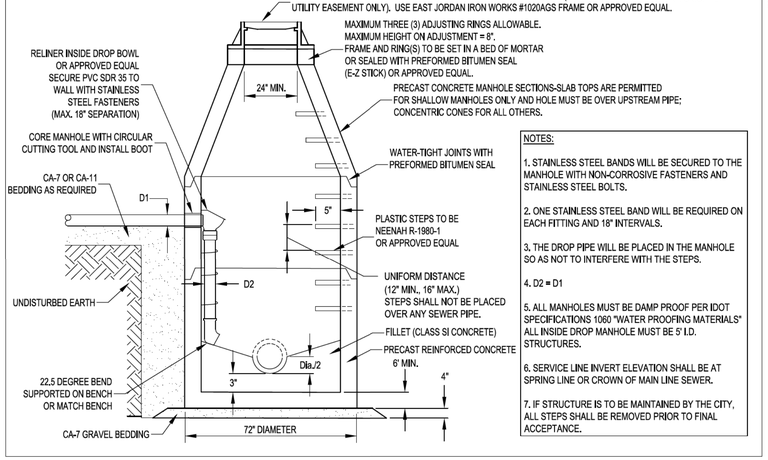
LEGEND:

1. PROVIDE CLASS SI CONCRETE BASE AND BLOCKING AGAINST UNDISTURBED EARTH
2. DRAIN SUMP TO BE $^{3}/_{4}$ CUBIC YARD OF $^{3}/_{4}$" WASHED STONE
3. CONCRETE SUPPORT
4. CONCRETE BLOCK OR BRICK SUPPORT
5. RUBBER VALVE BOX STABILIZER
6. USE MEGALUG RESTRAINTS WITH GRADE 304 STAINLESS STEEL NUTS AND BOLTS AT ALL MECHANICAL JOINTS.
7. CONCRETE BLOCKING
8. 4 $^{1}/_{2}$" PORT TO FACE PAVEMENT OR AS DIRECTED BY CITY ENGINEER
9. ALL NEWLY INSTALLED HYDRANTS MUST HAVE 2.4 MILS AMERICO AT PRIMER OR EQUAL AND FINISH COAT SHERWIN WILLIAMS POLANE B MIN 4.1 MILS = 6.5 MILS TOTAL DRY FILM THICKNESS. COLOR (SAFETY RED)
10. MIN. 48" BETWEEN HYDRANT AND ANY VERTICAL OBSTRUCTIONS.
11. MIN. 72" BETWEEN HYDRANT AND ANY LANDSCAPING WITH A MATURE HEIGHT GREATER THAN 12".
12. ALL UNDERGROUND HARDWARE MUST BE STAINLESS STEEL INCLUDING NUTS, BOLTS, AND WASHERS.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 01/25/2021 KL Mueller Super Centurion 250 FH Specification 3. 4.	FIRE HYDRANT	UW-06 Date: 06/01/2015 Drawn JH Checked VR	City of Crystal Lake Illinois

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UW-06



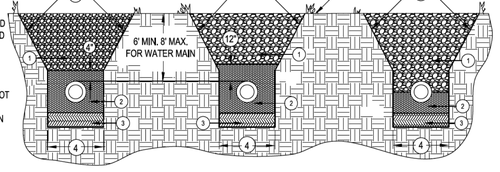
NOTES:

1. STAINLESS STEEL BANDS WILL BE SECURED TO THE MANHOLE WITH NON-CORROSIVE FASTENERS AND STAINLESS STEEL BOLTS.
2. ONE STAINLESS STEEL BAND WILL BE REQUIRED ON EACH FITTING AND 18" INTERVALS.
3. THE DROP PIPE WILL BE PLACED IN THE MANHOLE SO AS NOT TO INTERFERE WITH THE STEPS.
4. D2 = D1
5. ALL MANHOLES MUST BE DAMP PROOF PER IDOT SPECIFICATIONS 1060 "WATER PROOFING MATERIALS" ALL INSIDE DROP MANHOLE MUST BE 5' I.D. STRUCTURES.
6. SERVICE LINE INVERT ELEVATION SHALL BE AT SPRING LINE OR CROWN OF MAIN LINE SEWER.
7. IF STRUCTURE IS TO BE MAINTAINED BY THE CITY, ALL STEPS SHALL BE REMOVED PRIOR TO FINAL ACCEPTANCE.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 08/18/2023 JRG NOTE 7 3. 4.	STANDARD INSIDE DROP SANITARY MANHOLE	US-05 Date: 04/15/2007 Drawn EM Checked VR	City of Crystal Lake Illinois

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US-05



LEGEND:

1. TRENCH BACKFILL TO SUBGRADE AND WITHIN 2 FEET OF PROPOSED PAVEMENT, DRIVEWAY, CURB AND GUTTER OR SIDEWALK. TRENCH BACKFILL MATERIALS SHALL BE IDOT APPROVED GRADATION CA-6, GRADE 7, 8, OR 9 COMPACTED TO 90% OF MODIFIED PROCTOR DENSITY. IN NON-STRUCTURAL AREAS BACKFILL WITH APPROVED EXCAVATED MATERIALS.
2. PIPE BEDDING SHALL BE WASHED MATERIAL IDOT GRADATION CA-7 OR CA-11 FROM 4 INCHES BELOW BOTTOM OF PIPE TO HEIGHT SHOWN ON EACH SECTION
3. UNSUITABLE MATERIAL TO BE REMOVED WHERE DIRECTED BY THE ENGINEER AND REPLACED WITH COMPACTED SUITABLE MATERIAL.
4. TRENCH WIDTH:
   PIPE O.D. + 12 INCHES MINIMUM
   PIPE I.D. + 18 INCHES MAXIMUM
5. CONTRACTORS SHALL COMPLY WITH ALL CURRENT OSHA STANDARDS.

SECTION A:
WATER MAIN DIP
FORCE MAIN DIP
SANITARY SEWER MAIN & SERVICES DIP

SECTION B:
SANITARY SEWER MAIN & SERVICES (PVC)
STORM SEWER (PVC)
WATER MAIN, C909 FORCE MAIN ** (PVC) (HDPE)

SECTION C:
STORM SEWER (RCP)

* NOTE: ALL DUCTILE IRON SHALL BE WRAPPED WITH APPROVED POLYETHYLENE PIPE WRAP
** NOTE: PVC WATERMAIN ONLY ALLOWED FOR REPAIRS TO EXISTING PVC WATERMAIN

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 02/04/2021 KL CA-7 WASHED STONE 3. 07/14/2023 JRG PVC ALLOWED ONLY AS STATED 4.	TYPICAL TRENCH CROSS SECTION	UG-03 Date: 05/29/2015 Drawn JH Checked AW	City of Crystal Lake Illinois

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UG-03

NOTES:

CASING PIPE SHALL BE GRADE B STEEL WITH MINIMUM WALL THICKNESS 0.375". WALL THICKNESS FOR CASING PIPE GREATER THAN 36" SHALL BE APPROVED BY THE CITY ENGINEER

JOINTS SHALL BE CONTINUOUSLY WELDED.

CASING PIPE WALLS SHALL BE COATED INSIDE AND OUTSIDE WITH ONE COAT SHOP PRIMER PAINT. THE EXTERNAL SURFACE SHALL BE TREATED WITH ONE COAT OF COAL TAR EPOXY OR BITUMINOUS ASPHALT COATING.

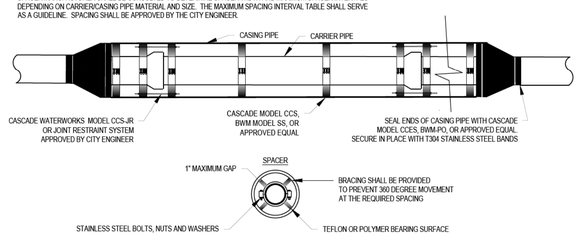
SPACERS SHALL BE INSTALLED WITHIN 2' OF THE END OF THE CASING PIPE.

DO NOT INSTALL SPACERS OVER PIPE BELLS OR TAPERS.

SPACERS SHALL BE INSTALLED IN A MANNER TO CENTER AND RESTRAIN THE CARRIER PIPE.

SPACER MANUFACTURER SHALL BE CONSULTED TO DETERMINE SPACER WIDTH AND MAXIMUM SPACER INTERVALS DEPENDING ON CARRIER/CASING PIPE MATERIAL AND SIZE. THE MAXIMUM SPACING INTERVAL TABLE SHALL SERVE AS A GUIDELINE. SPACING SHALL BE APPROVED BY THE CITY ENGINEER.

MAXIMUM SPACER INTERVAL	
CARRIER PIPE MATERIAL <60" OD	MAXIMUM INTERVAL
STEEL/DUCTILE IRON	8'-0"
PLASTIC	6'-0"
CONCRETE	4'-0"



NOT TO SCALE

Revised:	Drawing Name	Drawing Number	
1. 2. 3. 4.	CASING PIPE	UW-14 Date: 01-25-2021 Drawn KL Checked PW	City of Crystal Lake Illinois

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UW-14

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PHONE: 224-293-3100
FAX: 224-293-3101

DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	N.T.S.

CONSTRUCTION DETAILS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

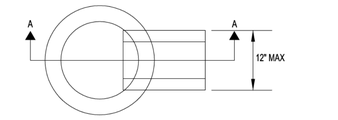
SHEET 19 OF 23

PROJECT NUMBER: 4782

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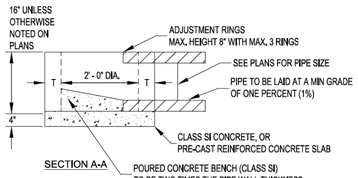
UD-01a

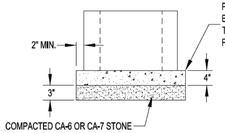


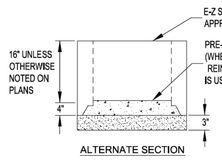
CASTING SCHEDULE		
LOCATION	EJIW	NEENAH
B or M 6.12 C&G	7235 M2	R3502-A
DEPRESSED CURB	7210 M3	R-3281A*
PAVED	1920	R-1713
NON-PAVED	1020	R-2535

* WITHOUT CURB BOX

ALTERNATE MATERIALS FOR WALLS	T
PRE-CAST REINFORCED CONCRETE SECTIONS	3"



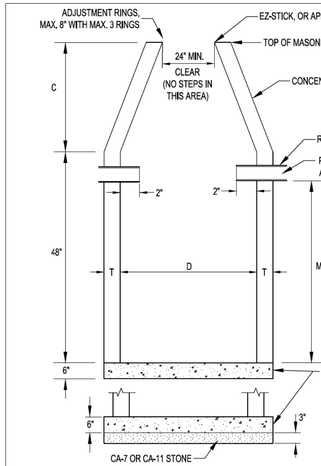




Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	DRAINAGE STRUCTURES: INLET, TYPE A	UD-01a	City of Crystal Lake Illinois
2.		Date: 05/28/2015	
3.		Drawn JH / Checked AW	
4.			

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UD-01b

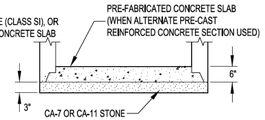


NOTES:

1. ALL CATCH BASINS SHALL BE 4'-0" IN DIAMETER UNLESS OTHERWISE NOTED ON THE PLANS.
2. IN ADDITION TO THE REQUIREMENTS OF ART. 602.16 OF THE STANDARD SPECIFICATIONS THE CONTRACT UNIT PRICE FOR CATCH BASINS, TYPE A SHALL INCLUDE THE CA-7 OR 11 CUSHION WHEN REQUIRED. FURNISHING AND COMPACTING THE SPECIFIED BACKFILL MATERIAL.
3. DIMENSION "C" FOR PRECAST REINFORCED CONCRETE SECTIONS MAY VARY FROM THE DIMENSION GIVEN TO PLUS 6 INCHES.

CASTING SCHEDULE		
LOCATION	EJIW	NEENAH
B or M 6.12 C&G	7235 M2	R3502-A
DEPRESSED CURB	7210 M3	R-2511
PAVED	1920	R-1713
NON-PAVED	1020	R-2535

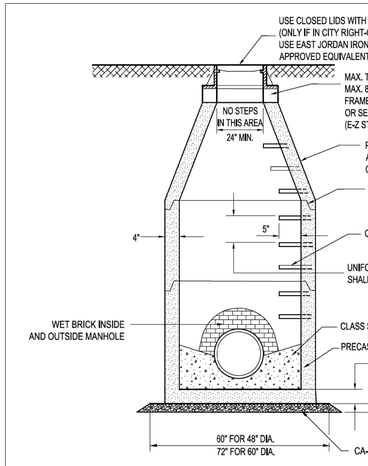
ALTERNATE MATERIALS FOR WALLS	D	C	T
PRE CAST REINFORCED CONCRETE SECTIONS	4'-0"	2'-6"	4"
	5'-0"	3'-0"	5"
CAST-IN-PLACE CONCRETE	4'-0"	2'-6"	6"
	5'-0"	3'-0"	6"



Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	CATCH BASIN TYPE A	UD-01b	City of Crystal Lake Illinois
2. 08/18/2023		Date: 09/18/2012	
3.		Drawn DD / Checked AW	
4.			

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UD-01d



CASTING SCHEDULE		
LOCATION	EJIW	NEENAH
B or M-6.12	7235 M2	R3502-A
DEPR. CURB	7210 M3	R-2511
PAVED	1920	R-1713
NON-PAVED	1020	R-2535

PIPE SIZE	d
10" - 24"	48"
27"- 48"	60"
54"- 72"	SPECIAL

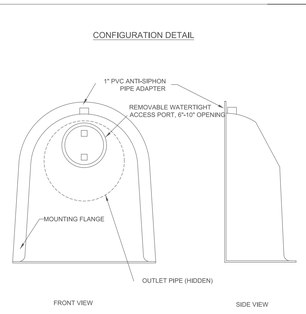
NOTES:

1. IF STRUCTURE IS TO BE MAINTAINED BY THE CITY, ALL STEPS SHALL BE REMOVED PRIOR TO FINAL ACCEPTANCE.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STORM MANHOLE TYPE A	UD-01d	City of Crystal Lake Illinois
2. 08/18/2023 JRG NOTE 1		Date: 05/19/2015	
3.		Drawn JH / Checked AW	
4.			

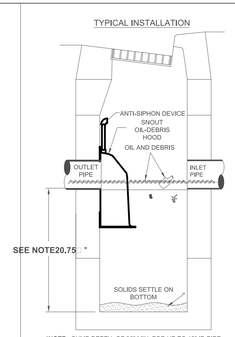
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CONFIGURATION DETAIL



SNOUT OIL-WATER-DEBRIS SEPARATOR

TYPICAL INSTALLATION



*NOTE- SUMP DEPTH OF 36" MIN. FOR UP TO 12" ID PIPE. OUTLET. FOR PIPES 15" ID AND ABOVE SUMP DEPTH OF 2.5 TO 3 TIMES PIPE ID RECOMMENDED (E.G. 5' DEEP for 24" PIPE)

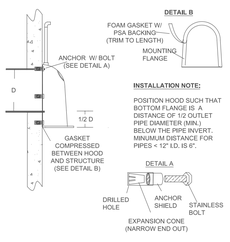
NOTES:

1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY:
   BEST MANAGEMENT PRODUCTS, INC.
   9 MATHEWS DRIVE, UNIT A1-A2.
   EAST HADDAM, CT 06423
   TOLL FREE: (800) 504-8008 OR (888) 434-0277, FAX: (877) 434-3197
   WEB SITE: www.bmpinc.com
   OR PRE-APPROVED EQUAL
2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT PIPE AND ELBOW AS DRAWN. (SEE CONFIGURATION DETAIL)
4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION (SNOUT SIZE ALWAYS LARGER THAN PIPE SIZE).
5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.
7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.
8. ALL STRUCTURE JOINTS SHALL BE WATERTIGHT.
9. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH ¼" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
10. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
    INSTALLATION KIT SHALL INCLUDE:
    A. INSTALLATION INSTRUCTIONS
    B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER
    C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
    D. 3/8" STAINLESS STEEL BOLTS
    E. ANCHOR SHIELDS

OR APPROVED EQUAL

US Patent # 6126817, 7951294, 7857966, 8512556
Canada Patent # 2285146, 2690156, 2690156 others pending

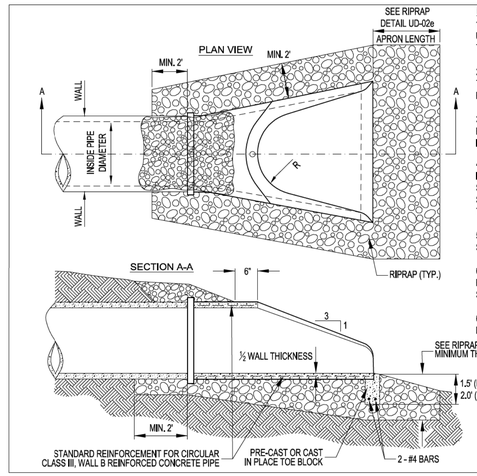
INSTALLATION DETAIL



HOOD SPECIFICATION FOR CATCH BASINS AND WATER QUALITY STRUCTURES

DESCRIPTION	DATE	SCALE
OIL- DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL)	09/08/18	NONE
	DRAWING NUMBER	SP-SN

UD-02d



NOTES:

1. CONCRETE FLARED END SECTIONS SHOULD BE CONSIDERED FOR USE WITH CONCRETE PIPE CULVERTS HAVING SKEWS NO GREATER THAN 15 DEGREES.
2. PRECAST CONCRETE FLARED END SECTIONS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-170 CLASS III, WALL B REINFORCED CONCRETE PIPE.
3. PRECAST CONCRETE FLARED END SECTION FOR PIPE DIAMETER REQUIRED SHALL BE AS INDICATED ON DETAIL PLAN FOR EACH INDIVIDUAL INSTALLATION.
4. THE END BLOCK SHALL BE PLACED PRIOR TO THE INSTALLATION OF THE FLARED END SECTION. THE END BLOCK SHALL BE BACKFILLED IN ACCORDANCE WITH ART. 502.10 OF THE STANDARD SPECIFICATIONS. THIS COST SHALL BE INCIDENTAL TO EACH END SECTION.
5. RIPRAP SHALL CONFORM TO SECT. 281 OF THE STANDARD SPECIFICATIONS.
6. INSTALL FILTER FABRIC UNDER ALL RIPRAP AND BEDDING. FILTER FABRIC SHALL CONFORM TO SECT. 282 OF THE STANDARD SPECIFICATIONS.
6. STANDARD IDOT GALVANIZED GRATE REQUIRED FOR 15" DIAMETER AND LARGER.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	FLARED END SECTION (PRECAST CONCRETE PIPE)	UD-02d	City of Crystal Lake Illinois
2. 8/27/2015		Date: 04/15/2007	
3.		Drawn DD / Checked AW	
4.			

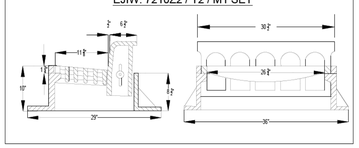
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UD-02a

BARRIER CURB

NEENAH FOUNDRY COMPANY: R-3281-A

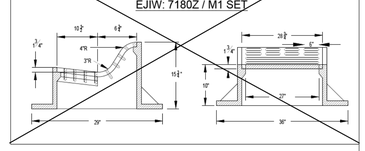
EJIW: 7210Z2 / T2 / M1 SET



~~M6.12 MOUNTABLE CURB~~

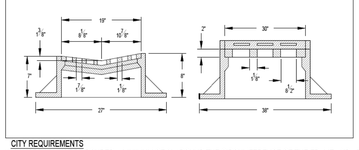
~~NEENAH FOUNDRY COMPANY: R-3503-B~~

~~EJIW: 7180Z / M1 SET~~



DEPRESSED CURB

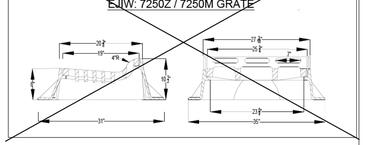
NEENAH FOUNDRY COMPANY: R-3511



~~M4.12 MOUNTABLE CURB~~

~~NEENAH FOUNDRY COMPANY: R-3501-P~~

~~EJIW: 7250Z / 7250M GRATE~~



CITY REQUIREMENTS

1) CONCRETE MUST BE POURED A MINIMUM OF 6" AROUND THE CIRCUMFERENCE OF THE FRAME AND AT LEAST 6" BELOW THE FRAME TO ENSURE THAT THERE WILL BE NO INFILTRATION BETWEEN THE FRAME AND STRUCTURE.
2) FRAMES SHALL BE SET IN LINE WITH THE EDGE OF PAVEMENT.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	CURB INLET FRAME AND GRATE	UD-02a	City of Crystal Lake Illinois
2. 01/25/2021 KL ADDED R-3281-A, R-3503-B, AND R3501-P		Date: 5/28/2015	
3.		Drawn JH / Checked AW	
4.			

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SCHAUMBURG, IL 60173
PHONE: 224-293-3100
FAX: 224-293-3101

DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	N.T.S.

CONSTRUCTION DETAILS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET
20 OF 23

PROJECT NUMBER: 4782

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ILLINOIS FIRM LICENSE 184-002694

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STORMWATER MANAGEMENT

595 Attachment 2

City of Crystal Lake

Appendix 2
Standard Soil Erosion and Sediment Control Notes

1. Control measures shall meet the minimum standards and specifications of the Illinois Urban Manual unless stated otherwise. **[Amended 11-17-2020 by Ord. No. 7671]**

2. Soil disturbance shall be conducted in such a manner as to minimize erosion. Areas of the development site that are not to be disturbed shall be protected from construction traffic or other disturbance until final stabilization is achieved.

3. Soil stabilization measures shall consider the time of year, development site conditions and the use of temporary or permanent measures.

4. Stabilization by seeding shall include topsoil placement and fertilization, as necessary.

5. Native seed mixtures shall include rapid-growing annual grasses or small grains to provide initial, temporary soil stabilization.

6. Off-site property shall be protected from erosion and sedimentation. Velocity dissipation devices shall be placed at concentrated discharge locations and along the length of any outfall channel, as necessary to prevent erosion.

7. Sediment control measures shall be installed prior to the disturbance of tributary areas.

8. Stabilization of disturbed areas shall be initiated immediately whenever any clearing, grading, excavating or other earth-disturbing activities have permanently ceased on any portion of the development site, or temporarily ceased on any portion of the development site and will not resume for a period exceeding 14 calendar days. Stabilization of disturbed areas shall be initiated within one working day of permanent or temporary cessation of earth-disturbing activities and shall be completed as soon as possible, but not later than 14 calendar days from the initiation of stabilization work in an area. Exceptions to these time frames are specified below:

   a. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable; and

   b. In areas where construction activity has temporarily ceased and will resume after 14 days, a temporary stabilization method may be used.

9. Disturbance of steep slopes shall be minimized. Areas or embankments having slopes steeper than 3:1 shall be stabilized with staked-in-place sod, erosion control blankets in combination with seeding, or an equivalent control measure.

10. Perimeter control measures shall be provided downslope and perpendicular to the flow of runoff from disturbed areas, where the tributary area is greater than 5,000 square feet, and where runoff will flow in a sheet flow manner. Perimeter erosion control shall also be provided at the base of soil stockpiles.

11. The stormwater management system shall be protected from erosion and sedimentation downslope from disturbed areas. Inlet protection that reduces sediment loading, while allowing runoff to enter the inlet, shall be required for all storm sewers. Check dams, or an equivalent control measure, shall be required for all channels. Filter fabric inlet protection and straw bale ditch checks are not acceptable control measures.

12. If dewatering services are used, discharges shall be routed through an effective sediment control measure (e.g., sediment trap or an equivalent control measure). The enforcement officer shall be notified prior to the commencement of dewatering activities.

13. All temporary soil erosion and sediment control measures shall be removed within 30 days after final stabilization of the development site is achieved or after the temporary measures are no longer necessary. Trapped sediment shall be removed and disturbed areas shall be permanently stabilized.

14. Stockpiled soil and materials shall be removed from flood hazard areas at the end of each work day. Soil and materials stockpiled in IWMC or buffer areas shall be placed on timber mats, or an equivalent control measure.

15. Effective control measures shall be utilized to minimize the discharge of pollutants from the development site. At a minimum, control measures shall be implemented in order to:

   a. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash water; and

   b. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, vehicle fluids, sanitary waste, and other materials present on the development site to precipitation and to stormwater.

16. Adequate receptacles shall be provided for the depositing of all construction material debris generated during the development process. The applicant shall not cause or permit the dumping, depositing, dropping, throwing, discarding or leaving of construction material debris upon or into any development site, channel, or IWMC. The development site shall be maintained free of construction material debris.

17. The enforcement officer may require additional or alternate soil erosion and sediment control measures, based on development-site-specific considerations and the effectiveness of the installed control measures.

STORMWATER MANAGEMENT

595 Attachment 3

City of Crystal Lake

Appendix 3
Standard Drain Tile Notes

1. Drain tiles disturbed during regulated development shall be reconnected by those responsible for their disturbance, unless the development plans specify abandonment of the drain tiles.

2. All abandoned drain tiles within disturbed areas shall be removed in their entirety.

3. Drain tiles within the disturbed area of a development site shall be replaced, bypassed around the development site or intercepted and connected to the stormwater management system for the development site. The size of the replaced or bypassed drain tile shall be equivalent to the existing drain tile.

GE-02a

GENERAL SITE-WORK:

1. Pre-Construction meeting shall be conducted with City Staff and all Contractors prior to commencing any grading or underground utility construction activities (schedule meeting with the Community Development Department at 815-356-3605).
2. 24-hour Emergency contact numbers shall be provided to City Staff at the Pre-Construction meeting.
3. Working hours shall be limited to the hours of 7:00 a.m. and 7:00 p.m. on weekdays only (except in cases of emergency). Non-emergency work on weekends or holidays is not permitted per City Code except under written permission from the City Engineer. The owner is responsible for the City Inspector cost of overtime inspection beyond the normal eight (8) hour day, including weekends and holidays.
4. Public/private streets shall be kept free of dirt and debris with regular cleaning, sweeping, and scraping conducted by the Contractor. Junk and debris shall not be allowed to accumulate, blow, or scatter onto streets or adjacent properties.
5. J.U.L.I.E. shall be contacted for utility locations on-site and in the adjacent rights-of-way.
6. Contractor shall provide and maintain fencing, barricades, traffic control signs, and other safeguarding measures during the course of all work to protect the public from the construction operations.
7. Maintain access to adjacent streets during construction. No closing of streets unless approval is first obtained from the agency with jurisdiction (City of Crystal Lake, McHenry County Department of Transportation, Illinois Department of Transportation, etc).
8. Any damage to public right-of-way, public utilities, streets, curb, etc. shall be repaired/replaced as soon as possible and as directed by the City Engineer.
9. The contractor shall give the City of Crystal Lake, Illinois Department of Transportation, and any other governmental agency having jurisdiction, at least two (2) working days notice excluding Saturday and Sunday prior to the initiation of any phase of construction. Contractor shall immediately notify if construction has ceased and renew the two (2) working day notification thereafter.
10. The Contractor shall be responsible for obtaining all required permits for construction prior to commencement along or across existing streets or highways. The Contractor shall make arrangements for the proper bracing, shoring and other protection of all roadways before construction begins.

GRADING:

1. The grading and construction of the site improvements shall not cause ponding of storm sewer water. All areas adjacent to these improvements shall be graded to allow positive drainage.
2. The proposed grading elevations shown on the plans are finished grade. A minimum of six (6) inches of topsoil is to be placed before finished grade elevations are achieved.
3. Embankment material within parkway and open space areas shall be compacted to a minimum of ninety percent (90%) of maximum density in accordance with ASTM Specification D-1557 (modified proctor method), or to such other density as may be determined appropriate by the soils engineer.
4. All subgrade material shall have a minimum CBR (California Bearing Ratio) of 3.0 as determined by the soils engineer, or base replacement and pavement design revisions shall be provided which are adequate to obtain equivalent pavement strength.
5. Proposed pavement areas, building pads, driveways and sidewalks and yard/open space areas shall be excavated or filled to plus or minus 0.1 foot of design subgrade elevations by the Contractor.
6. Any borrow pit locations shall be identified by the Contractor on a copy of the approved site plans and forwarded to the Engineering Division at least 24-hours prior to excavation. Provide backfill compaction reports from a geotechnical engineer and as-built plans to the Engineering Division for any borrow pit area.
7. Backfill shall be monitored by a geotechnical engineer on-site with compaction reports forwarded to the Engineering Division for review.
8. Water truck shall be on-site at all times during mass-grading operations and be available as needed for the purposes of dust control or at the request of City Staff.
9. Use of City fire hydrants is not allowed unless approved (separate from this permit) by the Public Works Department and a hydrant meter and RPZ is obtained from the City of Crystal Lake Water Division (815-356-3614). Only the City of Crystal Lake Water Division may operate valves and hydrants.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STANDARD NOTES AND SPECIFICATIONS	GE-02a	City of Crystal Lake Illinois
2.		Date: 01/30/15	
3.		Drawn DD / Checked AW	
4.			

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GE-02b

TOPSOIL STOCKPILING:

1. Location of any on-site topsoil stockpiles shall be identified on the approved plans with silt fence installed around the perimeter of the stockpile.
2. Topsoil stockpiled for future use shall be relatively free from large roots, sticks, weeds, brush, stones larger than one (1) inch diameter, or other litter and waste products including other extraneous materials not conducive to plant growth.
3. Topsoil shall be stockpiled in sequence to eliminate any re-handling or double movements by the Contractor. Failure to properly sequence the stockpiling operations shall not constitute a claim for additional compensation. No material shall be stockpiled in front yards, in utility easements, or in the right-of-way lines.
4. If a stockpile is to remain in place for more than (14) calendar days, it is required that the stockpile meet the requirements as outlined in section 595 of the City Code.

UNDERGROUND UTILITY:

1. The Contractor shall coordinate water main, water service, sanitary and storm sewer inspections and testing with the Community Development at least 24 hours in advance.
2. All main line sanitary shall be cleaned and televised (provide DVD to the City's Engineering Division).
3. All manhole or valve covers shall be imprinted "City of Crystal Lake Sanitary", or "City of Crystal Lake Storm", or "City of Crystal Lake Water" as directed by the City.
4. Reference the latest edition of the Standard Specifications for Water and Sewer Main Construction in Illinois.
5. Existing manholes to be circular cored and booted.

EROSION CONTROL:

1. All specified erosion control measures shall be installed and maintained per the requirements of the Crystal Lake Stormwater Ordinance in accordance with the active NPDES permit.
2. All slopes 4:1 or steeper shall be sodded or blanketed immediately after mass earthwork.
3. All overland flow routes to be stabilized by sod or blanket.
4. Erosion control measures to be inspected and approved by City Engineering Division prior to additional work on site.
5. Continuous monitoring of erosion control measures is required. Maintain records of weekly reports per the City of Crystal Lake Stormwater Ordinance.
6. The Contractor shall implement any additional erosion control measures deemed necessary by the City per the standards of the City Of Crystal Lake Stormwater Ordinance.
7. All storm sewer catch basins, sumps and/or retention basins provided are to be cleaned at the end of construction of the project prior to final acceptance. Cleaning may also be required during the course of the construction of the project if it is determined that the silt and debris traps are not properly functioning and their performance is impaired.
8. Rip-rap material RR 2 (6") - RR4 (16") shall be in accordance with Article 281
9. Projects of 1 Acre or greater must obtain an NPDES permit prior to commencement of any construction activity.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STANDARD NOTES AND SPECIFICATIONS	GE-02b	City of Crystal Lake Illinois
2. 02/25/2020		Date: 01/30/15	
3.		Drawn DD / Checked AW	
4.			

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GE-02c

SANITARY SEWER:

1. Non-shear stainless steel couplings shall be used when connecting sewer pipes of dissimilar materials and pipes with no hub joints. When connecting to an existing sanitary sewer by means other than an existing wye or manhole, contractor shall use a Sewer-Tap and hub-wye or hub-tee saddle.
2. Unless an alternate method is approved, water stop gaskets shall be provided at all sanitary sewer manhole connections. Type and manufacturer to be approved by the City.
3. PVC plastic sewer pipe and fittings of sizes 4-inch through 15-inch shall conform to the latest revised specification requirements of ASTM D3034 for type PSM polyvinyl chloride (PVC) sewer pipe and fittings of minimum wall thickness SDR 26.
4. Joints shall be either the solvent weld type conforming to the latest revised specification requirements of ASTM D2564 and ASTM D2855, or elastomeric gasket type conforming to the latest revised specification requirements of ASTM D1869 and ASTM D3212.
5. A thicker walled pipe such as SDR 18 may be specified by the engineer depending on design and/or field conditions.
6. PVC plastic sewer pipe and fittings of sizes 18-inch through 36-inch shall conform to the latest revised specification requirements of ASTM F679 or polyvinyl chloride (PVC) large diameter ribbed gravity sewer pipe and fittings, with integral bell gasketed joints and elastomeric gaskets to form a watertight seal conforming to the latest revised specification requirements of ASTM F477 or ASTM D3212.
7. Pipe and fittings shall be the products of one approved manufacturer only, and there shall not be any mixing of pipe and fittings of different manufacturers between manholes.
8. The handling and installation of pipe, assembly or joints, and manhole connections shall be in accordance with the manufacturer's recommendations.
9. Gasket-type waterstop collars consist of a neoprene collar and a stainless steel band or other approved manhole waterstop shall be installed wherever the pipe passes through the manhole walls to provide a watertight joint to prohibit infiltration into the sewer system.
10. PVC pipe shall be installed in accordance with the latest revised specification requirements of ASTM D2321 using either compacted class I or class II granular embedment materials for bedding, haunching and initial backfill of 12 inches over the top of pipe to provide the necessary support for the pipe so that the maximum deflection does not exceed five percent of the pipe's original internal diameter.
11. The Contractor shall provide the necessary tools and equipment and perform the work necessary to test the deflection in the initial 1,200 feet of installed sewer and not less than ten percent (10%) of the remainder of the sewer project at random locations selected by the engineers no sooner than 30 days after backfilling has been completed. In the event that deflection exceeds the maximum limit of five percent (5%), the Contractor shall test all other new flexible pipe for deflection. Deflection shall be tested by use of either a mandrel or rigid ball having a diameter equal to ninety-five percent (95%) of the inside diameter of the pipe, and the test shall be performed without using mechanical pulling devices. Wherever the deflection limitation is exceeded, the contractor shall uncover the pipe, carefully replace compacted embedment and backfill material, and retest for deflection.
12. The Contractor shall subject all sanitary sewers, including service lines, to an air test. Air testing shall be performed in accordance with the latest Standard Specifications for Water and Sewer.
13. The Contractor shall subject all newly constructed sanitary manholes to the Negative Pressure (Vacuum) Test in accordance with ASTM C 1244.The Contractor shall also televise all public sanitary sewers. Televising of sanitary sewer, cost for televising, and testing shall be the responsibility of the Contractor.
14. Cast Iron Soil Pipe: service weight cast iron soil pipe and fittings conforming C.I.S.P.I. Specification HS-67 with compression type rubber gasket joints conforming to ASTM specification C564, or other suitable materials approved by the City Engineer.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STANDARD NOTES AND SPECIFICATIONS	GE-02c	City of Crystal Lake Illinois
2. 01/25/2021 KL Vacuum Test Note 13		Date: 01/30/15	
3.		Drawn DD / Checked AW	
4.			

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GE-02d

WATER MAIN:

1. Water main shall be Ductile Iron.
   a) Ductile iron water main shall be Class 52 conforming to ANSI/AWWA C151/A21.51-09.
   b) Ductile iron fittings shall conform to ANSI/AWA C153/A21.53 with mechanical joint gaskets.
2. All bolted connections shall be torqued to the manufacturer's specification. The Contractor shall verify the manufacturer's specification with an approved torque wrench.
3. Thrust blocking or Mega-Lugs with Mega-Bond coating or pre-approved equal shall be installed on water mains at all bends, tees, elbows, etc. except as noted below.
4. Thrust blocks not permitted with 45 degree vertical bends in water main (these shall be restrained with Mega-Lug or pre-approved equal.
5. Ductile iron pipe shall be encased in polyethylene and shall conform with ANSI/AWWA C105/A21.10 - 10 and ASTM A674-10.
6. Minimum cover from finished grade to top of water main shall be six (6) feet; Maximum cover shall be eight (8) feet.
7. Water Main Taps: An Illinois licensed plumber is required for any water main tap.
8. All water mains shall be subjected to a 2 hour pressure and leakage test by the Contractor in accordance with City Detail UW-09A and UW-09B. Water mains shall be chlorinated in accordance with City Detail UW-09A.
9. The Underground Contractor shall consider incidental to the contract any chlorination and testing of existing water main where connections to and conclusion of such mains is indicated on the drawing.
10. For repairs to existing PVC watermains, see details UW-12 and UW-13

PAVING:

1. All subgrades and bases shall be proof-rolled and approved by the Engineering Division prior to base or binder installation.
2. Subgrade and proposed pavements shall be finished by the Excavation Contractor to within 0.1 foot plus or minus, of plan elevation.
3. The Paving Contractor shall ensure that the subgrade has been properly prepared and that the finished top of subgrade elevation has been graded within the tolerances allowed in these specifications. Unless the Paving Contractor advises the owner and engineer in writing prior to fine grading for base course construction, it is understood that the Contractor has approved and accepts responsibility for the subgrade.
4. For the purpose of providing handicap accessibility and complying with the American Disability Act and City Standards, curbs shall be depressed at locations where public walks or pedestrian paths intersect curb lines at street intersections and other locations as directed.
5. ¾ inch thick premolded fiber expansion joints with two (2) No. 4 plain round steel dowel bars shall be installed at designated intervals and at all P.C., P.T., curb returns and at the end of each pour. Alternate ends of the dowel bars shall be greased and fitted with metal expansion tubes.
6. ¾ inch thick fiber expansion joints shall be used in every case where the sidewalk coincides with the curb and gutter. Contraction joints shall be saw cut at designated intervals in the curb. The cost of these joints shall be considered as incidental to the cost of the contract.
7. All poured in place concrete curb and gutter shall incorporate two (2) No. 4 reinforcing bars installed wherever the curb and gutter crosses utility service lines, the cost of which shall be considered incidental to the cost of concrete curb and gutter.
8. Sidewalks (where required) shall be of the thickness and dimensions as shown in the construction plans. All sidewalk concrete shall be a minimum of 6.1 bag mix (or IDOT class SI concrete) and shall develop a minimum of 3,500 psi compressive strength at fourteen (14) days. Contraction joints shall be set at five (5) foot centers, and one-half inch (½ inch) premolded fiber expansion joints at fifty (50) foot centers and where the sidewalk meets the curb or another sidewalk, or at the end of each pour. All sidewalks constructed over utility trenches and/or abutting driveway aprons shall be reinforced with three (3) No. 4 reinforcing bars (10 foot minimum length).

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STANDARD NOTES AND SPECIFICATIONS	GE-02d	City of Crystal Lake Illinois
2. KL 01/25/2021 Torque Specification		Date: 01/30/15	
3. 02/06/2023 JRG - Update Water Main Note 8		Drawn DD / Checked AW	
4. 07/14/2023 JRG - Update Water Main Notes 1, 5, 10			

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PHONE: 224-293-3100
FAX: 224-293-3101

DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	N.T.S.

CONSTRUCTION DETAILS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

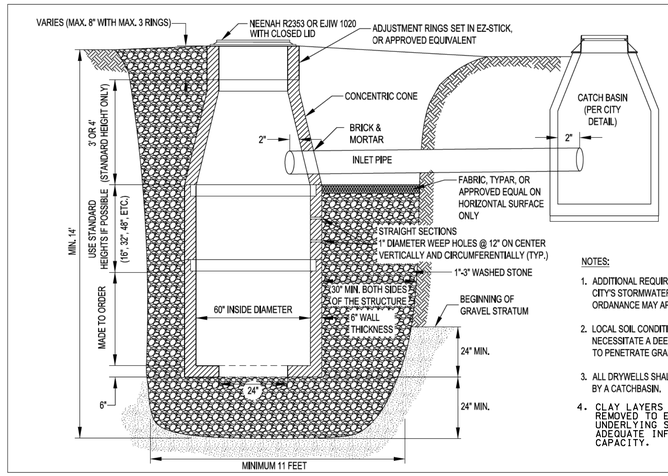
SHEET 21 OF 23

PROJECT NUMBER: 4782

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UD-03



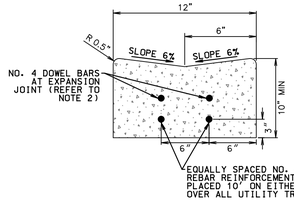
NOTES:

1. ADDITIONAL REQUIREMENTS FROM THE CITY'S STORMWATER MANAGEMENT ORDANANCE MAY APPLY.
2. LOCAL SOIL CONDITIONS MAY NECESSITATE A DEEPER EXCAVATION TO PENETRATE GRANULAR SUBSOIL
3. ALL DRYWELLS SHALL BE PRECEEDED BY A CATCHBASIN.
4. CLAY LAYERS SHALL BE REMOVED TO ENSURE UNDERLYING SOILS HAVE ADEQUATE INFILTRATION CAPACITY.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	DRYWELL	UD-03	
2. 08/21/2018		Date: 12/04/2012	
3.		Drawn DD	Checked AW
4.			

City of Crystal Lake Illinois

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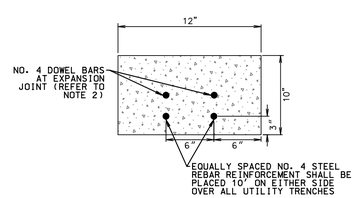
NOTES:

1. CURB SHALL BE CONSTRUCTED WITH PORTLAND CEMENT IDOT CLASS "SI" CONCRETE.
2. CONTRACTION AND EXPANSION JOINTS SHALL BE PROVIDED IN ACCORDANCE WITH IDOT STANDARD SPECIFICATIONS, AS NOTED WITHIN THIS PLAN SET OR AS OTHERWISE SHOWN BY THE ARCHITECT.
3. CONCRETE RIBBON CURB SHALL BE PLACED ON 4" MINIMUM COMPACTED AGGREGATE BASE COURSE. AGGREGATE BASE COURSE SHALL EXTEND A MINIMUM OF 1-FOOT BEYOND CURB.
4. SLOPE SHALL BE A MAXIMUM OF 5.0% ADJACENT TO ADA ACCESSIBLE ROUTES.

FOR URBAN TOWNHOME ALLEYS AT BUILDINGS 1-10 ONLY

CONCRETE RIBBON CURB & GUTTER DETAIL

NOT TO SCALE



NOTES:

1. CURB SHALL BE CONSTRUCTED WITH PORTLAND CEMENT IDOT CLASS "SI" CONCRETE.
2. CONTRACTION AND EXPANSION JOINTS SHALL BE PROVIDED IN ACCORDANCE WITH IDOT STANDARD SPECIFICATIONS, AS NOTED WITHIN THIS PLAN SET OR AS OTHERWISE SHOWN BY THE ARCHITECT.
3. CONCRETE RIBBON CURB SHALL BE PLACED ON 4" MINIMUM COMPACTED AGGREGATE BASE COURSE. AGGREGATE BASE COURSE SHALL EXTEND A MINIMUM OF 1-FOOT BEYOND CURB.

FOR URBAN TOWNHOME ALLEYS AT BUILDINGS 11-20 ONLY

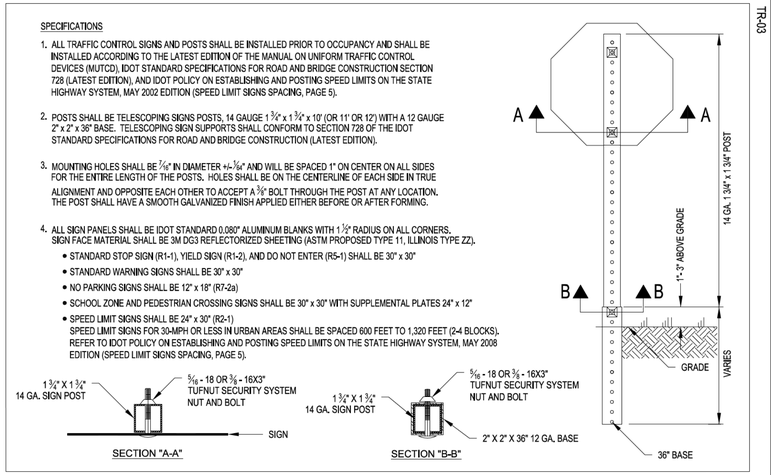
CONCRETE RIBBON CURB DETAIL

NOT TO SCALE

TR-03

SPECIFICATIONS

1. ALL TRAFFIC CONTROL SIGNS AND POSTS SHALL BE INSTALLED PRIOR TO OCCUPANCY AND SHALL BE INSTALLED ACCORDING TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 728 (LATEST EDITION), AND IDOT POLICY ON ESTABLISHING AND POSTING SPEED LIMITS ON THE STATE HIGHWAY SYSTEM, MAY 2002 EDITION (SPEED LIMIT SIGNS SPACING, PAGE 5).
2. POSTS SHALL BE TELESCOPING SIGNS POSTS, 14 GAUGE 1 3/8" x 1 3/4" x 10' (OR 11' OR 12') WITH A 12 GAUGE 2" x 2" x 36" BASE. TELESCOPING SIGN SUPPORTS SHALL CONFORM TO SECTION 728 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).
3. MOUNTING HOLES SHALL BE 5/16" IN DIAMETER +/-1/16" AND WILL BE SPACED 1" ON CENTER ON ALL SIDES FOR THE ENTIRE LENGTH OF THE POSTS. HOLES SHALL BE ON THE CENTERLINE OF EACH SIDE IN TRUE ALIGNMENT AND OPPOSITE EACH OTHER TO ACCEPT A 3/8" BOLT THROUGH THE POST AT ANY LOCATION. THE POST SHALL HAVE A SMOOTH GALVANIZED FINISH APPLIED EITHER BEFORE OR AFTER FORMING.
4. ALL SIGN PANELS SHALL BE IDOT STANDARD 0.080" ALUMINUM BLANKS WITH 1 1/2" RADIUS ON ALL CORNERS. SIGN FACE MATERIAL SHALL BE 3M DG3 REFLECTORIZED SHEETING (ASTM PROPOSED TYPE 11, ILLINOIS TYPE ZZ).
   - STANDARD STOP SIGN (R1-1), YIELD SIGN (R1-2), AND DO NOT ENTER (R5-1) SHALL BE 30" x 30"
   - STANDARD WARNING SIGNS SHALL BE 30" x 30"
   - NO PARKING SIGNS SHALL BE 12" x 18" (R7-2a)
   - SCHOOL ZONE AND PEDESTRIAN CROSSING SIGNS SHALL BE 30" x 30" WITH SUPPLEMENTAL PLATES 24" x 12"
   - SPEED LIMIT SIGNS SHALL BE 24" x 30" (R2-1)
     SPEED LIMIT SIGNS FOR 30-MPH OR LESS IN URBAN AREAS SHALL BE SPACED 600 FEET TO 1,320 FEET (2-4 BLOCKS). REFER TO IDOT POLICY ON ESTABLISHING AND POSTING SPEED LIMITS ON THE STATE HIGHWAY SYSTEM, MAY 2008 EDITION (SPEED LIMIT SIGNS SPACING, PAGE 5).

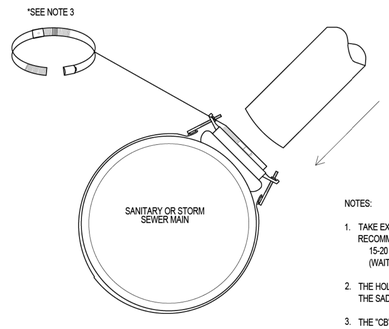


Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	TRAFFIC CONTROL SIGN AND POST	TR-03	
2.		Date: 04/15/2007	
3.		Drawn EM	Checked AW
4.			

City of Crystal Lake Illinois

L:\ENGINEERING AND BUILDING\ENGINEERING DETAILS AND STANDARDS\

US-03



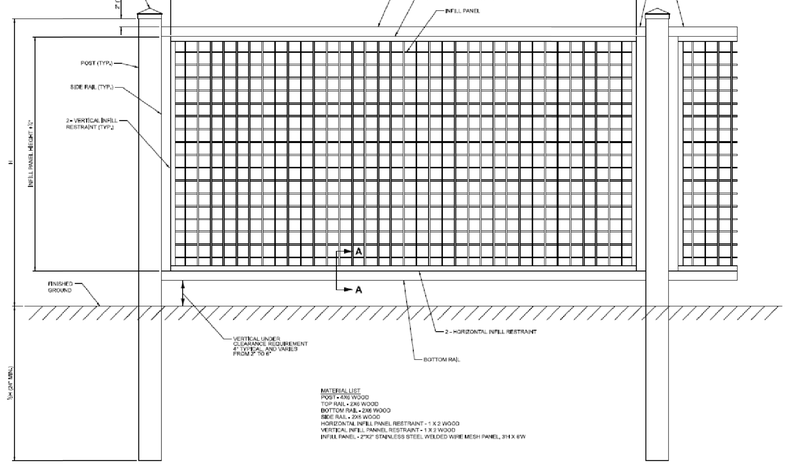
STYLE "CB" SEWER SADDLE

NOTES:

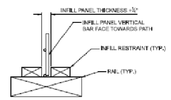
1. TAKE EXTRA CARE TO FOLLOW PROPER TIGHTENING PROCEDURES AND TORQUE RECOMMENDATIONS:
   15-20 FT./LB FOR 6" - 12" MAINS AND 20-30 FT./LB FOR 14" -48" MAINS
   (WAIT 10 MINUTES AND RETORQUE).
2. THE HOLE CUT IN THE MAIN SHOULD BE NO LARGER THAN THE INSIDE DIAMETER OF THE SADDLE GASKET.
3. THE "CB" "UN" SADDLES ARE PROVIDED WITH A BAND CLAMP (HOSE CLAMP) WHICH ALLOWS IT TO HAVE A RANGE. THE BAND CLAMP COMES WITH TWO ADJUSTING SCREWS WHICH PROVIDE MUCH GREATER CLAMPING FORCE THAN BAND CLAMPS WITH ONLY ONE ADJUSTMENT SCREW. THE BAND CLAMP NEEDS TO BE ASSEMBLED AROUND THE OUTLET AND BOTH ADJUSTING SCREWS TIGHTENED EVENLY.
4. ALL METAL HARDWARE MATERIAL SHALL BE STAINLESS STEEL.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	SANITARY OR STORM SEWER SADDLE CONNECTION	US-03	
2. 02/04/2021 KL ADDED STORM SEWER CONNECTIONS		Date: 04/15/2007	
3.		Drawn EM	Checked VR
4.			

City of Crystal Lake Illinois

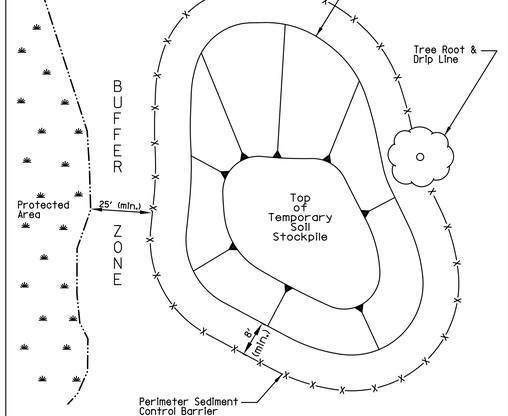


PEDESTRIAN SAFETY RAILING



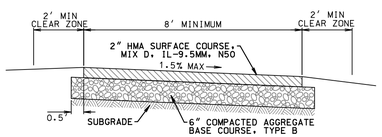
SECTION A-A

TEMPORARY SOIL STOCKPILE DETAIL



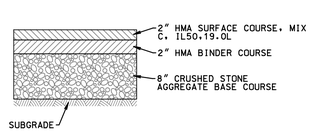
NOTES:
1. Stockplle slopes should be based on angle of repose of the soil material to avoid potential sloughing of the slope.
2. Soil stockplle to be stabilized in accordance with practical standards.
3. Do not locate stockplle within overland drainage flow path, designated floodways, drip line or over the root crown of adjacent trees.
4. Provisions for sediment control practices may be required along haul roads and entrance/exit locations for access to the soil stockplle that can create flow path for stormwater runoff.
5. Installation of benches, terraces, or slope interrupters should be considered.
6. Avoid building soil stockplles on impervious surfaces.
7. Linear sediment trap surrounding the stockplle base may be used to control sediment.

REFERENCE		STANDARD DWG. NO.
Project		IUM-627
Designed ____ Date ____		SHEET 1 OF 1
Checked ____ Date ____		DATE JANUARY 2017
Approved ____ Date ____		



BIKE PATH DETAIL

NOT TO SCALE



PRIVATE ALLEY PAVEMENT DETAIL

NOT TO SCALE

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LENNAR
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SCHAUMBURG, IL 60173
PHONE: 224-293-3100
FAX: 224-293-3101

DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	N.T.S.

CONSTRUCTION DETAILS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 22 OF 23

PROJECT NUMBER: 4782

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ILLINOIS FIRM LICENSE 184-002694

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GENERAL NOTES

A. REFERENCED SPECIFICATIONS

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING, EXCEPT AS MODIFIED HEREIN OR ON THE PLANS:

   - STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT SS) FOR ALL IMPROVEMENTS EXCEPT SANITARY SEWER AND WATER MAIN CONSTRUCTION;
   - STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSWS) FOR SANITARY SEWER AND WATER MAIN CONSTRUCTION
   - CITY OF CRYSTAL LAKE STANDARD SPECIFICATIONS AND DETAILS. ALL STANDARDS TO BE IN ACCORDANCE WITH THE CITY OF CRYSTAL LAKE

   IN CASE OF CONFLICT BETWEEN THE APPLICABLE ORDINANCES NOTED, THE MORE STRINGENT SHALL TAKE PRECEDENCE AND SHALL CONTROL ALL CONSTRUCTION.

B. NOTIFICATIONS

1. THE CITY OF CRYSTAL LAKE MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO EACH PHASE OF WORK.CONTRACTOR SHALL DETERMINE ITEMS REQUIRING INSPECTION PRIOR TO START OF CONSTRUCTION OR EACH WORK PHASE.
2. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION FOR THE EXACT LOCATIONS OF THE UTILITIES AND FOR THEIR PROTECTION DURING CONSTRUCTION. IF EXISTING UTILITIES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, IMMEDIATELY NOTIFY THE ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED. CALL J.U.L.I.E. AT 1-800-892-0123.

C. GENERAL NOTES

1. THE MUNICIPALITY AND THE OWNER OR OWNER'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION IMPROVEMENTS.
2. THE CONTRACTOR(S) SHALL INDEMNIFY THE OWNER, ENGINEER, MUNICIPALITY, AND THEIR AGENTS, ETC., FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION. INSTALLATION, OR TESTING OF THIS WORK ON THE PROJECT.
3. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS APPROVED BY THE MUNICIPALITY UNLESS CHANGES ARE APPROVED BY THE MUNICIPALITY OR AUTHORIZED AGENT. THE CONSTRUCTION DETAILS, AS PRESENTED ON THE PLANS, MUST BE FOLLOWED. PROPER CONSTRUCTION TECHNIQUES MUST BE FOLLOWED ON THE IMPROVEMENTS INDICATED ON THE PLANS.
4. A WATER-TIGHT PLUG SHALL BE INSTALLED IN THE DOWNSTREAM SEWER PIPE AT THE POINT OF SEWER CONNECTION PRIOR TO COMMENCING ANY SEWER CONSTRUCTION. THE PLUG SHALL REMAIN IN PLACE UNTIL REMOVAL IS AUTHORIZED BY THE MUNICIPALITY AND AFTER THE SEWERS HAVE BEEN TESTED AND ACCEPTED.
5. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT ANY UNPOLLUTED WATER, SUCH AS GROUND AND SURFACE WATER, FROM ENTERING THE EXISTING SANITARY SEWERS.
6. DISCHARGING ANY UNPOLLUTED WATER INTO THE SANITARY SEWER SYSTEM FOR THE PURPOSE OF SEWER FLUSHING OF LINES FOR THE DEFLECTION TEST SHALL BE PROHIBITED WITHOUT PRIOR APPROVAL FROM THE MUNICIPALITY.
7. THE LOCATION OF VARIOUS EXISTING UNDERGROUND UTILITIES WHICH ARE SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. VERIFY LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING THE CONSTRUCTION OPERATIONS.
8. ANY EXISTING PAVEMENT, SIDEWALK, DRIVEWAY, ETC., DAMAGED DURING CONSTRUCTION OPERATIONS AND NOT CALLED FOR TO BE REMOVED SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
9. NO FINAL CONNECTION SHALL BE MADE TO THE EXISTING WATER MAIN SYSTEM UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED AND CHLORINATED.
10. ALL NON-PAVING CONCRETE USED ON THE PROJECT SHALL BE IDOT CLASS SI.
11. MATERIAL AND COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPALITY AND OWNER.
12. THE UNDERGROUND CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS TO NOTIFY ALL INSPECTION AGENCIES.
13. ALL EXISTING FIELD DRAINAGE TILE ENCOUNTERED OR DAMAGED DURING CONSTRUCTION WHICH DRAIN OFFSITE PROPERTY SHALL BE CONNECTED TO THE STORM SEWER SYSTEM. ALL EXISTING FIELD DRAINAGE TILE ENCOUNTERED OR DAMAGED DURING CONSTRUCTION THAT SERVES ON-SITE PROPERTY CAN BE CAPPED AND/OR REMOVED FROM THE SITE.
14. ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED DURING CONSTRUCTION SHALL BE ADJUSTED TO FINISH GRADE PRIOR TO FINAL INSPECTION.
15. RECORD DRAWINGS SHALL BE KEPT BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER AS SOON AS UNDERGROUND IMPROVEMENTS ARE COMPLETED. FINAL PAYMENTS TO THE CONTRACTOR SHALL BE HELD UNTIL THEY ARE RECEIVED. ANY CHANGES IN LENGTH, LOCATION OR ALIGNMENT SHALL BE SHOWN IN RED. ALL WYES OR BENDS SHALL BE LOCATED FROM THE DOWNSTREAM MANHOLE. ALL VALVES, B-BOXES, TEES OR BENDS SHALL BE TIED TO A FIRE HYDRANT.
16. TRAFFIC CONTROL SIGNS SHALL BE INSTALLED DURING CONSTRUCTION IN ACCORDANCE WITH THE IDOT SS AND IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THE SAFE AND ORDERLY PASSAGE OF TRAFFIC AND PEDESTRIANS SHALL BE MAINTAINED AT ALL TIMES.

D. EXCAVATION AND SITE GRADING

1. EXCAVATION AND EMBANKMENT REQUIRED FOR SITE GRADING SHALL BE CONSTRUCTED IN ACCORDANCE WITH SOILS REPORTS PREPARED FOR THIS SITE. COPIES OF THE SOILS REPORTS ARE AVAILABLE FROM THE OWNER.
2. BUILDING PAD, BUILDING FOOTING, AND PAVEMENT SUBGRADES SHALL BE CONSTRUCTED OF SUITABLE FILL MATERIAL, AS DETERMINED BY THE SOILS ENGINEER, AND COMPACTED TO A MINIMUM BEARING CAPACITY OF 3,000 PSF IN BUILDING PAD AREAS AND 95% MODIFIED PROCTOR DENSITY WITHIN PUBLIC PUBLIC RIGHT-OF-WAYS.
3. COMPACTION TESTING SHALL MEET THE REQUIREMENTS OF THE MUNICIPALITY AND THE OWNER.
4. NO EQUIPMENT, MATERIAL OR WORK IS TO BE PERFORMED OUTSIDE THE LIMITS OF CONSTRUCTION.
5. THE CONTRACTOR IS REQUIRED TO MEET ALL SOIL EROSION CONTROL AND SEDIMENTATION REQUIREMENTS AS SET FORTH IN THE IEPA STANDARDS, MUNICIPAL ORDINANCES, COUNTY ORDINANCES, AND THE ENGINEERING PLANS.
6. ALL PAVEMENT SUBGRADES SHALL BE PROOF-ROLLED WITH A FULLY LOADED TEN WHEEL TRUCK. ANY SOFT YIELDING AREAS SHALL BE REMOVED AND REPLACED WITH COMPACTED CA-6 CRUSHED STONE.
7. ALL UNSUITABLE MATERIAL, AS DETERMINED BY THE SOILS ENGINEER, SHALL BE REMOVED AND (A.) DISC-DRIED AND RECOMPACTED, OR (B.) LIME OR CEMENT DRIED AND RECOMPACTED, OR (C.) REPLACED WITH CRUSHED STONE, IDOT CA-6 GRADATION. ALL OPTIONS MEETING COMPACTION REQUIREMENTS AS SPECIFIED EARLIER IN THESE SPECIFICATIONS.
8. LIMITS OF BUILDING PAD SHALL EXTEND FIVE (5) FEET BEYOND PROPOSED BUILDING WALLS. LIMITS OF SUITABLE PAVEMENT SUBGRADE SHALL EXTEND TWO (2) FEET BEYOND BACK OF PROPOSED CURB, OR EDGE OF PAVEMENT.
9. ALL REMOVAL OR EXCAVATION ITEMS BEING DISPOSED OF AT AN UNCONTAMINATED SOIL FILL OPERATION OR CLEAN CONSTRUCTION AND DEMOLITION DEBRIS (CCDD) FILL SITE SHALL MEET THE REQUIREMENTS OF PUBLIC ACT 96-1416. ALL COSTS ASSOCIATED WITH MEETING THESE REQUIREMENTS SHALL BE INCLUDED IN THE UNIT PRICE COST FOR THE ASSOCIATED REMOVAL OR EXCAVATION ITEMS IN THE CONTRACT. THESE COSTS SHALL INCLUDE BUT ARE NOT LIMITED TO ALL REQUIRED TESTING, LAB ANALYSIS, CERTIFICATION BY A LICENSED PROFESSIONAL ENGINEER, AND STATE AND LOCAL TIPPING FEES.

E. PAVEMENT CONSTRUCTION

1. HOT-MIX ASPHALT PAVEMENT SHALL HAVE A MINIMUM TOTAL COMPACTED THICKNESS AS SHOWN ON THE DRAWINGS AND SHALL BE COMPACTED TO 93% OF THE MAXIMUM UNIT WEIGHT AS DETERMINED BY ASTM D-2041.
2. THE PAVEMENT SUBGRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTION 301 (SUBGRADE PREPARATION) OF THE IDOT SS. SUBGRADE SHALL BE COMPACTED TO A MINIMUM IBR OF 3.0.
3. THE AGGREGATE BASE COURSE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTION 351 (AGGREGATE BASE COURSE) OF THE IDOT SS.
4. NO AGGREGATE BASE COURSE SHALL BE INSTALLED UNTIL THE SUBGRADE HAS BEEN APPROVED BY THE OWNER.
5. HOT-MIX ASPHALT PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTION 406 (HOT-MIX ASPHALT BINDER AND SURFACE COURSE).
6. NO HOT-MIX ASPHALT BINDER SHALL BE INSTALLED UNTIL THE AGGREGATE BASE COURSE HAS BEEN APPROVED BY THE OWNER. AGGREGATE BASE COURSE PRIME COAT (MC-30) SHALL BE APPLIED AT A RATE OF 0.25 TO 0.5 GALLONS PER SQUARE YARD, THE EXACT RATE TO BE SPECIFIED BY THE ENGINEER.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY SIGNS, BARRICADES, FENCES, ETC. TO KEEP THE CONSTRUCTION SITE IN COMPLIANCE WITH STATE AND FEDERAL LAWS. THE MUNICIPALITY MAY REQUIRE ADDITIONAL SIGNAGE OR BARRICADES. THE CONTRACTOR SHALL COMPLY WITH ALL SUCH MUNICIPAL REQUIREMENTS.
8. ALL EXISTING PAVEMENT, SIDEWALK, OR CURB AND GUTTER TO BE REMOVED SHALL BE SAWCUT ALONG THE LIMITS OF THE PROPOSED REMOVAL BEFORE REMOVAL OPERATIONS BEGIN.
9. PRIOR TO PLACEMENT OF BASE COURSE, THE SUBGRADE SHALL BE PROOF-ROLLED WITH A FULLY LOADED TEN WHEEL TRUCK. ANY SOFT YIELDING AREAS SHALL BE REMOVED AND REPLACED WITH COMPACTED CA-6 CRUSHED STONE.
10. CURB AND GUTTER REMOVAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTION 440 (REMOVAL OF EXISTING PAVEMENT AND APPURTENANCES) OF THE IDOT SS.
11. ALL PAVEMENT MARKINGS WITHIN PUBLIC RIGHT OF WAY SHALL BE THERMOPLASTIC.
12. ADA ACCESSIBLE CURB RAMPS SHALL BE PROVIDED AT ALL LOCATIONS WHERE THE SIDEWALK ADJOINS THE CURB AND GUTTER. ALL ADA RAMPS SHALL PROVIDE DETECTABLE WARNINGS PER THE DETAIL NOTED WITHIN THIS PLAN SET. THE INSTALLATION OF THESE DETECTABLE WARNINGS SHALL CONFORM TO SECTION 424 OF THE IDOT SS AND THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES.
13. ALL CONCRETE FOR SIDEWALK AND CURB AND GUTTER IS TO BE CLASS SI, 6.1 BAG MIX WITH NO FLY ASH.
14. COMBINATION CURB AND GUTTER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTION 606 (CONCRETE GUTTER, CURB, MEDIAN,AND PAVED DITCH) OF THE IDOT SS.
    a. EXPANSION JOINTS SHALL BE PLACED AT THE END OF RADII AND AT INTERVALS OF NO MORE THAN 40-FEET IN STRAIGHT LINE PORTIONS OF WORK. EXPANSION JOINTS SHALL BE PROVIDED WHERE THE CURB AND GUTTER ABUTS AN EXISTING OR PROPOSED SIDEWALK, BUILDING, PERMANENT STRUCTURE OR EXISTING OR PROPOSED CONCRETE DRIVEWAY. EXPANSION JOINTS ARE REQUIRED 5-FEET ON EACH SIDE OF ANY STORM SEWER STRUCTURE IN THE CURB LINE. EXPANSION JOINTS SHALL CONSIST OF 1-INCH PREMOLDED EXPANSION JOINT FILLER MATERIAL.
    b. EXPANSION JOINTS SHALL INCLUDE 12-INCH LONG #4 DOWEL BARS WITH CAP.
    c. CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NO MORE THAN 10-FEET. CONTRACTION JOINTS SHALL BE SAWED TO A DEPTH EQUAL TO 1/3 THE THICKNESS OF THE GUTTER FLAG AND TO A WIDTH OF NOT LESS THAN 1/8 INCH.
    d. A MINIMUM 4-INCH COMPACTED AGGREGATE BASE SHALL BE PROVIDED UNDER THE CURB AND GUTTER AND SHALL EXTEND 1-FOOT BEHIND BACK OF CURB. REFER TO SECTION 606 FOR ADDITIONAL JOINTING REQUIREMENTS.
15. SIDEWALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTION 424 (PORTLAND CEMENT CONCRETE SIDEWALK) OF THE IDOT SS.
    a. THE SURFACE SHALL BE DIVIDED BY GROOVES CONSTRUCTED AT RIGHT ANGLES TO THE CENTERLINE OF THE SIDEWALK OR AS SHOWN ON THE ENGINEERING PLANS. GROOVES SHALL EXTEND TO 1/4 THE DEPTH OF THE SIDEWALK, SHALL BE NOT LESS THAN 1/8 IN. NOR MORE THAN 1/4 IN. IN WIDTH, AND SHALL BE LONGER THAN 6 FT. NOR LESS THAN 4 FT. ON ANY SIDE, UNLESS OTHERWISENOTED.
    b. EXPANSION JOINTS SHALL BE 1/2 IN. THICK AND CONSIST OF PREFORMED JOINT FILLER. THE TOP OF THE JOINT FILLER SHALL BE 1/4 IN. BELOW THE SURFACE OF THE SIDEWALK.
    c. EXPANSION JOINTS SHALL BE PLACED BETWEEN THE SIDEWALK AND ALL STRUCTURES SUCH AS LIGHT POLES, TRAFFIC SIGNAL POLES, TRAFFIC POLES AND SUBWAY COLUMNS, WHICH EXTEND THROUGH THE SIDEWALK. EXPANSION JOINTS SHALL BE PLACED AT MAXIMUM INTERVALS OF 50 FT. IN THE SIDEWALK. WHERE THE SIDEWALK IS CONSTRUCTED ADJACENT TO PAVEMENT OR CURB HAVING EXPANSION JOINTS, THE EXPANSION JOINTS IN THE SIDEWALK SHALL BE PLACED IN LINE WITH THE EXPANSION JOINTS AS NEARLY AS PRACTICABLE. EXPANSION JOINTS SHALL BE PLACED WHERE THE SIDEWALK ABUTS EXISTING SIDEWALKS, BETWEEN DRIVEWAY PAVEMENT AND SIDEWALK, AND BETWEEN SIDEWALK ACCESSIBILITY RAMPS AND CURBS WHERE THE RAMP ABUTS A CURB.
16. HOT-MIX ASPHALT SPECIFICATIONS SHALL BE AS FOLLOWS:

ITEM	AIR VOIDS
HMA SURFACE COURSE, MIX "D", IL-9.5MM, N50, 1.5" MIN.	4% AT 50 GYR.
HMA BINDER COURSE, IL-19.0, N50; 2.25" MIN	4% AT 50 GYR.
LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4" MIN	3.5% AT 50 GYR.
CLASS D PATCHES (HMA BINDER IL-19mm)	4% AT 70 GYR.

THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ YD/IN.

THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 76-22" AND FOR ALL NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS. FOR "PERCENT OF RAP" SEE SPECIAL PROVISIONS. APPLICABLE DISTRICT ONE SPECIAL PROVISIONS MAY INCLUDE, "RECLAIMED ASPHALT PAVEMENT AND SHINGLES", "HMA MIXTURE IL-4.75" AND "STONE MATRIX ASPHALT (SMA)".

17. ALL CURBS CONSTRUCTED OVER A UTILITY TRENCH SHALL BE REINFORCED WITH TWO EQUALLY SPACED #4 REBARS CENTERED IN THE FLAG FOR A LENGTH OF 10 FEET ON EITHER SIDE OF THE TRENCH. SIDEWALKS SHALL BE TREATED IN THE SAME MANNER USING THREE EQUALLY SPACED #4 REBARS CENTERED IN THE SIDEWALK FOR A LENGTH OF 10 FEET ON EITHER SIDE OF THE TRENCH.
18. ALL WATER AND SANITARY SERVICE LOCATIONS SHALL BE STAMPED ON THE CURB WITH "W" OR "S" AT THE DEMARKED LOCATIONS WHERE POSSIBLE.

F. SANITARY SEWER

1. ALL SANITARY SEWERS, SERVICES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LOCAL MUNICIPAL REQUIREMENTS OR SANITARY DISTRICT SPECIFICATIONS AND THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSWS).
2. SANITARY SEWERS SHALL BE:
    a. POLYVINYL CHLORIDE PIPE (PVC), SDR 26 PER ASTM D-3034 WITH ELASTOMERIC JOINTS IN ACCORDANCE WITH ASTM D-3212 AND F477 or
    B. PRESSURE RATED PIPE (WATER MAIN QUALITY) SHALL BE IN ACCORDANCE WITH ASTM D 2241. PVC PIPE JOINTS SHALL BE SOLVENT CEMENTED JOINTS PER ASTM D 2672 OR FLEXIBLE ELASTOMERIC JOINTS PER ASTM D3139 AND F477.
3. FRACTURED GRANULAR PIPE BEDDING MATERIAL SHALL BE IDOT CA-7 OR CA-11 AND SHALL BE INSTALLED PER CITY OF CRYSTAL LAKE DRAWING UG-03. GRANULAR BEDDING SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
4. SELECTED GRANULAR BACKFILL, IDOT CA-6, GRADE 7, 8, OR 9 SHALL BE USED WHERE THE TOP OF TRENCH LIES UNDER OR WITHIN 24-INCHES OF ALL PAVEMENTS, CURB AND GUTTERS, DRIVEWAYS AND SIDEWALKS. REFER TO CRYSTAL LAKE DRAWING UG-03
5. SANITARY SEWER TESTING SHALL INCLUDE EXFILTRATION TEST OR INFILTRATION TESTING IN ACCORDANCE WITH THE SSWS, MUNICIPAL REQUIREMENTS AND/OR SANITARY DISTRICT REQUIREMENTS. ALL SANITARY SEWERS CONSTRUCTED OF FLEXIBLE PIPE SHALL BE DEFLECTION TESTED IN ACCORDANCE WITH THE SSWS, MUNICIPAL REQUIREMENTS AND/OR SANITARY DISTRICT REQUIREMENTS. DEFLECTION TESTING SHALL NOT OCCUR SOONER THAN THIRTY (30) DAYS AFTER COMPLETION OF THE SEWER INSTALLATION OF THE SECTION BEING TESTED.
6. SANITARY MANHOLES SHALL BE TESTED FOR WATERTIGHTNESS BY EITHER ASTM C969 - STANDARD PRACTICE FOR INFILTRATION AND EXFILTRATION ACCEPTANCE TESTING OF INSTALLED PRECAST CONCRETE PIPE SEWER LINES OR ASTM C 1244 - STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY NEGATIVE PRESSURE (VACUUM) TEST.
7. SANITARY SEWER SERVICE FOR THE PROPOSED BUILDINGS SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS FOR SIZE AND LOCATION. LATER REVISIONS TO ARCHITECTURAL PLANS MAY EXIST, THEREFORE, CONTRACTOR SHALL VERIFY LOCATION OF SANITARY SERVICE AS SHOWN ON ENGINEERING PLANS IS CONSISTENT WITH ARCHITECTURAL PLANS. NOTIFY ENGINEER OR OWNER IF DISCREPANCY EXISTS. FIELD LOCATION OF ALL SERVICE STUBS TO BE VISIBLY DEMARKED, SUPPLIED BY CONTRACTOR, AND SHOWN ON RECORD DRAWINGS.

G. WATER MAIN

1. ALL WATER MAINS, SERVICES, AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LOCAL MUNICIPAL REQUIREMENTS AND THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSWS).
2. WATER MAINS SHALL BE:
    a. DUCTILE IRON PIPE CONFORMING TO ANSI A 21.51 (AWWA C151), CLASS 52 PER ANSI A 21.50 (AWWA C150), SEAL COATED OR CEMENT LINED PER ANSI A21.4 (AWWA C104), WITH RUBBER RING (SLIP SEAL OR PUSH ON) JOINTS OR MECHANICAL FOR RESTRAINED JOINTS. or;
    b. ALL WATER SERVICES (2.5" DIA. AND SMALLER) SHALL BE COPPER WATER TUBE TYPE K OR GREATER SOFT TEMPER. FOR UNDERGROUND SERVICE AND CONFORMING TO ASTM B88 AND ASTM B251. THE PIPE SHALL BE MARKED WITH THE MANUFACTURER'S NAME OR TRADEMARK AND A MARK INDICATIVE OF THE TYPE OF PIPE. THE OUTSIDE DIAMETER OF THE PIPE SHALL CONFORM TO ASTM B251 TABLE 2. FITTINGS FOR SERVICE PIPE SHALL BE BRASS AND OF THE COMPRESSION TYPE FOR TYPE K TUBING. ONE PIECE SHALL BE USED FROM THE MAIN TO THE CURB STOP AND ONE PIECE FROM THE CURB STOP TO THE METER SPREAD FOR LENGTHS OF 100 FEET OR LESS.
3. THE COVER OVER THE WATERMAIN AND SERVICES SHALL BE MAINTAINED BETWEEN 6'-0" AND 8'-0" AT ALL TIMES, UNLESS SPECIAL PROVISIONS HAVE BEEN MADE.
4. FRACTURED GRANULAR PIPE BEDDING MATERIAL SHALL BE IDOT CA-7 OR CA-11 AND SHALL BE INSTALLED PER CITY OF CRYSTAL LAKE DRAWING UG-03. GRANULAR BEDDING SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
5. SELECTED GRANULAR BACKFILL, IDOT CA-6, GRADE 7, 8, OR 9 SHALL BE USED WHERE THE TOP OF TRENCH LIES UNDER OR WITHIN 24-INCHES OF ALL PAVEMENTS, CURB AND GUTTERS, DRIVEWAYS AND SIDEWALKS. REFER TO CRYSTAL LAKE DRAWING UG-03
6. ALL WATER VAULTS SHALL HAVE THE WORD "WATER" CAST INTO THE LID.
7. VALVES SHALL BE RESILIENT WEDGE GATE VALVES CONFORMING TO THE RESPECTIVE STANDARDS OF THE LATEST AWWA C500, AWWA C509 AND AWWA C515 STANDARDS. ALL MATERIALS USED IN THE MANUFACTURE OF WATERWORKS GATE VALVES SHALL CONFORM TO THE AWWA STANDARDS DESIGNED FOR EACH MATERIAL LISTED. ALL VALVES SHALL CONFORM TO THE STANDARDS SET FORTH IN THE SSWS.
8. WATER MAINS SHALL BE PRESSURE TESTED, LEAK TESTED AND CHLORINATED IN ACCORDANCE WITH LOCAL MUNICIPAL REQUIREMENTS AND THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS, LATEST EDITION.
9. WATER SERVICE FOR THE PROPOSED BUILDINGS SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS FOR SIZE AND LOCATION. LATER REVISIONS TO THE ARCHITECTURAL PLANS MAY EXIST, THEREFORE, CONTRACTOR SHALL VERIFY LOCATION AND SIZE OF WATER SERVICES AS SHOWN ON ENGINEERING PLANS IS CONSISTENT WITH ARCHITECTURAL PLANS. NOTIFY ENGINEER OR OWNER IF DISCREPANCY EXISTS. FIELD LOCATION OF ALL SERVICE STUBS TO BE VISIBLY DEMARKED, SUPPLIED BY CONTRACTOR, AND SHOWN ON RECORD DRAWINGS
10. WATER MAINS SHALL BE LOCATED AT LEAST 10-FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SANITARY SEWER, STORM SEWER, COMBINED SEWER OR SEWER SERVICE CONNECTION. WATER MAINS MAY BE LOCATED CLOSER THAN 10-FEET TO A SEWER LINE WHEN:
    a. LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10-FEET AND
    b. THE WATER MAIN INVERT IS AT LEAST 18-INCHES ABOVE THE CROWN OF THE SEWER; AND
    c. THE WATER MAIN IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED EARTH SHELF LOCATED TO ONE SIDE OF THE SEWER. WHEN IT IS IMPOSSIBLE TO MEET THE CONDITIONS ABOVE, BOTH THE WATER MAIN AND SEWER MAIN SHALL BE CONSTRUCTED OF PIPE EQUIVALENT TO WATER MAIN STANDARDS OF CONSTRUCTION WITH SLIP-ON OR MECHANICAL JOINTS. THE SEWER SHALL BE PRESSURE TESTED TO THE MAXIMUM EXPECTED SURCHARGE HEAD BEFORE BACKFILLING.
11. WATER MAIN SHALL BE SEPARATED FROM STORM AND SANITARY SEWERS AS FOLLOWS:
    a. WATER MAINS SHALL BE SEPARATED FROM A SEWER SO THAT ITS INVERT IS A MINIMUM OF 18-INCHES ABOVE THE CROWN OF THE SEWER WHEREVER WATER MAINS CROSS A STORM SEWER, SANITARY SEWER OR SEWER SERVICE CONNECTION. THE VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF WATER MAIN LOCATED WITHIN 10-FEET HORIZONTALLY OF ANY SEWER CROSSED. A LENGTH OF WATER MAIN PIPE SHALL BE CENTERED OVER THE SEWER TO BE CROSSED WITH JOINTS EQUIDISTANT FROM THE SEWER or
    b. BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF SLIP-ON OR MECHANICAL JOINTS OF PIPE EQUIVALENT TO WATER MAIN STANDARDS OF CONSTRUCTION WHEN IT IS IMPOSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION AS DESCRIBED IN a) ABOVE OR THE WATER MAIN PASSES UNDER A SEWER or
    c. A VERTICAL SEPARATION OF 18-INCHES BETWEEN THE INVERT OF THE SEWER AND THE CROWN OF THE WATER MAIN SHALL BE MAINTAINED WHERE A WATER MAIN CROSSES UNDER A SEWER. SUPPORT THE SEWER TO PREVENT SETTLING AND BREAKING THE WATER MAIN or
    d. CONSTRUCTION OF WATER MAIN QUALITY PIPE SHALL EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE PERPENDICULAR DISTANCE FROM THE WATER MAIN TO THE SEWER IS AT LEAST 10-FEET.
12. FIRE HYDRANTS SHALL CONFORM TO THE AMERICAN WATER WORKS ASSOCIATION STANDARD C-502 AND SHALL BE OF A MAKE THAT HAS BEEN ADOPTED BY THE MUNICIPALITY AS A STANDARD. HYDRANTS SHALL BE DESIGNED FOR A MINIMUM WORKING PRESSURE OF ONE HUNDRED FIFTY (150) PSI AND A TEST PRESSURE OF THREE HUNDRED (300) PSI. HYDRANT BODY CASTING SHALL BE MANUFACTURED OF CAST IRON OR DUCTILE IRON. ALL NOZZLES SHALL BE MANUFACTURED OF AN ACCEPTABLE GRADE OF BRONZE AND ACCURATELY THREADED IN ACCORDANCE WITH "NATIONAL STANDARD HOSE COUPLING THREAD SPECIFICATIONS." THE HYDRANT SHALL OPEN BY TURNING LEFT (COUNTER-CLOCKWISE) AND SHALL BE SO MARKED. HYDRANTS SHALL BE OF THE "BREAK-AWAY" OR "TRAFFIC" BASE DESIGN.
13. SMALL SERVICE LINE APPURTENANCES SHALL BE IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS AND AS FOLLOWS:
    a. CURB STOP: CURB STOPS SHALL BE FABRICATED OF BRASS AND SHALL BE PROVIDED WITH OUTLETS SUITABLE FOR COPPER CONNECTIONS. CURB STOPS SHALL BE OF THE ROUND-WAY TYPE. CURB STOPS SHALL BE EQUIPPED WITH CONDUCTIVE COMPRESSION CONNECTIONS. FLARED OR SWEAT CONNECTIONS ARE NOT ALLOWED.
    b. CORPORATION STOP: CORPORATION STOPS SHALL BE FABRICATED OF BRASS AND SHALL BE PROVIDED WITH OUTLETS SUITABLE FOR COPPER CONNECTIONS. CURB STOPS SHALL BE EQUIPPED WITH CONDUCTIVE COMPRESSION CONNECTIONS. FLARED OR SWEAT CONNECTIONS ARE NOT ALLOWED.
    c. CURB BOX: CURB BOX SHALL BE SCREW TYPE WITH THE BASE THREADED TO ATTACH TO THE CURB STOP, OR SHALL BE "BUFFALO" OR "ARCH" TYPE AND OF SUCH CONSTRUCTION THAT IT SHALL BE CAPABLE OF EXTENSION TO FINISH GRADE. THE TOP OF THE CURB BOX SHALL BE FURNISHED WITH THE WORD "WATER" ON THE LID.

H. STORM SEWER

1. ALL STORM SEWERS, SERVICES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LOCAL MUNICIPAL REQUIREMENTS, THE IDOT SS AND THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION.
2. STORM SEWERS SHALL BE:
    a. REINFORCED CONCRETE PIPE, ASTM C-76, MINIMUM CLASS III WITH MASTIC JOINTS OR O-RING JOINTS IN ACCORDANCE TO ASTM C-443.
3. FRACTURED GRANULAR PIPE BEDDING MATERIAL SHALL BE IDOT CA-7 OR CA-11 AND SHALL BE INSTALLED PER CITY OF CRYSTAL LAKE DRAWING UG-03. GRANULAR BEDDING SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
4. SELECTED GRANULAR BACKFILL, IDOT CA-6, GRADE 7, 8, OR 9 SHALL BE USED WHERE THE TOP OF TRENCH LIES UNDER OR WITHIN 24-INCHES OF ALL PAVEMENTS, CURB AND GUTTERS, DRIVEWAYS AND SIDEWALKS. REFER TO CRYSTAL LAKE DRAWING UG-03

I. LANDSCAPING

1. ALL DISTURBED AREAS SHALL BE RESTORED WITH 6-INCHES OF TOPSOIL AND SEEDED. SEEDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 250 (SEEDING) OF THE IDOT SS. SEEDING MIXTURE SHALL BE CLASS 1 LAWN MIXTURE, UNLESS OTHERWISE INDICATED.
2. EROSION CONTROL BLANKET SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 251 (MULCH) OF THE IDOT SS. EROSION CONTROL BLANKET SHALL BE EXCELSIOR DS-150 OR SC-150 DEPENDING ON THE INTENDED USE.

MACKIE CONSULTANTS
Mackie Consultants, LLC
9575 W. Higgins Road, Suite 500
Rosemont, IL 60018
(847)696-1400
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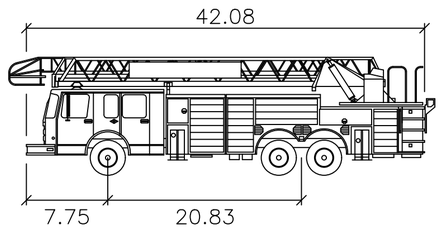
CLIENT:
LENNAR
1700 E. GOLF ROAD, SUITE 100
SCHAUMBURG, IL 60173
PHONE: 224-293-3100
FAX: 224-293-3101

DATE	DESCRIPTION OF REVISION	BY
12-17-2024	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	MM

DESIGNED	MS
DRAWN	JD
APPROVED	MTL
DATE	09/12/2024
SCALE	N.T.S.

PROJECT SPECIFICATIONS
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

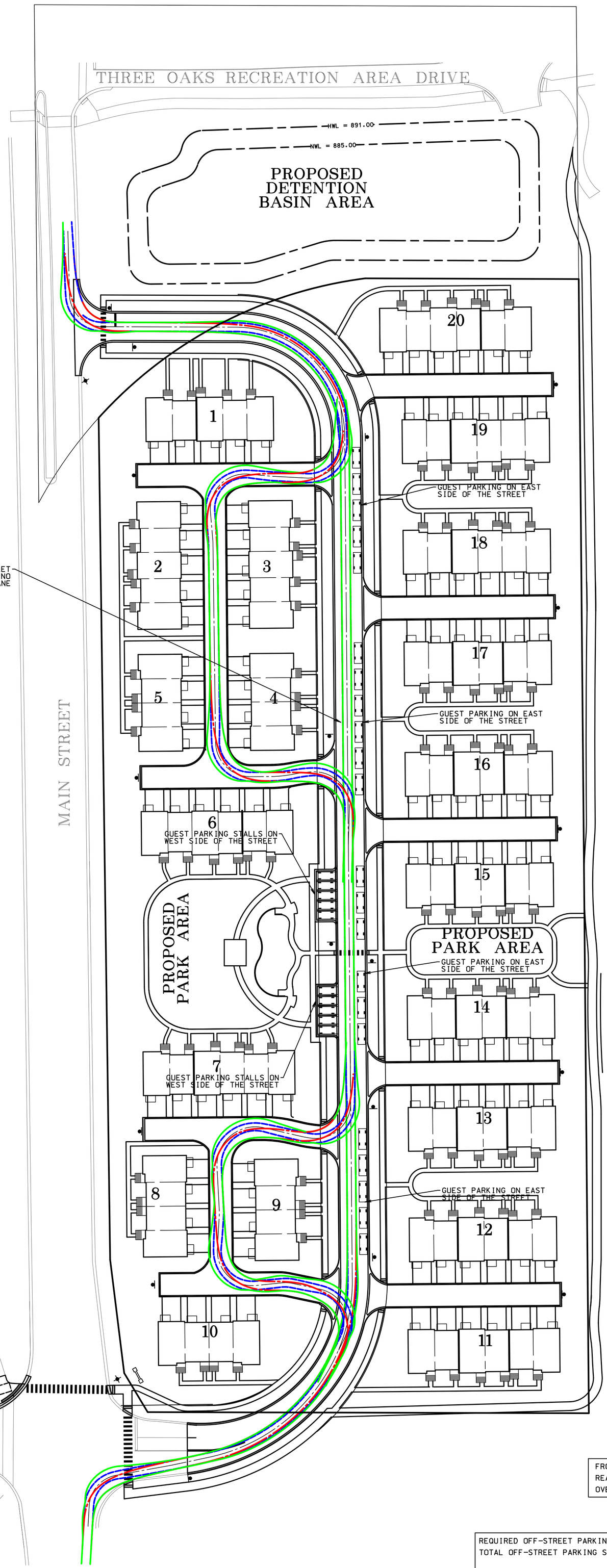
SHEET 23 OF 23
PROJECT NUMBER: 4782
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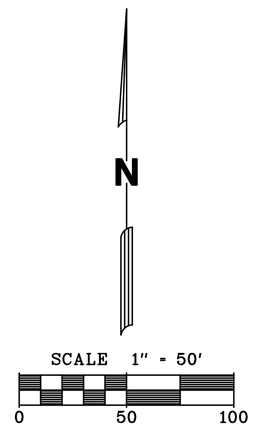


Crystal Lake Firetruck

feet

Width	: 8.00
Track	: 8.08
Lock to Lock Time	: 6.0
Steering Angle	: 37.0





FRONT WHEEL PATH: ---------

REAR WHEEL PATH: ——·——

OVERHANG ENVELOPE: ————

REQUIRED OFF-STREET PARKING (2 PER UNIT) =	214 REQUIRED
TOTAL OFF-STREET PARKING SPACES PROVIDED (2 PER GARAGE) =	214
REQUIRED OFF-STREET GUEST PARKING (0.25 PER UNIT) =	27 REQUIRED
TOTAL GUEST PARKING STALLS PROVIDED =	10
TOTAL GUEST PARKING IN DRIVEWAYS PROVIDED (2 PER UNIT) =	214
TOTAL OFF-STREET GUEST PARKING PROVIDED =	224
TOTAL ON-STREET GUEST PARKING PROVIDED =	23
TOTAL PARKING PROVIDED IN THE COMMUNITY =	461

Mackie Consultants, LLC
9575 W. Higgins Road, Suite 500
Rosemont, IL 60018
(847)696-1400
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DATE	DESCRIPTION OF REVISION	BY
12/18/2024	REVISED PER CITY COMMENTS	MS

DESIGNED	MS
DRAWN	MS
APPROVED	MTL
DATE	09/12/2024
SCALE	1"=50'

FIRE TRUCK TURNING AND PARKING EXHIBIT
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 1 OF 1

PROJECT NUMBER: 4782

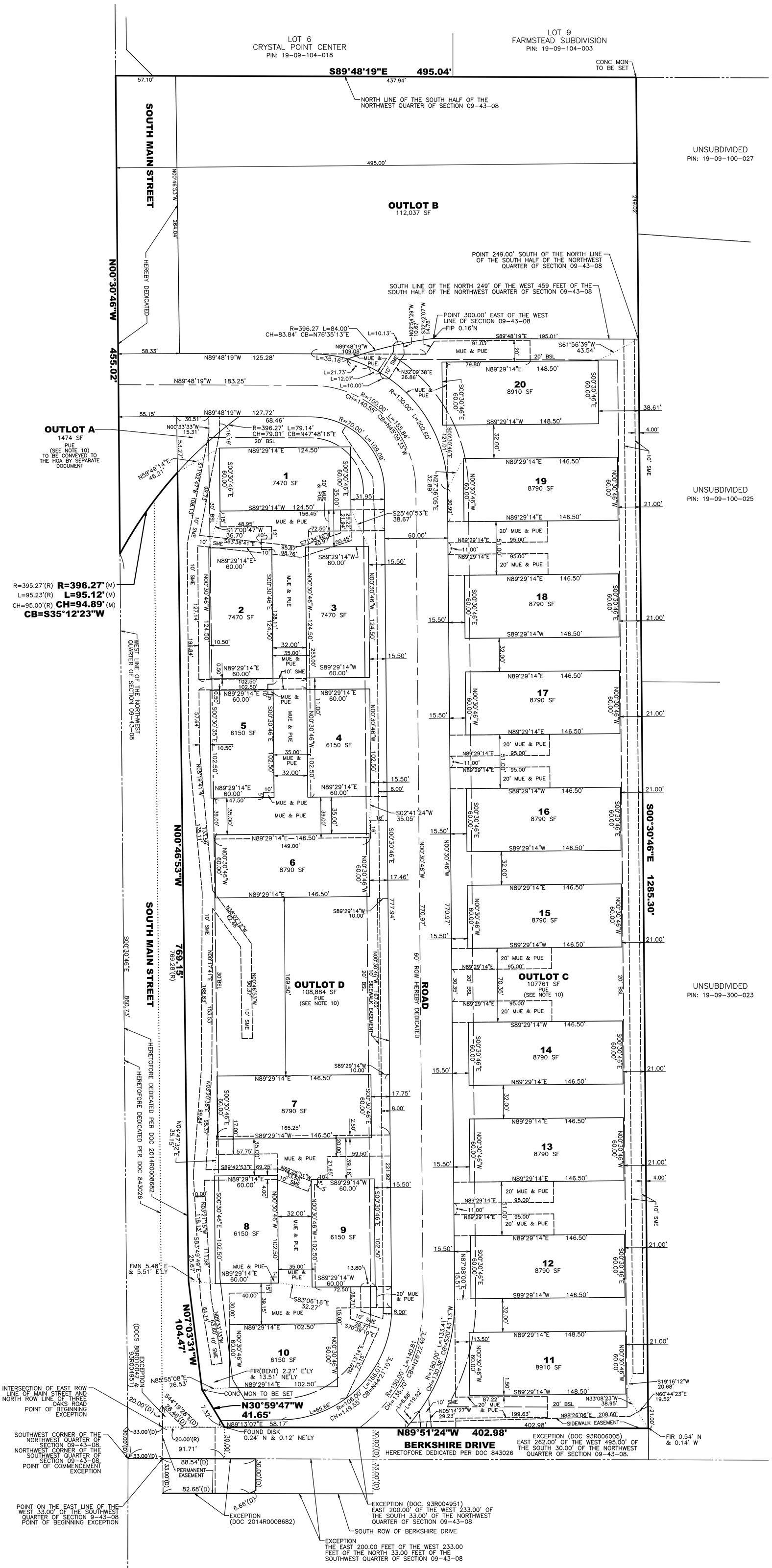
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ILLINOIS FIRM LICENSE 184-002694

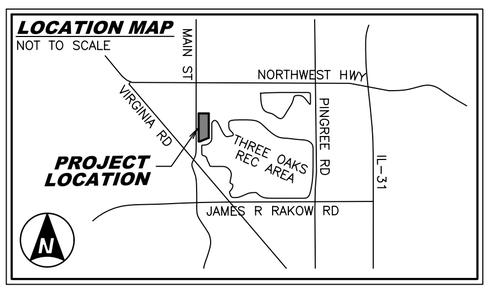
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FINAL PLAT OF
WATERSIDE AT THREE OAKS

BEING A SUBDIVISION OF PART OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN THE CITY OF CRYSTAL LAKE, MCHENRY COUNTY, ILLINOIS







AREA:
PROPERTY CONTAINS 584,673 SQUARE FEET OR 13.422 ACRES MORE OR LESS

P.I.N.s:
19-09-100-028
19-09-100-029

LEGEND:

———	BOUNDARY LINE
——— — —	CENTERLINE
———	PROPOSED LOT LINE
—— ——	BUILDING SETBACK LINE (BSL)
– – – – –	EXISTING EASEMENT LINE
– – – – –	PROPOSED EASEMENT LINE
———	RIGHT-OF-WAY LINE
———	EXISTING LOT LINE
——— – – ———	SECTION LINE
.....	TIE DIMENSION
FIR	FOUND IRON ROD
FIP	FOUND IRON PIPE
PUE	PUBLIC UTILITY EASEMENT
MUE	MUNICIPAL UTILITY EASEMENT
SME	STORMWATER MANAGEMENT EASEMENT
L=	ARC LENGTH
(M)	MEASURED
R=	RADIUS
(R)	RECORD
(D)	DEED

NOTES:

1. THIS PLAT IS BASED IN PART ON INFORMATION CONTAINED IN THE FOLLOWING COMMITMENTS FOR TITLE INSURANCE ISSUED BY CHICAGO TITLE INSURANCE COMPANY:
   1. COMMITMENT NUMBER 23006028WF, REVISION 1, WITH COMMITMENT DATE OF MARCH 8, 2024,
   2. COMMITMENT NUMBER 24002727WF, WITH A COMMITMENT DATE OF APRIL 8, 2024

   THESE COMMITMENTS HAVE BEEN USED AS A BASIS FOR LEGAL DESCRIPTION.
2. BEARINGS BASED ON NAD83 (2011) ILLINOIS STATE PLANE COORDINATE SYSTEM, EAST ZONE.
3. ALL DIMENSIONS ARE GIVEN IN FEET AND DECIMAL PARTS THEREOF.
4. NO DIMENSIONS SHALL BE DERIVED FROM SCALE MEASUREMENT.
5. UPON COMPLETION OF CONSTRUCTION, 5/8" REBAR SHALL BE PLACED AT ALL CORNERS OF THE EXTERIOR BOUNDARY, LOT CORNERS AND CRITICAL POINTS ALONG THE RIGHTS-OF-WAY, UNLESS NOTED OTHERWISE.
6. ALL EASEMENTS SHOWN HEREON ARE HEREBY GRANTED UNLESS SHOWN OTHERWISE.
7. FOR ADDITIONAL INFORMATION PERTAINING TO DEFINITIONS/USES OF EASEMENTS, SETBACKS AND OTHER MATTERS, SEE DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS RECORDED BY SEPARATE DOCUMENT.
8. ALL AREAS ARE MORE OR LESS.
9. ALL CURVES ARE TANGENT TO ADJOINING COURSES UNLESS DEFINED BY CHORD BEARING.
10. A BLANKET PUBLIC UTILITY EASEMENT (PUE) IS HEREBY GRANTED OVER OUTLOTS, A, C, AND D.
11. A BLANKET PUE IS HEREBY GRANTED OVER LOTS 1-20 (INCLUSIVE) EXCEPTING THAT PART FALLING WITHIN A PROPOSED OR EXISTING FOUNDATION.
12. THERE SHALL BE NO DIRECT VEHICULAR ACCESS TO SOUTH MAIN STREET FROM OUTLOTS A, B, OR D.

BUILDING SEPARATION MINIMUMS

SIDE TO SIDE:	20.0'
FRONT TO SIDE:	55.0'
BACK TO BACK:	60.0'
FRONT TO FRONT:	60.0'

LAND SURVEYOR:
KEITH M. FRANCE PLS#035-004077
MACKIE CONSULTANTS, LLC
9575 WEST HIGGINS ROAD, SUITE 500
ROSEMONT, IL 60018
ILLINOIS PROFESSIONAL DESIGN FIRM
NUMBER 184-002694

ENGINEER:
MADELINE LARMON PE#062-069517
MACKIE CONSULTANTS, LLC
9575 WEST HIGGINS ROAD, SUITE 500
ROSEMONT, IL 60018
ILLINOIS PROFESSIONAL DESIGN FIRM
NUMBER 184-002694

PLAT PREPARED FOR:
CALATLANTIC GROUP, LLC
1700 EAST GOLF ROAD, SUITE 1100
SCHAUMBURG, ILLINOIS 60173

OWNER OF RECORD (1):
THE CITY OF CRYSTAL LAKE,
AN ILLINOIS MUNICIPAL CORPORATION
100 WEST WOODSTOCK STREET
CRYSTAL LAKE, IL 60014

MAIL PLAT AND TAX BILL TO:
CALATLANTIC GROUP, LLC
1700 EAST GOLF ROAD, SUITE 1100
SCHAUMBURG, ILLINOIS 60173

OWNER OF RECORD (2):

LAND PLANNER:
GARY R. WEBER ASSOCIATES, INC.
402 WEST LIBERTY DRIVE
WHEATON, IL 60187

SUBDIVIDER:
CALATLANTIC GROUP, LLC
1700 EAST GOLF ROAD, SUITE 1100
SCHAUMBURG, ILLINOIS 60173

Mackie Consultants, LLC
9575 W. Higgins Road, Suite 500
Rosemont, IL 60018
(847)696-1400
www.mackieconsult.com

DATE	DESCRIPTION OF REVISION	BY
12/18/2024	REVISED PER CLIENT COMMENTS	AJM
11/26/2024	REVISED PER CITY COMMENTS	AJM

DESIGNED	MTL
DRAWN	AJM
APPROVED	KMF
DATE	09/12/2024
SCALE	1" = 50'

FINAL PLAT OF SUBDIVISION
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 1 OF 2

PROJECT NUMBER: 4782

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ILLINOIS FIRM LICENSE 184-002694

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FINAL PLAT OF
WATERSIDE AT THREE OAKS

BEING A SUBDIVISION OF PART OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN THE CITY OF CRYSTAL LAKE, MCHENRY COUNTY, ILLINOIS

SIDEWALK EASEMENT PROVISIONS

THE CITY OF CRYSTAL LAKE, ITS SUCCESSORS, LICENSEES AND ASSIGNS, ARE HEREBY GIVEN EASEMENT RIGHTS OVER ALL AREAS ON THE PLAT MARKED "SIDEWALK EASEMENT", TOGETHER WITH THE RIGHT OF ACCESS THERETO, TO CONSTRUCT, INSTALL, RECONSTRUCT, REPAIR, REMOVE, REPLACE, INSPECT AND MAINTAIN A SIDEWALK, PAVED OR UNPAVED, FOR THE USE AND ENJOYMENT OF THE GENERAL PUBLIC. THE ABOVE NAMED ENTITIES ARE HEREBY GRANTED THE RIGHT TO ENTER UPON EASEMENTS HEREIN DESCRIBED FOR THE USES HEREIN SET FORTH AND THE RIGHT TO CUT, TRIM, OR REMOVE ANY TREES, SHRUBS OR OTHER PLANTS WITHIN THE EASEMENT AREAS HEREIN GRANTED WHICH INTERFERE WITH THE CONSTRUCTION, INSTALLATION, RECONSTRUCTION, REPAIR, REMOVAL, REPLACEMENT, INSPECTION, MAINTENANCE AND OPERATION THEREOF. NO TEMPORARY OR PERMANENT BUILDINGS, STRUCTURES OR OBSTRUCTIONS SHALL BE PLACED ON OR OVER SAID EASEMENTS THAT INTERFERE WITH THE RIGHTS HEREIN GRANTED.

PUBLIC UTILITY EASEMENT (PUE) PROVISIONS

AN EASEMENT FOR SERVING THE SUBDIVISION AND OTHER PROPERTY WITH UTILITY SERVICES IS HEREBY RESERVED FOR AND GRANTED TO: COMMONWEALTH EDISON, COMCAST CABLE, NICOR GAS AND AT&T TELEPHONE, THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, JOINTLY AND SEVERALLY, HEREIN AFTER REFERRED TO AS "UTILITY COMPANIES". UTILITY COMPANIES SHALL HAVE THE RIGHT TO INSTALL, OPERATE, MAINTAIN, AND REMOVE, FROM TIME TO TIME, FACILITIES USED IN CONNECTION WITH UTILITY SERVICES, OVER, UNDER, ACROSS, ALONG AND UPON THE SURFACE OF THE PROPERTY SHOWN AS A PUBLIC UTILITY EASEMENT (PUE) AND THE PROPERTY DESIGNATED ON THE PLAT FOR STREETS AND ALLEYS, WHETHER PUBLIC OR PRIVATE, TOGETHER WITH THE RIGHT TO INSTALL REQUIRED SERVICE CONNECTIONS OVER OR UNDER THE SURFACE OF EACH LOT. UTILITY COMPANIES SHALL HAVE THE RIGHT TO CUT, TRIM OR REMOVE TREES, BUSHES AND ROOTS AS MAY BE REASONABLY REQUIRED INCIDENT TO THE RIGHTS HEREIN GIVEN, AND THE RIGHT TO ENTER UPON THE SUBDIVIDED PROPERTY FOR ALL SUCH PURPOSES. OBSTRUCTIONS SHALL NOT BE PLACED IN A PUE WITHOUT THE PRIOR WRITTEN CONSENT OF THE RESPECTIVE UTILITY COMPANY. AFTER INSTALLATION OF ANY SUCH FACILITIES, THE GRADE OF THE SUBDIVIDED PROPERTY SHALL NOT BE ALTERED IN A MANNER SO AS TO INTERFERE WITH THE PROPER OPERATION AND MAINTENANCE THEREOF.

ONLY PERPENDICULAR CROSSINGS OF THE MUNICIPAL UTILITY EASEMENT ARE PERMITTED BY THE UTILITY COMPANIES.

MUNICIPAL UTILITY EASEMENT (MUE) PROVISIONS:

AN EASEMENT FOR SERVING THE SUBDIVISION AND OTHER PROPERTY WITH DOMESTIC WATER AND STORMWATER DRAINAGE IS HEREBY RESERVED FOR AND GRANTED TO THE CITY OF CRYSTAL LAKE, ILLINOIS, THEIR SUCCESSORS AND ASSIGNS, TO INSTALL, OPERATE, MAINTAIN, RELOCATE, RENEW AND REMOVE FACILITIES USED IN CONNECTION WITH SEWER AND WATER MAINS, IN, UNDER, ACROSS, ALONG, AND UPON THE SURFACE OF THE PROPERTY SHOWN ON THE PLAT WITHIN THE AREAS MARKED AS "MUNICIPAL UTILITY EASEMENT" (MUE) AND THOSE PARTS DESIGNATED ON THE PLAT AS DEDICATED FOR PUBLIC STREET, TOGETHER WITH THE RIGHT TO CUT, TRIM, OR REMOVE TREES, BUSHES, AND ROOTS AS MAY BE REASONABLY REQUIRED INCIDENT TO THE RIGHTS HEREIN GIVEN, AND THE RIGHT TO ENTER UPON THE PROPERTY FOR ALL SUCH PURPOSES.

EACH INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE TO ALL OR ANY PART OF THE MUNICIPAL UTILITY EASEMENT (MUE) SHALL CONCLUSIVELY BE DEEMED TO HAVE COVENANTED AND AGREED, JOINTLY AND SEVERALLY, TO:

i. THE SURFACE OF THE MUE MAY BE GRASS, SOD, OR PAVEMENT TO ALLOW FOR DRIVEWAYS OR PARKING. MINOR LANDSCAPING AS SHOWN ON THE APPROVED LANDSCAPE PLAN MAY BE PERMITTED.

ii. CARE FOR AND MAINTAIN THE SURFACE OF THAT PORTION OF THE MUE WHICH IS LOCATED ON SUCH PARTY'S PROPERTY SO THAT IT IS IN GOOD CONDITION FOR ITS INTENDED PURPOSE AS A MUE WHICH MAINTENANCE MAY INCLUDE, BUT SHALL NOT BE LIMITED TO, THE REGULAR SEEDING, WATERING AND MOWING OF ALL LAWNS OR PAVEMENT RESTORATION.

NO TITLEHOLDER OF ANY PART OR PORTION OF THE MUE (OR ANY PARTY ACTING ON BEHALF OF THE TITLEHOLDER) SHALL:

iii. INSTALL, CONSTRUCT, ERECT, PLACE OR PLANT ANY BUILDING, STRUCTURES, IMPROVEMENTS OR VEGETATION (OTHER THAN GRASS OR CITY APPROVED PLANTINGS) UPON THE MUE, INCLUDING, BUT NOT LIMITED TO FENCES, WALLS, PATIOS, SHEDS, POSTS, TREES, PLANTS OR SHRUBBERY, EXCEPT AS SHOWN ON THE APPROVED LANDSCAPE PLAN, OR

iv. ALTER, MODIFY OR CHANGE IN ANY WAY THE TOPOGRAPHY OR ELEVATIONS OF THE MUE.

THE CITY SHALL MAINTAIN THE WATER MAINS LOCATED WITHIN THE MUE UP TO AND INCLUDING THE SHUT OFF VALVES AND FIRE HYDRANTS, BUT NOT INCLUDING THE SERVICE CONNECTIONS AND LATERALS (REFERRED TO AS THE "SYSTEM"). THE CITY'S DUTIES WILL INCLUDE ALL NECESSARY WORK UP TO AND INCLUDING THE BACKFILL STAGE IN THE EVENT OF REPAIR AND REPLACEMENT WORK ON THE SYSTEM.

EACH INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE TO ALL OR ANY PART OF THE MUE WILL BE RESPONSIBLE FOR PROMPT, QUALITY RESTORATION OF ALL SURFACE AND ABOVE-GRADE IMPROVEMENTS MEETING OR EXCEEDING THE ORIGINAL CONSTRUCTION REQUIREMENTS OF ALL AREAS IN THE MUE THAT WERE DAMAGED BY THE CITY IN THE PROCESS OF REPAIRING, REPLACING OR CONSTRUCTING THE SYSTEM. THE CITY AGREES TO EXERCISE REASONABLE CARE IN REPAIRS MADE SO AS NOT TO CAUSE UNNECESSARY DAMAGES.

THE MUE IS EXCLUSIVE OF ANY OTHER BLANKET EASEMENT ON THE PROPERTY.

ONLY PERPENDICULAR CROSSINGS OF THE MUNICIPAL UTILITY EASEMENT ARE PERMITTED BY THE UTILITY COMPANIES.

STORMWATER MANAGEMENT EASEMENT (SME) PROVISIONS

EACH INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE TO ALL OR ANY PART OF THE STORMWATER MANAGEMENT EASEMENT (SME) SHALL CONCLUSIVELY BE DEEMED TO HAVE COVENANTED AND AGREED, JOINTLY AND SEVERALLY, TO:

i. CARE FOR AND MAINTAIN THE SURFACE OF THAT PORTION OF THE SME WHICH IS LOCATED ON SUCH PARTY'S PROPERTY AS A WELL LANDSCAPED, HIGH-QUALITY PARCEL (WHICH MAINTENANCE SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, THE REGULAR SEEDING, WATERING, AND MOWING OF ALL LAWNS), AND

ii. KEEP ALL SURFACE OPENINGS OF THE DRAINAGE PIPES UNDERLYING THE SME FREE OF ALL GRASS CLIPPINGS, LEAVES, OR OTHER RELATED OR FOREIGN MATERIALS.

NO INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE TO ALL OR ANY PART OF THE SME SHALL:

i. INSTALL, CONSTRUCT, ERECT, PLACE OR PLANT ANY BUILDING, STRUCTURES, IMPROVEMENTS OR VEGETATION (OTHER THAN GRASS OR CITY APPROVED PLANTINGS) UPON THE SME INCLUDING, BUT NOT LIMITED TO, FENCES, WALLS, PATIOS, SHEDS, POSTS, TREES, PLANTS OR SHRUBBERY, EXCEPT AS SHOWN ON THE APPROVED LANDSCAPE PLAN, OR

ii. ALTER, MODIFY, OR CHANGE IN ANY WAY THE TOPOGRAPHY OR ELEVATIONS OF THE SME, OR

iii. OBSTRUCT, ALTER, OR MODIFY THE ESTABLISHED DRAINAGE PATTERN FROM OR OVER THE SME.

MAINTENANCE OF THE STORM SEWERS AND STORM STRUCTURES WITHIN THE SME SHALL BE THE SOLE RESPONSIBILITY OF EACH INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE PURSUANT TO THE REQUIREMENTS CONTAINED HEREIN.

IF THE CITY DETERMINES THAT THE INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE IS IN DEFAULT OF SAID MAINTENANCE OBLIGATIONS AND UPON FIVE (5) DAYS NOTICE TO THE INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE SERVED BY CERTIFIED MAIL, THE CITY AND ITS SUCCESSORS AND ASSIGNS SHALL BE GRANTED AN EASEMENT OVER THE AREA DESCRIBED ON THIS DEED RESTRICTION FOR THE RIGHT, PRIVILEGE AND AUTHORITY, WITHOUT OBLIGATION, TO PERFORM SAID MAINTENANCE AND REPAIRS. THE CITY MAY ENTER UPON THE EASEMENT FOR THE PURPOSE OF EMERGENCY REPAIRS.

THE CHARGE OF THE EMERGENCY REPAIRS AND/OR MAINTENANCE IS THE RESPONSIBILITY OF THE INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE. THE CITY MAY, AT ITS SOLE ELECTION, RECORD NOTICE OF LIEN WITH THE RECORDER OF DEEDS FOR MCHENRY COUNTY AS DESCRIBED ABOVE AGAINST THE SUBJECT REAL PROPERTY. SAID LIEN SHALL INCLUDE THE APPLICABLE EXPENSE TO THE INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE PLUS ATTORNEY'S FEES AND COURT COSTS. UPON PAYMENT OF SAID LIEN, THE CITY SHALL ISSUE THE APPROPRIATE RELEASE OF LIEN TO THE INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE. IT SHALL NOT BE THE OBLIGATION OF THE CITY TO RECORD THE RELEASE OF THE LIEN BUT SHALL BE THE OBLIGATION OF THE PARTY PROCURING THE RELEASE.

EASEMENT PROVISIONS

AN EASEMENT FOR SERVING THE SUBDIVISION AND OTHER PROPERTY WITH ELECTRIC AND COMMUNICATION SERVICE IS HEREBY RESERVED FOR AND GRANTED TO

COMMONWEALTH EDISON COMPANY
AND
SBC ILLINOIS A.K.A. ILLINOIS BELL TELEPHONE COMPANY, GRANTEES,

THEIR RESPECTIVE LICENSEES, SUCCESSORS AND ASSIGNS JOINTLY AND SEVERALLY, TO CONSTRUCT, OPERATE, REPAIR, MAINTAIN, MODIFY, RECONSTRUCT, REPLACE, SUPPLEMENT, RELOCATE AND REMOVE, FROM TIME TO TIME, POLES GUYS, ANCHORS, WIRES, CABLES, CONDUITS, MANHOLES, TRANSFORMERS, PEDESTALS, EQUIPMENT CABINETS OR OTHER FACILITIES USED IN CONNECTION WITH OVERHEAD AND UNDERGROUND TRANSMISSION AND DISTRIBUTION OF ELECTRICITY, COMMUNICATIONS, SOUNDS AND SIGNALS IN, OVER, UNDER, ACROSS, ALONG AND UPON THE SURFACE OF THE PROPERTY SHOWN WITHIN THE DASHED OR DOTTED LINES (OR SIMILAR DESIGNATION) ON THE PLAT AND MARKED "EASEMENT", "UTILITY EASEMENT", "PUBLIC UTILITY EASEMENT", "P.U.E" (OR SIMILAR DESIGNATION), THE PROPERTY DESIGNATED IN THE DECLARATION OF CONDOMINIUM AND/OR ON THIS PLAT AS "COMMON ELEMENTS", AND THE PROPERTY DESIGNATED ON THE PLAT AS "COMMON AREA OR AREAS", AND THE PROPERTY DESIGNATED ON THE PLAT FOR STREETS AND ALLEYS, WHETHER PUBLIC OR PRIVATE, TOGETHER WITH THE RIGHTS TO INSTALL REQUIRED SERVICE CONNECTIONS OVER OR UNDER THE SURFACE OF EACH LOT AND COMMON AREA OR AREAS TO SERVE IMPROVEMENTS THEREON, OR ON ADJACENT LOTS, AND COMMON AREA OR AREAS, THE RIGHT TO CUT, TRIM OR REMOVE TREES, BUSHES, ROOTS AND SAPLINGS AND TO CLEAR OBSTRUCTIONS FROM THE SURFACE AND SUBSURFACE AS MAY BE REASONABLY REQUIRED INCIDENT TO THE RIGHTS HEREIN GIVEN, AND THE RIGHT TO ENTER UPON THE SUBDIVIDED PROPERTY FOR ALL SUCH PURPOSES. OBSTRUCTIONS SHALL NOT BE PLACED OVER GRANTEES' FACILITIES OR IN, UPON OR OVER THE PROPERTY WITHIN THE DASHED OR DOTTED LINES (OR SIMILAR DESIGNATION) MARKED "EASEMENT", "UTILITY EASEMENT", "PUBLIC UTILITY EASEMENT", "P.U.E" (OR SIMILAR DESIGNATION) WITHOUT THE PRIOR WRITTEN CONSENT OF GRANTEES. AFTER INSTALLATION OF ANY SUCH FACILITIES, THE GRADE OF THE SUBDIVIDED PROPERTY SHALL NOT BE ALTERED IN A MANNER SO AS TO INTERFERE WITH THE PROPER OPERATION AND MAINTENANCE THEREOF.

THE TERM "COMMON ELEMENTS" SHALL HAVE THE MEANING SET FORTH FOR SUCH TERM IN THE "CONDOMINIUM PROPERTY ACT", CHAPTER 765 ILCS 605/2(C), AS AMENDED FROM TIME TO TIME.

THE TERM "COMMON AREA OR AREAS" IS DEFINED AS A LOT, PARCEL OR AREA OF REAL PROPERTY, THE BENEFICIAL USE AND ENJOYMENT OF WHICH IS RESERVED IN WHOLE OR AS AN APPURTENANCE TO THE SEPARATELY OWNED LOTS, PARCELS OR AREAS WITHIN THE PLANNED DEVELOPMENT, EVEN THOUGH SUCH BE OTHERWISE DESIGNATED ON THE PLAT BY TERMS SUCH AS "OUTLOTS", "COMMON ELEMENTS", "OPEN SPACE", "OPEN AREA", "COMMON GROUND", "PARKING" AND "COMMON AREA". THE TERM "COMMON AREA OR AREAS", AND "COMMON ELEMENTS" INCLUDE REAL PROPERTY SURFACED WITH INTERIOR DRIVEWAYS AND WALKWAYS, BUT EXCLUDES REAL PROPERTY PHYSICALLY OCCUPIED BY A BUILDING, SERVICE BUSINESS DISTRICT OR STRUCTURES SUCH AS A POOL , RETENTION POND OR MECHANICAL EQUIPMENT.

RELOCATION OF FACILITIES WILL BE DONE BY GRANTEES AT COST OF THE GRANTOR/LOT OWNER, UPON WRITTEN REQUEST.

UTILITY CERTIFICATES

APPROVED AND ACCEPTED BY:

ELECTRIC AND TELEPHONE
COMPANY: COMMONWEALTH EDISON

NAME_____ TITLE:_____

DATED THIS_____ DAY OF_____ , 20___

COMPANY: SBC

NAME._____ TITLE:_____

DATED THIS_____ DAY OF_____20___

CABLE TELEVISION
COMPANY: COMCAST

NAME._____ TITLE._____

DATED THIS_____ DAY OF_____ 20___

GAS
COMPANY: NICOR

NAME:_____ TITLE:_____

DATED THIS_____ DAY OF_____, 20___

OWNER'S & SCHOOL DISTRICT CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF _____)

THIS IS TO CERTIFY THAT THE UNDERSIGNED IS AN OWNER OF THE LAND DESCRIBED IN THE ANNEXED PLAT, AND THAT HE HAS CAUSED THE SAME TO BE SURVEYED AND SUBDIVIDED AS INDICATED HEREON, FOR THE USES AND PURPOSES HEREIN SET FORTH, AND DOES HEREBY ACKNOWLEDGE AND ADOPT THE SAME UNDER THE STYLE AND TITLE HEREON INDICATED.

ALSO, THIS IS TO CERTIFY THAT PROPERTY BEING, SUBDIVIDED AFORESAID, AND TO THE BEST OF THE OWNER'S KNOWLEDGE AND BELIEF, SAID SUBDIVISION LIES ENTIRELY WITHIN THE LIMITS OF SCHOOL DISTRICTS:

COLLEGE DISTRICT 528 MCC, CRYSTAL LAKE 47, AND CRYSTAL LAKE 155

DATED THIS _____ DAY OF _____, A.D., 20___.

BY: _____

NOTARY CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF _____)

I, _____, A NOTARY PUBLIC, IN AND FOR SAID COUNTY, IN THE STATE AFORESAID, DO HEREBY CERTIFY THAT

_____, PERSONALLY KNOWN TO ME TO BE THE SAME PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AS SUCH OWNER, APPEARED BEFORE ME THIS DAY IN PERSON AND ACKNOWLEDGED THAT THEY SIGNED AND DELIVERED THE ANNEXED PLAT AS THEIR OWN FREE AND VOLUNTARY ACT AND THE FREE AND VOLUNTARY ACT OF THE CORPORATION FOR THE USES AND PURPOSES HEREIN SET FORTH.

GIVEN UNDER MY HAND AND NOTARIAL SEAL THIS _____ DAY OF

_____, A.D., 20___, AT _____, ILLINOIS.

_____
NOTARY PUBLIC

OWNER'S & SCHOOL DISTRICT CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF _____)

THIS IS TO CERTIFY THAT THE UNDERSIGNED IS AN OWNER OF THE LAND DESCRIBED IN THE ANNEXED PLAT, AND THAT HE HAS CAUSED THE SAME TO BE SURVEYED AND SUBDIVIDED AS INDICATED HEREON, FOR THE USES AND PURPOSES HEREIN SET FORTH, AND DOES HEREBY ACKNOWLEDGE AND ADOPT THE SAME UNDER THE STYLE AND TITLE HEREON INDICATED.

ALSO, THIS IS TO CERTIFY THAT PROPERTY BEING, SUBDIVIDED AFORESAID, AND TO THE BEST OF THE OWNER'S KNOWLEDGE AND BELIEF, SAID SUBDIVISION LIES ENTIRELY WITHIN THE LIMITS OF SCHOOL DISTRICTS:

COLLEGE DISTRICT 528 MCC, CRYSTAL LAKE 47, AND CRYSTAL LAKE 155

DATED THIS _____ DAY OF _____, A.D., 20___.

BY: _____

NOTARY CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF _____)

I, _____, A NOTARY PUBLIC, IN AND FOR SAID COUNTY, IN THE STATE AFORESAID, DO HEREBY CERTIFY THAT

_____, PERSONALLY KNOWN TO ME TO BE THE SAME PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AS SUCH OWNER, APPEARED BEFORE ME THIS DAY IN PERSON AND ACKNOWLEDGED THAT THEY SIGNED AND DELIVERED THE ANNEXED PLAT AS THEIR OWN FREE AND VOLUNTARY ACT AND THE FREE AND VOLUNTARY ACT OF THE CORPORATION FOR THE USES AND PURPOSES HEREIN SET FORTH.

GIVEN UNDER MY HAND AND NOTARIAL SEAL THIS _____ DAY OF

_____, A.D., 20___, AT _____, ILLINOIS.

_____
NOTARY PUBLIC

CITY COUNCIL CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF MCHENRY)

APPROVED BY THE CITY COUNCIL OF CRYSTAL LAKE,

ILLINOIS THIS _____ DAY OF _____, 20____, A.D.

_____.
MAYOR

_____.
CITY CLERK

PLANNING & ZONING COMMISSION CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF McHENRY)

I, _____, CHAIRMAN OF THE CRYSTAL LAKE PLANNING AND ZONING COMMISSION, DO HEREBY CERTIFY THAT ON THIS

_____ DAY OF _____,

20___, THIS PLAT OF SUBDIVISION WAS DULY APPROVED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF CRYSTAL LAKE.

_____
CHAIRMAN

GRADING/DRAINAGE CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF COOK)

TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THE DRAINAGE OF SURFACE WATERS WILL NOT BE CHANGED BY THE CONSTRUCTION OF THIS SUBDIVISION OR ANY PART THEREOF, OR, THAT IF SUCH SURFACE WATER DRAINAGE WILL BE CHANGED, REASONABLE PROVISION HAS BEEN MADE FOR COLLECTION AND DIVERSION OF SUCH SURFACE WATERS INTO PUBLIC AREAS OR DRAINS WHICH THE OWNER HAS RIGHT TO USE, AND THAT SUCH SURFACE WATERS WILL BE PLANNED FOR IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES, SO AS TO REDUCE THE LIKELIHOOD OF DAMAGE TO THE ADJOINING PROPERTY BECAUSE OF THE CONSTRUCTION OF THE SUBDIVISION.

DATED THIS _____ DAY OF _____, A.D., 20___.

_____
PROFESSIONAL ENGINEER

_____
OWNER OR ATTORNEY

COUNTY RECORDER CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF McHENRY)

THIS INSTRUMENT FILED FOR RECORD IN THE RECORDER'S OFFICE OF McHENRY COUNTY, ILLINOIS ON THIS _____ DAY OF

_____, A.D., 20_____, AT

_____ O'CLOCK _____.M. AND RECORDED AS DOCUMENT NUMBER

_____.

_____.
McHENRY COUNTY RECORDER OF DEEDS

AUTHORIZATION TO RECORD CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF COOK)

WE, MACKIE CONSULTANTS LLC, AN ILLINOIS PROFESSIONAL DESIGN FIRM NUMBER 184-002694, HEREBY GRANT PERMISSION TO _____ TO RECORD THIS PLAT OF SUBDIVISION.

DATED THIS _____ DAY OF _____, 20__.

_____
KEITH M. FRANCE
EMAIL: kfrance@mackieconsult.com
ILLINOIS PROFESSIONAL LAND SURVEYOR NUMBER 035-004077
LICENSE EXPIRES: NOVEMBER 30, 2026

SURVEYOR'S CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF COOK)

WE, MACKIE CONSULTANTS, LLC, AN ILLINOIS PROFESSIONAL DESIGN FIRM NUMBER 184-002694, DO HEREBY CERTIFY THAT WE HAVE SURVEYED, SUBDIVIDED AND PLATTED FOR THE OWNER THEREOF THE FOLLOWING DESCRIBED PROPERTY AND THAT THE PLAT HEREIN DRAWN IS AN ACCURATE REPRESENTATION OF SAID SURVEY, SUBDIVISION AND PLAT:

THAT PART OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN DESCRIBED AS FOLLOWS:

THE WEST 495 FEET OF SAID SOUTH HALF, AS MEASURED PERPENDICULARLY TO THE WEST LINE OF SAID NORTHWEST QUARTER, EXCEPTING THAT PART DEDICATED FOR PUBLIC ROAD BY DOCUMENT 843026, ALSO EXCEPTING THAT PART DESCRIBED IN DEEDS 88R010042, 93R004951, 93R006005 AND 2014R0008682, ALL LOCATED IN THE CITY OF CRYSTAL LAKE, MCHENRY COUNTY, ILLINOIS.

WE FURTHER CERTIFY THAT ACCORDING TO OUR INTERPRETATION OF THE FLOOD INSURANCE RATE MAPS THAT COVER THE AREA, THE HEREON DESCRIBED PROPERTY FALLS WITHIN ZONE "X" (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 0.2% CHANCE ANNUAL FLOODPLAIN AS IDENTIFIED BY THE FLOOD INSURANCE RATE MAP, MAP NUMBER 17111C0327J, WITH AN EFFECTIVE DATE OF NOVEMBER 16, 2006. SUBJECT TO MAP INTERPRETATION AND SCALING.

GIVEN UNDER MY HAND AND SEAL THIS _____ DAY OF

_____, 20__, IN ROSEMONT, ILLINOIS,

_____
KEITH M. FRANCE
EMAIL: kfrance@mackieconsult.com
ILLINOIS PROFESSIONAL LAND SURVEYOR NUMBER 035-004077
LICENSE EXPIRES: NOVEMBER 30, 2026

MACKIE CONSULTANTS
Mackie Consultants, LLC
9575 W. Higgins Road, Suite 500
Rosemont, IL 60018
(847)696-1400
www.mackieconsult.com

DATE	DESCRIPTION OF REVISION	BY
12/18/2024	REVISED PER CLIENT COMMENTS	AJM
11/26/2024	REVISED PER CITY COMMENTS	AJM

DESIGNED	MTL
DRAWN	AJM
APPROVED	KMF
DATE	09/12/2024
SCALE	1" = 50'

FINAL PLAT OF SUBDIVISION
WATERSIDE AT THREE OAKS
CRYSTAL LAKE, ILLINOIS

SHEET 2 OF 2

PROJECT NUMBER: 4782

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ILLINOIS FIRM LICENSE 184-002694

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FINAL
STORMWATER MANAGEMENT REPORT

FOR

Waterside at Three Oaks
Crystal Lake, McHenry County, Illinois

Prepared By:

MACKIE CONSULTANTS

Mackie Consultants, LLC
9575 W. Higgins Road, Suite 500
Rosemont, IL 60018
(847)696-1400
www.mackieconsult.com

LICENSED PROFESSIONAL ENGINEER
MADELINE T. LARMON
062-069517
STATE OF ILLINOIS

Dated: September 12, 2024
Revised: November 25, 2024

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NARRATIVE DESCRIPTION OF THE WATERSIDE AT THREE OAKS COMMUNITY

Introduction

The Waterside at Three Oaks Community will consist of approximately 13 acres containing 20 multi-family buildings, with 107 total units. The proposed site also includes 2 roadway connections to Main Street and an onsite infiltration basin. The project site is located east of Main Street, north and west of Vulcan Lake, and south of Three Oaks Recreational Area Drive.

Existing Conditions

The site, located in the Upper Fox River Watershed, was previously mined/excavated (beginning in 1967). The northern half of the site generally drains north with a discharge point at the existing road stub connection to Three Oaks Recreation Area Drive, eventually flowing to the existing detention basin northeast of the project site. The southern half of the site drains south to an existing man-made depression and eventually infiltrates into the sandy soils in this area. Refer to the historical aerial maps provided in Tab 5 indicating the disturbance of the site and the creation of a man-made depression.

An existing TR-20 model and supporting calculations have been provided to determine the critical duration 100-year peak flow for the existing conditions depicted in the provided Existing Conditions Exhibit (See Tab 2).

Base Flood Elevation Determination

Based on site-specific topography and McHenry County 1-foot aerial topography, there are two depressional areas on the project site: one in the north portion and one in the south portion of the site.

North Depressional Area

The northwest depressional area has approximately 4.24 acres tributary in the existing conditions. The onsite topography was used to model ridgelines and create a stage-storage calculation for the existing depressional area, which is deep in relation to the adjacent areas and overtops at an elevation of 893.2 at the existing road stub connection to Three Oaks Recreation Area Drive. A TR-20 model was prepared to determine the existing Base Flood Elevation within this depressional area based on the determined tributary areas, land characteristics, and calculated stage storage. No infiltration was assumed for this depressional area due to the presence of a clay layer identified in the geotechnical report for this area. An existing Base Flood Elevation of 893.21 was determined for this depression, which indicates that the depression fills and overtops in the peak 100YR storm. Since this depression will be filled in the proposed condition, 1.39 ac-ft of compensatory storage will be required to replace the lost storage below the existing overtopping elevation.

South Depressional Area

The south depressional area has approximately 6.32 acres tributary in the existing condition. The onsite topography was used to model ridgelines and create a stage-storage calculation for the existing depressional area, which is deep in relation to the adjacent areas and provides no surficial outlet. A TR-20 model was prepared to determine the existing Base Flood Elevation within this depressional area based on the determined tributary areas, land characteristics, and calculated stage storage and calculated infiltration rate. Infiltration was calculated for this area based on soil permeability obtained from the geotechnical report for the site and due to the underlying soil being composed of sand (absence of a clay layer) for this area. An existing Base Flood Elevation of 885.95 was determined for this depression, which indicates that the depression does not fill to the overtopping elevation in the peak 100YR storm. Since this

depression will be filled in the proposed condition, 1.28 ac-ft of compensatory storage will be required to replace the lost storage below the calculated existing Base Flood Elevation.

Soils Review

A NRCS Soil Survey of the site was used to determine the overall soil group classification. (Please refer to the NRCS Soils Survey Map in Tab 1). Predominately, the soils on the site are loam and gravel and soil Group B; which has been utilized in determining the proposed runoff curve number (CN) based on land use characteristics.

Please refer to Tab 5 for the Soil Exploration Report and Soil Boring by MSET, Inc dated July 23, 2024 for the determined soil permeability/infiltration rate in this area.

Wetland Review

The U.S. Fish and Wildlife Service National Wetland Inventory, provided within Tab 1 of this report, shows that the site does not contain any wetlands.

Floodplain and Flood Prone Area Review

The FEMA Flood Insurance Rate Map, provided within Tab 1 of this report, shows that the property in question contains no mapped floodplain areas. Two depressional areas exist onsite as described in the Base Flood Elevation Determination Section. The project will result in filling these depressional areas (2.67 ac-ft). This fill is provided within the proposed infiltration basin system at a 1:1 ratio per CLSO requirements.

Hydrologic Analysis

Proposed condition hydrology was modeled using TR-20 to determine flow generated by the proposed development on the subject area. The appropriate Huff rainfall distributions were applied to Bulletin 75 rainfall depths based on the model storm duration. A theoretical TR-20 was performed using total disturbed area on site and the 100-YR 24HR storm in order to determine the required detention volume for the site. An actual TR-20 model was also performed based on actual tributary areas, both disturbed and undisturbed, to determine actual release rates and emergency overflow weir sizing. Curve numbers were calculated using TR-55 methodology. Land use characteristics were determined for the tributary area and a composite curve number was determined. Composite curve number calculation sheets for the existing and proposed conditions are included within this report.

Proposed Conditions - *Detention Required for the Proposed Improvements*

The proposed development will include the development of an onsite infiltration basin. The proposed basin includes eight dry wells to allow water to infiltrate the ground. The pond will include naturalized plantings for water quality purposes. The location of the infiltration area in the pond ensures that the proposed infiltration facility is at least 200 feet from water supply wells or on-site waste disposal systems. The emergency overflow weirs have been appropriately sized for the peak 100 YR, critical duration inflow into the basin.

<u>Volume Determination (Proposed Theoretical TR-20)</u>

A proposed theoretical model was run in TR-20 based upon the total disturbed area only with the allowable release rate of 0.04 cfs/acre and 0.15 cfs/acre multiplied by the total acreage disturbed for the 2-year and 100-year 24-hour event (13.20 acres at 0.53 cfs and 1.98 cfs respectively). Based on the theoretical TR-20 results, 5.97 ac-feet of detention is required for the proposed improvements. Total required storage volume in the pond is 8.64 ac-ft, which includes the required detention volume plus 2.67 ac-ft of compensatory storage for filling in the existing depressional areas. 8.74 ac-ft of storage volume is provided in the proposed infiltration basin at a high-water level of 892.0.

Actual Release Rates (Proposed Actual TR-20)

A Proposed Actual model was then run in TR-20 utilizing the actual calculated infiltration rates (based on the MSET Soil Exploration Report and Drywell Calculation) and total tributary area to the infiltration basin which also includes offsite tributary area. The determined peak 100YR, critical duration inflow to the Detention Basin of 69.18 cfs was used to size the emergency overflow weir from the pond to provide at least 1.0' of freeboard from top of water within the weir to top of berm in the emergency overflow scenario. The emergency overflow weir for the pond discharges at an elevation of 892.3 to Three Oaks Recreation Area Drive to the northeast and ultimately to the existing basin northeast of the site.

Per the actual TR-20 model, which models actual infiltration rates, the proposed Infiltration Basin will fill up to an actual HWL of 888.83 in peak 100 YR flow conditions. As a result, the actual overland release rate of the proposed basin is 0.00 cfs in the 100 YR event. The peak infiltration rate at the actual HWL is 2.21 cfs. Detention drawdown calculations have been provided to demonstrate that the proposed infiltration basin will dewater in under 72 hours, assuming a pond full at the required HWL and the actual infiltration rate.

The following table summarizes the results of the proposed Infiltration Basin:

Name	Total Disturbed Area	Total Tributary Area	Peak Inflow (100YR)	Required Detention Volume (incl. comp. storage)	Provided Detention Volume	Allowable Release Rate	Actual Release Rate (Above Ground)	Peak Infiltration Rate
	acre	acre	cfs	ac-ft	ac-ft	cfs	cfs	cfs
Detention Basin (10)	13.20	14.73	69.18	8.64	8.74	2.21	0.00	2.21

Proposed Conditions – *Runoff Volume Reduction and Water Quality*

Various measures have been incorporated into the Three Oaks Community design to meet runoff volume reduction (RVR) hierarchy requirements per CLSO 595-26.F, as follows:

- *CLSO RVR Item 5 - Natural landscaping as an alternative to turf grass:*
  - Approximately 1.2 acres of the site have been proposed with native, naturalized plantings instead of traditional turf grass. These areas have been proposed within the proposed stormwater basin area. These plantings will provide better water quality benefits and permanent erosion control protection than the use of traditional turf grass. Please refer to the Landscape Plan prepared by Gary R. Weber Associates, Inc for the native planting areas.
- *CLSO RVR Item 6 - Structural measures that provide water quality and quantity control:*
  - A proposed infiltration basin is provided on the site that incorporates native plantings at the bottom and on the side slopes of the basin for water quality benefit purposes.
  - Eight dry wells are provided on the site that incorporates pretreatment through the proposed basin.

In addition to RVR requirements, the proposed design also meets the Water Quality Protection requirements as specified in CLSO 595-26.G, as follows:

- Water quality measures provided within the storm sewer system include the addition of snout hoods within catch basins to remove floatable and settleable pollutants from runoff from multifamily buildings areas before discharging to the infiltration basin system.

Storm Sewer Modeling and Overland Flood Route Sizing
All storm sewers and overland flood routes were designed using Bulletin 75 rainfall for northeast Illinois. A composite rational runoff coefficient (C) of 0.71 was used for all tributary areas within the residential portion of the site to be developed. Storm sewers were designed using Manning's equation to determine the flow capacity in the storm network for the 10-YR storm event. A conservative time of concentration of 5 minutes for pavement areas and 5 minutes for lawn areas was used for the storm sewer design. StormCAD was used to ensure that all storm sewers have sufficient capacity and were sized correctly for gravity flow.

Overland flood routes have been designed to provide at least 0.5' of freeboard between adjacent home lowest opening elevations and 100-YR water elevations within the overland channels. A time of concentration of 5 minutes was used for local areas less than 0.5 acres. A conservative time of concentration of 10 minutes was used for all onsite overland paths. Flowmaster was used to calculate water depths in the provided overland flood route cross sections. An emergency 100YR scenario calculation is also provided for the depressed curb downstream of the east emergency overflow weir to ensure that the total 100YR peak inflow to the Basin can be passed safely through this depressed curb. Furthermore, a 100YR critical duration storm event scenario calculation is provided for the curb downstream of the east emergency overflow weir which shows that the total ponding within the street is less than 6", ponding within the driveway is less than 9", and the ponding within pervious areas is less than 1'. Overland flood route and Storm sewer calculations, including the site runoff coefficient have been provided in Tab 4 of this report.

Soil Erosion/Sediment Control Measures
A Stormwater Pollution Prevention Plan (SWPPP) has been created in the Final Engineering Plans in order to protect the existing natural resources located within the general proximity to the project site.

Maintenance & Monitoring Plan
An ongoing stormwater system maintenance plan must be undertaken for the storm water system to operate as designed. Maintenance of the detention basins will be provided by the Homeowners Association. While these systems will be privately maintained, easements will be provided to facilitate maintenance and public access to the system. See Tab 6 for a *Maintenance Plan for New Facilities* for additional considerations and checklists for managing the stormwater systems.

Summary
The proposed stormwater management strategy has been designed to minimize the potential for any adverse stormwater impacts to neighboring and downstream resources and properties, reduce the total peak discharge from the site in the 100-year storm event and meet the criteria of the McHenry County and City of Crystal Lake Stormwater Ordinances.

TAB ONE

Maps and Permits

City of Crystal Lake
STORMWATER MANAGEMENT PERMIT

100 West Woodstock Street
Crystal Lake, IL 60014
(815) 356-3605

For Internal Use Only:
Application No: _____

Property Owner: CalAtlantic Group, LLC
Project Address: Main Street and Berkshire Drive
Owner Address: 1700 East Golf Road, Suite 1100
Schaumburg, IL 60173
Phone: 312-813-0004
Email Address: richard.murphy@lennar.com

Primary Contact: Richard Murphy
Company Name: CalAtlantic Group, LLC
Address: 1700 East Golf Road, Suite 1100
Schaumburg, IL 60173
Phone: 312-813-0004
Email Address: richard.murphy@lennar.com

Project Description: Proposed 20-Building Multi-Family Residential Community

13.20 acre(s) Proposed hydrologically disturbed area

0.38 acre(s) Existing impervious area on development site

6.79 acre(s) Proposed impervious area on development site

Approx 9.7 acre(s) Impervious area on development site before 2005 (Blacktop or gravel per demolition Plat of Survey dated 04/15/2015)

Statement of Authorization (completed by owner only if using a primary contact):

I hereby authorize Richard Murphy (primary contact) to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. This person will act on my behalf as the point of contact for permit correspondence.

Signature: [signature] Date: 12/3/24

Certification (completed by primary contact or by owner if no primary contact):

I declare that this application is true and correct to the best of my knowledge. I realize that the information that I have provided forms the basis for the issuance of the permit and have included all work to be authorized with this permit. I agree to construct said development in compliance with the permitted documents.

Signature: Richard J. Murphy Date: 12/3/24

For internal use only:

Impact to Flood Hazard Area (floodway, floodplain, floodprone area): ☐ Yes ☒ No
Located within the Crystal Lake Watershed: ☐ Yes ☒ No
Will the project impact any wetlands: ☐ Yes ☒ No
Development Classification: ☐ Minor (<20,000 sq ft) ☐ Intermediate (20,000 sq ft to < 1 acre)
☒ Major (> or = to 1 acre) ☐ Mining Development ☐ Public Road Development

A stormwater management permit is hereby issued per the approved plans dated_____

Permit conditions should be referenced per the plan review dated_____

_____ _____
Enforcement Officer Date

If wetlands are impacted, the wetland specialist has reviewed and recommends approval of this stormwater management permit.

_____ _____
Wetland Specialist Date



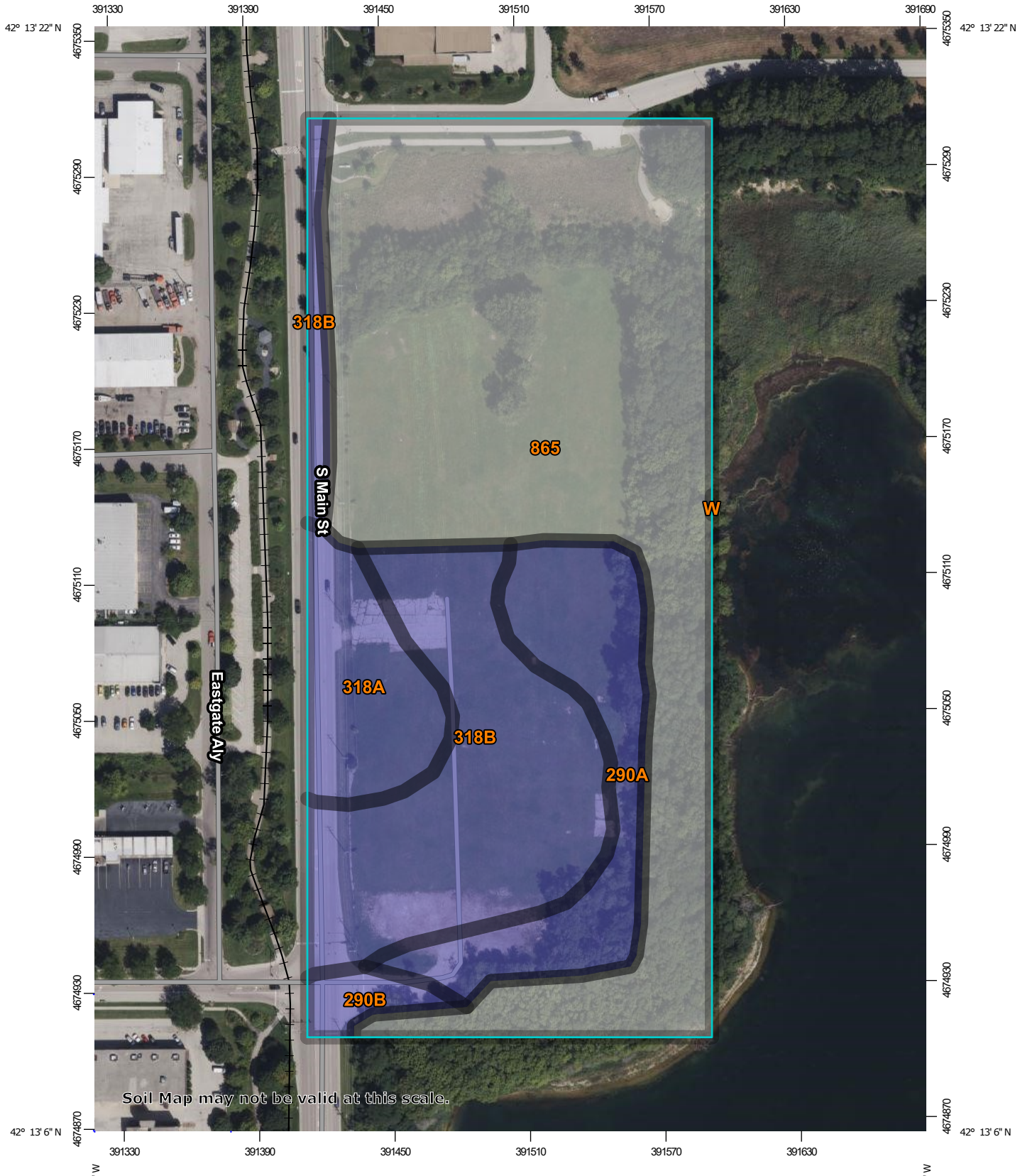
AERIAL LOCATION MAP
NOT TO SCALE

MAIN STREET AND THREE OAKS ROAD
CRYSTAL LAKE, MCHENRY COUNTY, ILLINOIS

MACKIE CONSULTANTS

Mackie Consultants, LLC
9575 W. Higgins Road, Suite 500
Rosemont, IL 60018
mackieconsult.com

Hydrologic Soil Group—McHenry County, Illinois
(Three Oaks Townhome Community - Crystal Lake, Illinois)



Map Scale: 1:2,370 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: McHenry County, Illinois
Survey Area Data: Version 19, Aug 28, 2023

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

Date(s) aerial images were photographed: Aug 19, 2022—Sep 30, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
290A	Warsaw loam, 0 to 2 percent slopes	B	2.1	11.7%
290B	Warsaw loam, 2 to 4 percent slopes	B	0.3	1.8%
318A	Lorenzo loam, 0 to 2 percent slopes	B	1.3	7.5%
318B	Lorenzo loam, 2 to 4 percent slopes	B	4.0	22.3%
865	Pits, gravel		10.2	56.8%
W	Water		0.0	0.0%
Totals for Area of Interest			**18.0**	**100.0%**

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands



December 13, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Flood Hazard Layer FIRMette

FEMA

88°19'15"W 42°13'22"N



88°18'38"W 42°12'55"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/12/2023 at 6:06 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Illinois Department of Natural Resources
JB Pritzker, Governor • Natalie Phelps Finnie, Director
One Natural Resources Way • Springfield, Illinois 62702-1271
www.dnr.illinois.gov

McHenry County
Crystal Lake
NE Corner Main St. and Three Oaks Road
Section:9-Township:43N-Range:8E
IEPA, MC-4782
New Construction, Three Oaks Townhomes

PLEASE REFER TO: SHPO LOG #016031124

April 4, 2024

Maggie Burke
Mackie Consultants, LLC
9575 W Higgins Road Suite 500
Rosemont, IL 60018

The Illinois State Historic Preservation Office is required by the Illinois State Agency Historic Resources Preservation Act (20 ILCS 3420, as amended, 17 IAC 4180) to review all state undertakings for their effect on cultural resources. Pursuant to this requirement, we have received information regarding the above referenced project for our comment.

According to the information provided there is no federal involvement in your project. Be aware the state law is less restrictive than the federal cultural resource laws concerning archaeology. If your project will use federal loans or grants, need federal agency permits, use federal property, or involve assistance from a federal agency, then your project must be reviewed under the National Historic Preservation Act of 1966, as amended. Please notify us immediately if such is the case.

Our files do not identify any known historic properties within this proposed project area, nor is it within the high probability area for archaeological resources as defined in the state Act. Accordingly, this project is **EXEMPT** pursuant to Section 6 of the Illinois State Agency Historic Resources Preservation Act. An archaeological survey for your above referenced project is not *required* under Illinois law as there is no public funding and it is not on public land. Please know, however, we are always receptive to reviewing the results of any due diligence survey coverages that may help prevent unanticipated discoveries during construction.

This does not pertain to any discovery during construction, nor is it a clearance for purposes of the Illinois Human Remains Protection Act (20 ILCS 3440).

If further assistance is needed please contact Jeff Kruchten, Principal Archaeologist, at 217/785-1279 or jeff.kruchten@illinois.gov.

Sincerely,

Carey L. Mayer

Carey L. Mayer, AIA
Deputy State Historic
Preservation Officer

EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Applicant:	Mackie Consultants, L.L.C.	*IDNR Project Number:*	2407932
Contact:	Maggie Burke	*Date:*	12/13/2023
Address:	9575 W Higgins Road Suite 500 Rosemont, IL 60018	*Alternate Number:*	4782

Project: Three Oaks Townhomes
Address: Main Street and Three Oaks Road, Crystal Lake

Description: The project site is approximately 10.1 acres of raw land to be developed into urban townhomes in Crystal Lake, IL.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database contains no record of State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location.

Consultation is terminated. This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary. Termination does not imply IDNR's authorization or endorsement.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: McHenry

Township, Range, Section:
43N, 8E, 8
43N, 8E, 9



IL Department of Natural Resources Contact
Adam Rawe
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
IL Environmental Protection Agency
Permits Section
Post Office Box 19276
Springfield, Illinois 62794 -9276

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

Security

EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law.

Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Traffic Impact Study

Proposed Townhouse Development
Waterside at Three Oaks
Crystal Lake, Illinois

December 3rd, 2024

Prepared For:

Prepared by:
David W Westergreen, EIT
Daniel P Brinkman, PE, PTOE

GHA GEWALT HAMILTON ASSOCIATES, INC.

Part I. Introduction and Project Context

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Traffic Impact Study (TIS) for the proposed townhomes to be constructed at the presently vacant lot northeast of the intersection between Main Street and Berkshire Drive. Per the September 13, 2024, Overall Site Plan prepared by Mackie Consultants, LLC, 107 townhomes are proposed to be constructed on the approximately 13.5-acre subject site located in Crystal Lake, Illinois. Access to the site is proposed via the existing east leg of the signalized Berkshire Drive intersection, utilizing the full-movement access, and a right-in, right-out (RIRO) drive located north of Berkshire Drive along Main Street. Driveways and garages are proposed for each townhome for parking vehicles, and visitor parking is provided.

Several references are made to a previous study conducted by GHA on behalf of the City for the redevelopment of Crystal Court located northeast of the subject site. The latest study for the redevelopment (now called Water's Edge) is dated May 22, 2024.

The following summarizes our findings and provides various recommendations for your consideration. *Appendices* referenced are in the Technical Addendum at the end of this document.

Part II. Background Information

Site Location Map and Roadway Inventory

Exhibit 1 provides a site location map. The existing traffic operations in the site area are illustrated on *Exhibit 2*. *Appendix A* provides a photo inventory of operations along the site frontage. Pertinent comments to the adjacent roadways include:

Main Street

- Main Street is a north-south Minor Arterial under the jurisdiction of the City of Crystal Lake.
- Along the site frontage, Main Street provides two travel lanes in each direction separated by a wide (±18-foot), flush median that also becomes a raised median northwest of the proposed site access.
- Main Street has a posted speed limit of 35 miles per hour (mph) in the vicinity of the site.
- Separate northbound and southbound left turn lanes are provided at the signalized intersection with Berkshire Drive, and a southbound left turn lane is provided at the unsignalized intersection with Three Oaks Recreational Area Drive.
- The Annual Average Daily Traffic (AADT), year 2021, on Main Street was 14,200 vehicles per day.

Berkshire Drive

- Berkshire Drive is an east-west Major Collector under the jurisdiction of the City of Crystal Lake.
- Berkshire Drive provides one travel lane in each direction separated by a ±12-foot flush median.
- Berkshire Drive provides a left turn lane in both directions at the signalized intersection with Main Street. The eastbound left turn lane continues west of the intersection and also serves Eastgate Road.
- Berkshire Drive has a posted speed limit of 30 mph.
- The Annual Average Daily Traffic (AADT), year 2021, on Berkshire Drive was 2,150 vehicles west of Main Street.

Three Oaks Recreation Area Drive

- Three Oaks Recreation Area Drive is an east-west local roadway that intersects Main Street approximately 1,250 feet north of the intersection with Berkshire Drive.
- Three Oaks Recreation Area Drive is limited to right and left turns and provides both right and left turn lanes at its Stop-Controlled intersection with Main Street.
- The posted speed limit along Three Oaks Recreation Area Drive is 20 MPH.
- There is no posted AADT for Three Oaks Recreation Area Drive.

Pedestrian Facilities

- Prairie Trail travels north and southbound within the site vicinity as sidewalk west of Main Street. A crosswalk is provided at the west leg of the intersection of Main Street and Berkshire Drive on the west leg.
- A sidewalk is provided both north and south of Berkshire Drive, but no crosswalk is provided across Main Street at the signalized intersection with Main Street.
- A sidewalk is provided along the south side of Three Oaks Recreation Area Drive and continues east of the site. A crosswalk is provided along the east leg of the Three Oaks Recreation Area Drive intersection with Main Street
- A crosswalk is provided across Main Street at Three Oaks Recreation Area Drive along the south leg, with Rectangular Rapid Flashing Beacons and pushbuttons provided to stop north and southbound traffic.

Transit

- There are no active PACE routes along Main Street.

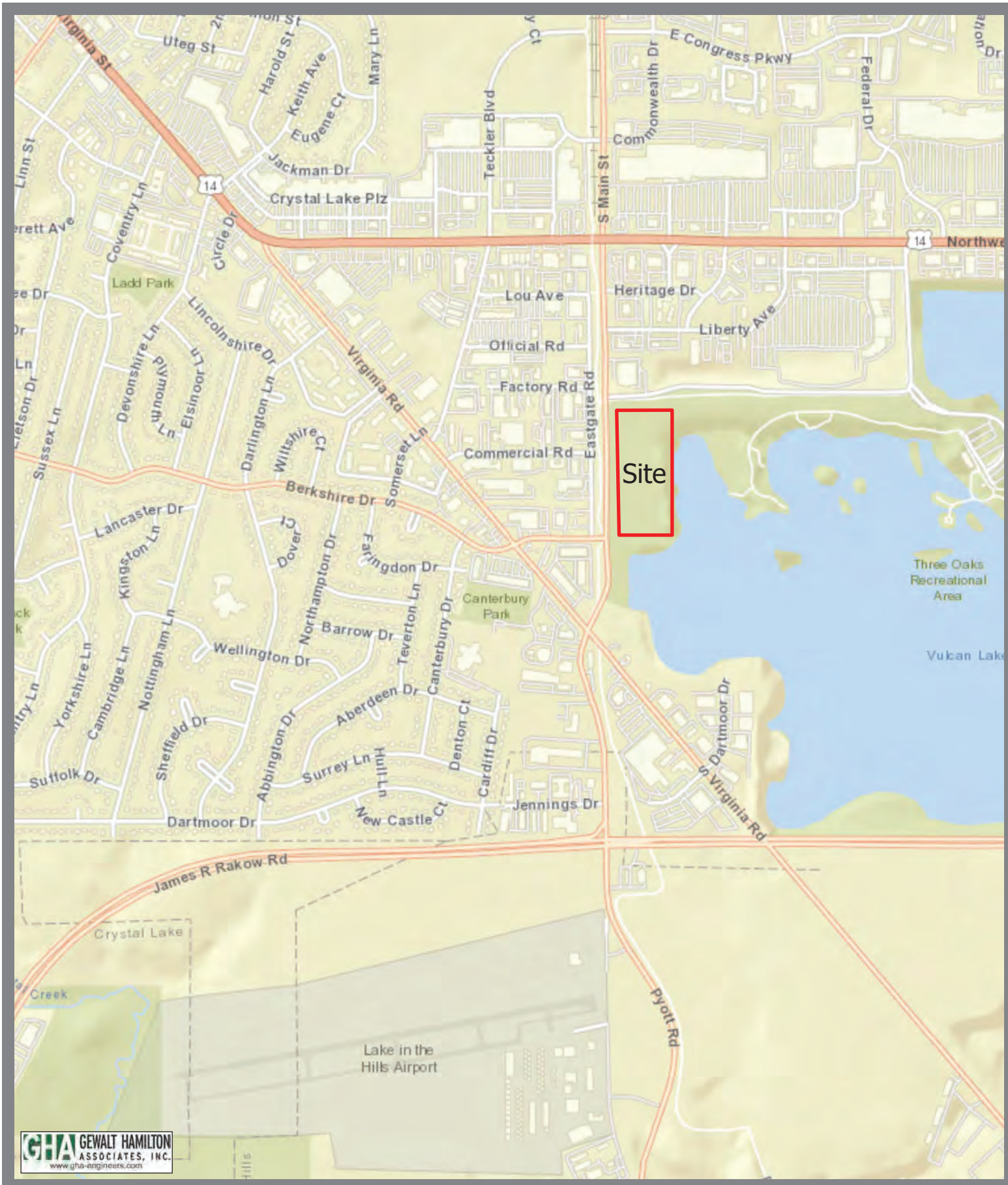


Exhibit 1 - Location Map

1 inch = 1,500 Feet

Proposed Waterside at Three Oaks Townhomes
Main Street at Berkshire Drive
Crystal Lake, IL

Map Center: 88.31888°W 42.21628°N



GEWALT HAMILTON ASSOCIATES, INC.

N

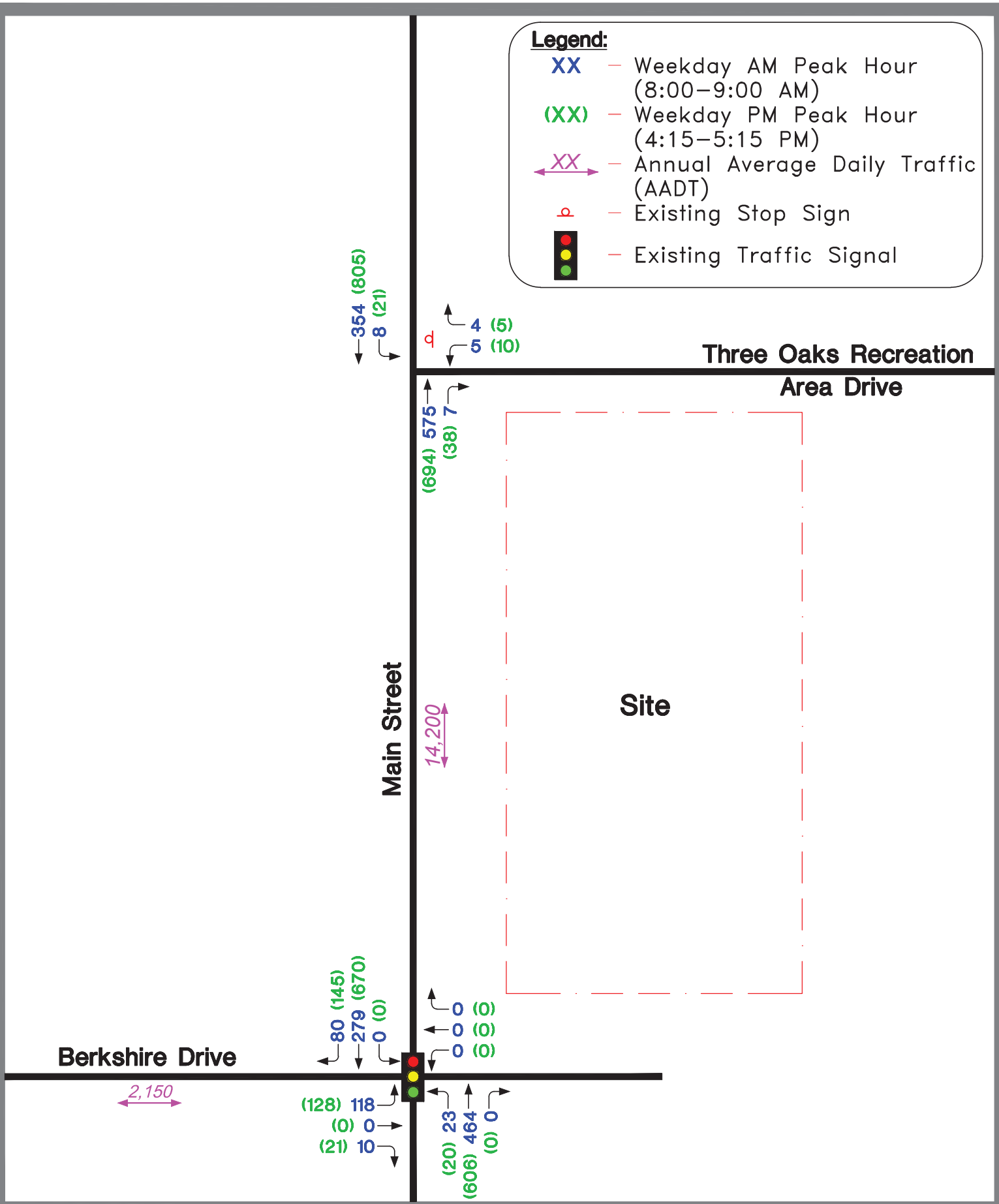
Not to Scale

Exhibit 2
Existing Traffic Operations

Existing Traffic

Exhibit 3 summarizes the existing weekday morning and evening peak hour traffic volumes. Peak period traffic turning movement counts were conducted by GHA on Thursday, November 14, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM at the Main Street intersection with Berkshire Drive. The observed weekday morning and evening peak hours occurred from 8:00 to 9:00 AM, and from 4:15 to 5:15 PM respectively. Peak Hour counts conducted by GHA for the Traffic Impact Study for the Water's Edge development at the Main Street intersection with Three Oaks Recreation Area Drive were also referenced and combined with the 2024 data. *Exhibit 3* also provides the year 2021 Annual Average Daily Traffic (AADT) volume (24-hour volume) along Main Street and Berkshire Drive as published by IDOT on their website: www.gettingaroundillinois.com.

No unusual activities (e.g., roadway construction, or inclement weather) were observed during our counts that would be expected to impact traffic volumes or travel patterns in the vicinity. Traffic Count Summaries can be found in *Appendix B*.



GHA GEWALT HAMILTON ASSOCIATES, INC.

Not to Scale

Exhibit 3
Existing Traffic

Sources: 1) GHA November, 2024 2) IDOT 2021 AADT

Crash Analysis

Crash data was obtained from the IDOT Division of Transportation and Safety for the last five calendar years, 2019 through 2023. A summary of the crash data is provided in *Table 1* with the locations mapped on the exhibit contained in *Appendix C*.

Table 1: Crash Summary (2019-2023) [A]

Location	No. of Crashes	PD	Severity[A]			F	Crash Type[B]									Percent Wet / Icy
			A	B	C		A	FO	FTF	FTR	SS	T	PED	BIKE	O	
Intersections (Crashes within 250 ft of Intersection)																
Main Street at Three Oaks Rec Area Dr	2	1	0	0	1	0	-	1	-	-	-	1	-	-	-	50%
Main Street at Berkshire Drive	9	8	0	1	0	0	-	1	-	2	3	2	-	1	-	11%
Total =	11	9	0	1	1	0	0	2	0	2	3	3	0	1	0	18%

[A] PD=Property Damage Only, A=Type A (incapacitating injury), B=Type B (non-incapacitating injury), C=Type C (possible injury), F= Fatal Injury

[B] A=Angle, FO=Fixed Object, FTF=Front-to-Front, FTR=Front-to-Rear, SSD=Sideswipe Same Direction, T=Turning, PED=Pedestrian, BIKE=Pedacyclist, O=Other

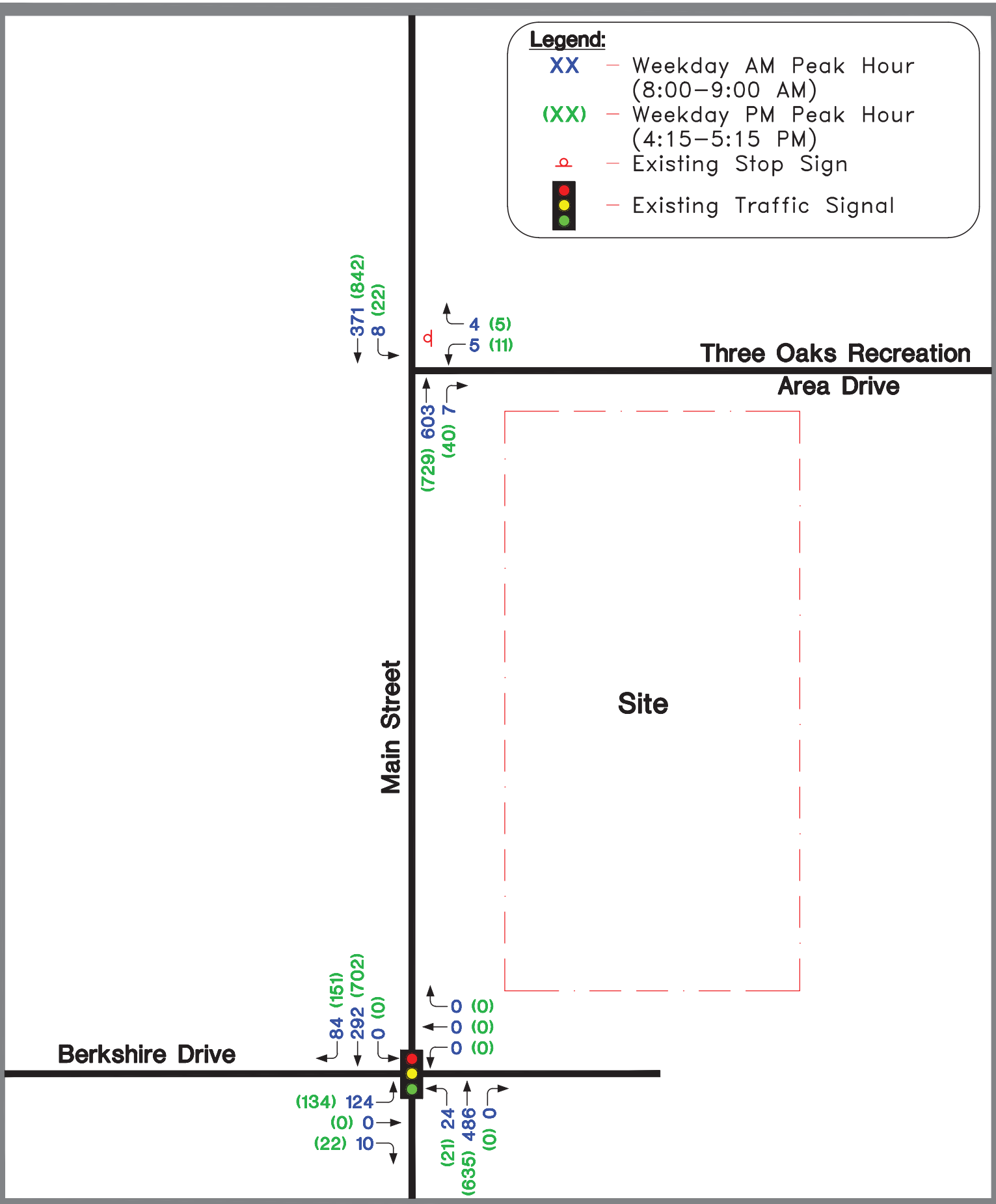
As shown in Table 1, the intersection of Main Street at Berkshire Drive experienced the highest number of crashes within the study area over the five-year analysis period, with an average of approximately 2 crashes per year. Approximately 89 percent (8 of 9) of the crashes involved property damage only and 33 percent (3 of 9) were rear-end collisions. Turning and Front-To-Rear crashes both accounted for 22 percent (2 of 9) crashes at this intersection.

Additionally, the intersection of Main Street and Three Oaks Recreation Area Drive experienced the next highest number of crashes with an average of approximately 1 crash every 2.5 years. The two crash types were a turning movement crash and a fixed object crash, and the fixed object crash was a Type-C Injury crash.

The lone injury crash at the Main Street and Berkshire Drive intersection was a Type-B injury Pedalcyclist crash. No pedestrian crashes at the RRFB crossing of Main Street at Three Oaks Recreation Area Drive were reported in the five-year analysis period.

No-Build Traffic

Traffic growth in the area is a function of expected land development in the region. Future traffic volume conditions were developed for the year 2032, for consistency with previous analyses completed for the Water's Edge development. Based on the historical Chicago Metropolitan Agency for Planning (CMAP) 2050 projections provided to GHA for Water's Edge (see *Appendix D*), traffic volumes along the roadways surrounding the site are assumed to experience an overall annual compounded growth rate of approximately 0.60% per year. Accordingly, the 2032 No-Build peak hour traffic volumes (see *Exhibit 4*) were developed by applying the predicted growth to existing traffic.



GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 4
Year 2032 No-Build Traffic

Part III. Traffic Evaluation

Future Site Characteristics

Proposed Development Plan

Lennar Corporation proposes to construct a townhouse development on the approximately 13.5-acre subject site located on the northeast corner of the Main Street and Berkshire Drive intersection in Crystal Lake, Illinois. The project is proposing to construct 20 buildings featuring 107 townhouse units, with garage parking and park areas within the complex. Access to the site is proposed to utilize the existing east leg of the signalized Berkshire Drive intersection with Main Street. Additional access to the site is proposed via a right-in, right-out (RIRO) drive to be located approximately 1,000 feet north of the Main Street and Berkshire Drive intersection, and approximately 250 feet south of the Main Street and Three Oaks Recreation Area Drive intersection. There is no proposed site access onto Three Oaks Recreation Area Drive.

The proposed dimensions are illustrated on *Exhibit 5.*

The September 13, 2024, Overall Site Plan is provided in *Appendix E*.

Trip Generation

Table 2 summarizes the traffic generation calculations for the proposed development. Trip generation rates published by the Institute of Transportation Engineers (ITE) in the 11th Edition of the Manual *Trip Generation* were used to determine the anticipated traffic generated by the proposed development of 107 townhomes. As can be seen in *Table 2* the proposed townhouse development is expected to generate approximately 60 trips (combined inbound and outbound) during each of the Peak Hours and 762 trips (again inbound and outbound total) in a 24-hour period.

See *Appendix F* for excerpts of the ITE manual.

Table 2: Trip Generation Calculations

Land Use	Size	ITE Code	Weekday Peak Hours						Daily		
			Morning 8:00-9:00 AM			Evening 4:15-5:15 PM					
			In	Out	Sum	In	Out	Sum	In	Out	Sum
Townhouse Developoment	107 DU	220	13	43	56	42	21	63	381	381	762
New Trips			13	43	56	42	21	63	381	381	762

Sources:ITE Trip Generation Manual, 11th Edition - See Appendix F

Trip Distribution

Table 3 provides the anticipated distribution of site traffic. This was based on existing site travel patterns, proposed access, and the operational characteristics of the adjacent street system.

Table 3: Trip Distribution

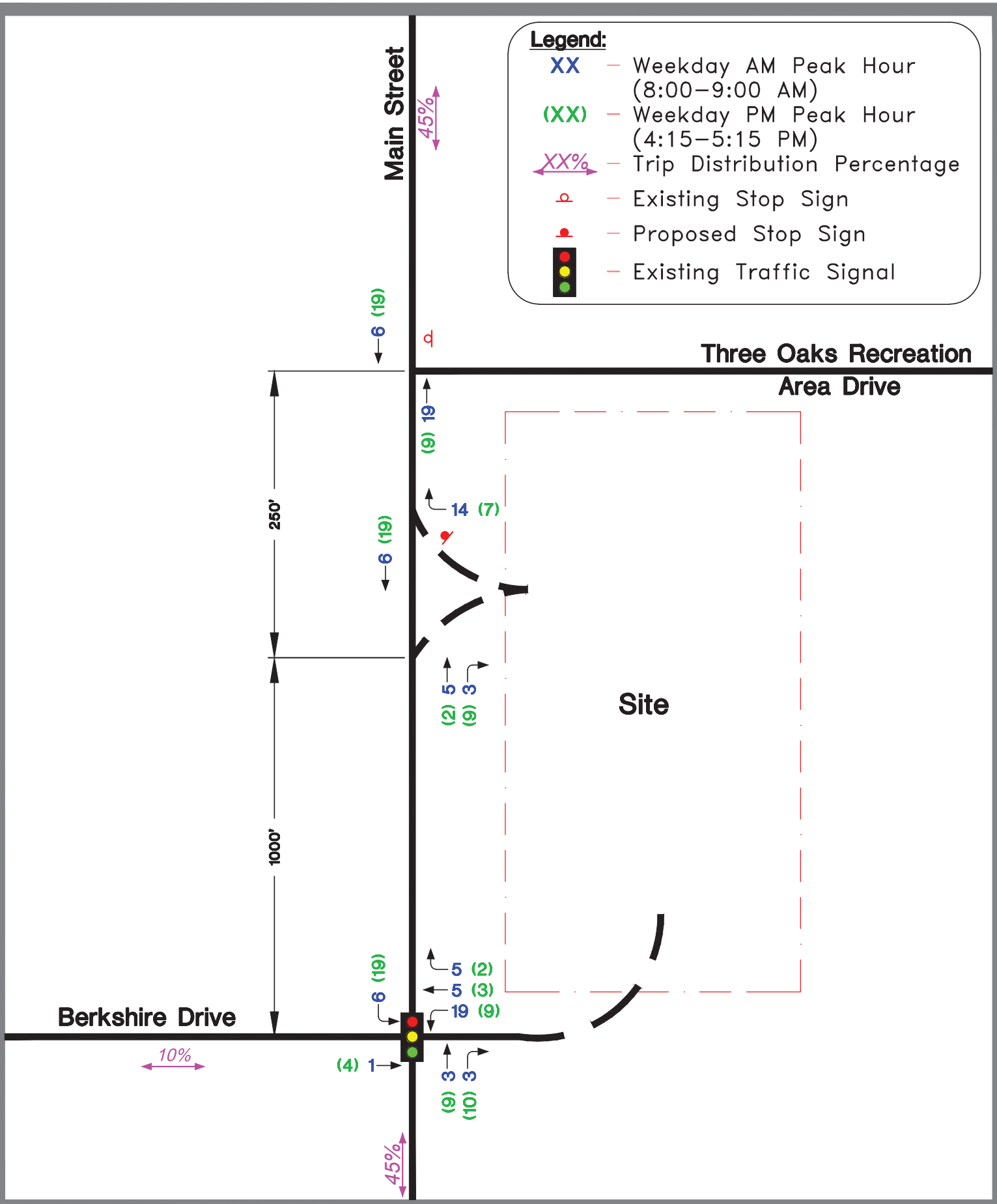
Route & Direction	Percent Route To/From Site
Main Street	
North of Three Oaks Rec Area Dr	45%
South of BerkshireDrive	45%
Berkshire Drive	
West of Main Street	10%
Three Oaks Rec Area Drive	
East of Main Street	0%
Totals =	*100%*

Traffic usage of the area roadway network is also illustrated on *Exhibit 5.* As can be seen, the majority of Peak Hour development traffic is expected to be oriented along Main Street with limited use of Berkshire Drive and little to no use of Three Oaks Recreation Area Drive.

Site and Total Traffic Assignments

Exhibit 5A illustrates the site traffic assignments for the development's trips, which is based on the traffic characteristics summarized in *Tables 2 and 3* (traffic generation and trip distribution) and assigned to the area roadways. *Exhibit 5B* illustrates site traffic associated with the Water's Edge development to the northeast (See *Appendix G*) for an excerpt from the previous study. Therefore, we have considered the total impacts of the buildout of both proposed developments for the year 2032.

The site traffic (*Exhibits 5A and 5B*) and the 2032 No-Build traffic (*Exhibit 4*) were combined to produce the 2032 Total traffic, which is illustrated on *Exhibit 6.*

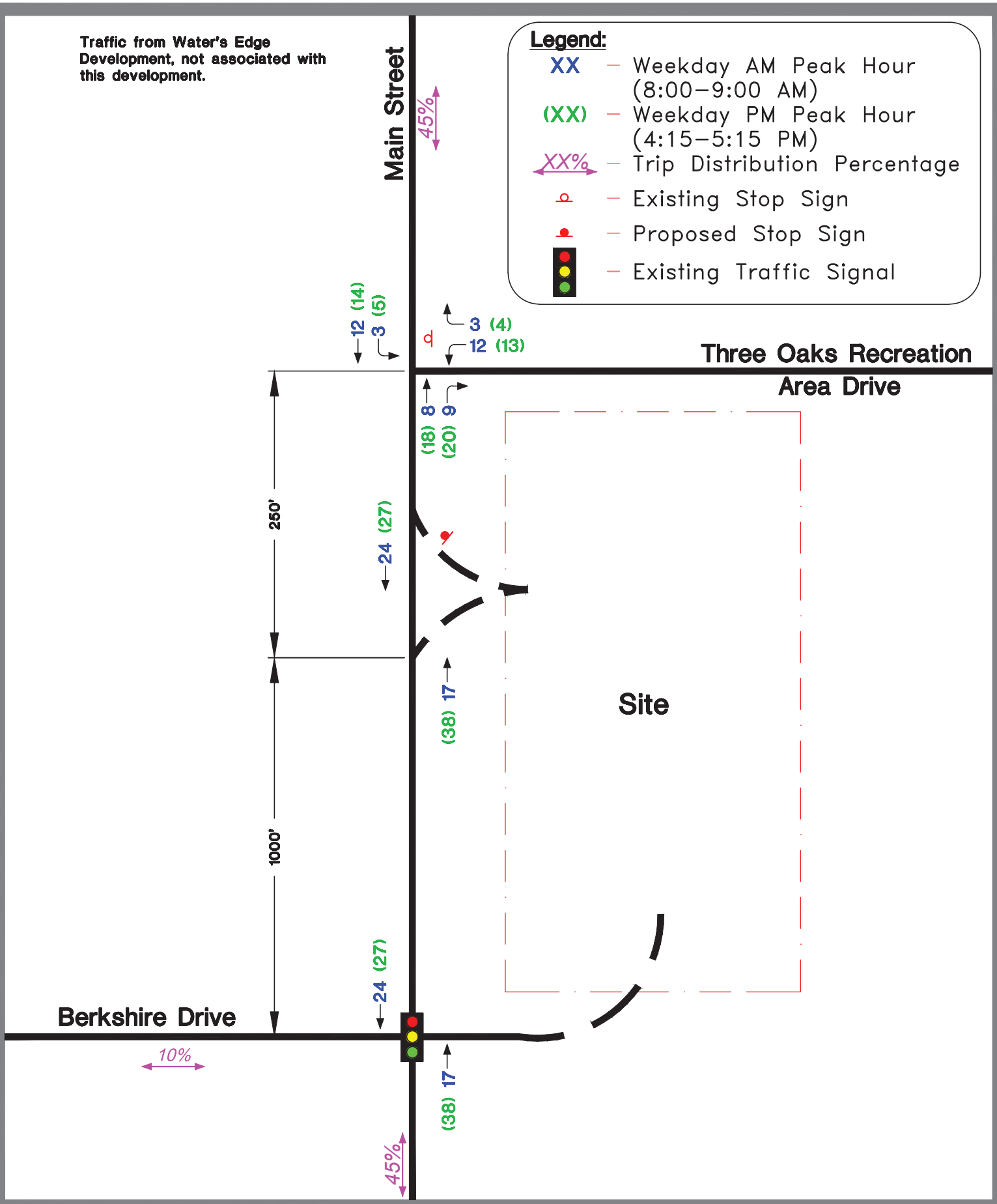


GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 5A
Site Traffic

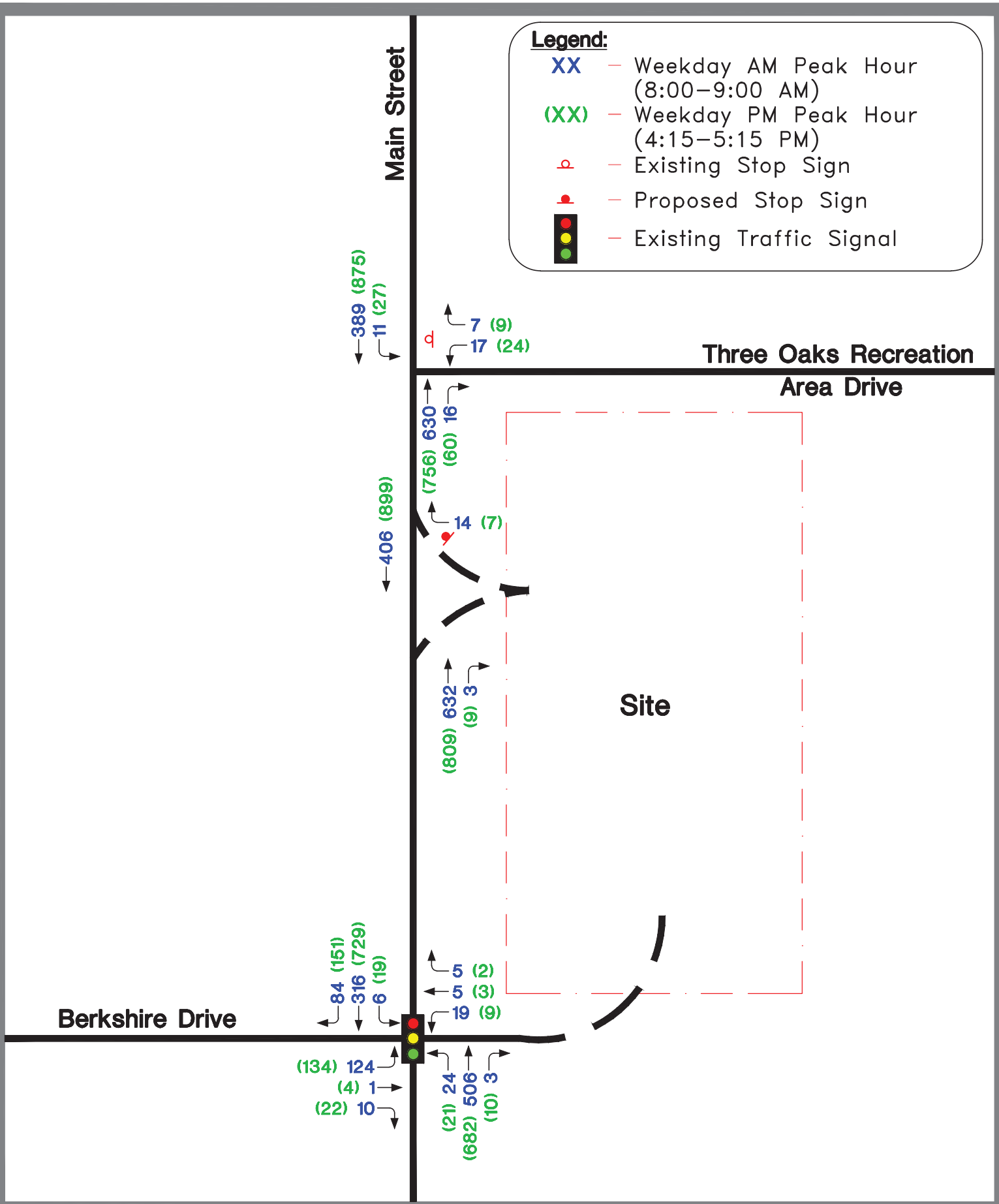


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N

Not to Scale

Exhibit 5B
Water's Edge Traffic



GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 6
Year 2032 Total Traffic

Capacity Analysis

Capacity analyses are a standard measurement that identifies how an intersection operates. They are measured in terms of Level of Service (LOS). The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six Levels of Service are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. LOS C is often considered acceptable for design purposes and LOS D is usually considered as providing the lower threshold of acceptable operations. Since the level of service is a function of the traffic flows placed upon it, the facility may operate at a wide range of levels of service, depending on the time of day, day of week or period of year. A description of the operating condition under each level of service, based on the analysis parameters as published in the Transportation Research Board's (TRB) Highway Capacity Manual (HCM), Seventh Edition, is provided in *Table 4*.

Table 4: Level of Service (LOS) Summary

LOS	Description	Delay (sec/veh)	
		Traffic Signal	Stop Sign
A	Describes conditions with little to no delay to motorists.	<10	< 10
B	Represents a desirable level with relatively low delay to motorists.	>10 and < 20	>10 and < 15
C	Describes conditions with average delays to motorists.	>20 and < 35	>15 and < 25
D	Describes operations where the influence of congestion becomes more noticeable. Delays are still within an acceptable range.	>35 and < 55	>25 and < 35
E	Represents operating conditions with high delay values. This level is often considered within urban settings or for minor streets intersecting major arterial roadways to be the limit of acceptable delay.	>55 and < 80	>35 and < 50
F	Is unacceptable to most drivers with high delay values that often occur, when arrival flow rates exceed the capacity of the intersection.	>80	>50

Capacity analyses were performed using the methodologies outlined in the HCM, for the following scenarios:

- *Existing Traffic* –Existing traffic (year 2024),
- *No-Build Traffic* – Future (non-site, year 2032) traffic with background growth, and
- *Total Traffic* – Future No-Build traffic volumes (year 2032) plus the addition of the site generated traffic, as well as Water's Edge Site generated traffic.

2032 Total traffic conditions assume the following:

- Traffic exiting the RIRO access will be under Stop Sign control.
- Water's Edge development will be completed, and the proposed traffic from that development will be added to Main Street as estimated in the prior Traffic Impact Study conducted by GHA.

Table 5 summarizes the intersection capacity and queue analysis results.

Table 5: Level-of-Service Summary

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or Not Allowed Movement												Overall Intersection
			Eastbound			Westbound			Northbound			Southbound			
1. Main Street at Berkshire Drive		Traffic Signal	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM Peak	A. Existing Traffic (See Exhibit 3)	• LOS	D	D	<	-	-	-	A	A	-	-	A	A	A
		• Delay	54.4	50.2	-	-	-	-	2.4	2.2	-	-	4.1	4.2	9.7
		• 95th Queue Length (ft)	190	15	-	-	-	-	4	41	-	-	59	56	-
		• Approach LOS (Delay)	D (54.1)			-			A (2.2)			A (4.2)			-
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	D	D	<	-	-	-	A	A	-	-	A	A	A
		• Delay	54.1	49.8	-	-	-	-	2.5	2.3	-	-	4.3	4.4	9.8
		• 95th Queue Length (ft)	197	15	-	-	-	-	4	45	-	-	64	61	-
		• Approach LOS (Delay)	D (53.8)			-			A (2.3)			A (4.4)			-
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	D	D	<	D	E	<	A	A	A	A	A	A	B
		• Delay	54.7	51.2	-	53.1	56.1	-	5.3	7.1	7.1	6	7.5	7.5	13.4
		• 95th Queue Length (ft)	178	28	-	29	16	-	9	122	121	2	103	97	-
		• Approach LOS (Delay)	D (54.2)			D (54.2)			A (7.0)			A (7.5)			-
PM Peak	A. Existing Traffic (See Exhibit 3)	• LOS	D	D	<	-	-	-	A	A	-	-	A	A	A
		• Delay	54.1	49.8	-	-	-	-	2.6	2.2	-	-	4.6	4.7	8.3
		• 95th Queue Length (ft)	197	15	-	-	-	-	3	44	-	-	125	118	-
		• Approach LOS (Delay)	D (53.8)			-			A (2.2)			A (4.7)			-
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	D	D	<	-	-	-	A	A	-	-	A	A	A
		• Delay	54.5	50.8	-	-	-	-	2.8	2.3	-	-	4.9	4.2	8.5
		• 95th Queue Length (ft)	187	29	-	-	-	-	3	49	-	-	138	129	-
		• Approach LOS (Delay)	D (53.9)			-			A (2.3)			A (4.9)			-
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	D	D	<	D	E	<	A	A	A	A	A	A	B
		• Delay	48.4	48.2	-	54.4	55.9	-	5.8	7.7	7.7	5.4	8.4	8.5	12.0
		• 95th Queue Length (ft)	175	33	-	12	7	-	6	153	152	6	210	199	-
		• Approach LOS (Delay)	D (48.4)			D (55.0)			A (7.7)			A (8.4)			-

Table 5: Level-of-Service Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or Not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
2. Main Street at 3 Oaks Rec Area Drive		TWSC - WB Stop	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	A. Existing Traffic (See Exhibit 3)	• LOS	-	-	-	C	-	B	-	-	-	A	-	-
		• Delay	-	-	-	18.6	-	10.5	-	-	-	9.0	-	-
		• 95th Queue Length (ft)	-	-	-	3	-	0	-	-	-	0	-	-
		• Approach LOS (Delay)		-			B (15.0)			-			A (9.0)	
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	-	-	-	C	-	B	-	-	-	A	-	-
		• Delay	-	-	-	19.5	-	10.7	-	-	-	9.1	-	-
		• 95th Queue Length (ft)	-	-	-	3	-	0	-	-	-	0	-	-
		• Approach LOS (Delay)		-			C (15.6)			-			A (9.1)	
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	-	-	-	C	-	B	-	-	-	A	-	-
		• Delay	-	-	-	21.9	-	10.9	-	-	-	9.3	-	-
		• 95th Queue Length (ft)	-	-	-	8	-	0	-	-	-	0	-	-
		• Approach LOS (Delay)		-			C (18.7)			-			A (9.3)	
PM Peak	A. Existing Traffic (See Exhibit 3)	• LOS	-	-	-	D	-	B	-	-	-	A	-	-
		• Delay	-	-	-	26.5	-	10.8	-	-	-	9.3	-	-
		• 95th Queue Length (ft)	-	-	-	5	-	0	-	-	-	3	-	-
		• Approach LOS (Delay)		-			C (21.3)			-			A (9.3)	
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	-	-	-	D	-	B	-	-	-	A	-	-
		• Delay	-	-	-	28.8	-	11.0	-	-	-	9.4	-	-
		• 95th Queue Length (ft)	-	-	-	5	-	0	-	-	-	3	-	-
		• Approach LOS (Delay)		-			C (23.2)			-			A (9.4)	
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	-	-	-	D	-	B	-	-	-	A	-	-
		• Delay	-	-	-	34.5	-	11.2	-	-	-	9.6	-	-
		• 95th Queue Length (ft)	-	-	-	15	-	0	-	-	-	3	-	-
		• Approach LOS (Delay)		-			D (28.2)			-			A (9.6)	

Table 5: Level-of-Service Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach											
			> = Shared Lane - = Non Critical or Not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
3. Main Street at Site Entrance		TWSC - WB Stop	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	C. 2032 Total Traffic (See Exhibit 6)	• LOS	-	-	-	-	-	B	-	-	-	-	-	-
		• Delay	-	-	-	-	-	14.1	-	-	-	-	-	-
		• 95th Queue Length (ft)	-	-	-	-	-	3	-	-	-	-	-	-
		• Approach LOS (Delay)		-			B (14.1)			-			-	
PM Peak	C. 2032 Total Traffic (See Exhibit 6)	• LOS	-	-	-	-	-	B	-	-	-	-	-	-
		• Delay	-	-	-	-	-	15.0	-	-	-	-	-	-
		• 95th Queue Length (ft)	-	-	-	-	-	3	-	-	-	-	-	-
		• Approach LOS (Delay)		-			B (15.0)			-			-	

Capacity analysis summary printouts are provided in *Appendix H*.

The following summarizes the findings of the Capacity Analyses.

Main Street at Berkshire Drive

Overall, the intersection operates at LOS A during both peak hours under the existing and No Build Conditions but deteriorates to LOS B during the total traffic future condition. The eastbound and westbound movements in the Year 2032 total traffic scenario experience LOS D and LOS E delays, but this is a common occurrence for side roads entering an arterial. The overall delay increase due to the townhome development is negligible. The queues for the eastbound left turn onto Main Street from Berkshire Drive do queue past the adjacent intersection with Eastgate Road in the existing condition, but the eastbound left turn queues are expected to improve upon the construction of the development and the associated traffic signal operation modifications. Those queues are expected to clear after one cycle.

Main Street at Three Oaks Recreation Area Drive

Left Turn movements exiting Three Oaks Recreation Area Drive are anticipated to operate at LOS C during the morning peak hour and LOS D during the evening peak hour under all three conditions. With the proposed traffic from the site and the Water's Edge site development to the northeast, delay and queues increase, but the overall impact on the intersection is minimal.

Main Street at RIRO Site Access Drive

A new limited (RIRO) movement access is proposed at the northwestern end of the site. All movements are expected to operate at or above LOS B.

Part IV. Recommendations and Conclusions

Analyses have been conducted under existing and future conditions to determine the impact from the proposed townhouse development on the study area intersections. The capacity analysis results indicate that the increase in project site-generated traffic has little to no effect upon the Peak Hour operations of the area roadway network with the recommendations contained herein:

- Exiting traffic at the RIRO access will operate under Stop Sign control.
- The proposed crosswalk with pedestrian signal head upgrades on the north leg of the intersection of Main Street and Berkshire Drive should remain as part of the townhouse development.

Part V. Technical Addendum

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

Appendices

A. Photo Inventory
B. Traffic Count Summaries
C. Crash Summary Map
D. Water's Edge CMAP Traffic Projections
E. September 13, 2024, Site Plan
F. ITE Trip Generation Manual Excerpts
G. May 22, 2024 Water's Edge Site Traffic Excerpt
H. Capacity Analysis Worksheets

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