



City of Fitchburg
 Planning/Zoning Department
 5520 Lacy Road
 Fitchburg, WI 53711
 (608-270-4200)

REZONING APPLICATION

The undersigned owner, or owner's authorized agent, of property herein described hereby petitions to amend the zoning district map of the Fitchburg zoning ordinance by reclassifying from the PDD/GIP district to the PDD/SIP district the following described property:

1. **Location of Property/Street Address:** 2556 South Fish Hatchery Road

Legal Description - (Metes & Bounds, or Lot No. And Plat):

See attached description

***Also submit in electronic format (MS WORD or plain text) by email to: planning@fitchburgwi.gov

2. **Proposed Use of Property - Explanation of Request:**

Independent senior apartments.
 See attached narrative for the request explanation.

3. **Proposed Development Schedule:** start construction summer of 2019, complete construction in late Spring 2020

***Pursuant to Section 22-3(b) of the Fitchburg Zoning Ordinance, all Rezoning shall be consistent with the currently adopted City of Fitchburg Comprehensive Plan.

***Attach three (3) copies of a site plan which shows any proposed land divisions, plus vehicular access points and the location and size of all existing and proposed structures and parking areas. Two (2) of the three (3) copies shall be no larger than 11" x 17". Submit one (1) electronic pdf document of the entire submittal to planning@fitchburgwi.gov. Additional information may be requested.

Type of Residential Development (If Applicable): senior apartments

Total Dwelling Units Proposed: 73 **No. Of Parking Stalls:** _____

Type of Non-residential Development (If Applicable): _____

Proposed Hours of Operation: _____ **No. Of Employees:** _____

Floor Area: _____ **No. Of Parking Stalls:** _____

Sewer: Municipal Private **Water:** Municipal Private

Current Owner of Property: Randy Koth

Address: 2546 S Fish Hatchery Road, Fitchburg WI **Phone No:** _____

Contact Person: Jacob Klein, JT Klein Company, Inc.

Email: jacon@jtkeli.com

Address: 818 S Park Street, Madison, WI 53715 **Phone No:** 612-202-1577

Respectfully Submitted By:  **Randy Koth**
 Owner's or Authorized Agent's Signature **Print Owner's or Authorized Agent's Name**

PLEASE NOTE - Applicants shall be responsible for legal or outside consultant costs incurred by the City. Submissions shall be made at least four (4) weeks prior to desired plan commission meeting.

For City Use Only: **Date Received:** 5/21/19 **Publish:** _____ and _____

Ordinance Section No. _____ **Fee Paid:** \$875.00

Permit Request No. RZ-2293-18

Receipt # 1.19191
 Lt May 22, 2019

DESCRIPTION

PARCEL A: All that part of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 16, Township 06 North, Range 09 East, in the City of Fitchburg, Dane County, Wisconsin, described as follows: Beginning at the NE corner of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of said Section 16; thence West along the North line of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$, 497.5 feet to the centerline of highway; thence Southerly along said centerline, 175.0 feet; thence East, 502.4 feet to a point on the East line of said Section 16, 175.0 feet South of the point of beginning; thence North along the East line of said Section 16, 175.0 feet to the point of beginning.

TOGETHER WITH

PARCEL B: All that part of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 16, Township 06 North, Range 09 East, in the City of Fitchburg, Dane County, Wisconsin, described as follows: Commencing at the NE corner of said NE $\frac{1}{4}$ of the SE $\frac{1}{4}$; thence South along the East line of said NE $\frac{1}{4}$ of the SE $\frac{1}{4}$, a distance of 175.00 feet to the point of beginning of this description; thence West 502.4 feet to the centerline of the highway and a point 175 feet South of the North line of said SE $\frac{1}{4}$; thence South along said centerline 100 feet; thence East 505.0 feet more or less to a point on the East line of said Section, 100 feet South of the point of beginning; thence North along said line 100 feet to the point of beginning.

ALL DESCRIPTIONS SUBJECT TO Transportation Project Plat 06-SR-101-0-C402 recorded in Volume 59-065B of Transportation Project Plats, Page 303, as Document Number 4487411, recorded in Dane County, Wisconsin.

March 21, 2018

Mr. Thomas Hovel
City Planner/Zoning Administrator
City of Fitchburg Department of Planning and Zoning
5520 Lacy Road
Fitchburg, WI 53711

RE: 2546-2556 S Fish Hatchery Road; tax parcel IDs 225/0609-164-8020-3,
225/0609-164-8001-6, 225/0609-164-8470-9, and 225/0609-164-8460-1

Dear Mr. Hovel,

I, the owner of the above described real property, authorize JT Klein Company, Inc. to act as an agent for me for the purpose of creating, filing, and managing any land use r entitlements necessary to construct, operate, or otherwise gain approval for a project. I acknowledge that any application may be denier, modified, or approved with conditions.

The undersigned hereby certify to be the fee simple owner of the property described herein; that to the best of my knowledge the information contained within this authorization is true and correct.

A handwritten signature in cursive script that reads "Randy P. Koth". The signature is written over a horizontal line.

Signature

The name "RANDOIF P. KOTH" is printed in all-caps, block letters. It is positioned above a horizontal line.

Print Name

May 20, 2019

Sonja Kruesel
City Planner- City of Fitchburg
5520 Lacy Road
Fitchburg, WI 53711

Re: 2556 South Fish Hatchery Road
Oak Ridge SIP

Dear Ms. Kruesel,

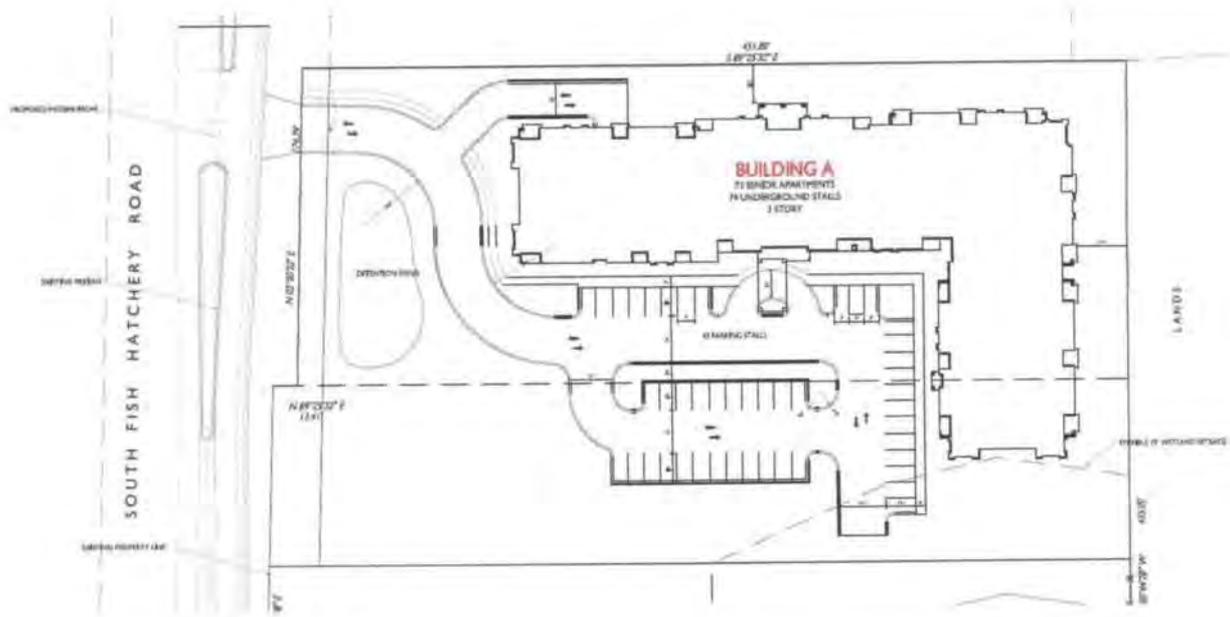
On October 9, 2018 the City of Fitchburg Common Council approved Ordinance 2018-0-24 (RZ-2216-18) rezoning of 2556 South Fish Hatchery Road to PDD-GIP (Planned Development District General Implementation Plan) to allow for the development of up to 73 units of independent senior apartments.

At this time, JT Klein Company, Inc. is formally submitting this application to finalize the zoning for this project and seeking approval of PDD-SIP (Planned Development District Specific Implementation Plan) for a 73 unit three story independent senior building.

As the next step in the PDD process, this letter is intended to outline the final development plan of the properties known as 2556 S Fish Hatchery Rd Fitchburg, WI, tax parcel IDs 225/0609-164-8020-3 and 225/0609-164-8001-6, from their current zoning of PDD-GIP to PDD-SIP.

Development Overview

Oak Ridge will offer Fitchburg seniors housing options tailored to meet the needs of independent older adults in the community and targeted to individuals at a wide range of income levels. Our final plans include one three story building which contains a total of 73 units on 2.78 acres, which equates to a density of 26.35 units per acre.



Upon completion, the development will offer 73 units of independent senior housing in a three story building constructed on the northeast side of the property. Of these 60 units, 100% of units will be affordable to individuals earning no more than 80% of the Dane County Area Median Income (AMI). These affordable units are designed to appeal to retired seniors living on fixed incomes and will allow lifetime Fitchburg residents to remain in the community. These seniors are particularly vulnerable to the rising cost of housing in Dane County, as their income is inflexible and cannot adjust for an increase in living expenses.

The independent senior building will offer a mix of one and two bedroom units and will be truly mixed income: priced to be affordable to a range of residents with incomes up to 30% to 80% AMI. This building will meet the Wisconsin Housing and Economic Development Authority's (WHEDA) standards for affordability and will also be built with high quality finishes sought after by market rate tenants. These high quality finishes include a stainless steel appliance package and granite countertops. As is the case with all of JT Klein Company's past projects, the finish level and sustainable design features are second to none in the market.



Ample parking will be available onsite. The 73 unit building has a total of 116 stalls including 73 underground and 43 surface parking spaces. This creates a ratio of 1.58 stalls per unit, which is substantially higher than our estimated need for senior housing.

Comparison of PDD SIP to HDR Zoning

A final zoning change from PDD- GIP to PDD SIP is necessary to accommodate the use outlined above. Currently, no zoning designation exists in the city which would allow for the proposed use and density.

The Fitchburg zoning district that most closely fits the spirit of the project is R-H High Density Residential, and it is notable that the Fitchburg Future Land Use Plan for this site is High Density

Residential. However, the R-H High Density Residential Zoning District has several constraints that would preclude this proposed use, including a minimum requirement of two parking spaces per unit. Additionally, according to Section 22-146 of the zoning code R-H zoning is only applicable to properties 90,000 square feet or less if the zoning is designated after October 12, 2010. This property is approximately 121,097 square feet, making the R-H zoning designation incompatible.

However, using the methodology for density from the R-H High Density Residential Zoning this project is close to the density allowed in that district.

R-H Residential Zoning

	Min Lot Area Per Unit	Oak Ridge Units	Total Sf Required
One Bedroom	2,200	45	99,000
Two Bedroom	2,400	38	91,200
Land SF Required			190,200
Credit for Parking	500	73	36,500
Net Land Required			153,700
Site Square Footage(Actual)			121,097

Economic, Social, and Environmental Impacts

Once stabilized this property will generate significantly increased tax revenues for the City of Fitchburg. Currently, the two parcels that compose the subject site are assessed for taxes totaling \$7,723 for 2017, based on a total property value of \$345,500. Upon completion, Oak Ridge Fitchburg will bring 73 units of independent senior apartments onto the tax rolls with an estimated assessed value of \$60,000 per unit. Upon stabilization the estimated value of the property will be approximately \$4,380,000. This significant and permanent increase in the tax revenue potential of the property will contribute to the long term fiscal security of the city.

The positive social impacts of this project include the addition of independent senior apartments affordable to residents with a wide range of incomes. This will occur in an area of Fitchburg most conducive to senior housing due to its access to downtown municipal facilities such as the senior center and library. By adding residential density to this service-rich area of Fitchburg, the project will help to increase the walkability and improve the street life of the downtown area by allowing more residents to walk and bike to these municipal locations.

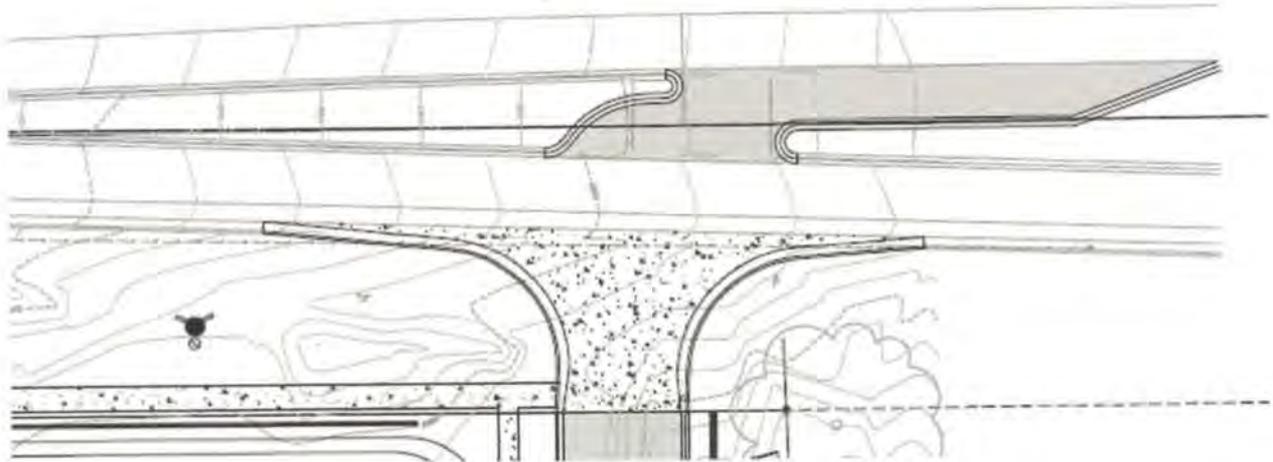
Discussions with the Senior Director of the Fitchburg Senior Center revealed that there may be interest in having senior Fitchburg residents utilize the project's amenities including the on-site salon and community room due to the considerable popularity of the Senior Center and the significant demand for salon appointments and event space. This project may be able to alleviate some of this demand by increasing the amount of space and affordable salon appointments available to Fitchburg seniors. We have offered to work with the Senior Center to set up a system allowing Fitchburg residents to reserve salon appointments and the community room at the new building, and we are excited for the opportunity to offer useful amenities to the Fitchburg community at large in addition to our future residents.

Environmentally, the project will maintain a significant amount of green space onsite for resident use and will mitigate all stormwater runoff. The project will be built to Wisconsin Green Built Homes Standards (scoring 150 points or greater), will utilize the Wisconsin Focus on Energy program, and will also conform to WHEDA's Energy Efficiency and Sustainability guidelines. Oak Ridge Fitchburg will additionally be a non-smoking building.

Ingress and Egress

One condition placed on the GIP approval was the that *“The Developer will work with the City Staff and Dane County to satisfactorily address safety and traffic congestion regarding the ingress and egress to and from the site as part of its Specific Implementation Plan.”* On February 18th, JT Klein Company and its consultants from Vierbicher and KL Engineering met with Dane County and City Staff to discuss ingress and egress to the site and satisfactorily resolve this condition. At the request of Dane County and concurrence by City Staff we have made 2 substantial improvements to satisfy the condition of approval listed above.

- 1) Median has been redesigned to not allow any traffic to make a left hand turn out from the property.
- 2) The driveway apron is now tapered approximately 35’ south of the entrance and 15’ north of the entrance to allow residents to more safely enter and exit the property on Fish Hatchery Road. This taper solution was requested by Greggar from Dane County and was agreed to by all parties.



Fitchburg Housing Plan

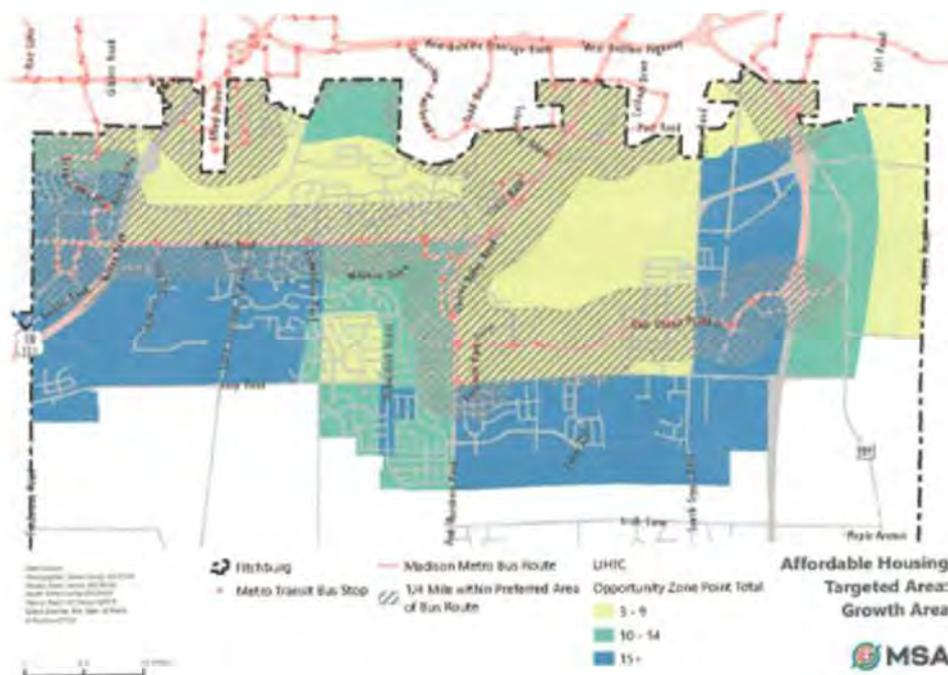
On February 12th the Common Council approved the Fitchburg Housing Plan which evaluates the City’s current housing needs and identifies strategies to help meet it housing needs over the upcoming years. One of the goals outlined in that Plan that is most applicable to this project was goal number nine listed below.

9. Support the housing needs of senior citizens- Fitchburg will need approximately 640 new or redeveloped units to meet the needs of residents age 55+ between 2018-2030. Approximately 80% of these units, or 512, should be affordable.

Our project will help meet this clearly identified need for high quality affordable senior housing in Fitchburg. From our experience in other communities when new senior housing developments are constructed the majority of residents who move in to these new units are selling a home. Those homes are often perfect starter homes that are affordable for younger families. This regentrification process allows for families to build equity in their homes through moderate rehabilitation, ie updating bathrooms, kitchens and creating value.

In order to finance this development and include affordable senior housing units we have applied to WHEDA for state and federal tax credits. To be successful in obtaining these highly sought after tax credits projects must compete with other developments across the State of Wisconsin for this finite resource. Below is Figure 29 from the Fitchburg Housing Plan which is a map detailing where the highest scoring sites are in Fitchburg (ie most preferred by WHEDA and likely to be awarded tax credits).

Figure 29. Affordable Housing Targeted Areas - WHEDA Scoring and Transit Access



The reason why this site is so desirable for affordable senior housing is that it is in an area close to the senior center and other amenities, but also in one of its high priority 15+ census areas and also scores points for being with .5 miles of a bus stop.

Schedule for Completion

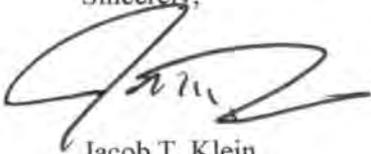
We will be applying for State and Federal Affordable Housing Tax Credits from Wisconsin Housing and Economic Development Authority (WHEDA). We anticipate the project closing and construction start occurring in Summer 2020. Construction of the independent senior building is anticipated to be completed in Fall 2021.

Conclusion

Oak Ridge Fitchburg will have significant economic, social, and environmental benefits to Fitchburg residents and will add much needed affordable senior housing to the city.

This SIP Submittal substantially complies with the GIP approval. Additionally we have met with Dane County City Staff and our own engineering team to resolve the access concerns to the site. All modifications that have occurred since the project's PPD GIP approval and this submittal been done to incorporate the feedback we have received from Fitchburg residents, elected officials, and city staff. Please do not hesitate to contact me with any questions concerning this project proposal and thank you very much for your time and consideration.

Sincerely,



Jacob T. Klein
President

Stormwater Management Summary

2546 & 2556 S. Fish Hatchery Road City of Fitchburg, Wisconsin

Prepared For:

JT Klein, Inc
906 Bear Claw Way
Madison, WI 53717

Prepared By:

Vierbicher
999 Fourier Drive, Suite 201
Madison, WI 53717

Prepared On:

May 20, 2019

Project #180065

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vierbicher
planners | engineers | advisors



Narrative

1.1 Introduction

The purpose of this stormwater management summary is to evaluate the impacts of the stormwater runoff leaving the site, to verify assumptions, and to ensure that the stormwater requirements are being met. A full stormwater report, including erosion control calculations, shall be provided with the land disturbing and stormwater management permit applications.

The project is located to the east of S. Fish Hatchery Road, approximately 700' south of Nobel Drive (Site) in the City of Fitchburg (City). The area of the project is approximately 2.78 acres. The project involves construction of one senior apartment building, two townhomes, and associated parking.

The stormwater runoff from the Site currently splits into two watersheds. The northwest watershed releases to the north property. The southeast watershed is a closed watershed and the low point is located on the property to the southeast of the Site. The stormwater management will be addressed through a combination of an infiltration basin, a bioretention basin, and a wet basin. Each of the stormwater management facilities shall have maintenance provisions, which shall be outlined in a stormwater management maintenance agreement. This agreement shall be recorded prior to obtaining building occupancy.

1.2 Soils Description

A Custom Soil Resource Report from the United States Department of Agriculture (USDA) and National Resources Conservation Service (NRCS) is included in Section 2. According to the report, there are underlying soils suitable for infiltration and the hydrologic soil group for the Site is B. However, for modeling purposes a hydrologic soil group C will be utilized and a runoff curve number of 79 for pre-development, permeable areas per Dane County (City's hydrologic soil group C runoff curve number is 78). A soils report, including soil borings shall be provided with the full stormwater report as necessary. The existing topsoil, fill, and clay material will be removed and backfilled with native sandy material to the bottom of the infiltration facility. An infiltration rate of 0.5 in/hr was assumed in the design calculations.

1.3 Design Criteria

Stormwater quality, runoff rate control, infiltration and internally drained watershed requirements are required to be met on site. According to the City, Dane County (County), and Wisconsin Department of Natural Resources (WDNR) here is the abbreviated list of requirements the Site is meeting:

- Stormwater quality or sediment control: Reduce total suspended solids (TSS) load leaving the site by eighty percent (80%), based on the average annual rainfall, as compared to no runoff management controls. As well as, retain soil particles greater than five (5) microns on the site, as measured during a one (1) year 24-hour storm event.
- Runoff rate control: Maintain pre-development peak runoff rates for the one-year (2.49 inches over 24-hour duration), two-year (2.84 inches over 24-hour duration), the ten-year (4.09 inches over 24-hour duration), and 100-year, 24-hour storm

events (6.66 inches over 24-hour duration). Safely pass storm events in excess of the 100-year, 24-hour storm event (6.0 inches over 24-hour duration).

- Infiltration: Infiltrate sufficient runoff volume so that post-development infiltration volume shall be at least ninety percent (90%) of the pre-development infiltration volume, based upon average annual rainfall.
- Internally drained watersheds: Infiltrate one hundred percent (100%) of the average annual pre-development infiltration volume, regardless of the effective area of the infiltration system.

1.4 Summary of Results

TSS Reduction Summary

The site is required to meet 80% TSS reduction from a no control condition. The stormwater facilities have been designed to treat site runoff and have achieved greater than 80% TSS removal rate.

No Controls	After Stormwater Controls	% Reduction
648.8 lbs.	126.9 lbs.	81.47%

Peak Runoff Rate Control

The site must maintain the pre-developed peak runoff rate control for the 1, 2, 10, and 100-year, 24-hour events. This requirement is met with a proposed wet detention pond.

The runoff from the site is routed to a wet detention pond and discharges to an existing drainage easement at the northwest corner of the site. The following table summarizes routing through the wet detention pond and summarizes the peak runoff rate control calculations for the development.

Storm Frequency (Year)	Pre-Developed (2.782 AC) CFS	Post-Developed (2.782 AC) CFS
1	1.85	1.12
2	2.70	1.36
10	6.26	2.23
100	14.92	3.94



Infiltration Volumes

The site is required to infiltrate 90% of the pre-developed infiltration volume in the post-developed condition. The table below summarizes the results of the infiltration modeling.

Pre-Developed Total Losses (inches)	Post-Developed Total Losses (Inches)	% of Pre-Developed Infiltrated
26.33	23.70	90%

The site is required to infiltrate 90% of the pre-developed infiltration volume in the post developed condition. The stormwater management facilities have been designed to infiltrate 90% of the pre-developed runoff volume. Infiltration was modeled with WinSLAMM v. 10.3.

1.5 Conclusions

It is understood that the proposed stormwater facilities will address the infiltration, quality control, and peak runoff rate control requirements for the proposed development.



SECTION 2

Custom Soil Resource Report



Custom Soil Resource Report for Dane County, Wisconsin



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

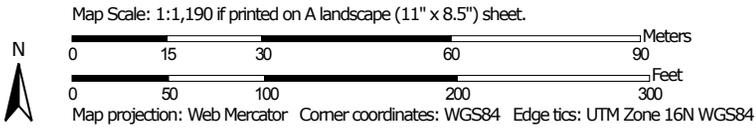
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.



MAP LEGEND

- Area of Interest (AOI)**
- Area of Interest (AOI)
- Soils**
-  Soil Map Unit Polygons
-  Soil Map Unit Lines
-  Soil Map Unit Points
- Special Point Features**
-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features
- Water Features**
-  Streams and Canals
- Transportation**
-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Dane County, Wisconsin
 Survey Area Data: Version 16, Oct 5, 2017

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

Date(s) aerial images were photographed: Data not available.

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DoC2	Dodge and Kidder soils, 6 to 20 percent slopes, eroded	3.1	59.1%
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	0.7	14.1%
TrB	Troxel silt loam, 0 to 3 percent slopes	1.4	26.8%
Totals for Area of Interest		5.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

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landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Dane County, Wisconsin

DoC2—Dodge and Kidder soils, 6 to 20 percent slopes, eroded

Map Unit Setting

National map unit symbol: t91x
Mean annual precipitation: 28 to 33 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 135 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Dodge and similar soils: 50 percent
Kidder and similar soils: 50 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dodge

Setting

Landform: Recessional moraines, terminal moraines
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess over sandy loam glacial till

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 29 inches: silty clay loam
H3 - 29 to 40 inches: clay loam
H4 - 40 to 60 inches: loam

Properties and qualities

Slope: 6 to 20 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Forage suitability group: High AWC, adequately drained with limitations (G095BY009WI)
Hydric soil rating: No

Description of Kidder

Setting

Landform: Recessional moraines, terminal moraines
Down-slope shape: Convex
Across-slope shape: Convex

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Parent material: Glacial till

Typical profile

H1 - 0 to 9 inches: loam

H2 - 9 to 30 inches: sandy clay loam

H3 - 30 to 60 inches: sandy loam

Properties and qualities

Slope: 6 to 20 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Forage suitability group: Mod AWC, adequately drained with limitations (G095BY006WI)

Hydric soil rating: No

MdC2—McHenry silt loam, 6 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2tjyt

Elevation: 750 to 1,540 feet

Mean annual precipitation: 31 to 37 inches

Mean annual air temperature: 45 to 48 degrees F

Frost-free period: 110 to 174 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

McHenry, eroded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of McHenry, Eroded

Setting

Landform: Moraines

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Loess over loamy till

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Typical profile

Ap - 0 to 6 inches: silt loam
Bt1 - 6 to 22 inches: silty clay loam
2Bt2 - 22 to 31 inches: loam
2Bt3 - 31 to 36 inches: fine sandy loam
2C - 36 to 79 inches: gravelly sandy loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Forage suitability group: High AWC, adequately drained (G095BY008WI)
Hydric soil rating: No

Minor Components

Kendall

Percent of map unit: 5 percent
Landform: Drainageways
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Kidder, eroded

Percent of map unit: 5 percent
Landform: Moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

TrB—Troxel silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2wsqw
Elevation: 750 to 1,150 feet
Mean annual precipitation: 31 to 37 inches
Mean annual air temperature: 45 to 66 degrees F
Frost-free period: 110 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Troxel, wet substratum, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Troxel, Wet Substratum

Setting

Landform: Depressions, moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Silty colluvium

Typical profile

Ap - 0 to 31 inches: silt loam
Bt - 31 to 54 inches: silty clay loam
BC - 54 to 79 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Forage suitability group: High AWC, adequately drained (G095BY008WI)
Hydric soil rating: No

Minor Components

Elburn

Percent of map unit: 8 percent
Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Plano

Percent of map unit: 7 percent
Landform: Till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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Assured Wetland Delineation Report

Koth Property

City of Fitchburg, Dane County, Wisconsin

June 6, 2018

Project Number: 20180010

Koth Property

City of Fitchburg, Dane County, Wisconsin

June 6, 2018

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1.0 Introduction

Heartland Ecological Group, Inc. (“**Heartland**”) completed an assured wetland determination and delineation on the Koth Property site on April 24, 2018 at the request of JT Klein, Inc. Fieldwork was completed by Jeff Kraemer, an assured delineator qualified via the Wisconsin Department of Natural Resources (WDNR) Wetland Delineation Assurance Program (Appendix E for qualifications). The 4.9-acre site (the “Study Area”) is southeast of the intersection of Fish Hatchery Road and Nobel Drive in Section 16, T6N, R9E, City of Fitchburg, Dane County, WI (Figure 1, Appendix A). The purpose of the wetland delineation was to determine the location and extent of wetlands within the Study Area.

One (1) wetland area totaling approximately 0.21 acre was delineated and mapped within the Study Area. Wetlands discussed in this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers (USACE), state regulation under the jurisdiction of the WDNR, and local zoning authorities. Heartland recommends this report be submitted to local authorities, the WDNR, and USACE for final jurisdictional review and concurrence.



2.0 Methods

2.1 Wetlands

Wetlands were determined and delineated using the criteria and methods described in the USACE Wetlands Delineation Manual, T.R. Y-87-1 (“1987 Corps Manual”) and the applicable *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*. In addition, the *Guidance for Submittal of Delineation Reports to the St. Paul District USACE and the WDNR* (WDNR, 2015) was followed in completing the wetland delineation and report.

Determinations and delineations utilized available resources including the U.S. Geological Survey (USGS) *WI 7.5 Minute Series (Topographic) Map* (Figure 2, Appendix A), the Soil Survey Geographic (SSURGO) Database; *Web Soil Survey* (Figure 3, Appendix A), the **WDNR Wisconsin Surface Water Data Viewer Web Application** (Figure 4, Appendix A), and aerial imagery. The USGS *National Hydrography Dataset* is included on Figure 2; and the WDNR Division of Water *24K Hydrography Geospatial Data Layer* is included on Figure 3.

Wetland determinations were completed on-site at sample points, often along transects, using the three criteria (vegetation, soil, and hydrology) approach per the 1987 Corps Manual and the Regional Supplement. Procedures in these sources were followed to demonstrate that, under normal circumstances, wetlands were present or not present based on a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology.

Atypical conditions were encountered within the Study Area due to a lack of vegetation and therefore was considered Problematic Hydrophytic Vegetation. Therefore, procedures described in Chapter 5 of the Regional Supplement were followed. Given the land use, aerial imagery from Google Earth was reviewed to verify the extent of the disturbance over time.

Recent weather conditions influence the visibility or presence of certain wetland hydrology indicators and help determine if climatic/hydrologic conditions were typical when the field investigation was completed. Therefore, a review of the antecedent precipitation in the three months leading up to the field investigation was completed. Using a WETS analysis developed by the NRCS, these three months were compared to averages and standard deviation thresholds over the past 30 years to generally represent if conditions encountered during the investigation were normal, wet, or dry. Recent precipitation events in the week



prior to the investigation were considered while interpreting wetland hydrology indicators. In some cases, the Palmer Drought Index was checked for long-term drought or moist conditions (NOAA, 2018).

The uppermost wetland boundary and sample points were identified and marked with wetland flagging and located with a Global Positioning System (GPS) capable of sub-meter accuracy. In some cases, wetland flagging was not utilized to mark the boundary and the **location was only GPS'd, particularly in** areas that were actively used. The GPS data was then used to map the wetlands using Geographical Information System (GIS) software.

3.0 Results and Discussion

3.1 Desktop Review

Climatic Conditions

According to the WETS analysis using the previous three months of precipitation data, conditions encountered at the time of the fieldwork were expected to be normal for the time of year (Appendix B). However, it was noted that conditions were relatively dry over the past week. The Palmer Drought Index was checked on line and the long-term conditions at the time of the field work were in the moderately moist to very moist range. Field work was completed outside the dry-season based on long-term regional hydrology data utilized in the WebWIMP Climatic Water Balance web site. The growing season was determined to be underway based on several species greening up and buds opening in the Study Area.

General Topography and Land Use

The topography within the Study Area was rolling, with various hills, depressions, and slopes and a topographic high of approximately 1,088 feet mean sea level (msl) in the southwest corner, and a topographic low of approximately 1,050 feet msl on the northern edge (Figures 2 and 5, Appendix A). General drainage goes both north and south: in the southeastern portion into a depression area that lies mostly outside the Study Area to the southeast; and in the western and northern portions drainage is to the north.

Land uses within the Study Area and surrounding areas were primarily residential and commercial. The southeastern portion of the Study Area is an



actively used landscape materials storage yard which routinely undergoes grading and stockpiling of materials such as wood chips.

Soil Mapping

Soils mapped by the NRCS Soil Survey within the Study Area and their hydric status are summarized in Table 1. Wetlands identified during the field investigation are located primarily within areas mapped as hydric or partially hydric soils including wetland indicator soils (Figure 3, Appendix A).

Table 1. Summary of NRCS Mapped Soils within the Study Area

Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
DoC2: Dodge and Kidder soils, 6-20% slopes, eroded	Dodge	50	Recessionial and terminal moraines	No
	Kidder	50	Recessionial and terminal moraines	No
MdC2: McHenry silt loam, 6-12% slopes, eroded	McHenry-Eroded	85-95	Moraines	No
	Kendall	2-7	Drainageways	No
	Kidder-Eroded	3-8	Moraines	No
TrB: Troxel silt loam, 0-3% slopes	Troxel-Wet substratum	80-90	Depressions, moraines	No
	Elburn	5-11	Drainageways	No
	Plano	5-9	Till plains	No

Wetland Mapping

The *Surface Water Data Viewer* (WDNR) web application Wisconsin Wetland Inventory (WWI) data layer (Figure 4, Appendix A) depicts no wetlands within the Study Area. An artificially excavated pond lies outside the southeastern boundary of the Study Area.

Previous Delineations and Landowner Contacts

No previous wetland delineations are known for the Study Area.

Aerial Photography

Given the lack of agricultural lands, a formal off-site analysis was not completed. However available aerial imagery from Google Earth™ for the past approximately 20 years



was reviewed to assist in understanding the recent land use history of the Study Area and to evaluate for general wetland signatures. No recent changes to the land uses in the Study Area were noted.

3.2 Field Review

One (1) wetland was identified and delineated within the Study Area which also extends off-site to the south and east, surrounding an off-site pond. Wetland determination data sheets (Appendix D) were completed at five (5) sample points that were representative of the wetland and upland conditions near the boundary and where potential wetlands may be present based on the Desktop Review. Appendix D provides photographs, typically at the sample point locations of the wetlands and adjacent uplands. The wetland boundary and sample point locations are shown on Figure 5 (Appendix A) and the wetlands are summarized in Table 2 and detailed in the following sections.

Table 2. Summary of Wetlands Identified within the Study Area

Wetland ID	Wetland Description	*Surface Water Connections	*NR151 Protective Area	Acreage (on-site)
W-1	Disturbed Lowland	No known connections; thought to be isolated	Less susceptible, 10 feet	0.21
<i>*Classification based on Heartland's professional opinion. Jurisdictional authority of wetland and waterway protective areas under NR 151 lies with the WDNR. Local zoning authorities may have additional restrictions. USACE has authority for determining federal jurisdiction of wetlands and waterways.</i>				0.21

Wetland 1 (W-1)

Wetland 1 (W-1) is a 0.21-acre disturbed, unvegetated lowland located in the southeastern corner of the Study Area.

Most of W-1 was not vegetated, however, on the fringe of the pond in the corner of the Study Area, the invasive reed canary grass (*Phalaris arundinacea*, FACW) dominated.

Depleted Matrix (F3), Redox Dark Surface (F6), and Redox Depressions (F8) hydric soil indicators were noted in W-1, which is not consistent with the mapped Troxel silt loam soil type.



The primary wetland hydrology indicators of Surface Water (A1), High Water Table (A2), and Saturation (A3) were noted near the pond in the southeastern portion of W-1. In the other more disturbed portions Sediment Deposits (B2) were noted. In addition, a secondary indicator was present: Geomorphic Position (D2). At sample point P2, the secondary indicator of a positive FAC-Neutral Test (D5) was noted.

Wetland W-1 continues outside the Study Area to the southeast. However, it appeared based on the desktop review and the field review that there are no connections to other wetlands or waterways. The boundary of W-1 generally followed a somewhat poorly-defined topographic break.

3.3 Other Considerations

This report is limited to the identification and delineation of wetlands within the Study Area. Other regulated environmental resources that result in land use restrictions may be present within the Study Area that were not evaluated by Heartland (e.g. navigable waterways, floodplains, cultural resources, and threatened or endangered species).

Wisconsin Act 183 provides exemptions to permitting requirements for certain nonfederal wetlands. Nonfederal wetlands are wetlands that are not subject to Federal jurisdiction. Exemptions apply to projects in urban areas with wetland impacts up to 1-acre per parcel. An urban area is defined as an incorporated area; an area within ½ mile of an incorporated area; or an area served by a sewerage system. Exemptions for nonfederal wetlands also apply to projects in rural areas with wetland impacts up to 3-acres per parcel. Exemptions in rural areas only apply to structures with an agricultural purpose such as buildings, roads, and driveways. The determination of federal and non-federal wetlands MUST be made by the USACE through an Approved Jurisdictional Determination (AJD). This report may be submitted to the USACE to assist with their determination.

Wis. Adm. Code NR 151 ("**NR 151**") requires that a "**protective area**" (buffer) be determined from the ordinary high-water mark (OHWM) of lakes, streams and rivers, or at the delineated boundary of wetlands. Per NR 151.12, the protective area width for "less susceptible" wetlands is determined by using 10% of the average wetland width, no less than 10 feet or more than 30 feet. "Moderately susceptible" wetlands, lakes, and perennial and intermittent streams identified on recent mapping require a protective area width of 50 feet; while "highly susceptible wetlands" **are associated with** outstanding or exceptional



resource waters in areas of special natural resource interest and require protective area width of 75 feet. Table 3 above lists the potential wetland buffers per NR 151 for each wetland identified based on Heartlands professional opinion. Please note that jurisdictional authority on wetland and waterway protective areas under NR 151 lies with the WDNR. Local zoning authorities and regional planning organizations may have additional land use restrictions within or adjacent to wetlands.

4.0 Conclusion

Heartland completed an assured wetland determination and delineation within the Koth Property site on April 24, 2018 at the request of JT Klein, Inc. Fieldwork was completed by Jeff Kraemer, an assured delineator qualified via the WDNR Wetland Delineation Assurance Program. The Study Area lies in Section 16, T6N, R9E, City of Fitchburg, Dane County, WI.

One (1) wetland area (W-1) was delineated and mapped in the southeast corner of the 4.9-acre Study Area. W-1, which may be classified as disturbed lowland, is approximately 0.21 acre in size within the Study Area, and appears to be isolated, not connected to other wetlands or waterways.

Wetlands and waterways discussed in this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers (USACE), state regulation under the jurisdiction of the WDNR, and the local zoning authority. Heartland recommends this report be submitted to the USACE and WDNR for final jurisdictional review and concurrence. Review by local authorities may be necessary for determination of any applicable zoning and setback restrictions.

Heartland recommends that all applicable regulatory agency reviews and permits are obtained prior to beginning work within the Study Area or within or adjacent to wetlands or waterways. Heartland can assist with evaluating the need for additional environmental reviews, surveys, or regulatory agency coordination in consideration of the proposed activity and land use as requested but is outside of the scope of the wetland delineation.

The wetland determination and delineation was completed by experienced and qualified professionals using standard practices and professional judgment. Wetland boundaries may



JT Klein, Inc.
Koth Property
June 6, 2018

be affected by conditions present within the Study Area at the time of the fieldwork. All final decisions on wetlands and their boundaries are made by the USACE, the WDNR, and/or sometimes a local unit of government. Wetland determination and boundary reviews by regulatory agencies may result in modifications to the findings presented to the Client. These modifications may result from varying conditions between the time the wetland delineation was completed and the time of the review. Factors that may influence the findings may include but not limited to precipitation patterns, drainage modifications, changes or modification to vegetation, and the time of year.



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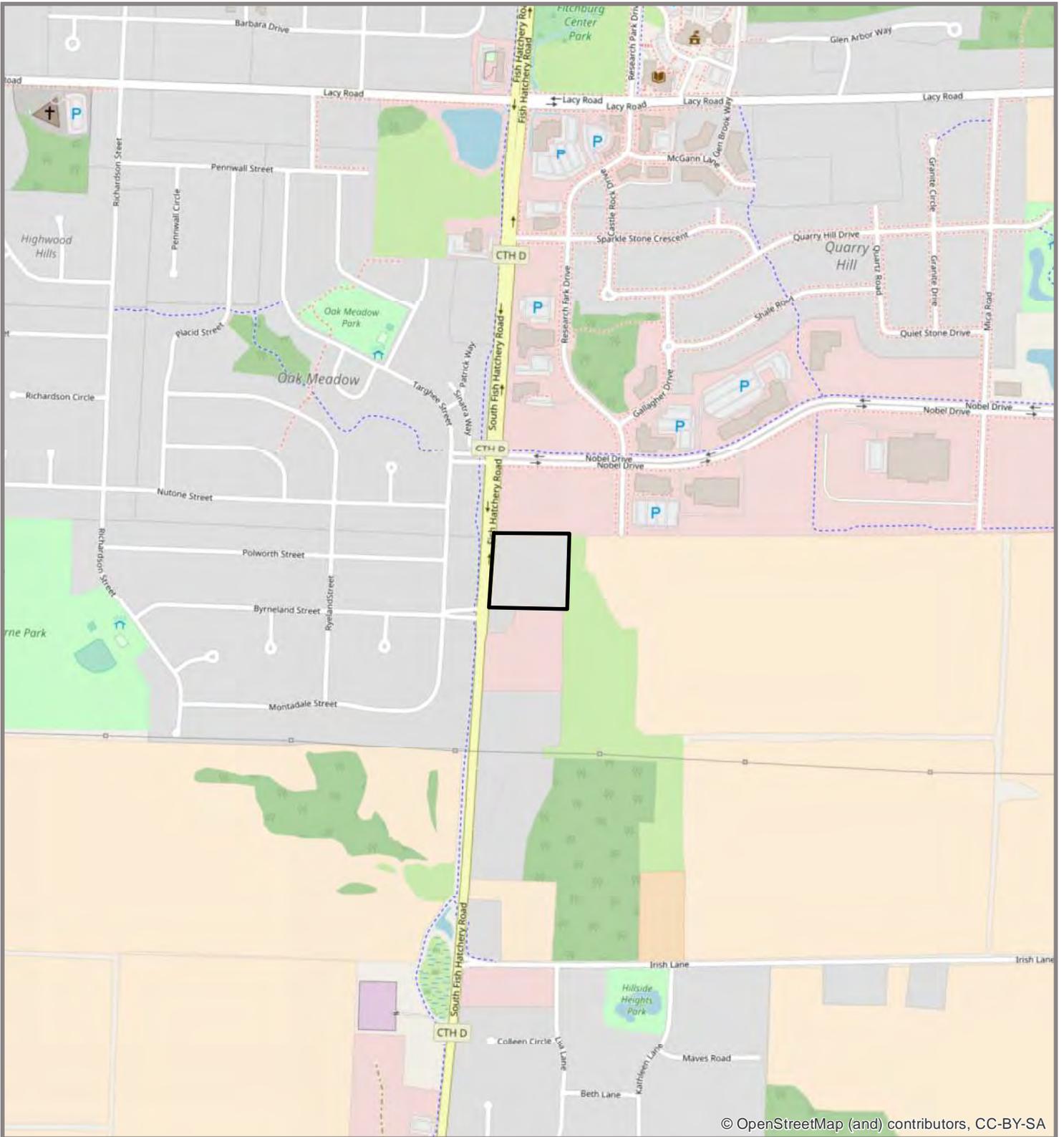
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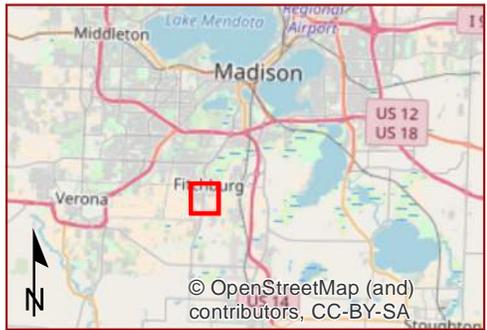


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Appendix A | Figures

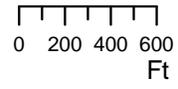


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 Study Area

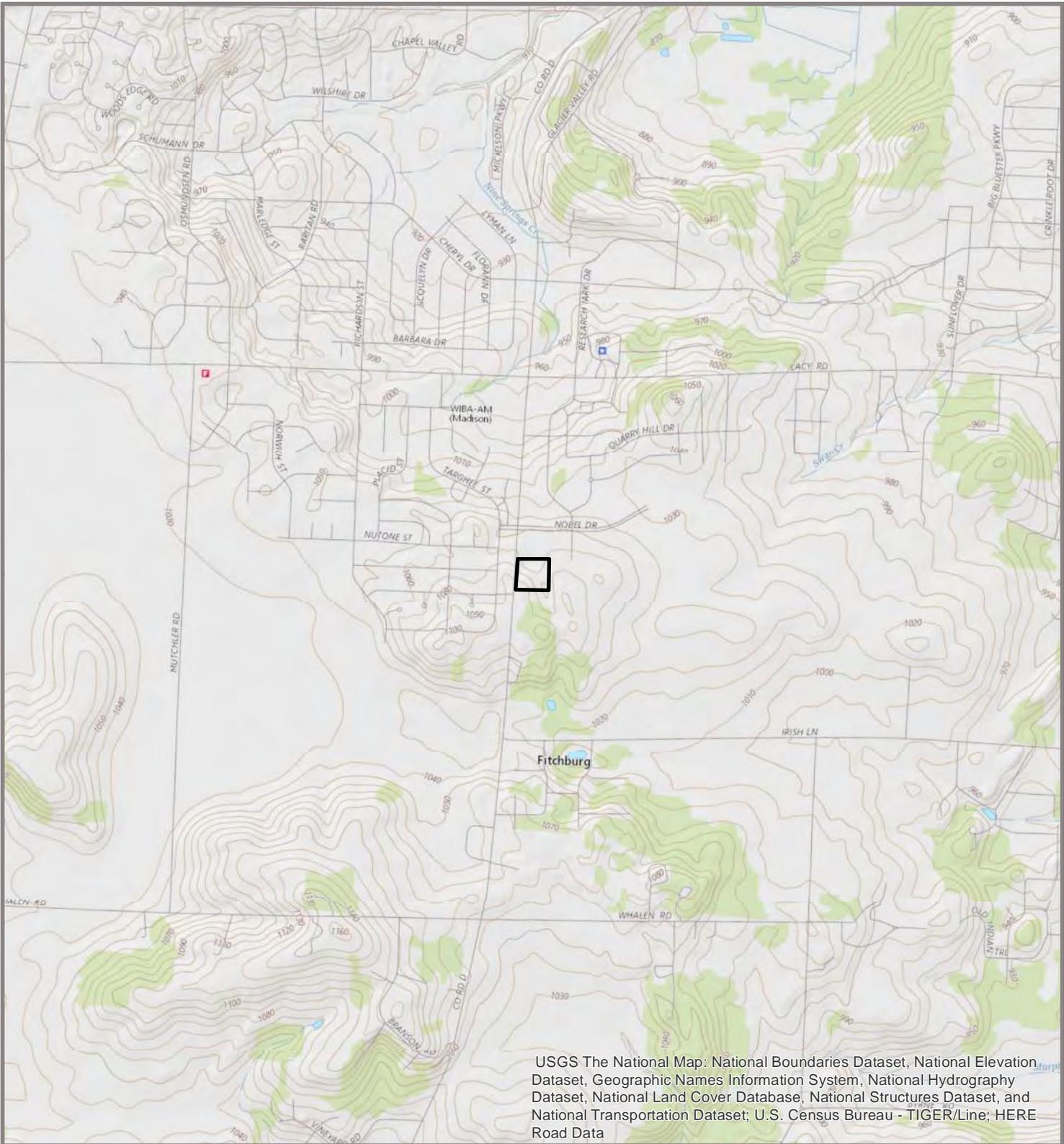


Heartland
ECOLOGICAL GROUP INC

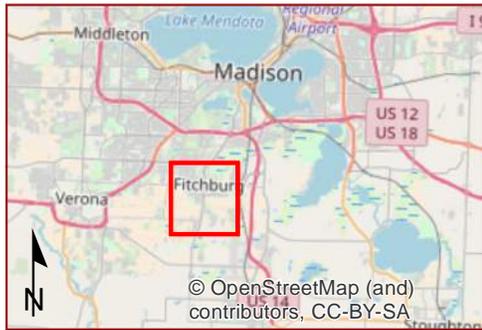
Figure 1. Project Location

Koth #20180010
T6N, R9E, S16
C of Fitchburg, Dane Co, WI

Open Street Map
Data: HEG
3/30/2018

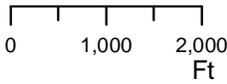


USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data



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 Study Area



Heartland
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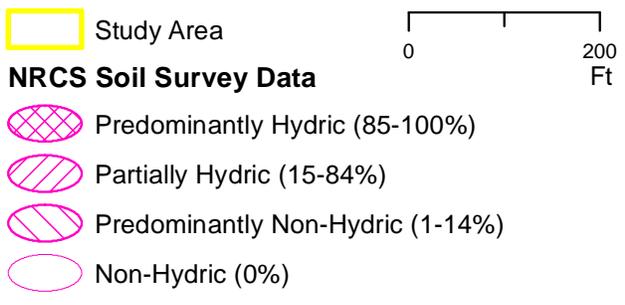
Figure 2. USGS Topography
Koth Property
#20180010
T6N, R9E, S16
C of Fitchburg, Dane Co, WI
USGStopo
Data: USGS 4/29/2018



USDA-FSA-APFO Aerial Photography Field Office



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Figure 3. NRCS Soils & Wetland Indicators

Koth Property
#20180010
T6N, R9E, S16
C of Fitchburg, Dane Co, WI
2017 NAIP
Data: NRCS 4/29/2018



Figure 4: Wisconsin Wetland Inventory - Koth Property



- Legend**
- ◆ Wetland Identifications and Confirmations
 - Wetland Class Points**
 - ▲ Dammed pond
 - Excavated pond
 - Filled excavated pond
 - ▲ Filled/draind wetland
 - Wetland too small to delineate
 - ▨ Filled Points
 - Wetland Class Areas**
 - Wetland
 - Upland
 - ▨ Filled Areas
 - Wetland Class Points**
 - ▲ Dammed pond
 - Excavated pond
 - Filled excavated pond
 - ▲ Filled/draind wetland
 - Wetland too small to delineate
 - ▨ Filled Points
 - Wetland Class Areas**
 - Wetland
 - Upland
 - ▨ Filled Areas
 - Municipality
 - ▭ State Boundaries
 - ▭ County Boundaries
 - Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
 - County and Local Roads**
 - County HWY
 - Local Road
 - Railroads

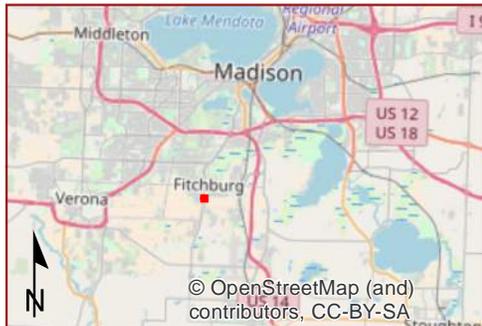
Notes

0.0 0 0.02 0.0 Miles

NAD_1983_HARN_Wisconsin_TM

1: 990

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>



- Study Area
 - Dane Co 2' Contours
 - Field Delineated Wetland
- Sample Points**
- Upland
 - Wetland



Heartland
ECOLOGICAL GROUP INC

Figure 5. Field Delineated Wetland
Koth Property
#20180010
T6N, R9E, S16
C of Fitchburg, Dane Co, WI
2017 NAIP
Data: Dane Co 5/1/2018



JT Klein, Inc.
Koth Property
June 6, 2018

Appendix B | WETS Analysis

WETS Analysis Worksheet

Project Name: Koth Property
 Project Number: 20180010
 Period of interest: February to April
 Station: Arboretum Univ Wis (USC00470273)
 County: Dane

Long-term rainfall records (from WETS table)

	Month	3 years in 10 less than	Normal	3 years in 10 greater than
1st month prior:	April [^]	1.95	2.62	3.07
2nd month prior:	March	1.28	2.40	2.93
3rd month prior:	February	1.03	1.60	1.93
		Sum =	6.62	

Site determination

Site Rainfall (in)	Condition Dry/Normal*/Wet	Condition** Value	Month Weight	Product
2.60	Normal	2	3	6
0.83	Dry	1	2	2
2.99	Wet	3	1	3
Sum =				Sum*** = 11

[^] April was evaluated for first 20 days, so long-term precip data multiplied by 0.667

*Normal precipitation with 30% to 70% probability of occurrence

Determination: _____ Wet
 _____ Dry
X Normal

**Condition value:

Dry = 1
 Normal = 2
 Wet = 3

***If sum is:

6 to 9 then period has been drier than normal
 10 to 14 then period has been normal
 15 to 18 then period has been wetter than normal

Precipitation data source: Midwest Regional Climate Center, cli-MATE: MRCC Application Tools Environment

Reference: Donald E. Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

Daily Data Between Two Dates

ARBORETUM UNIV WIS (WI)
 USC00470273

Date	Precipitation (in)
4/1/2018	0.00
4/2/2018	0.00
4/3/2018	0.02
4/4/2018	0.42
4/5/2018	0.00
4/6/2018	0.00
4/7/2018	0.00
4/8/2018	0.00
4/9/2018	0.03
4/10/2018	0.00
4/11/2018	0.00
4/12/2018	0.07
4/13/2018	0.00
4/14/2018	0.67
4/15/2018	0.53
4/16/2018	0.21
4/17/2018	0.00
4/18/2018	0.00
4/19/2018	0.65
4/20/2018	0.00
4/21/2018	0.00
4/22/2018	0.00
4/23/2018	0.00
4/24/2018	0.00
Total	2.60

Midwestern Regional Climate Center
 cli-MATE: MRCC Application Tools Environment
 Generated at: 6/5/2018 11:04:40 AM CDT

WETS Table

WETS Station: ARBORETUM UNIV WIS, WI								
Requested years: 1988 - 2017								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	28.3	9.8	19.1	1.42	0.94	1.70	4	7.7
Feb	31.9	12.1	22.0	1.60	1.03	1.93	4	8.3
Mar	44.5	23.1	33.8	2.40	1.28	2.93	5	4.3
Apr	58.0	34.1	46.1	3.93	2.92	4.60	8	0.7
May	69.5	45.3	57.4	3.91	2.77	4.63	8	0.0
Jun	79.1	55.3	67.2	5.58	3.30	6.77	8	0.0
Jul	82.5	59.6	71.0	4.87	3.30	5.82	7	0.0
Aug	81.2	57.9	69.5	3.75	2.69	4.43	6	0.0
Sep	74.5	48.5	61.5	3.60	2.38	4.31	6	0.0
Oct	61.8	37.4	49.6	2.79	1.80	3.36	6	0.0
Nov	46.8	27.1	36.9	2.48	1.56	3.00	5	0.7
Dec	32.9	15.5	24.2	1.62	0.93	1.97	4	4.4
Annual:					34.73	40.63		
Average	57.6	35.5	46.5	-	-	-	-	-
Total	-	-	-	37.94			70	26.2

GROWING SEASON DATES			
Years with missing data:	24 deg = 1	28 deg = 1	32 deg = 1
Years with no occurrence:	24 deg = 0	28 deg = 0	32 deg = 0
Data years used:	24 deg = 29	28 deg = 29	32 deg = 29
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	4/9 to 10/24: 198 days	4/28 to 10/11: 166 days	5/8 to 10/3: 148 days
70 percent *	4/4 to 10/30: 209 days	4/23 to 10/17: 177 days	5/3 to 10/9: 159 days

* Percent chance of the growing season occurring between the Beginning and Ending dates.

STATS TABLE - total precipitation (inches)													
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1971										M1.70	4.38	3.89	9.97
1972	0.52	0.61	2.36	2.76	3.29	1.02	3.86	8.29	4.93	3.52	1.25	1.92	34.33
1973	1.72	1.66	5.15	8.11	7.36	2.25	1.84	2.18	4.98	3.21	1.90	2.43	42.79
1974	2.86	1.45	3.66	4.47	6.27	3.76	2.58	3.36	0.89	3.59	2.53	2.17	37.59
1975	1.28	1.87	3.49	4.69	4.38	7.71	5.19	4.49	1.25	0.76	3.34	0.34	38.79
1976	0.71	2.65	4.95	5.73	2.32	1.90	1.24	1.97	0.65	1.96	0.16	0.46	24.70
1977	0.44	1.24	4.05	3.21	1.85	3.20	8.66	3.63	2.79	2.56	2.70	1.69	36.02
1978	1.17	0.24	0.40	5.55	5.93	9.96	7.12	2.07	6.60	1.09	3.70	1.63	45.46
1979	2.81	1.00	3.17	2.47	1.90	3.05	2.23	8.19	0.00	3.00	2.40	1.86	32.00

										08	19			35
1980	M1.11	0.51	0.44	M2.22	2.43	5.64	5.01	7.76		1.50	1.60	1.93	30.15	
1981	0.58	2.78	0.42	3.55	0.67	5.73	5.38	6.04	5.33	4.08	1.99	1.09	37.64	
1982	M1.57	M0.21	3.60	M2.96	6.08	4.45	3.39	3.31	0.71	1.81	5.12	3.34	36.55	
1983	0.32	1.07	3.49	3.12	4.13	2.08	2.63	4.09	4.40	2.37	3.99	M2.19	33.88	
1984	0.37	0.22	2.63	4.28	4.02	7.12	3.96	3.02	3.20	6.27	3.80	6.74	45.63	
1985	1.25	1.45	1.13	1.37	3.70	2.66	2.14	2.71	6.74	5.58	5.55	3.49	37.77	
1986	0.86	2.78	1.28	2.81	2.96	3.03	4.53	4.50	8.20	2.83	1.14	M0.66	35.58	
1987	0.55	0.05	1.78	3.93	4.15	1.45	3.32	7.31	4.14	1.24	3.76	4.75	36.43	
1988	1.10		1.33	3.45	1.33	2.18	2.63	2.75	4.29	2.25	3.18	1.74	26.23	
1989	0.45	0.81	1.51	2.21	1.55	1.97	5.04	M5.59	2.55	1.88	1.17	M0.36	25.09	
1990	M1.07	0.96	3.54	2.71	5.66	4.93	2.57	4.82	1.49	M2.70	2.23	3.02	35.70	
1991	1.21	0.31	4.57	5.49	2.53	3.95	5.50	2.41	4.03	5.35	2.81	1.13	39.29	
1992	1.27	M1.43	1.84	4.05	0.62	1.01	6.72	M3.91	5.64	1.82	M6.68	M2.39	37.38	
1993	M1.56	M1.32	2.77	6.15	4.31	7.49	10.45	4.28	5.11	M0.90	M0.94	M0.39	45.67	
1994	M1.93	2.70	0.27	1.72	M2.97	5.80	M3.02	4.89	8.30	0.71	2.92	1.03	36.26	
1995	M1.44	T	2.57	5.35	4.37	1.43	4.41	3.40	2.34	5.11	M2.65	M0.53	33.60	
1996	M2.14	M0.37	M0.15	2.02	3.58	12.07	4.38	1.49	1.43	3.57	1.07	M0.89	33.16	
1997	M1.50	1.78	1.66	1.81	3.85	5.83	8.68	3.15	1.17	1.30	M1.52	M1.12	33.37	
1998	2.79	2.07	5.48	5.25	4.78	8.12	2.71	2.97	2.14	M4.14	M2.37	0.37	43.19	
1999	M3.00	M1.89	0.71	7.85	4.29	M4.67	6.32	M2.72	1.99	0.95	1.32	M1.15	36.86	
2000	M1.16	M2.83	1.33	3.75	M7.16	9.61	2.83	5.66	3.97	0.69	2.03	M3.00	44.02	
2001	M1.44	M2.16	M0.45	3.35	4.63	5.86	M0.98	M9.12	5.79	2.75	M2.25	M1.98	40.76	
2002	0.47	M2.69	M1.41	M4.27	2.91	M5.18	M3.78	M2.48	M3.13	M2.65	0.90	M0.73	30.60	
2003	0.28	0.37	1.84	2.77	6.97	3.61	3.86	1.11	4.29	M1.12	6.66	2.39	35.27	
2004	M0.81	1.42	3.77	M1.91	M9.46	M1.49	M0.43	M1.52	M0.00	M1.09	M0.44	M0.31	22.65	
2005	M2.66	M0.60	M0.04	M0.22	M3.71	M1.60	M0.00	M0.95	M0.00	MT	M0.00	MT	9.78	
2006	M1.56	M0.10	MT	M0.00	M0.11	2.16	M4.73	M0.65	M0.00	M0.00	M0.00	M0.47	9.78	
2007		M2.05	M0.10	M0.47	M0.00	M0.82	M0.45	M4.94	M1.97	3.30	M0.00	M0.42	14.52	
2008	M0.22	3.74	1.91	M0.96	M1.81	9.56	M0.32	M0.35	4.13	2.52	M0.00	M0.32	25.84	
2009		M1.01	6.00	M0.61	M0.68	4.60	M0.03	M0.14	M3.20	5.00	M1.54	M0.72	23.53	
2010	1.05	M1.16	MT	M0.14	M0.00	8.64	8.14	4.94	5.60	3.07	M1.22	M0.02	33.98	
2011	0.95	2.37	3.21	4.82	M2.86	3.10	2.12	3.94	4.50	1.85	3.76	2.45	35.93	
2012	M1.07	1.11	3.28	2.91	4.40	0.51	4.67	2.42	1.24	5.90	0.97	3.35	31.83	
2013	2.94	2.83	2.69	6.55	7.09	11.73	2.80	1.28	2.00	M1.00	3.89	1.13	47.00	

									56	55			04
2014	1.01	1.27	1.37	5.51	2.97	9.14	2.37	4.06	3.50	2.74	1.54	1.05	36.53
2015	0.70	1.88	0.91	3.65	4.05	3.72	4.68	4.30	6.11	2.46	5.25	4.52	42.23
2016	0.89	0.68	3.88	2.12	3.14	5.75	7.87	5.56	5.40	4.66	2.17	1.97	44.09
2017	3.01	1.92	3.87	4.64	4.04	7.92	10.49	2.70	0.85	4.51	0.99	0.58	45.52
2018	1.91	2.99	0.83	2.60	9.30	M0.16							17.79

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Data missing for all days in a month or year is blank.

Creation date: 2016-07-22



JT Klein, Inc.
Koth Property
June 6, 2018

Appendix C | Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Koth Property City/County: Fitchburg / Dane Sampling Date: 4/24/2018
 Applicant/Owner: JT Klein, Inc. State: WI Sampling Point: P1
 Investigator(s): Jeff Kraemer Section, Township, Range: Section 16, T6N, R9E
 Landform (hillside, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope %: 2-4
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Troxel silt loam NWI classification: None Depicted

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Disturbed lowland</u>
Remarks: (Explain alternative procedures here or in a separate report.) WETS analysis indicates climatic conditions are in the normal range, however conditions were dry. Not normal circumstances: area routinely graded / covered in wood chips, trees removed, no vegetation present; part of a long-standing landscaping materials yard. Hydric soils present. Slopes toward adjacent open-water wetland to southeast; P1 lies 2-3 feet above the open-water wetland water level. Determined wetland based on hydric soils, wetland hydrology indicators, landscape position, and best professional judgment.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) <u>X</u> Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>24</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Google Earth imagery reviewed and land use in area appears to be long-standing, over the last 20+ years.

Remarks:
 Area disturbed and difficult to assess wetland hydrology indicators.

VEGETATION – Use scientific names of plants.

Sampling Point: P1

<u>Tree Stratum</u> (Plot size: <u> 30ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ =Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
<u>Sapling/Shrub Stratum</u> (Plot size: <u> 15ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ =Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Herb Stratum</u> (Plot size: <u> 5ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
_____ =Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
<u>Woody Vine Stratum</u> (Plot size: <u> 30ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ =Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks: (Include photo numbers here or on a separate sheet.)
 Atypical, no vegetation present, assumed hydrophytic species would be present under normal circumstances, problematic. Area routinely graded with wood chips present. Adjacent, less disturbed areas in same landscape position with hydrophytic vegetation present.

SOIL

Sampling Point P1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 4/2	88	10YR 4/6	12	C	M	Loamy/Clayey	SiCL
9-12	10YR 5/3	90	10YR 5/6	10	C	M	Loamy/Clayey	SiCL
12-16	10YR 2/1	100					Loamy/Clayey	SiCL mixed w/wood chips
16-24	10YR 4/2	90	10YR 4/6	10	C	M	Loamy/Clayey	SiCL

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:
 Long-standing landscaping yard area with historically disturbed soils. Wood chips overlie the soil profile. Hydric soil features appear to have developed in-situ.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Koth Property City/County: Fitchburg / Dane Sampling Date: 4/24/2018
 Applicant/Owner: JT Klein, Inc. State: WI Sampling Point: P2
 Investigator(s): Jeff Kraemer Section, Township, Range: Section 16, T6N, R9E
 Landform (hillside, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope %: 0-1
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Troxel silt loam NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wet meadow pond fringe</u>
Remarks: (Explain alternative procedures here or in a separate report.) WETS analysis indicates climatic conditions are in the normal range. Edge of pond, in wet meadow fringe.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>5</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Google Earth imagery was reviewed and long-standing (20+ years) land use was confirmed. Pond present for this period as well.

Remarks:
 On bank of pond with deep water, greater than 3 feet in depth.

VEGETATION – Use scientific names of plants.

Sampling Point: P2

<u>Tree Stratum</u> (Plot size: <u> 30ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 1 </u> (A) Total Number of Dominant Species Across All Strata: <u> 1 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 100.0% </u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u> 0 </u></td> <td>x 1 = <u> 0 </u></td> </tr> <tr> <td>FACW species <u> 50 </u></td> <td>x 2 = <u> 100 </u></td> </tr> <tr> <td>FAC species <u> 0 </u></td> <td>x 3 = <u> 0 </u></td> </tr> <tr> <td>FACU species <u> 0 </u></td> <td>x 4 = <u> 0 </u></td> </tr> <tr> <td>UPL species <u> 0 </u></td> <td>x 5 = <u> 0 </u></td> </tr> <tr> <td>Column Totals: <u> 50 </u></td> <td>(A) <u> 100 </u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u> 2.00 </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> 0 </u>	x 1 = <u> 0 </u>	FACW species <u> 50 </u>	x 2 = <u> 100 </u>	FAC species <u> 0 </u>	x 3 = <u> 0 </u>	FACU species <u> 0 </u>	x 4 = <u> 0 </u>	UPL species <u> 0 </u>	x 5 = <u> 0 </u>	Column Totals: <u> 50 </u>	(A) <u> 100 </u> (B)	Prevalence Index = B/A = <u> 2.00 </u>	
Total % Cover of:	Multiply by:																			
OBL species <u> 0 </u>	x 1 = <u> 0 </u>																			
FACW species <u> 50 </u>	x 2 = <u> 100 </u>																			
FAC species <u> 0 </u>	x 3 = <u> 0 </u>																			
FACU species <u> 0 </u>	x 4 = <u> 0 </u>																			
UPL species <u> 0 </u>	x 5 = <u> 0 </u>																			
Column Totals: <u> 50 </u>	(A) <u> 100 </u> (B)																			
Prevalence Index = B/A = <u> 2.00 </u>																				
_____ =Total Cover																				
_____ =Total Cover																				
_____ =Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
<u>Herb Stratum</u> (Plot size: <u> 5ft </u>)																				
1. <u>Phalaris arundinacea</u>	<u> 50 </u>	<u> Yes </u>	<u> FACW </u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
_____ =Total Cover																				
_____ =Total Cover																				
_____ =Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
<u>Woody Vine Stratum</u> (Plot size: <u> 30ft </u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				
_____ =Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Koth Property City/County: Fitchburg / Dane Sampling Date: 4/24/2018
 Applicant/Owner: JT Klein, Inc. State: WI Sampling Point: P3
 Investigator(s): Jeff Kraemer Section, Township, Range: Section 16, T6N, R9E
 Landform (hillside, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope %: 2-4
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Troxel silt loam NWI classification: None Depicted

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Disturbed lowland</u>
Remarks: (Explain alternative procedures here or in a separate report.) WETS analysis indicates climatic conditions are in the normal range, however conditions were dry. Not normal circumstances: area routinely graded / covered in wood chips, trees removed, no vegetation present; part of a long-standing landscaping materials yard. Hydric soils present. Determined wetland based on hydric soils, wetland hydrology indicators, landscape position, and best professional judgment.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) <u>X</u> Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Google Earth imagery reviewed and verified long-standing use as a materials yard.

Remarks:
 Area disturbed and difficult to assess wetland hydrology indicators. Hydrophytic vegetation noted on edges of disturbed area in similar elevation and landscape position. Soils disturbed, however redox features formed in place within existing profile.

VEGETATION – Use scientific names of plants.

Sampling Point: P3

<u>Tree Stratum</u> (Plot size: <u> 30ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ =Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
<u>Sapling/Shrub Stratum</u> (Plot size: <u> 15ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ =Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
<u>Herb Stratum</u> (Plot size: <u> 5ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
_____ =Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
<u>Woody Vine Stratum</u> (Plot size: <u> 30ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ =Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks: (Include photo numbers here or on a separate sheet.)
 Atypical, no vegetation present, assumed hydrophytic species would be present under normal circumstances, problematic. Area routinely graded with wood chips present. Adjacent less disturbed areas in same landscape position with hydrophytic vegetation present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Koth Property City/County: Fitchburg / Dane Sampling Date: 4/24/2018
 Applicant/Owner: JT Klein, Inc. State: WI Sampling Point: P4
 Investigator(s): Jeff Kraemer Section, Township, Range: Section 16, T6N, R9E
 Landform (hillside, terrace, etc.): Toeslope Local relief (concave, convex, none): None Slope %: 1-3
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Dodge and Kidder soils, 6-20% slopes, eroded NWI classification: None Depicted

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: <u>Disturbed materials yard</u>
Remarks: (Explain alternative procedures here or in a separate report.) WETS analysis indicates climatic conditions are in the normal range, however conditions were dry. Not normal circumstances: area routinely graded / covered in wood chips, trees removed, no vegetation present; part of a long-standing landscaping materials yard. Hydric soils not present however. Determined upland based on non-hydric soils, a lack of wetland hydrology indicators, landscape position, and best professional judgment.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
---	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Google Earth imagery reviewed and verified long-standing land use as a landscaping materials yard.

Remarks:
 Area disturbed and difficult to assess wetland hydrology indicators. No saturation noted. Higher landscape position than P1, P2, and P3. Soils disturbed but contrast with wetland sample points soils because redox features were lacking in the upper part of the profile.

VEGETATION – Use scientific names of plants.

Sampling Point: P4

<u>Tree Stratum</u> (Plot size: <u> 30ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
	_____ =Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
<u>Sapling/Shrub Stratum</u> (Plot size: <u> 15ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
	_____ =Total Cover			Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Herb Stratum</u> (Plot size: <u> 5ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
	_____ =Total Cover			Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
<u>Woody Vine Stratum</u> (Plot size: <u> 30ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
	_____ =Total Cover			Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>	

Remarks: (Include photo numbers here or on a separate sheet.)

Atypical, no vegetation present. Area cleared with wood chips present, but higher landscape position than P1, P2, and P3.

SOIL

Sampling Point P4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 4/4	50					Loamy/Clayey	SiCL Mixed fill
	10YR 4/3	30						
	10YR 4/2	20						
14-30	10YR 3/2	95	10YR 4/3	5	C	M	Loamy/Clayey	SiL
30-34	10YR 4/2	92	10YR 5/6	8	C	M	Loamy/Clayey	SiCL

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Long-standing landscaping yard area with historically disturbed soils. Mixed matrix from past grading. Wood chips overlie the soil profile.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Koth Property City/County: Fitchburg / Dane Sampling Date: 4/24/2018
 Applicant/Owner: JT Klein, Inc. State: WI Sampling Point: P5
 Investigator(s): Jeff Kraemer Section, Township, Range: Section 16, T6N, R9E
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 2-4
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Troxel silt loam NWI classification: None Depicted

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: <u>Mowed lawn turf</u>
Remarks: (Explain alternative procedures here or in a separate report.) WETS analysis indicates climatic conditions are in the normal range, however conditions were dry. Not normal circumstances: mowed lawn turf.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
---	--

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 Google Earth imagery reviewed, no recent changes to this area.

Remarks:
 Low spot in mowed turf. No saturation, no hydric soils.

VEGETATION – Use scientific names of plants.

Sampling Point: P5

<u>Tree Stratum</u> (Plot size: <u> 30ft </u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Acer saccharum</i></u>	<u>10</u>	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 0 </u> (A) Total Number of Dominant Species Across All Strata: <u> 2 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 0.0% </u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>10</u>	=Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u> 0 </u></td> <td>x 1 = <u> 0 </u></td> </tr> <tr> <td>FACW species <u> 0 </u></td> <td>x 2 = <u> 0 </u></td> </tr> <tr> <td>FAC species <u> 0 </u></td> <td>x 3 = <u> 0 </u></td> </tr> <tr> <td>FACU species <u> 110 </u></td> <td>x 4 = <u> 440 </u></td> </tr> <tr> <td>UPL species <u> 0 </u></td> <td>x 5 = <u> 0 </u></td> </tr> <tr> <td>Column Totals: <u> 110 </u></td> <td>(A) <u> 440 </u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u> 4.00 </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> 0 </u>	x 1 = <u> 0 </u>	FACW species <u> 0 </u>	x 2 = <u> 0 </u>	FAC species <u> 0 </u>	x 3 = <u> 0 </u>	FACU species <u> 110 </u>	x 4 = <u> 440 </u>	UPL species <u> 0 </u>	x 5 = <u> 0 </u>	Column Totals: <u> 110 </u>	(A) <u> 440 </u> (B)	Prevalence Index = B/A = <u> 4.00 </u>	
Total % Cover of:	Multiply by:																			
OBL species <u> 0 </u>	x 1 = <u> 0 </u>																			
FACW species <u> 0 </u>	x 2 = <u> 0 </u>																			
FAC species <u> 0 </u>	x 3 = <u> 0 </u>																			
FACU species <u> 110 </u>	x 4 = <u> 440 </u>																			
UPL species <u> 0 </u>	x 5 = <u> 0 </u>																			
Column Totals: <u> 110 </u>	(A) <u> 440 </u> (B)																			
Prevalence Index = B/A = <u> 4.00 </u>																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u> 15ft </u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover																		
<u>Herb Stratum</u> (Plot size: <u> 5ft </u>)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u><i>Poa pratensis</i></u>	<u>80</u>	Yes	FACU																	
2. <u><i>Taraxacum officinale</i></u>	<u>10</u>	No	FACU																	
3. <u><i>Lolium perenne</i></u>	<u>10</u>	No	FACU																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
	<u>100</u>	=Total Cover																		
<u>Woody Vine Stratum</u> (Plot size: <u> 30ft </u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		=Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)
 Mowed turf lawn that lacks hydrophytic weeds. No shrubs or woody vines present.



JT Klein, Inc.
Koth Property
June 6, 2018

Appendix D | Site Photographs



Photo #1 Sample point P1 viewing North



Photo #2 Sample point P1 viewing East



Photo #3 Sample point P1 viewing South



Photo #4 Sample point P1 viewing West



Photo #5 Sample point P2 viewing North



Photo #6 Sample point P2 viewing East



Photo #7 Sample point P2 viewing South



Photo #8 Sample point P2 viewing West



Photo #9 Sample point P3 viewing Southeast



Photo #10 Sample point P3 viewing West



Photo #11 Sample point P3 viewing North



Photo #12 Sample point P4 viewing North



Photo # 13 Sample point P4 viewing East



Photo #14 Sample point P4 viewing Southeast



Photo # 15 Sample point P5 viewing North



Photo #16 Sample point P5 viewing East



Photo # 17 Sample point P5 viewing South



Photo #18 Sample point P5 viewing West



JT Klein, Inc.
Koth Property
June 6, 2018

Appendix E | Delineator Qualifications



Jeff Kraemer

Principal Scientist

506 Springdale Street
Mount Horeb, WI 53572
jeff@heartlandecological.com
(608) 433-9864

Jeff is the founder of Heartland Ecological Group, Inc. With over 16 years' experience as an environmental consultant, ecological and regulatory policy practitioner, and managing business leader, Jeff provides proven value to clients with his vast experience guiding often complex projects through environmental regulatory and technical challenges applied throughout a diversity of industry sectors. Jeff is recognized by the Wisconsin Department of Natural Resources Wetland Delineation Assurance Program and is the longest standing assured wetland delineator in the state of Wisconsin.

Jeff is a recognized expert in the field of wetland ecology and delineation; wetland restoration and mitigation banking; and regulatory policy and permitting associated with wetlands and waterways. His experience includes: Wetland Determination, Delineation & Functional Assessment; Wetland Restoration, Mitigation, Banking & Monitoring; Botanical / Biological Surveys & Natural Resource Inventories; Rare Species Surveys, Conservation Plans & Monitoring; Habitat Restoration, Wildlife Surveys, SCAT surveys, Environmental Assessments; Local, state, federal permit applications; Expert Witness testimony; and Regulatory permit compliance.

Education

MS, Biological Sciences (Emphasis in Wetland Ecology), University of Wisconsin – Milwaukee, WI, 2003

BS, Biological Sciences (Emphasis in Aquatic Biology) University of Wisconsin – La Crosse, WI 1999

Regional Supplement Field Practicum
Wetland Training Institute (WTI)
Portage, WI, 2017

Basic and Advanced Wetland Delineation
Training, Continuing Education and Extension,
UW-La Crosse, WI, 2001

Identification of Sedges Workshop, UW-
Milwaukee, Saukville, WI 2001

Vegetation of Wisconsin Workshop, UW-
Milwaukee, Saukville, WI 2000

Environmental Corridor Delineation Workshop,
Southeastern Wisconsin Regional Planning
Commission (SEWRPC), 2004

Wetland Soils and Hydrology Workshop,
Wetland Training Institute, Toledo, OH, 2003

Critical Methods in Wetland Delineation
University of Wisconsin - La Crosse Continuing
Education and Extension
Madison, WI, 2006 - 2018

Federal Wetland Regulatory Policy Course
Wetlands Training Institute (WTI)
Cottage Grove, WI, 2010

Registrations

Professionally Assured Wetland Delineator,
Wisconsin Department of Natural Resources
(2005-Present)

Wetland Professional in Training (WPIT),
Society of Wetland Scientists Certification
Programs



D-Series Size 0 LED Area Luminaire



Catalog Number	
Notes	2556 S. Fish Hatchery Rd.
Type	

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

A+ Capable Luminaire

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

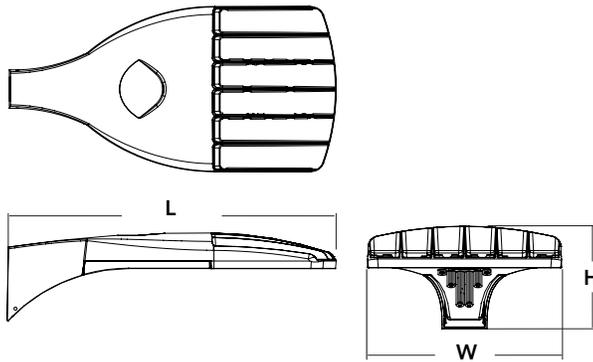
- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a **shaded background**. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability¹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

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

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

Specifications

EPA:	0.95 ft ² (.09 m ²)
Length:	26" (66.0 cm)
Width:	13" (33.0 cm)
Height:	7" (17.8 cm)
Weight (max):	16 lbs (7.25 kg)



A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA DDBXD

DSX0 LED					
Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX0 LED	Forward optics P1 P4 P7 P2 P5 P3 P6 Rotated optics P10 ¹ P12 ¹ P11 ¹ P13 ¹	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted ²	T1S Type I short T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium TSVS Type V very short T5S Type V short T5M Type V medium T5W Type V wide BLC Backlight control ^{2,3} LCCO Left corner cutoff ³ RCCO Right corner cutoff ³	MVOLT ^{4,5} 120 ⁶ 208 ^{5,6} 240 ^{5,6} 277 ⁶ 347 ^{5,6,7} 480 ^{5,6,7}	Shipped included SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor ⁸ RPUMBA Round pole universal mounting adaptor ⁸ Shipped separately KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁹

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



Ordering Information

Accessories

Ordered and shipped separately.

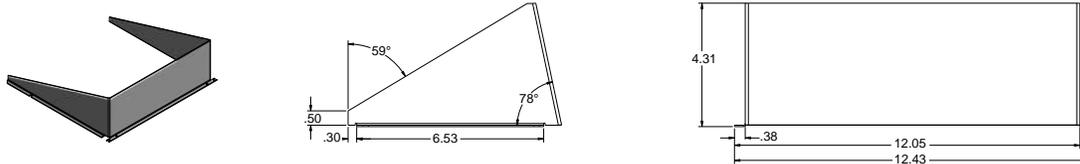
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ²²
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ²²
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ²²
DSHORT SBK U	Shorting cap ²²
DSX0HS 20C U	House-side shield for 20 LED unit ²⁰
DSX0HS 30C U	House-side shield for 30 LED unit ²⁰
DSX0HS 40C U	House-side shield for 40 LED unit ²⁰
DSX0DDL U	Diffused drop lens (polycarbonate) ²⁰
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish) ²³
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ²³

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

NOTES

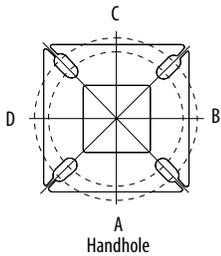
- P10, P11, P12 and P13 and rotated options (L90 or R90) only available together.
- AMBPC is not available with BLC, LCCO, RCCO, P4, P7 or P13.
- Not available with HS or DDL.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- Any PIRx with BL30, BL50 or PNMT, is not available with 208V, 240V, 347V, 480V or MVOLT. It is only available in 120V or 277V specified.
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- Not available in P4, P7 or P13. Not available with BL30, BL50 or PNMT options.
- Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish U); 1.5 G vibration load rating per ANCI C136.31.
- Must order fixture with SPA mounting. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- Must be ordered with PIRHN.
- Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
- If ROAM™ node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
- Reference Motion Sensor table on page 3.
- Reference PER Table on page 3 to see functionality.
- Must be ordered with NLTAIR2. For more information on nLight Air 2 visit [this link](#).
- Requires (2) separately switched circuits.
- Not available with 347V, 480V or PNMT. For PER5 or PER7 see PER Table on page 3. Requires isolated neutral.
- Not available with 347V, 480V, BL30 and BL50. For PER5 or PER7 see PER Table on page 3. Separate Dusk to Dawn required.
- Not available with other dimming controls options.
- Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- Must be ordered with fixture for factory pre-drilling.
- Requires luminaire to be specified with PER, PER5 or PER7 option. See PER Table on page 3.
- For retrofit use only.

External Glare Shield



Drilling

HANDHOLE ORIENTATION



Tenon Mounting Slipfitter**

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

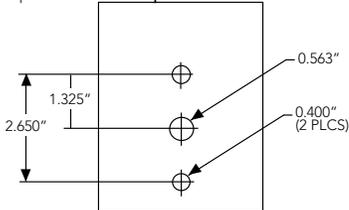
Pole drilling nomenclature: # of heads at degree from handhole (default side A)

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

Note: Review luminaire spec sheet for specific nomenclature

Template #8

Top of Pole



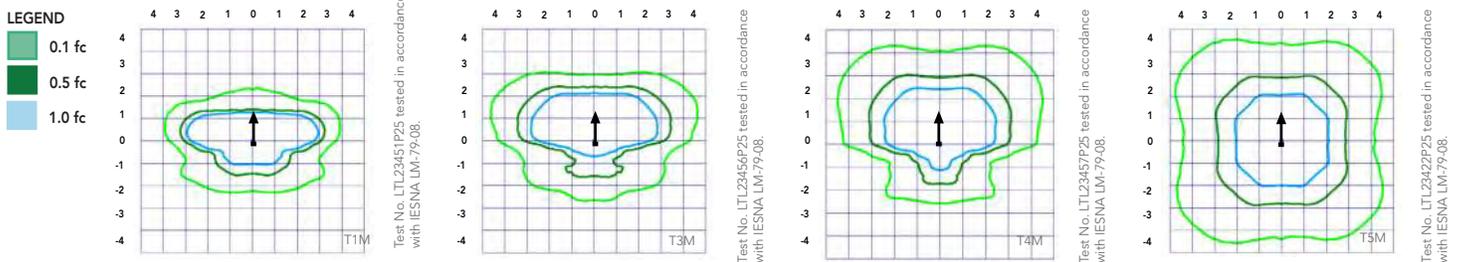
Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N

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

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit [Lithonia Lighting's D-Series Area Size 0 homepage](#).

Isofootcandle plots for the DSX0 LED 40C 1000 40K. Distances are in units of mounting height (20').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

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

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

Projected LED Lumen Maintenance

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

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

Operating Hours	25000	50000	100000
Lumen Maintenance Factor	0.96	0.92	0.85

Electrical Load

	Performance Package	LED Count	Drive Current	Wattage	Current (A)					
					120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	20	530	38	0.32	0.18	0.15	0.15	0.10	0.08
	P2	20	700	49	0.41	0.23	0.20	0.19	0.14	0.11
	P3	20	1050	71	0.60	0.37	0.32	0.27	0.21	0.15
	P4	20	1400	92	0.77	0.45	0.39	0.35	0.28	0.20
	P5	40	700	89	0.74	0.43	0.38	0.34	0.26	0.20
	P6	40	1050	134	1.13	0.65	0.55	0.48	0.39	0.29
	P7	40	1300	166	1.38	0.80	0.69	0.60	0.50	0.37
Rotated Optics (Requires L90 or R90)	P10	30	530	53	0.45	0.26	0.23	0.21	0.16	0.12
	P11	30	700	72	0.60	0.35	0.30	0.27	0.20	0.16
	P12	30	1050	104	0.88	0.50	0.44	0.39	0.31	0.23
	P13	30	1300	128	1.08	0.62	0.54	0.48	0.37	0.27

Motion Sensor Default Settings

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

*for use with Inline Dusk to Dawn or timer.

PER Table

Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)	
		Wire 4/Wire5	Wire 4/Wire5	Wire 6/Wire7	Wire 6/Wire7
Photocontrol Only (On/Off)	✓	⚠	⚠	⚠	⚠
ROAM	⊘	✓	⚠	⚠	⚠
ROAM with Motion (ROAM on/off only)	⊘	⚠	⚠	⚠	⚠
Future-proof*	⊘	⚠	✓	✓	✓
Future-proof* with Motion	⊘	⚠	✓	✓	✓

✓	Recommended
⊘	Will not work
⚠	Alternate

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

Performance Data

Lumen Output

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

Forward Optics																												
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)								
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW				
20	530	P1	38W	T1S	4,369	1	0	1	115	4,706	1	0	1	124	4,766	1	0	1	125	2,541	1	0	1	73				
				T2S	4,364	1	0	1	115	4,701	1	0	1	124	4,761	1	0	1	125	2,589	1	0	1	74				
				T2M	4,387	1	0	1	115	4,726	1	0	1	124	4,785	1	0	1	126	2,539	1	0	1	73				
				T3S	4,248	1	0	1	112	4,577	1	0	1	120	4,634	1	0	1	122	2,558	1	0	1	73				
				T3M	4,376	1	0	1	115	4,714	1	0	1	124	4,774	1	0	1	126	2,583	1	0	1	74				
				T4M	4,281	1	0	1	113	4,612	1	0	2	121	4,670	1	0	2	123	2,570	1	0	1	73				
				TFTM	4,373	1	0	1	115	4,711	1	0	2	124	4,771	1	0	2	126	2,540	1	0	1	73				
				TSVS	4,548	2	0	0	120	4,900	2	0	0	129	4,962	2	0	0	131	2,650	1	0	0	76				
				TSS	4,552	2	0	0	120	4,904	2	0	0	129	4,966	2	0	0	131	2,690	1	0	0	77				
				TSM	4,541	3	0	1	120	4,891	3	0	1	129	4,953	3	0	1	130	2,658	2	0	0	76				
				TSW	4,576	3	0	2	120	4,929	3	0	2	130	4,992	3	0	2	131	2,663	2	0	1	73				
				BLC	3,586	1	0	1	94	3,863	1	0	1	102	3,912	1	0	1	103									
				LCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77									
				RCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77									
				20	700	P2	49W	T1S	5,570	1	0	1	114	6,001	1	0	1	122	6,077	2	0	2	124	3,144	1	0	1	70
								T2S	5,564	1	0	2	114	5,994	1	0	2	122	6,070	2	0	2	124	3,203	1	0	1	71
T2M	5,593	1	0					1	114	6,025	1	0	1	123	6,102	1	0	1	125	3,141	1	0	1	70				
T3S	5,417	1	0					2	111	5,835	1	0	2	119	5,909	2	0	2	121	3,165	1	0	1	70				
T3M	5,580	1	0					2	114	6,011	1	0	2	123	6,087	1	0	2	124	3,196	1	0	1	71				
T4M	5,458	1	0					2	111	5,880	1	0	2	120	5,955	1	0	2	122	3,179	1	0	1	71				
TFTM	5,576	1	0					2	114	6,007	1	0	2	123	6,083	1	0	2	124	3,143	1	0	1	70				
TSVS	5,799	2	0					0	118	6,247	2	0	0	127	6,327	2	0	0	129	3,278	2	0	0	73				
TSS	5,804	2	0					0	118	6,252	2	0	0	128	6,332	2	0	1	129	3,328	2	0	0	74				
TSM	5,789	3	0					1	118	6,237	3	0	1	127	6,316	3	0	1	129	3,288	2	0	1	73				
TSW	5,834	3	0					2	119	6,285	3	0	2	128	6,364	3	0	2	130	3,295	2	0	1	73				
BLC	4,572	1	0					1	93	4,925	1	0	1	101	4,987	1	0	1	102									
LCCO	3,402	1	0					2	69	3,665	1	0	2	75	3,711	1	0	2	76									
RCCO	3,402	1	0					2	69	3,665	1	0	2	75	3,711	1	0	2	76									
20	1050	P3	71W					T1S	7,833	2	0	2	110	8,438	2	0	2	119	8,545	2	0	2	120					
								T2S	7,825	2	0	2	110	8,429	2	0	2	119	8,536	2	0	2	120					
				T2M	7,865	2	0	2	111	8,473	2	0	2	119	8,580	2	0	2	121									
				T3S	7,617	2	0	2	107	8,205	2	0	2	116	8,309	2	0	2	117									
				T3M	7,846	2	0	2	111	8,452	2	0	2	119	8,559	2	0	2	121									
				T4M	7,675	2	0	2	108	8,269	2	0	2	116	8,373	2	0	2	118									
				TFTM	7,841	2	0	2	110	8,447	2	0	2	119	8,554	2	0	2	120									
				TSVS	8,155	3	0	0	115	8,785	3	0	0	124	8,896	3	0	0	125									
				TSS	8,162	3	0	1	115	8,792	3	0	1	124	8,904	3	0	1	125									
				TSM	8,141	3	0	2	115	8,770	3	0	2	124	8,881	3	0	2	125									
				TSW	8,204	3	0	2	116	8,838	4	0	2	124	8,950	4	0	2	126									
				BLC	6,429	1	0	2	91	6,926	1	0	2	98	7,013	1	0	2	99									
				LCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73									
				RCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73									
				20	1400	P4	92W	T1S	9,791	2	0	2	106	10,547	2	0	2	115	10,681	2	0	2	116					
								T2S	9,780	2	0	2	106	10,536	2	0	2	115	10,669	2	0	2	116					
T2M	9,831	2	0					2	107	10,590	2	0	2	115	10,724	2	0	2	117									
T3S	9,521	2	0					2	103	10,256	2	0	2	111	10,386	2	0	2	113									
T3M	9,807	2	0					2	107	10,565	2	0	2	115	10,698	2	0	2	116									
T4M	9,594	2	0					2	104	10,335	2	0	3	112	10,466	2	0	3	114									
TFTM	9,801	2	0					2	107	10,558	2	0	2	115	10,692	2	0	2	116									
TSVS	10,193	3	0					1	111	10,981	3	0	1	119	11,120	3	0	1	121									
TSS	10,201	3	0					1	111	10,990	3	0	1	119	11,129	3	0	1	121									
TSM	10,176	4	0					2	111	10,962	4	0	2	119	11,101	4	0	2	121									
TSW	10,254	4	0					3	111	11,047	4	0	3	120	11,186	4	0	3	122									
BLC	8,036	1	0					2	87	8,656	1	0	2	94	8,766	1	0	2	95									
LCCO	5,979	1	0					2	65	6,441	1	0	2	70	6,523	1	0	3	71									
	5,979	1	0					2	65	6,441	1	0	2	70	6,523	1	0	3	71									

Performance Data

Lumen Output

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

Forward Optics																								
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
40	700	P5	89W	T1S	10,831	2	0	2	122	11,668	2	0	2	131	11,816	2	0	2	133					
				T2S	10,820	2	0	2	122	11,656	2	0	2	131	11,803	2	0	2	133					
				T2M	10,876	2	0	2	122	11,716	2	0	2	132	11,864	2	0	2	133					
				T3S	10,532	2	0	2	118	11,346	2	0	2	127	11,490	2	0	2	129					
				T3M	10,849	2	0	2	122	11,687	2	0	2	131	11,835	2	0	2	133					
				T4M	10,613	2	0	3	119	11,434	2	0	3	128	11,578	2	0	3	130					
				TFTM	10,842	2	0	2	122	11,680	2	0	2	131	11,828	2	0	2	133					
				TSVS	11,276	3	0	1	127	12,148	3	0	1	136	12,302	3	0	1	138					
				TSS	11,286	3	0	1	127	12,158	3	0	1	137	12,312	3	0	1	138					
				TSM	11,257	4	0	2	126	12,127	4	0	2	136	12,280	4	0	2	138					
				TSW	11,344	4	0	3	127	12,221	4	0	3	137	12,375	4	0	3	139					
				BLC	8,890	1	0	2	100	9,576	1	0	2	108	9,698	1	0	2	109					
				LCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81					
				RCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81					
40	1050	P6	134W	T1S	14,805	3	0	3	110	15,949	3	0	3	119	16,151	3	0	3	121	6,206	2	0	2	68
				T2S	14,789	3	0	3	110	15,932	3	0	3	119	16,134	3	0	3	120	6,322	2	0	2	69
				T2M	14,865	3	0	3	111	16,014	3	0	3	120	16,217	3	0	3	121	6,201	2	0	2	68
				T3S	14,396	3	0	3	107	15,509	3	0	3	116	15,705	3	0	3	117	6,247	1	0	2	69
				T3M	14,829	2	0	3	111	15,975	3	0	3	119	16,177	3	0	3	121	6,308	2	0	2	69
				T4M	14,507	2	0	3	108	15,628	3	0	3	117	15,826	3	0	3	118	6,275	1	0	2	69
				TFTM	14,820	2	0	3	111	15,965	3	0	3	119	16,167	3	0	3	121	6,203	1	0	2	68
				TSVS	15,413	4	0	1	115	16,604	4	0	1	124	16,815	4	0	1	125	6,671	2	0	0	73
				TSS	15,426	3	0	1	115	16,618	4	0	1	124	16,828	4	0	1	126	6,569	2	0	0	72
				TSM	15,387	4	0	2	115	16,576	4	0	2	124	16,786	4	0	2	125	6,491	3	0	1	71
				TSW	15,506	4	0	3	116	16,704	4	0	3	125	16,915	4	0	3	126	6,504	3	0	2	71
				BLC	12,151	1	0	2	91	13,090	1	0	2	98	13,255	1	0	2	99					
				LCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74					
				RCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74					
40	1300	P7	166W	T1S	17,023	3	0	3	103	18,338	3	0	3	110	18,570	3	0	3	112					
				T2S	17,005	3	0	3	102	18,319	3	0	3	110	18,551	3	0	3	112					
				T2M	17,092	3	0	3	103	18,413	3	0	3	111	18,646	3	0	3	112					
				T3S	16,553	3	0	3	100	17,832	3	0	3	107	18,058	3	0	3	109					
				T3M	17,051	3	0	3	103	18,369	3	0	3	111	18,601	3	0	3	112					
				T4M	16,681	3	0	3	100	17,969	3	0	3	108	18,197	3	0	3	110					
				TFTM	17,040	3	0	3	103	18,357	3	0	4	111	18,590	3	0	4	112					
				TSVS	17,723	4	0	1	107	19,092	4	0	1	115	19,334	4	0	1	116					
				TSS	17,737	4	0	2	107	19,108	4	0	2	115	19,349	4	0	2	117					
				TSM	17,692	4	0	2	107	19,059	4	0	2	115	19,301	4	0	2	116					
				TSW	17,829	5	0	3	107	19,207	5	0	3	116	19,450	5	0	3	117					
				BLC	13,971	2	0	2	84	15,051	2	0	2	91	15,241	2	0	2	92					
				LCCO	10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68					
					10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68					

Performance Data

Lumen Output

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

Rotated Optics																															
LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)											
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW							
30	530	P10	53W	T1S	6,727	2	0	2	127	7,247	3	0	3	137	7,339	3	0	3	138												
				T2S	6,689	3	0	3	126	7,205	3	0	3	136	7,297	3	0	3	138												
				T2M	6,809	3	0	3	128	7,336	3	0	3	138	7,428	3	0	3	140												
				T3S	6,585	3	0	3	124	7,094	3	0	3	134	7,183	3	0	3	136												
				T3M	6,805	3	0	3	128	7,331	3	0	3	138	7,424	3	0	3	140												
				T4M	6,677	3	0	3	126	7,193	3	0	3	136	7,284	3	0	3	137												
				TFTM	6,850	3	0	3	129	7,379	3	0	3	139	7,472	3	0	3	141												
				T5VS	6,898	3	0	0	130	7,431	3	0	0	140	7,525	3	0	0	142												
				T5S	6,840	2	0	1	129	7,368	2	0	1	139	7,461	2	0	1	141												
				T5M	6,838	3	0	1	129	7,366	3	0	2	139	7,460	3	0	2	141												
				T5W	6,777	3	0	2	128	7,300	3	0	2	138	7,393	3	0	2	139												
				BLC	5,626	2	0	2	106	6,060	2	0	2	114	6,137	2	0	2	116												
				LCCO	4,018	1	0	2	76	4,328	1	0	2	82	4,383	1	0	2	83												
				RCCO	4,013	3	0	3	76	4,323	3	0	3	82	4,377	3	0	3	83												
				30	700	P11	72W	T1S	8,594	3	0	3	119	9,258	3	0	3	129	9,376	3	0	3	130								
T2S	8,545	3	0					3	119	9,205	3	0	3	128	9,322	3	0	3	129												
T2M	8,699	3	0					3	121	9,371	3	0	3	130	9,490	3	0	3	132												
T3S	8,412	3	0					3	117	9,062	3	0	3	126	9,177	3	0	3	127												
T3M	8,694	3	0					3	121	9,366	3	0	3	130	9,484	3	0	3	132												
T4M	8,530	3	0					3	118	9,189	3	0	3	128	9,305	3	0	3	129												
TFTM	8,750	3	0					3	122	9,427	3	0	3	131	9,546	3	0	3	133												
T5VS	8,812	3	0					0	122	9,493	3	0	0	132	9,613	3	0	0	134												
T5S	8,738	3	0					1	121	9,413	3	0	1	131	9,532	3	0	1	132												
T5M	8,736	3	0					2	121	9,411	3	0	2	131	9,530	3	0	2	132												
T5W	8,657	4	0					2	120	9,326	4	0	2	130	9,444	4	0	2	131												
BLC	7,187	3	0					3	100	7,742	3	0	3	108	7,840	3	0	3	109												
LCCO	5,133	1	0					2	71	5,529	1	0	2	77	5,599	1	0	2	78												
RCCO	5,126	3	0					3	71	5,522	3	0	3	77	5,592	3	0	3	78												
30	1050	P12	104W					T1S	12,149	3	0	3	117	13,088	3	0	3	126	13,253	3	0	3	127								
				T2S	12,079	4	0	4	116	13,012	4	0	4	125	13,177	4	0	4	127												
				T2M	12,297	3	0	3	118	13,247	3	0	3	127	13,415	3	0	3	129												
				T3S	11,891	4	0	4	114	12,810	4	0	4	123	12,972	4	0	4	125												
				T3M	12,290	3	0	3	118	13,239	4	0	4	127	13,407	4	0	4	129												
				T4M	12,058	4	0	4	116	12,990	4	0	4	125	13,154	4	0	4	126												
				TFTM	12,369	4	0	4	119	13,325	4	0	4	128	13,494	4	0	4	130												
				T5VS	12,456	3	0	1	120	13,419	3	0	1	129	13,589	4	0	1	131												
				T5S	12,351	3	0	1	119	13,306	3	0	1	128	13,474	3	0	1	130												
				T5M	12,349	4	0	2	119	13,303	4	0	2	128	13,471	4	0	2	130												
				T5W	12,238	4	0	3	118	13,183	4	0	3	127	13,350	4	0	3	128												
				BLC	10,159	3	0	3	98	10,944	3	0	3	105	11,083	3	0	3	107												
				LCCO	7,256	1	0	3	70	7,816	1	0	3	75	7,915	1	0	3	76												
				RCCO	7,246	3	0	3	70	7,806	4	0	4	75	7,905	4	0	4	76												
				30	1300	P13	128W	T1S	14,438	3	0	3	113	15,554	3	0	3	122	15,751	3	0	3	123								
T2S	14,355	4	0					4	112	15,465	4	0	4	121	15,660	4	0	4	122												
T2M	14,614	3	0					3	114	15,744	4	0	4	123	15,943	4	0	4	125												
T3S	14,132	4	0					4	110	15,224	4	0	4	119	15,417	4	0	4	120												
T3M	14,606	4	0					4	114	15,735	4	0	4	123	15,934	4	0	4	124												
T4M	14,330	4	0					4	112	15,438	4	0	4	121	15,633	4	0	4	122												
TFTM	14,701	4	0					4	115	15,836	4	0	4	124	16,037	4	0	4	125												
T5VS	14,804	4	0					1	116	15,948	4	0	1	125	16,150	4	0	1	126												
T5S	14,679	3	0					1	115	15,814	3	0	1	124	16,014	3	0	1	125												
T5M	14,676	4	0					2	115	15,810	4	0	2	124	16,010	4	0	2	125												
T5W	14,544	4	0					3	114	15,668	4	0	3	122	15,866	4	0	3	124												
BLC	7919	3	0					3	62	8531	3	0	3	67	8639	3	0	3	67												
LCCO	5145	1	0					2	40	5543	1	0	2	43	5613	1	0	2	44												
									5139	3	0	3	40	5536	3	0	3	43	5606	3	0	3	44								

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.95 ft²) for optimized pole wind loading.

FINISH

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

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) configurations. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine(s) configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of

100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 0 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 0 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS

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

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

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

WARRANTY

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

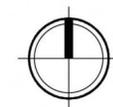
Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.





Aerial
S. Fish Hatchery
May 20, 2019





Oak Ridge Senior Apartments
 Aerial -Site Plan
 2556 S. Fish Hatchery Rd
 May 20, 2019





knothe • bruce
ARCHITECTS

Phone: 7601 University Ave, Ste 201
608.836.3690 Middleton, WI 53562

ISSUED
Issued for SIP - May 20, 2019

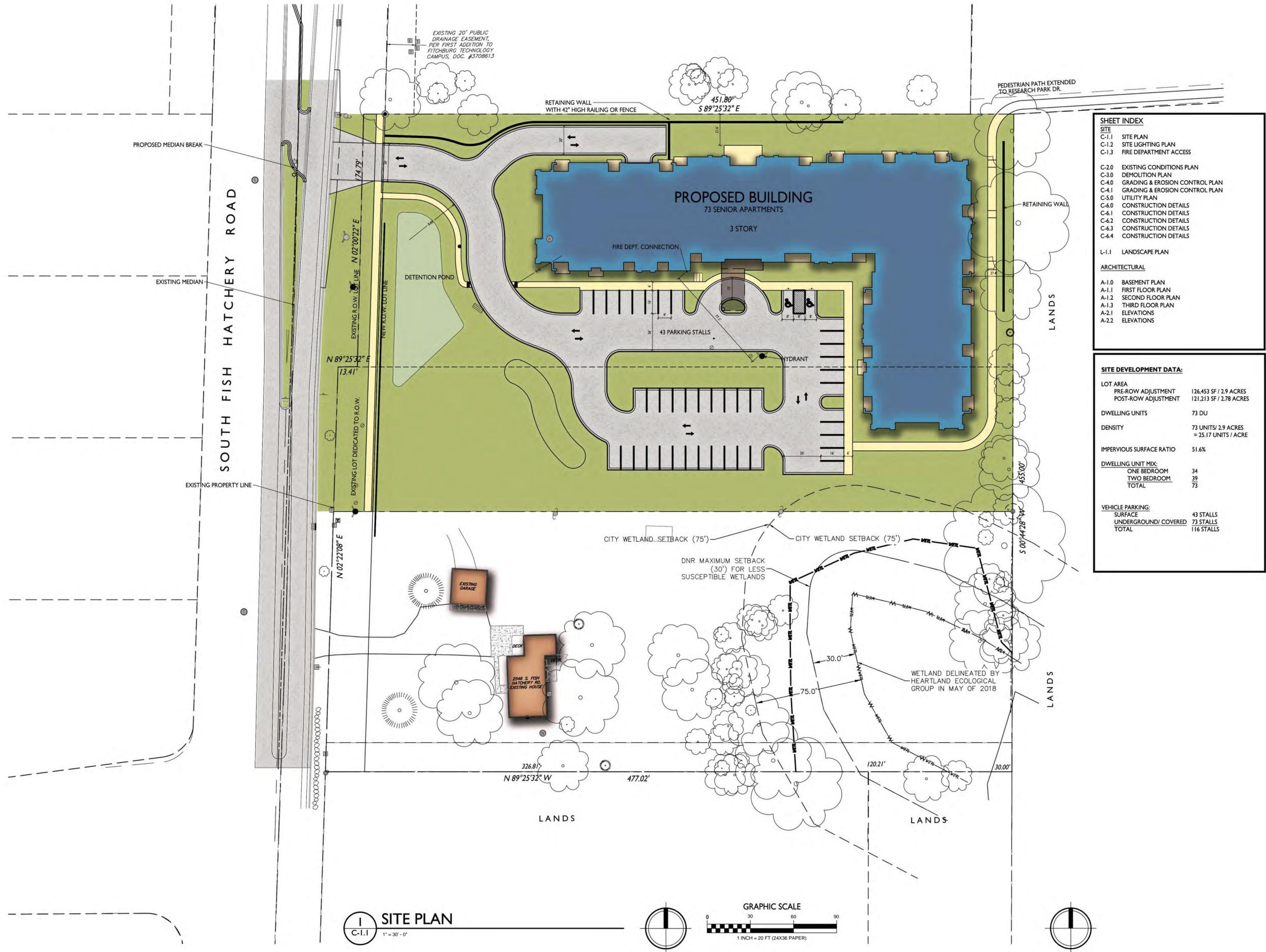
PROJECT TITLE
**Oak Ridge
Senior
Apartments**

2556 S. Fish
Hatchery Rd.
Fitchburg, WI
SHEET TITLE
Site Plan

SHEET NUMBER

C-1.1

PROJECT NO. **1807**
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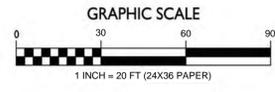
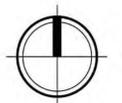
SHEET INDEX

SITE	
C-1.1	SITE PLAN
C-1.2	SITE LIGHTING PLAN
C-1.3	FIRE DEPARTMENT ACCESS
C-2.0 EXISTING CONDITIONS PLAN	
C-3.0	DEMOLITION PLAN
C-4.0	GRADING & EROSION CONTROL PLAN
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C-5.0	UTILITY PLAN
C-6.0	CONSTRUCTION DETAILS
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ARCHITECTURAL	
A-1.0	BASEMENT PLAN
A-1.1	FIRST FLOOR PLAN
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A-1.3	THIRD FLOOR PLAN
A-2.1	ELEVATIONS
A-2.2	ELEVATIONS

SITE DEVELOPMENT DATA:

LOT AREA	
PRE-ROW ADJUSTMENT	126,453 SF / 2.9 ACRES
POST-ROW ADJUSTMENT	121,213 SF / 2.78 ACRES
DWELLING UNITS	73 DU
DENSITY	73 UNITS/ 2.9 ACRES = 25.17 UNITS / ACRE
IMPERVIOUS SURFACE RATIO	51.6%
DWELLING UNIT MIX:	
ONE BEDROOM	34
TWO BEDROOM	39
TOTAL	73
VEHICLE PARKING:	
SURFACE	43 STALLS
UNDERGROUND/ COVERED	73 STALLS
TOTAL	116 STALLS

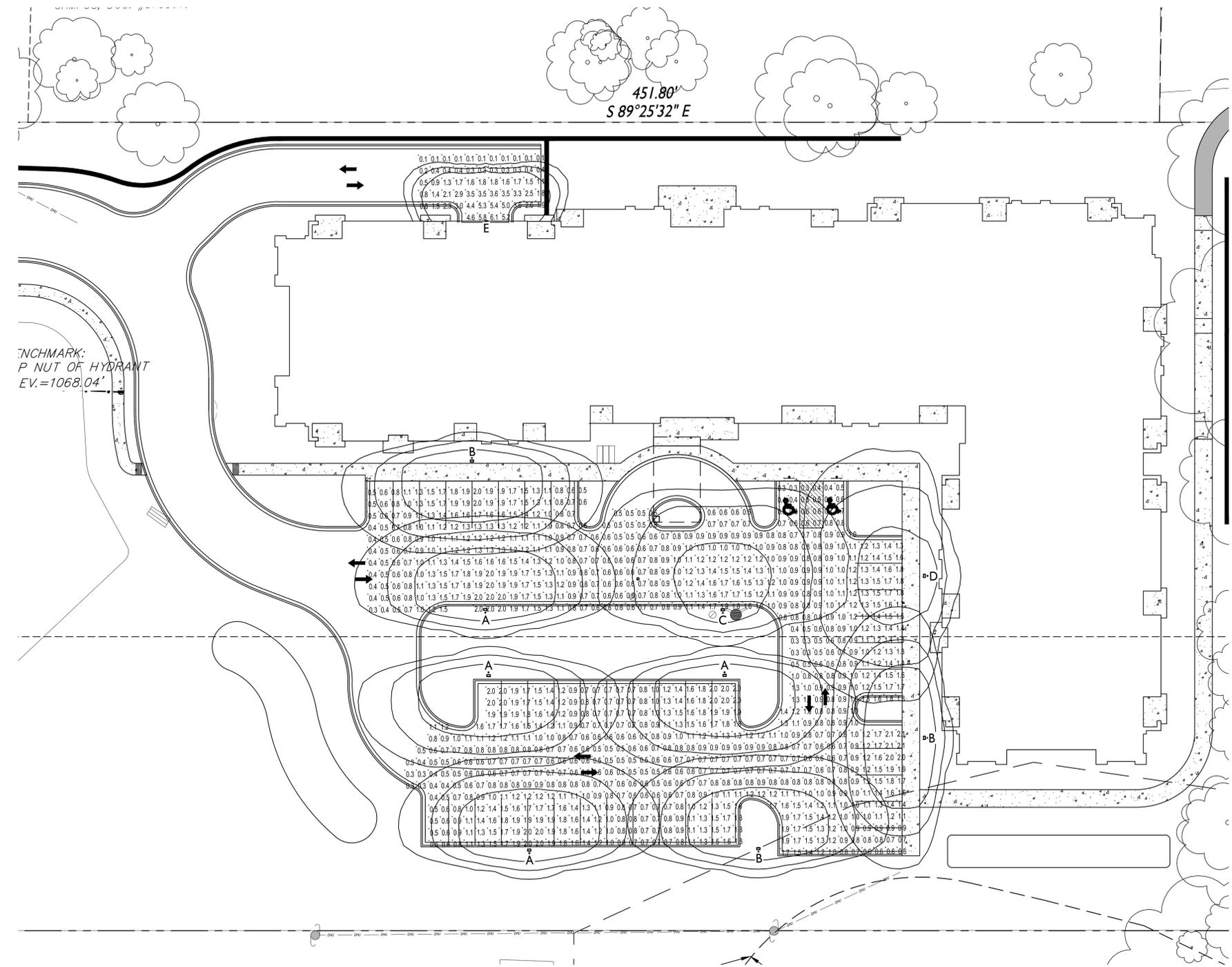
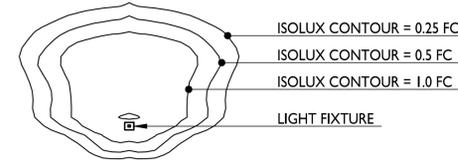
I SITE PLAN
C-1.1 1" = 30' - 0"



STATISTICS						
DESCRIPTION	SYMBOL	AVG.	MAX.	MIN.	MAX. / MIN.	AVG. / MIN.
Site Parking Area	+	1.0 fc	2.1 fc	0.3 fc	7.0:1	3.3:1
Parking Garage Entry	+	1.8 fc	6.1 fc	0.1 fc	61.0:1	18.0:1

LUMINAIRE SCHEDULE							
SYMBOL	LABEL	QTY.	MANUF.	CATALOG	DESCRIPTION	FILE	MOUNTING
	A	4	LITHONIA LIGHTING	DSX0 LED P1 30K T25 MVOLT HS	DSX0 LED P1 30K T25 MVOLT WITH HOUSE SIDE SHIELD	DSX0_LED_P1_30K_T25_MVOLT_HS.ies	16'-0" POLE ON 2'-0" TALL CONC. BASE
	B	3	LITHONIA LIGHTING	DSX0 LED P1 30K T25 MVOLT HS	DSX0 LED P1 30K T25 MVOLT WITH HOUSE SIDE SHIELD	DSX0_LED_P1_30K_T25_MVOLT_HS.ies	18'-0" POLE ON FLUSH CONC. BASE
	C	1	LITHONIA LIGHTING	DSX0 LED P1 30K T4M MVOLT HS	DSX0 LED P1 30K T4M MVOLT WITH HOUSE SIDE SHIELD	DSX0_LED_P1_30K_T4M_MVOLT_HS.ies	16'-0" POLE ON 2'-0" TALL CONC. BASE
	D	1	LITHONIA LIGHTING	DSX0 LED P1 30K T4M MVOLT HS	DSX0 LED P1 30K T4M MVOLT WITH HOUSE SIDE SHIELD	DSX0_LED_P1_30K_T4M_MVOLT_HS.ies	18'-0" POLE ON FLUSH CONC. BASE
	E	1	LITHONIA LIGHTING	OLW 23	WALL MOUNTED LED WITH UPDATED OPTICS	OLW_23.ies	8'-0" ABOVE GRADE ON BUILDING

EXAMPLE LIGHT FIXTURE DISTRIBUTION

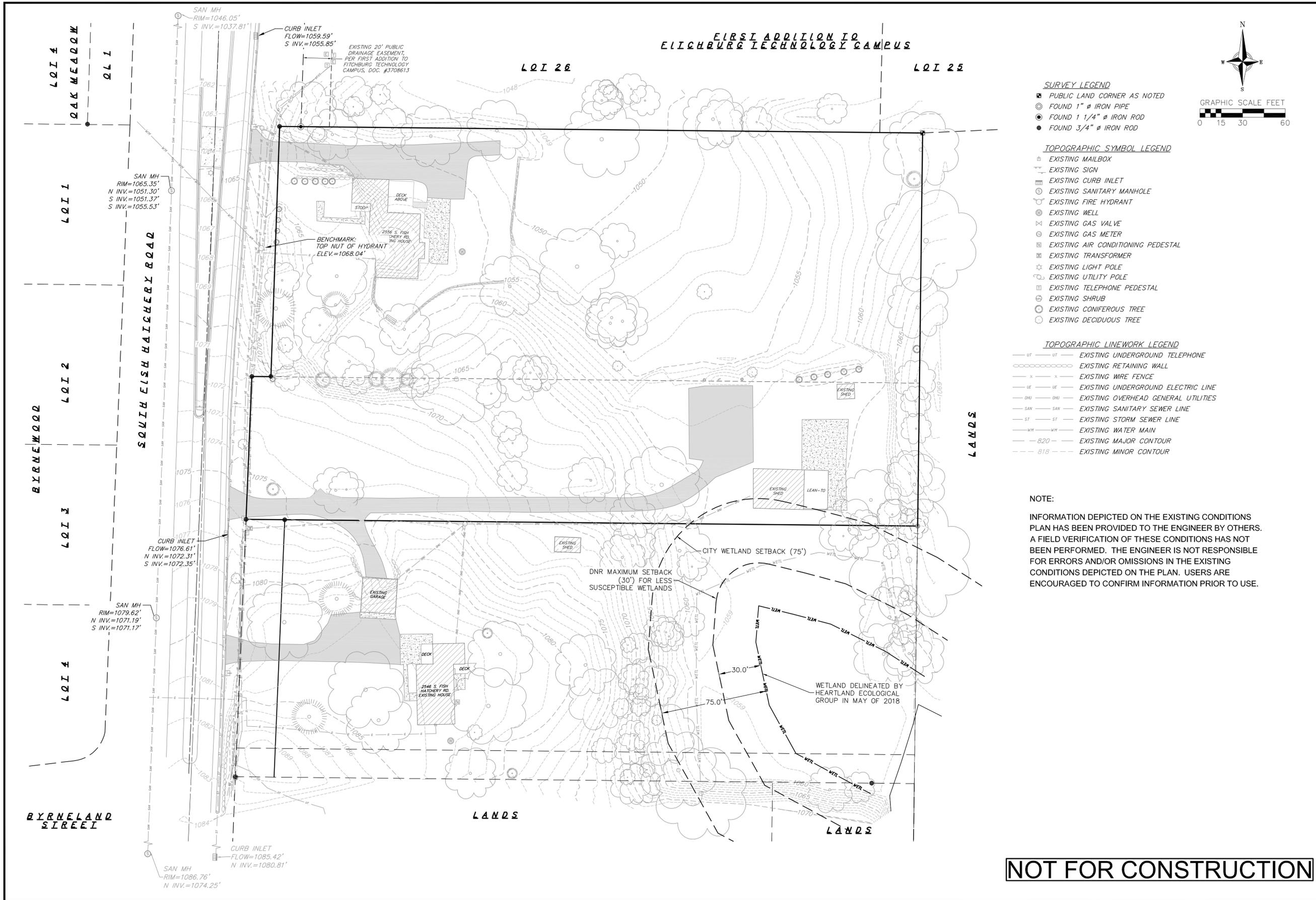


ISSUED
Issued for SIP - February 19, 2019
Supplement - March 8, 2019
Issued for SIP - May 20, 2019

PROJECT TITLE
Oak Ridge Senior Apartments

2556 S. Fish Hatchery Rd.
Fitchburg, WI
SHEET TITLE
Site Lighting Plan

SHEET NUMBER



FIRST ADDITION TO
FITCHBURG TECHNOLOGY CAMPUS



- SURVEY LEGEND**
- ☐ PUBLIC LAND CORNER AS NOTED
 - FOUND 1" Ø IRON PIPE
 - FOUND 1 1/4" Ø IRON ROD
 - FOUND 3/4" Ø IRON ROD

- TOPOGRAPHIC SYMBOL LEGEND**
- ☐ EXISTING MAILBOX
 - ↑ EXISTING SIGN
 - ☐ EXISTING CURB INLET
 - EXISTING SANITARY MANHOLE
 - ⊕ EXISTING FIRE HYDRANT
 - ⊕ EXISTING WELL
 - ⊗ EXISTING GAS VALVE
 - ⊕ EXISTING GAS METER
 - ⊕ EXISTING AIR CONDITIONING PEDESTAL
 - ⊕ EXISTING TRANSFORMER
 - ⊕ EXISTING LIGHT POLE
 - ⊕ EXISTING UTILITY POLE
 - ⊕ EXISTING TELEPHONE PEDESTAL
 - ⊕ EXISTING SHRUB
 - ⊕ EXISTING CONIFEROUS TREE
 - ⊕ EXISTING DECIDUOUS TREE

- TOPOGRAPHIC LINEWORK LEGEND**
- UT — UT — EXISTING UNDERGROUND TELEPHONE
 - ○ — ○ — EXISTING RETAINING WALL
 - x — x — EXISTING WIRE FENCE
 - UE — UE — EXISTING UNDERGROUND ELECTRIC LINE
 - OHU — OHU — EXISTING OVERHEAD GENERAL UTILITIES
 - SAN — SAN — EXISTING SANITARY SEWER LINE
 - ST — ST — EXISTING STORM SEWER LINE
 - WM — WM — EXISTING WATER MAIN
 - 820 — 820 — EXISTING MAJOR CONTOUR
 - 818 — 818 — EXISTING MINOR CONTOUR

NOTE:
INFORMATION DEPICTED ON THE EXISTING CONDITIONS PLAN HAS BEEN PROVIDED TO THE ENGINEER BY OTHERS. A FIELD VERIFICATION OF THESE CONDITIONS HAS NOT BEEN PERFORMED. THE ENGINEER IS NOT RESPONSIBLE FOR ERRORS AND/OR OMISSIONS IN THE EXISTING CONDITIONS DEPICTED ON THE PLAN. USERS ARE ENCOURAGED TO CONFIRM INFORMATION PRIOR TO USE.

NOT FOR CONSTRUCTION



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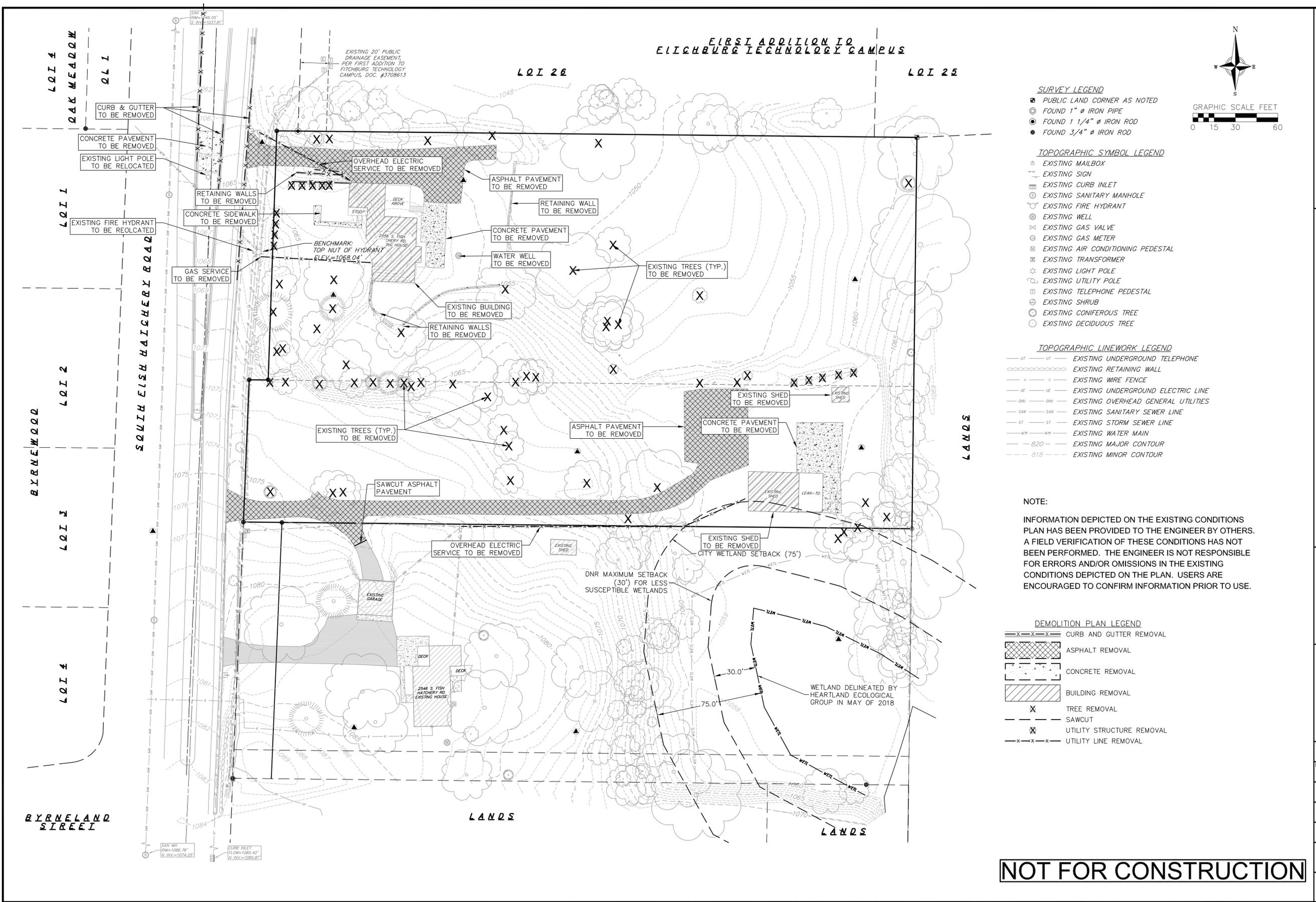
Existing Conditions Plan
2546 & 2556 S. Fish Hatchery Road
City of Fitchburg
Dane County, Wisconsin

REVISIONS	NO.	DATE	REMARKS

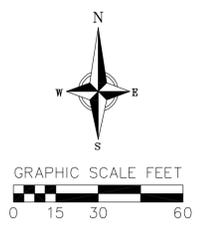
SCALE: AS SHOWN
DATE: 05/20/2019
DRAFTER: JARC
CHECKED: JDOY
PROJECT NO.: 180065
SHEET: 1 OF 10
DWG. NO.: C-2.0

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FIRST ADDITION TO ELMHURST TECHNOLOGY CAMPUS



- SURVEY LEGEND**
- PUBLIC LAND CORNER AS NOTED
 - FOUND 1" Ø IRON PIPE
 - FOUND 1 1/4" Ø IRON ROD
 - FOUND 3/4" Ø IRON ROD

- TOPOGRAPHIC SYMBOL LEGEND**
- ☐ EXISTING MAILBOX
 - ⊕ EXISTING SIGN
 - ⊕ EXISTING CURB INLET
 - ⊕ EXISTING SANITARY MANHOLE
 - ⊕ EXISTING FIRE HYDRANT
 - ⊕ EXISTING WELL
 - ⊕ EXISTING GAS VALVE
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 - ⊕ EXISTING CONIFEROUS TREE
 - ⊕ EXISTING DECIDUOUS TREE

- TOPOGRAPHIC LINEWORK LEGEND**
- UT — UT — EXISTING UNDERGROUND TELEPHONE
 - ⊕ — ⊕ — EXISTING RETAINING WALL
 - x — x — EXISTING WIRE FENCE
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NOTE:
 INFORMATION DEPICTED ON THE EXISTING CONDITIONS PLAN HAS BEEN PROVIDED TO THE ENGINEER BY OTHERS. A FIELD VERIFICATION OF THESE CONDITIONS HAS NOT BEEN PERFORMED. THE ENGINEER IS NOT RESPONSIBLE FOR ERRORS AND/OR OMISSIONS IN THE EXISTING CONDITIONS DEPICTED ON THE PLAN. USERS ARE ENCOURAGED TO CONFIRM INFORMATION PRIOR TO USE.

- DEMOLITION PLAN LEGEND**
- x — x — CURB AND GUTTER REMOVAL
 - ▨ ASPHALT REMOVAL
 - ▨ CONCRETE REMOVAL
 - ▨ BUILDING REMOVAL
 - ✕ TREE REMOVAL
 - — SAWCUT
 - ⊕ UTILITY STRUCTURE REMOVAL
 - x — x — UTILITY LINE REMOVAL

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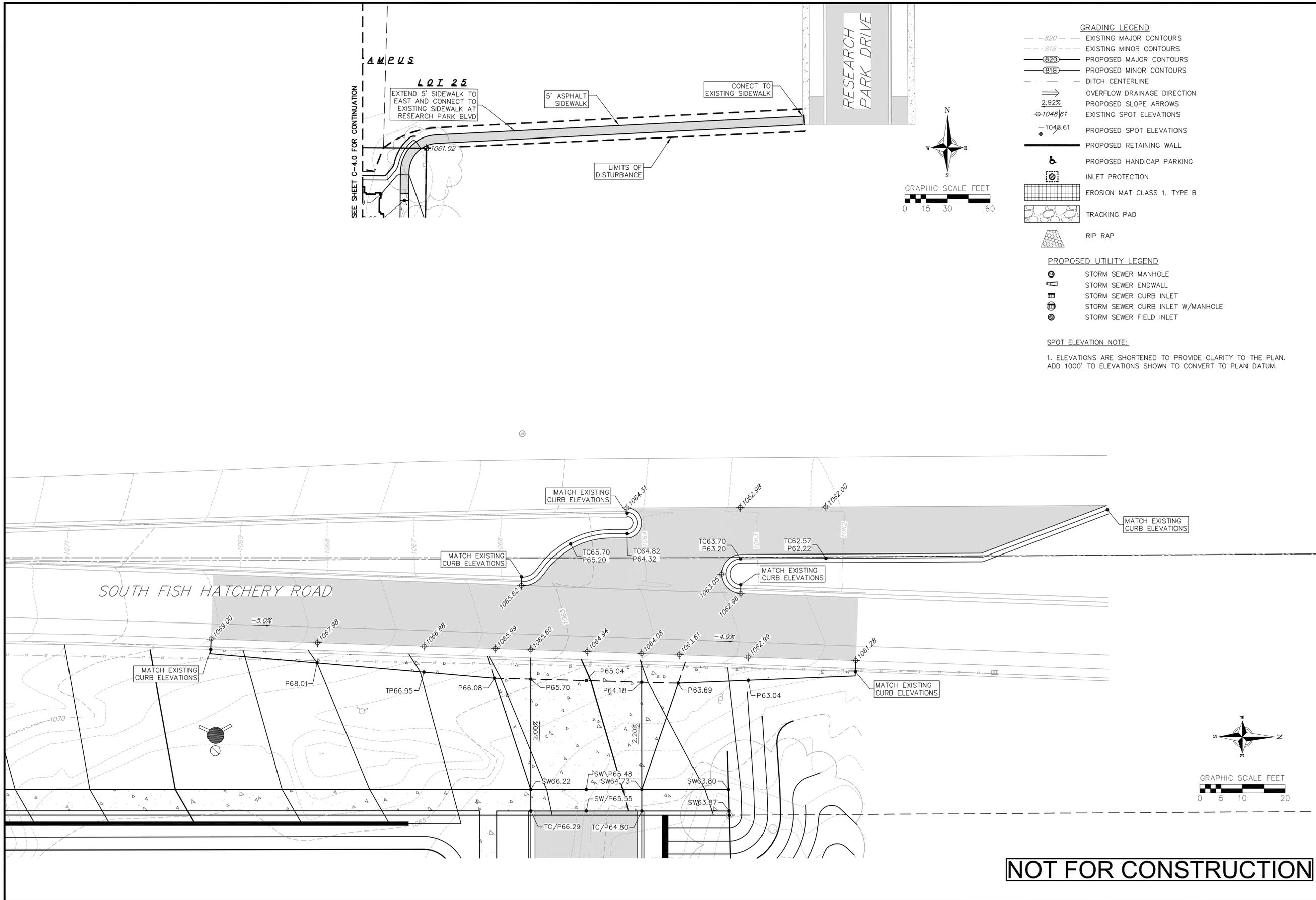
Demolition Plan
 2546 & 2556 S. Fish Hatchery Road
 City of Fitchburg
 Dane County, Wisconsin

REVISIONS	NO.	DATE	REMARKS

SCALE	AS SHOWN
DATE	05/20/2019
DRAFTER	JZAM
CHECKED	JDOY
PROJECT NO.	180065
SHEET	2 OF 10
DWG. NO.	C-3.0

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20 May 2019 - 2:48p M:\JT\Kerry\180065_2546 & 2556 S. Fish Hatchery Rd. Fitchburg\CADD\180065_Base.dwg by: jkam



- GRADING LEGEND**
- - 820 - - EXISTING MAJOR CONTOURS
 - - 818 - - EXISTING MINOR CONTOURS
 - 820 — PROPOSED MAJOR CONTOURS
 - 818 — PROPOSED MINOR CONTOURS
 - - - - - DITCH CENTERLINE
 - OVERFLOW DRAINAGE DIRECTION
 - 2.92% PROPOSED SLOPE ARROWS
 - 1048.61 EXISTING SPOT ELEVATIONS
 - 1048.61 PROPOSED SPOT ELEVATIONS
 - PROPOSED RETAINING WALL
 - ♿ PROPOSED HANDICAP PARKING
 - ⊙ INLET PROTECTION
 - ▨ EROSION MAT CLASS 1, TYPE B
 - ▩ TRACKING PAD
 - ▧ RIP RAP
- PROPOSED UTILITY LEGEND**
- ⊙ STORM SEWER MANHOLE
 - ⊙ STORM SEWER ENDWALL
 - ⊙ STORM SEWER CURB INLET
 - ⊙ STORM SEWER CURB INLET W/MANHOLE
 - ⊙ STORM SEWER FIELD INLET
- SPOT ELEVATION NOTE:**
- ELEVATIONS ARE SHORTENED TO PROVIDE CLARITY TO THE PLAN. ADD 1000' TO ELEVATIONS SHOWN TO CONVERT TO PLAN DATUM.

NOT FOR CONSTRUCTION



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Grading & Erosion Control Plan
2546 & 2556 S. Fish Hatchery Road
City of Fitchburg
Dane County, Wisconsin

REVISIONS	NO.	DATE	REMARKS

SCALE AS SHOWN

DATE 05/20/2019

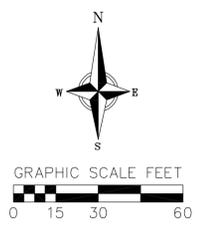
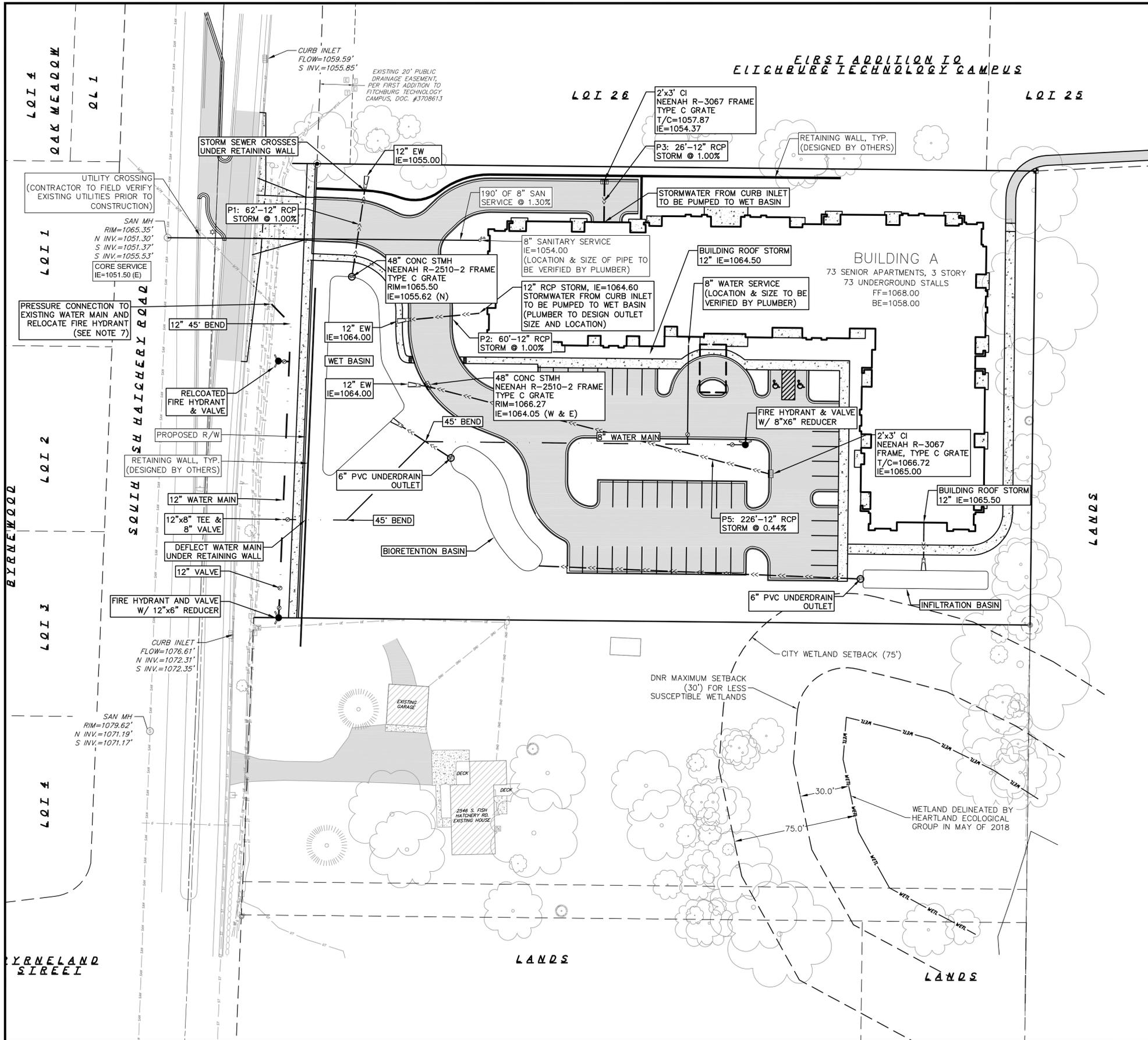
DRAFTER JZAM

CHECKED JDOY

PROJECT NO. 180065

SHEET 4 OF 10

DWG. NO. C-4.1



- PROPOSED UTILITY LEGEND**
- STORM SEWER PIPE
 - ⊙ STORM SEWER MANHOLE
 - STORM SEWER ENDWALL
 - ⊙ STORM SEWER CURB INLET
 - ⊙ STORM SEWER FIELD INLET
 - PROPOSED RETAINING WALL (DESIGN BY OTHERS)
 - SANITARY SEWER PIPE (GRAVITY)
 - ⊙ SANITARY SEWER MANHOLE
 - WATER MAIN
 - WATER SERVICE LATERAL PIPE
 - ⊙ FIRE HYDRANT
 - ⊙ WATER VALVE
 - ⊙ CURB STOP
 - ⊙ WATER VALVE MANHOLE
- ABBREVIATIONS**
- STMH - STORM MANHOLE
 - FI - FIELD INLET
 - CI - CURB INLET
 - CB - CATCH BASIN
 - EW - ENDWALL
 - SMH - SANITARY MANHOLE

- NOTE:
- A DANE COUNTY STREET OPENING PERMIT IS REQUIRED FOR ALL WORK WITHIN THE FISH HATCHERY ROAD RIGHT OF WAY.
 - THE SANITARY SEWER WITHIN THE RIGHT OF WAY IS REQUIRED TO BE INSTALLED WITH TRENCHLESS TECHNOLOGY. SANITARY SEWER MATERIALS IN THE RIGHT OF WAY SHALL BE PER THE LATEST EDITION OF THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
 - EXISTING SANITARY LATERALS SHALL BE ABANDONED AT THE MAIN PER THE LATEST EDITION OF THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
 - ALL WATER MAIN BETWEEN THE PUBLIC WATER MAIN UP TO AND INCLUDING PRIVATE HYDRANTS SHALL BE INSTALLED PER THE LATEST EDITION OF THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
 - PER CITY ORDINANCE, CONTRACTORS ARE NOT ALLOWED TO OPERATE CITY OWNED VALVES. THE CONTRACTOR SHALL CALL THE FITCHBURG UTILITY AT 270-4270 FOR OPERATION OF THESE VALVES.
 - SAFE SAMPLE RESULTS NEED TO BE PROVIDED TO THE FITCHBURG UTILITY PRIOR TO PRESSURE TESTING THE PRIVATE WATER MAINS.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE EXISTING VALVES WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. THE CITY IS NOT RESPONSIBLE FOR ANY COSTS INCURRED DUE TO THE CONTRACTOR NOT VERIFYING THAT THE EXISTING VALVE WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. IF A NEW VALVE IS REQUIRED, THE APPLICANT WILL BE REQUIRED TO INSTALL ONE AT THEIR EXPENSE AT THE POINT OF CONNECTION.
 - CASTINGS WITH OPEN PICK HOLES ARE PROHIBITED FOR SANITARY MANHOLES.

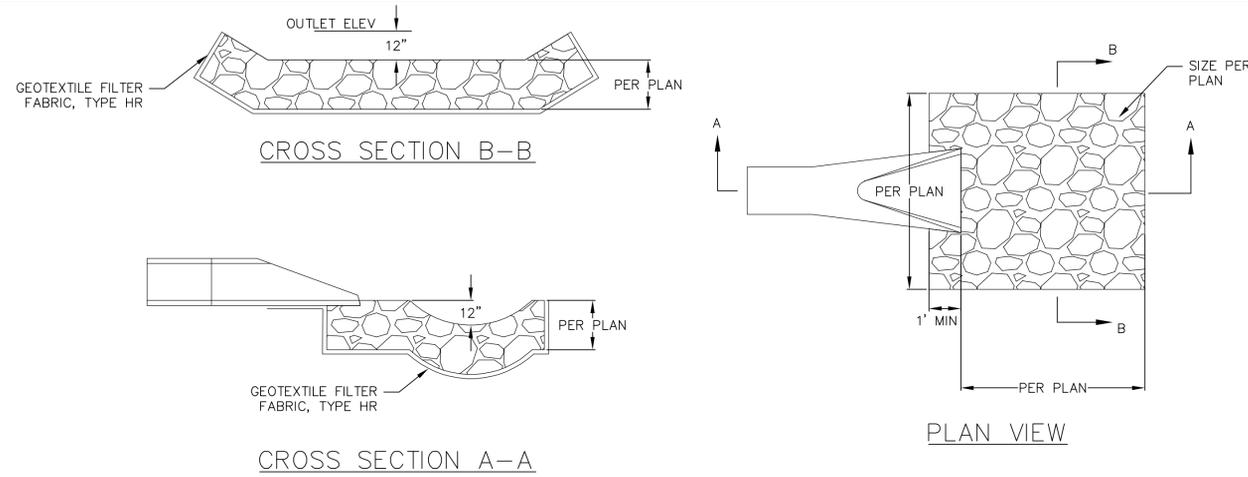
NOT FOR CONSTRUCTION

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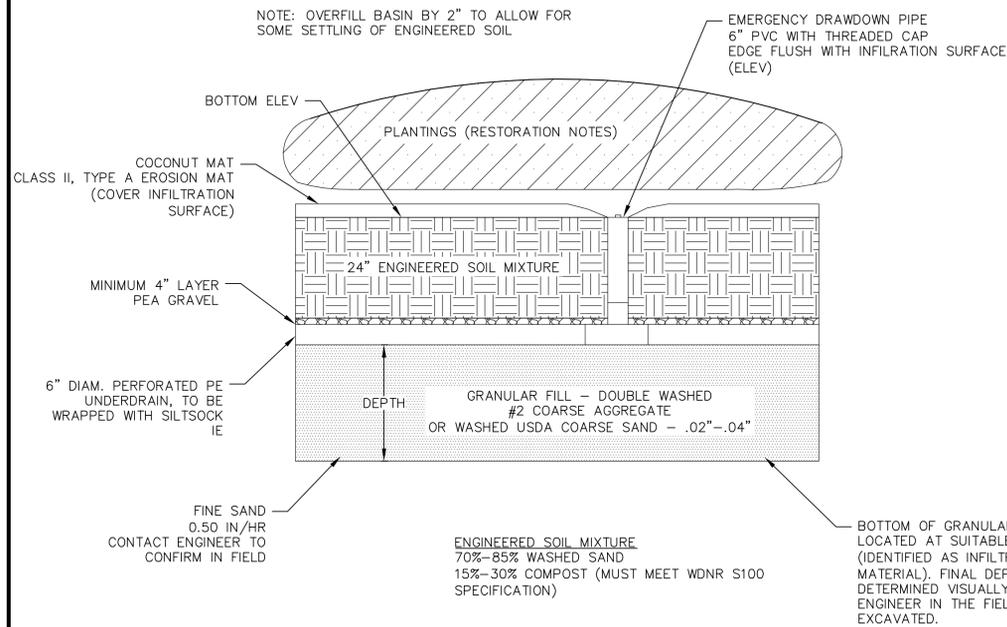
Utility Plan
2546 & 2556 S. Fish Hatchery Road
City of Fitchburg
Dane County, Wisconsin

REVISIONS	NO.	DATE	REMARKS

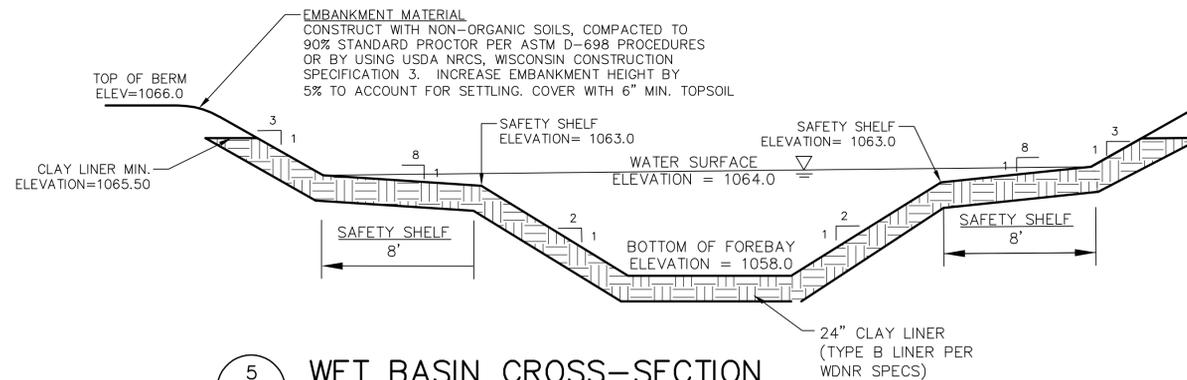
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DATE: 05/20/2019
DRAFTER: JARC
CHECKED: JDOY
PROJECT NO.: 180065
SHEET: 5 OF 10
DWG. NO.: C-5.0



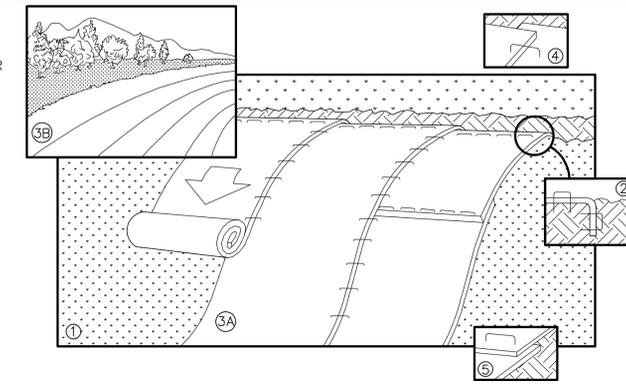
1 RIP-RAP OUTLET
 NOT TO SCALE
 C-6.1



4 BIO-RETENTION BASIN
 NOT TO SCALE
 C-6.1



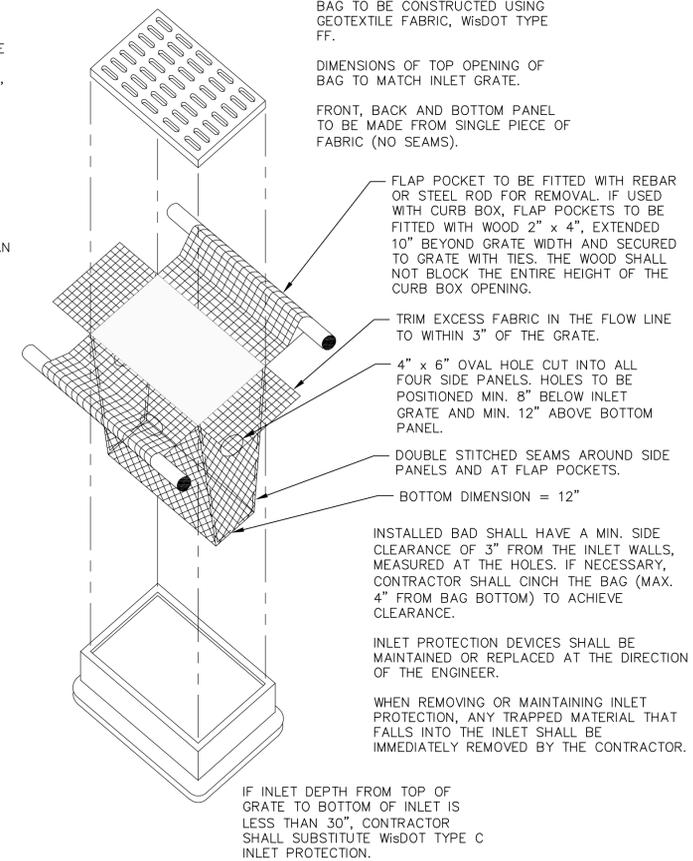
5 WET BASIN CROSS-SECTION
 NOT TO SCALE
 C-6.1



NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED.
 NOTE: WHEN USING CELL-O-SEED, DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- ROLL THE BLANKETS <A.> DOWN, OR <B.> HORIZONTALLY ACROSS THE SLOPE.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
- WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
- ALL BLANKETS MUST BE SECURELY FASTENED TO THE SLOPE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.

2 EROSION MAT
 NOT TO SCALE
 C-6.1



3 INLET PROTECTION TYPE D
 NOT TO SCALE
 C-6.1

REVISIONS	NO.	DATE	REMARKS

SCALE: AS SHOWN

DATE: 05/20/2019

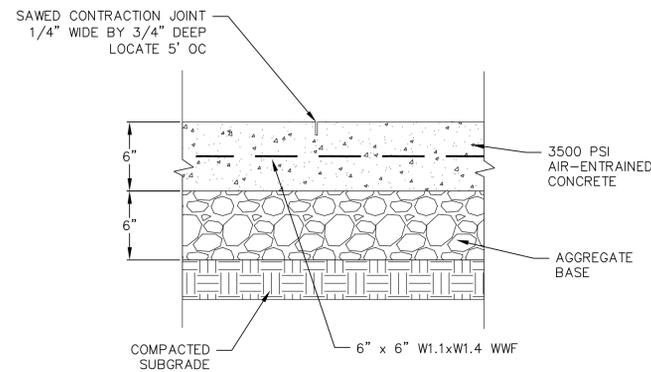
DRAFTER: JZAM

CHECKED: JDOY

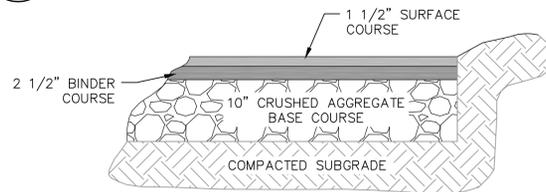
PROJECT NO.: 180065

SHEET: 7 OF 10

DWG. NO.: C-6.1

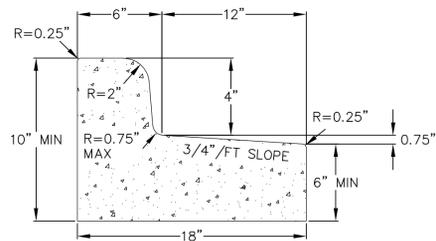


1 CONCRETE PAD
C-6.2 NOT TO SCALE

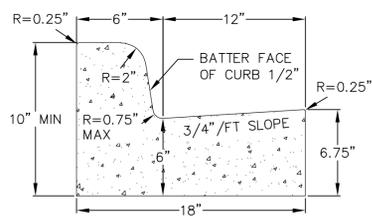


BITUMINOUS PAVEMENT DRIVES

2 SITE PAVEMENT
C-6.2 NOT TO SCALE

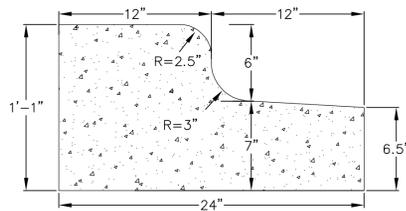


CURB AND GUTTER
REJECT SECTION

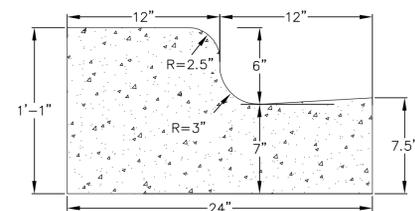


CURB AND GUTTER
CROSS SECTION

3 18" CONCRETE CURB AND GUTTER
C-6.2 NOT TO SCALE

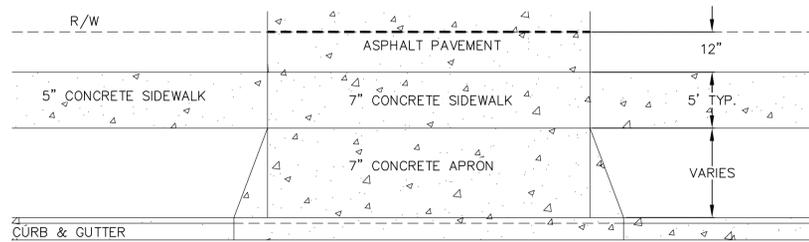


CURB AND GUTTER
REJECT SECTION

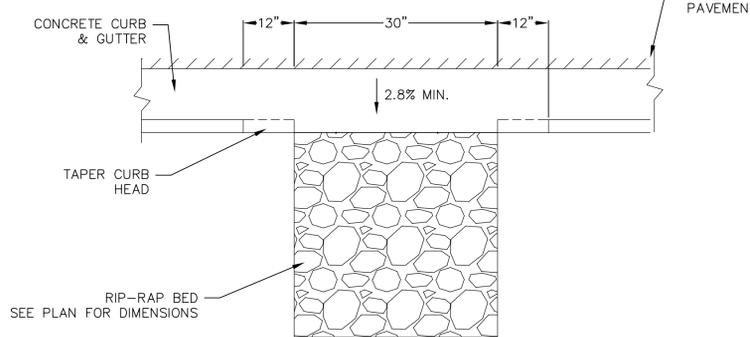
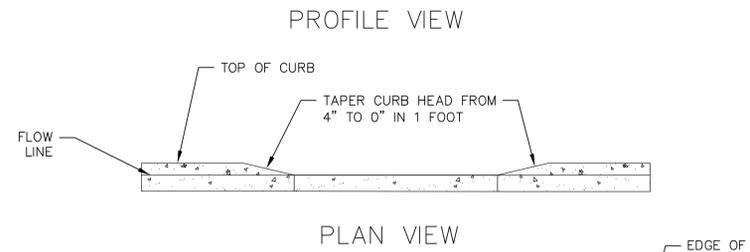


CURB AND GUTTER
CROSS SECTION

4 24" CONCRETE CURB AND GUTTER
C-6.2 NOT TO SCALE

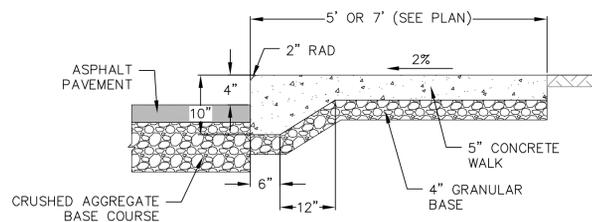


5 DRIVEWAY DETAIL
C-6.2 NOT TO SCALE

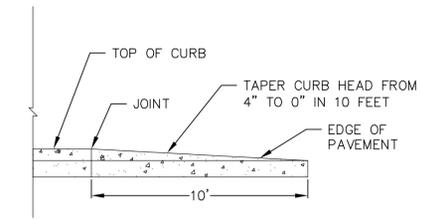


CURB CUT
NOT TO SCALE

6 CURB CUT
C-6.2 NOT TO SCALE

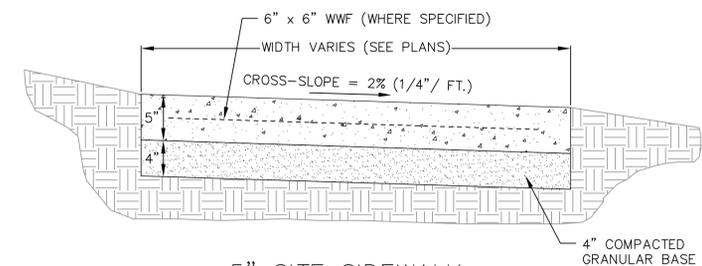


7 CURBED SIDEWALK SITE DETAIL
C-6.2 NOT TO SCALE

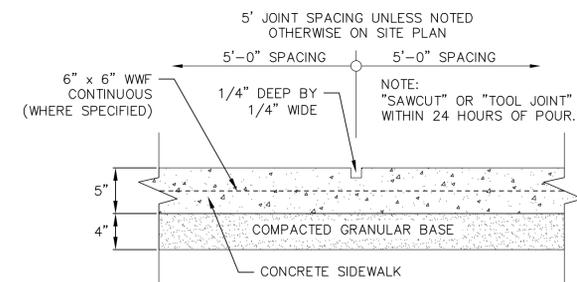


PROFILE VIEW

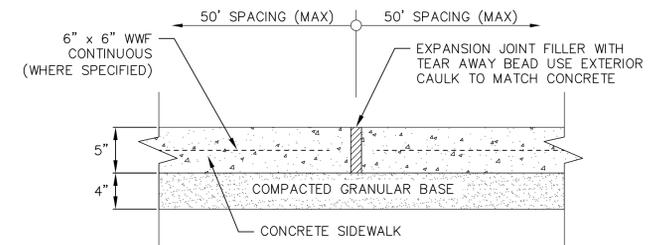
8 CURB & GUTTER TERMINATION
C-6.2 NOT TO SCALE



5" SITE SIDEWALK



SIDEWALK CONTROL JOINT



SIDEWALK EXPANSION JOINT

9 5" SIDEWALK
C-6.2 NOT TO SCALE

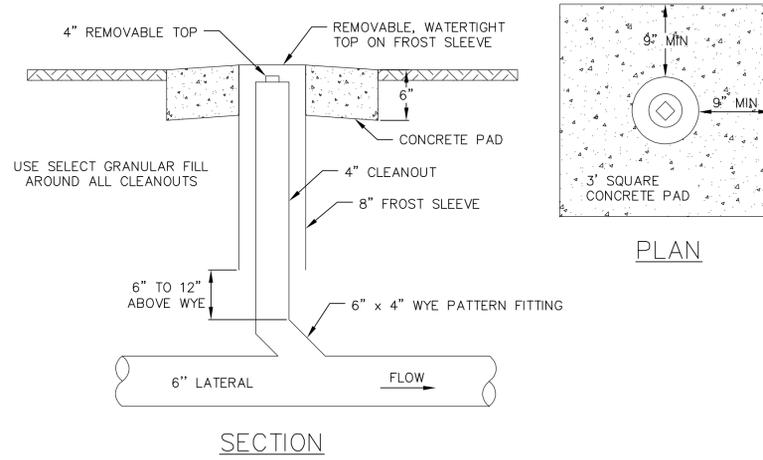


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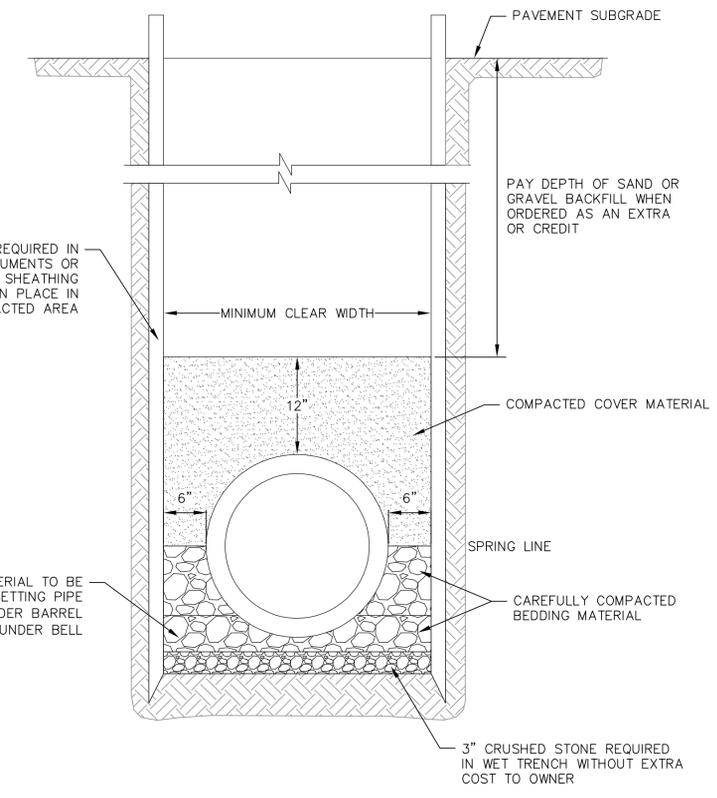
Construction Details
2546 & 2556 S. Fish Hatchery Road
City of Fitchburg
Dane County, Wisconsin

REVISIONS	NO.	DATE	REMARKS

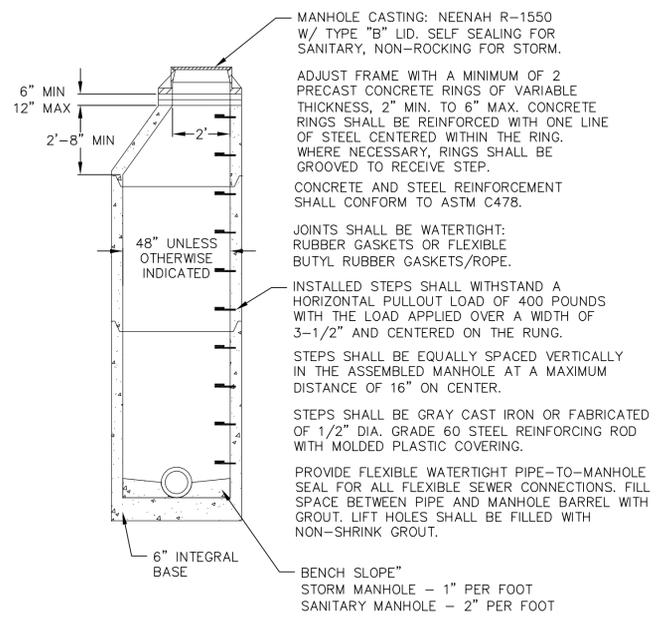
SCALE	AS SHOWN
DATE	05/20/2019
DRAFTER	JZAM
CHECKED	JDOY
PROJECT NO.	180065
SHEET	8 OF 10
DWG. NO.	C-6.2



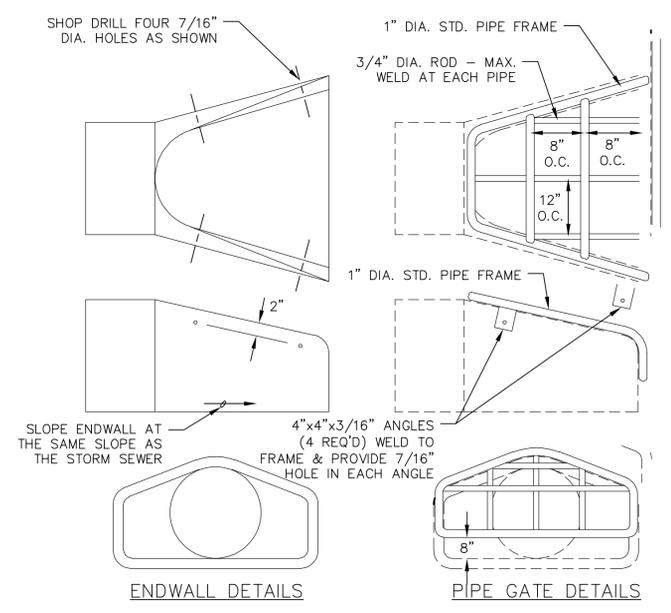
1 6" SANITARY CLEANOUT
C-6.3 NOT TO SCALE



2 CLASS B BEDDING COMPACTED SECTION
C-6.3 NOT TO SCALE



3 PRECAST CONCRETE MANHOLE
C-6.3 NOT TO SCALE

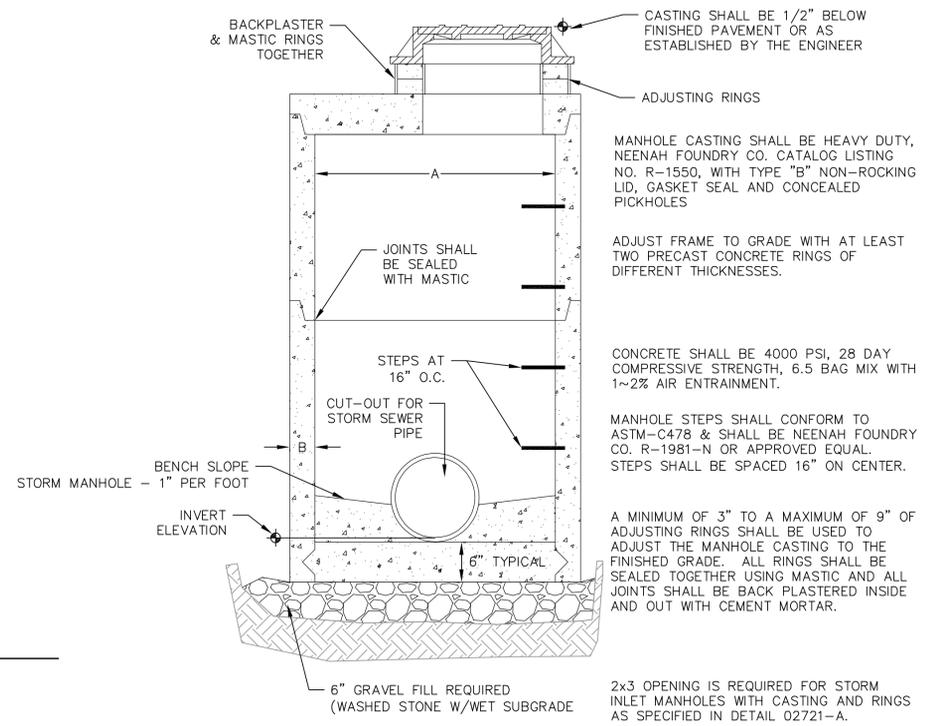


NOTES:
 - THE CONTRACTOR SHALL BOLT THE PIPE GATE TO THE CONCRETE ENDWALL WITH FOUR 3/8"x6" MACHINE BOLTS WITH NUTS ON INSIDE WALL.
 - THE CONTRACTOR SHALL PROVIDE JOINT TIES ON STORM SEWER SYSTEM INFALL AND OUTFALL PIPES. TIE THE ENDWALL AND THE LAST 2 PIPE SECTIONS.

PAINTING SPECIFICATIONS:
 - THE PIPE GATE SHALL RECEIVE THE FOLLOWING PREPARATION & PAINTING. THE FIRST COAT SHALL BE RUS-OLEUM X-60 RED BARE METAL PRIMER OR APPROVED EQUAL. THE SECOND COAT SHALL BE RUS-OLEUM 960 ZINC CHROMATE PRIMER OR APPROVED EQUAL. THE THIRD COAT SHALL BE RUS-OLEUM 1282 HIGH GLOSS METAL FINISH OR APPROVED EQUAL.

PREPARATION STEPS:
 1. BARE METAL SURFACES - TREAT WITH THE THREE-COAT PAINTING SYSTEM LISTED AFTER A THOROUGH SCRAPING, WIRE BRUSHING & CLEANING.
 2. EACH COAT OF PAINT SHALL BE APPLIED OVER THE ENTIRE GATE SURFACE.
 3. ALLOW 24-48 HOURS DRYING TIME AT 60° OR ABOVE BETWEEN COATS.

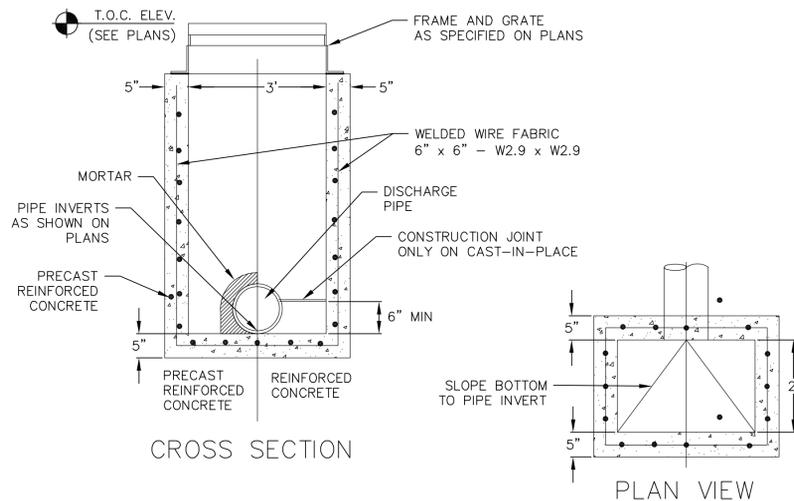
4 STANDARD ENDWALL
C-6.3 NOT TO SCALE



STORM MANHOLE DIMENSIONS

MANHOLE SIZE	DIMENSION	
	A	B (MIN.)
48"	48"	5"
60"	60"	6"
72"	72"	7"
84"	84"	7"
96"	96"	9"

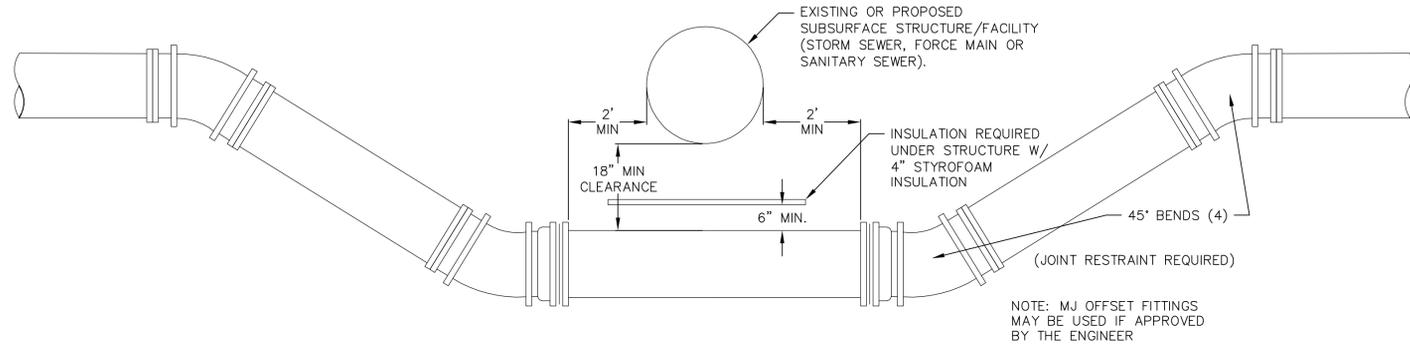
5 STORM SEWER MANHOLE
C-6.3 NOT TO SCALE



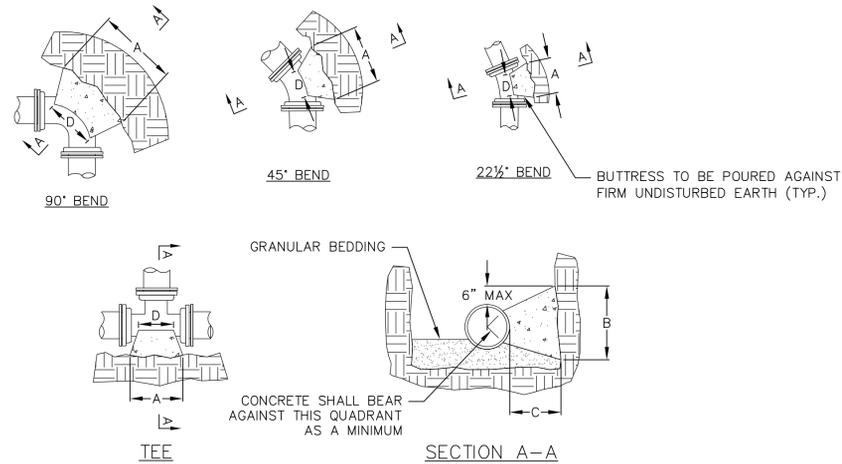
6 CURB INLET - TYPE 3, 2' x 3' BASIN
C-6.3 NOT TO SCALE

REVISIONS	NO.	DATE	REMARKS

SCALE: AS SHOWN
 DATE: 05/20/2019
 DRAFTER: JZAM
 CHECKED: JJOY
 PROJECT NO.: 180065
 SHEET: 9 OF 10
 DWG. NO.: C-6.3



1 LOWERING WATERMAIN UNDER STORM STRUCTURE
C-6.3 NOT TO SCALE



DIMENSION "D" SHALL BE AS LARGE AS POSSIBLE, BUT THE CONCRETE SHALL NOT INTERFERE WITH THE MECHANICAL JOINTS.

DIMENSION "C" SHALL BE AT LEAST 6 INCHES, AND LARGE ENOUGH TO MAKE THE "Q" ANGLE EQUAL TO OR GREATER THAN 45 DEGREES WITH THE DIMENSION "A" AS SHOWN ON THE TABLE, OR GREATER, AND WITH DIMENSION "D" AS LARGE AS POSSIBLE.

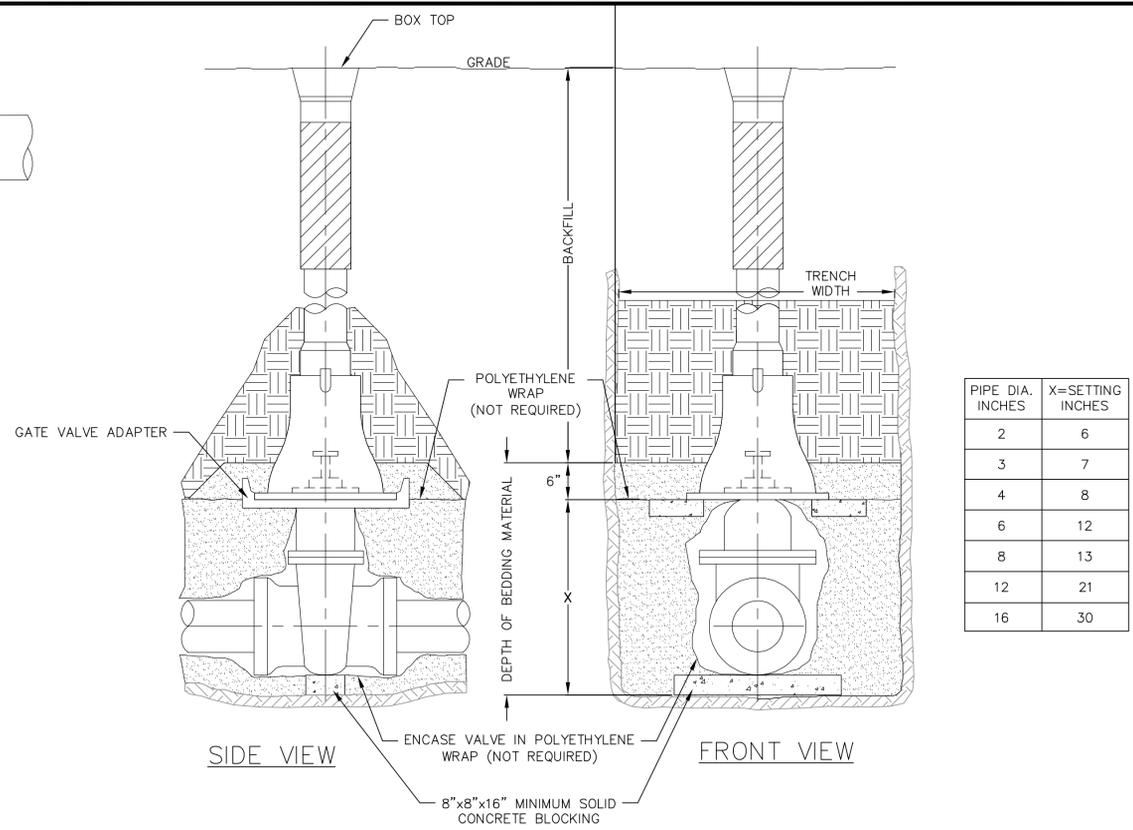
PIPE SIZE	BUTTRESS DIMENSIONS									
	TEES		11.25° BEND		22.5° BEND		45° BEND		90° BEND	
	A	B	A	B	A	B	A	B	A	B
4	0'-10"	1'-6"	0'-5"	0'-8"	0'-6"	1'-1"	0'-10"	1'-3"	1'-6"	1'-4"
6	1'-6"	1'-8"	0'-6"	1'-2"	0'-9"	1'-6"	1'-4"	1'-8"	2'-2"	1'-10"
8	1'-9"	2'-4"	0'-9"	1'-3"	1'-0"	2'-0"	1'-11"	2'-0"	3'-0"	2'-4"
10	1'-9"	2'-4"	0'-9"	1'-3"	1'-0"	2'-0"	1'-11"	2'-0"	3'-0"	2'-4"
12	2'-3"	1'-7"	1'-0"	1'-4"	2'-4"	1'-1"	2'-6"	2'-6"	3'-7"	2'-8"
16	3'-8"	2'-10"	1'-2"	2'-0"	2'-10"	1'-6"	3'-0"	3'-0"	5'-6"	3'-0"
20	5'-0"	3'-10"	1'-5"	2'-6"	1'-11"	3'-9"	3'-9"	3'-9"	6'-9"	3'-9"
24	5'-4"	4'-8"	1'-8"	3'-0"	2'-4"	4'-3"	4'-7"	4'-3"	8'-4"	4'-4"

DIMENSIONS IN THE TABLE ARE BASED ON A WATER PRESSURE OF 150 PSI AND SOIL RESISTANCE OF 2000 LBS/SQ FT

* = FOR TEE THIS WILL BE THE BRANCH PIPE

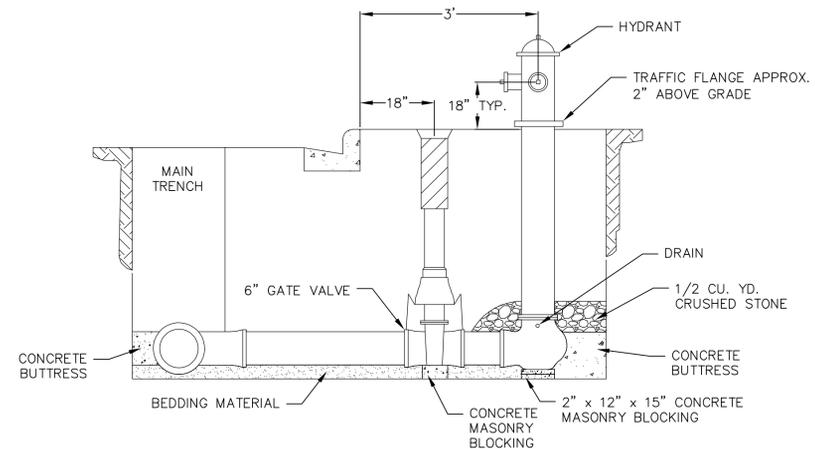
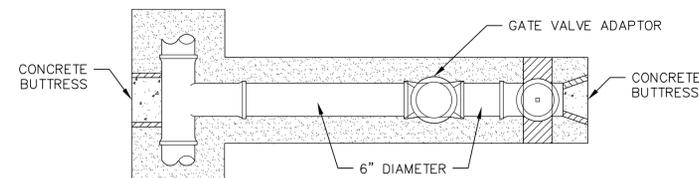
CONCRETE SHALL BE CLASS "F"

2 BUTTRESS FOR BENDS
C-6.3 NOT TO SCALE



PIPE DIA. INCHES	X=SETTING INCHES
2	6
3	7
4	8
6	12
8	13
12	21
16	30

3 STANDARD GATE VALVE BOX SETTING
C-6.3 NOT TO SCALE



4 STANDARD HYDRANT SETTING
C-6.3 NOT TO SCALE

ISSUED

Issued for GIP submittal - May, 1, 2018
Issued for SIP Submittal - May 21, 2019

PROJECT TITLE

**Oak Ridge
Senior
Apartments**

2556 S. Fish
Hatchery Rd.
Fitchburg, WI

SHEET TITLE

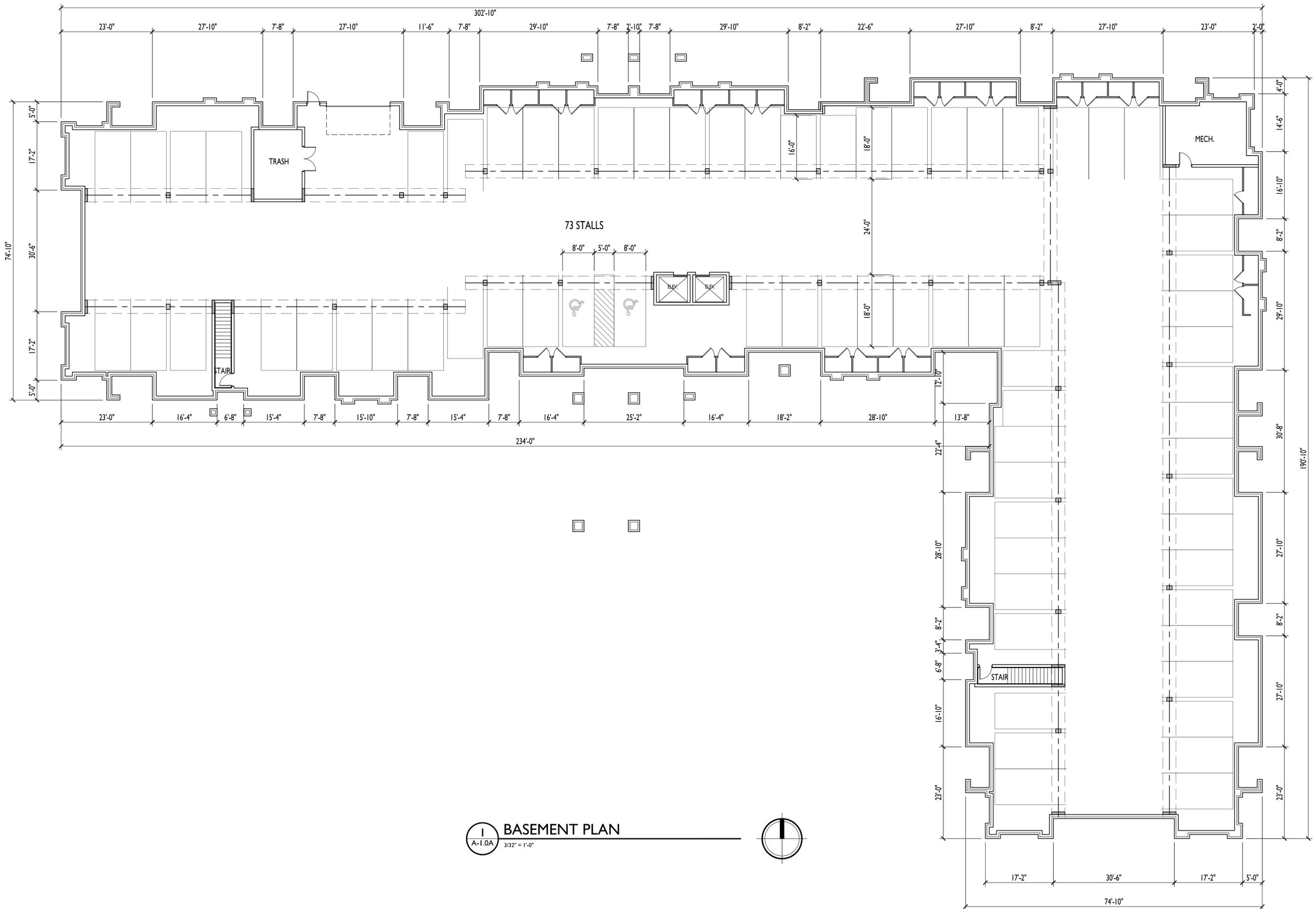
Basement Plan

SHEET NUMBER

A-1.0A

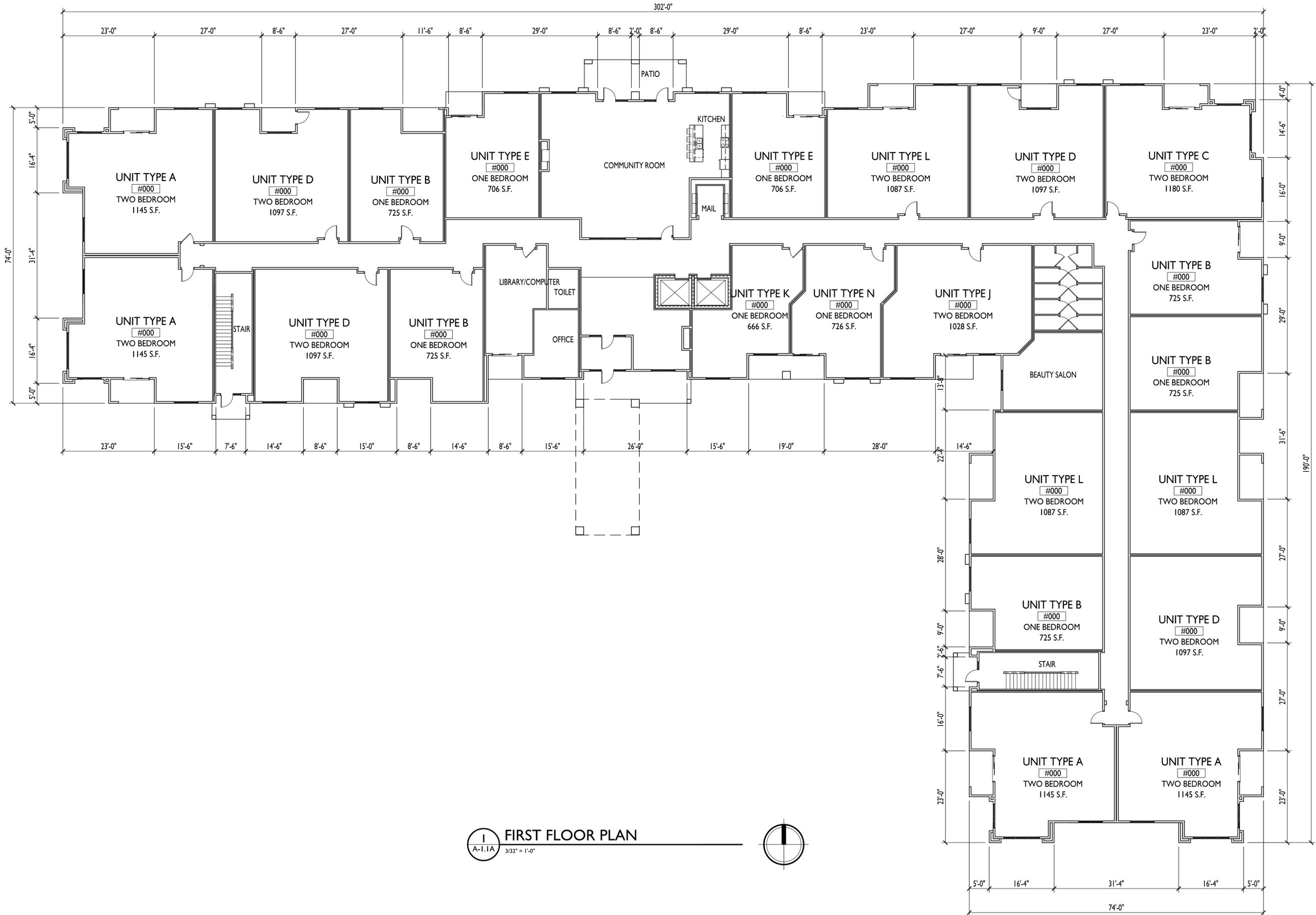
PROJECT NO. **1807**

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I
A-1.0A
BASEMENT PLAN
3/32" = 1'-0"





ISSUED
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Issued for SIP submittal - May 21, 2019

PROJECT TITLE
**Oak Ridge
Senior
Apartments**

2556 S. Fish
Hatchery Rd.
Fitchburg, WI

SHEET TITLE
First Floor Plan

SHEET NUMBER

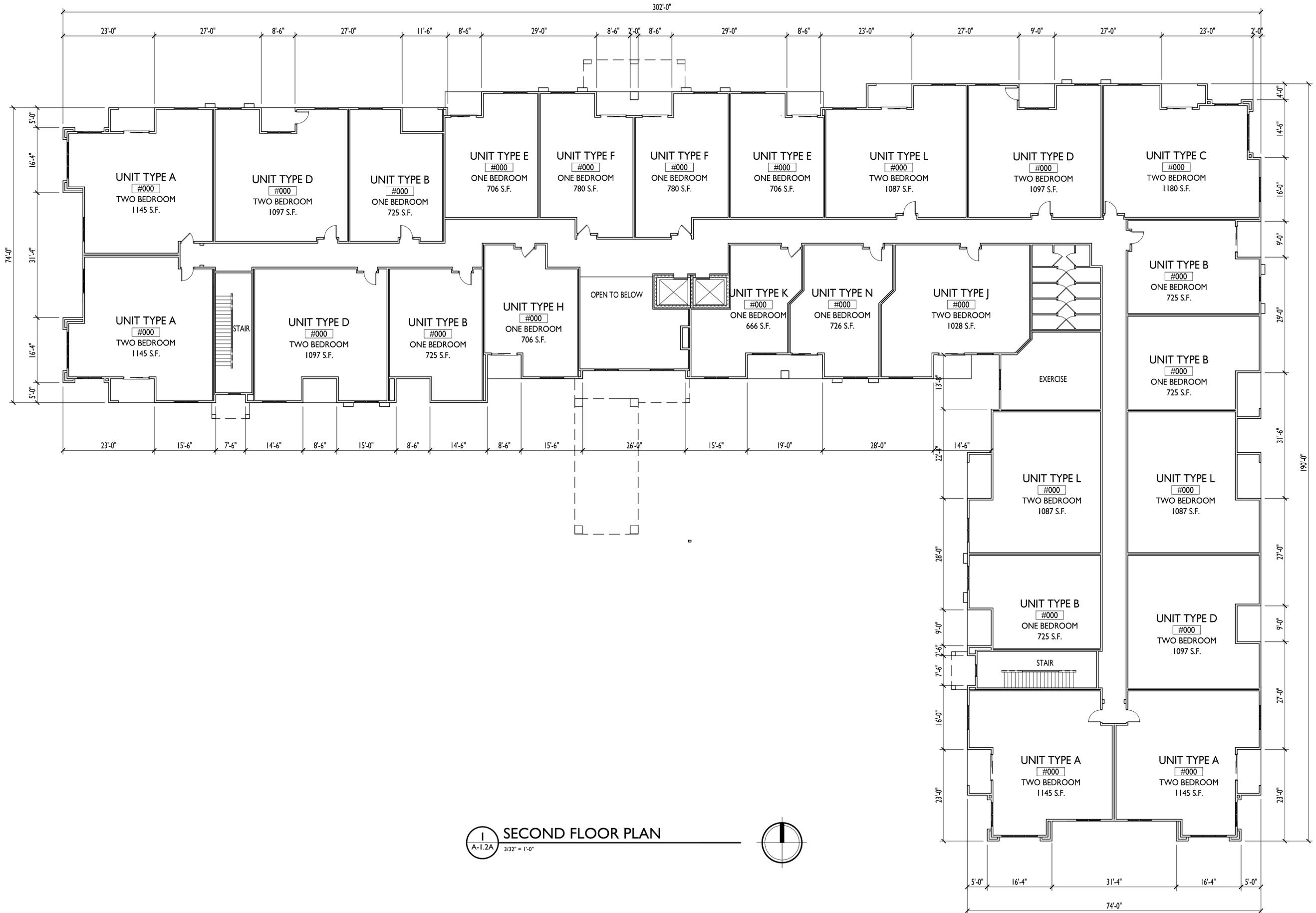
A-1.1A

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FIRST FLOOR PLAN
A-1.1A 3/32" = 1'-0"





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Issued for SIP submittal - May 21, 2019

PROJECT TITLE
**Oak Ridge
Senior
Apartments**

2556 S. Fish
Hatchery Rd.
Fitchburg, WI

SHEET TITLE
Second Floor Plan

SHEET NUMBER

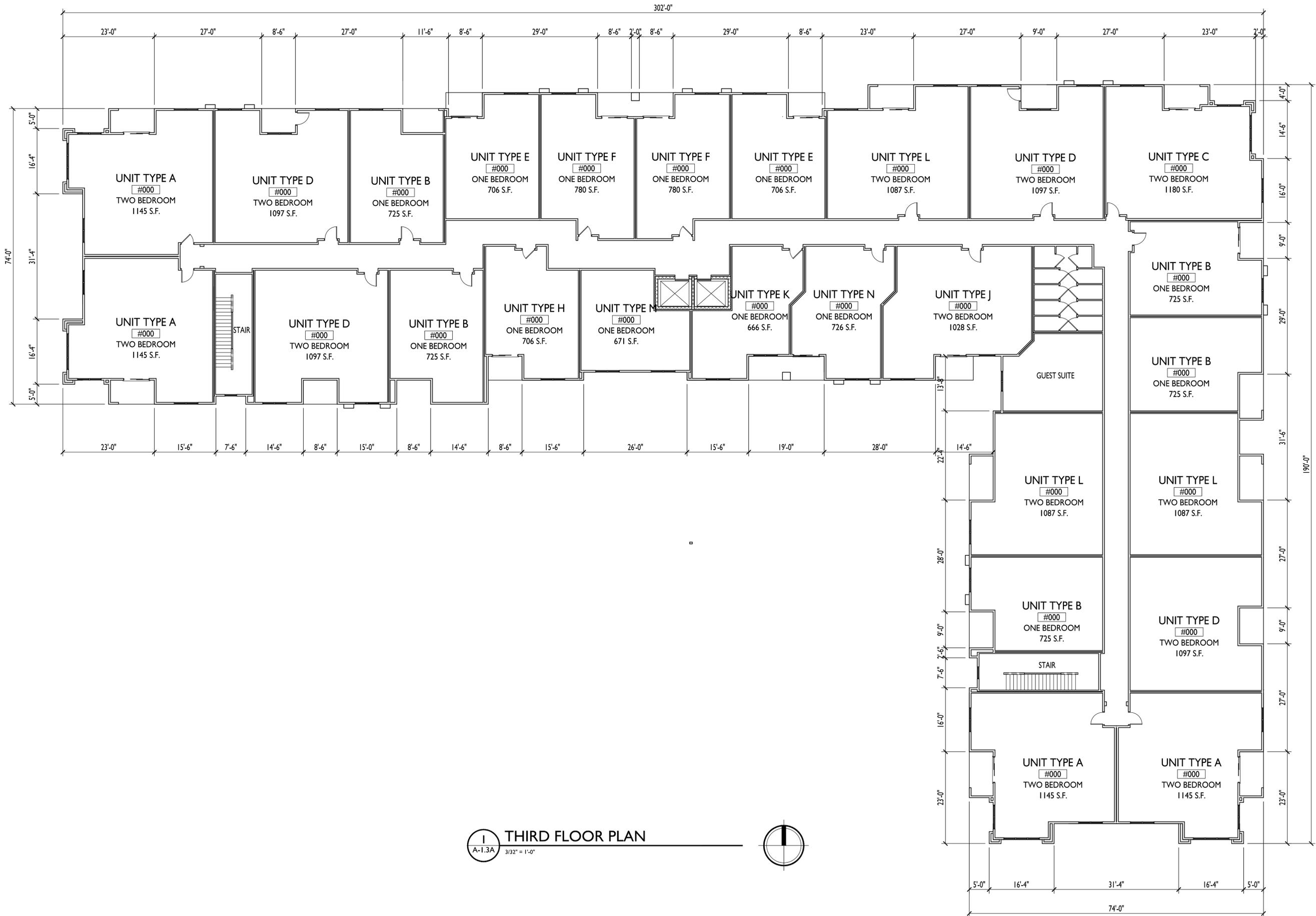
A-1.2A

PROJECT NO. **1807**

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SECOND FLOOR PLAN
A-1.2A 3/32" = 1'-0"





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Issued for SIP Submittal - May 21, 2019

PROJECT TITLE
**Oak Ridge
Senior
Apartments**

2556 S. Fish
Hatchery Rd.
Fitchburg, WI

SHEET TITLE
Third Floor Plan

SHEET NUMBER

A-1.3A

PROJECT NO. **1807**

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THIRD FLOOR PLAN
A-1.3A 3/32" = 1'-0"



EXTERIOR MATERIAL SCHEDULE	
BALCONY	METAL - MATCH WITH WINDOW TRIM
STONE VENEER	BUECHEL STONE CORP - MILL CREEK COUNTRY SQUIRE
PRECAST	EDWARDS - COLOR TO MATCH STONE VENEER
A - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - AGED PEWTER
B - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - IRON GRAY
VINYL WINDOWS	VISIONS - CAMEO
ALUMINUM RAILING	SUPERIOR - BLACK
GARAGE DOORS	MATCH BRICK
BUILDING ENTRANCES	ALUMINUM STOREFRONT - ARCTIC SILVER
COMPOSITE BOARD & BATTEN, BRACKETS	JAMES HARDIE - COBBLESTONE
COMPOSITE DOOR & WINDOW TRIM, POSTS	JAMES HARDIE - COBBLESTONE
STANDING SEAM METAL ROOF	SILVER METALLIC
SOFFITS & FASCIA	SW6126 NAVAJO WHITE
METAL DOORS & FRAMES	SW6126 NAVAJO WHITE
SHINGLES	WEATHERED WOOD



1
 WEST ELEVATION
 ALONG FISH HATCHERY
 A-2.1A 3/32" = 1'-0"

ISSUED
 Issued for GIP submittal - May, 1, 2018
 Issued for SIP Submittal - May 21, 2019



2
 SOUTH ELEVATION
 A-2.1A 3/32" = 1'-0"

PROJECT TITLE
**Oak Ridge
 Senior
 Apartments**

2556 S. Fish
 Hatchery Rd.
 Fitchburg, WI
 SHEET TITLE
Elevations

SHEET NUMBER

A-2.1A

PROJECT NO. **1807**

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EXTERIOR MATERIAL SCHEDULE	
BALCONY	METAL - MATCH WITH WINDOW TRIM
STONE VENEER	BUEHEL STONE CORP. - HILL CREEK COUNTRY SQUIRE
PRECAST	EDWARDS - COLOR TO MATCH STONE VENEER
A - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - AGED PEWTER
B - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - IRON GRAY
VINYL WINDOWS	VISIONS - CAMEO
ALUMINUM RAILING	SUPERIOR - BLACK
GARAGE DOORS	MATCH BRICK
BUILDING ENTRANCES	ALUMINUM STOREFRONT - ARCTIC SILVER
COMPOSITE BOARD & BATTEN BRACKETS	JAMES HARDIE - COBBLESTONE
COMPOSITE DOOR & WINDOW TRIM, POSTS	JAMES HARDIE - COBBLESTONE
STANDING SEAM METAL ROOF	SILVER METALLIC
SOFFITS & FASCIA	SW6126 NAVAJO WHITE
METAL DOORS & FRAMES	SW6126 NAVAJO WHITE
SHINGLES	WEATHERED WOOD



2 EAST ELEVATION
 A-2.2A 3/32" = 1'-0"

ISSUED
 Issued for GIP submittal - May, 1, 2018
 Issued for SIP Submittal - May 21, 2019



1 NORTH ELEVATION
 A-2.2A 3/32" = 1'-0"

PROJECT TITLE
Oak Ridge Senior Apartments

2556 S. Fish Hatchery Rd.
 Fitchburg, WI
 SHEET TITLE
Elevations

SHEET NUMBER

A-2.2A

PROJECT NO. **1807**
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West Elevation along Fish Hatchery Rd.

EXTERIOR MATERIAL SCHEDULE	
BALCONY	METAL - MATCH WITH WINDOW TRIM
STONE VENEER	BLUICHEL STONE CORP - HILL CREEK COUNTRY SQUIRE
PRECAST	EDWARDS - COLOR TO MATCH STONE VENEER
A - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - AGED PEWTER
B - COMPOSITE HORIZONTAL SIDING	JAMES HARDIE - IRON GRAY
VINYL WINDOWS	VISIONS - CAPEO
ALUMINUM RAILING	SUPERIOR - BLACK
GARAGE DOORS	MATCH BRICK
BUILDING ENTRANCES	ALUMINUM STOREFRONT - ARCTIC SILVER
COMPOSITE BOARD & BATTEN, BRACKETS	JAMES HARDIE - COBBLESTONE
COMPOSITE DOOR & WINDOW TRIM, POSTS	JAMES HARDIE - COBBLESTONE
STANDING SEAM METAL ROOF	SILVER METALLIC
SOFFITS & FASCIA	SW6126 NAVAJO WHITE
METAL DOORS & FRAMES	SW6126 NAVAJO WHITE
SHINGLES	WEATHERED WOOD

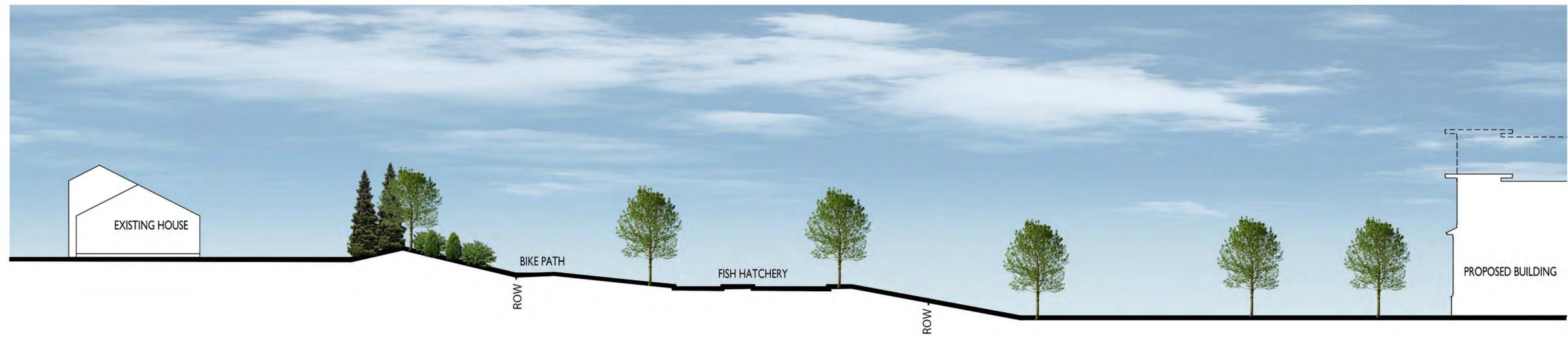
- SOFFITS & FASCIA
- COMPOSITE SIDING - A
- COMPOSITE BRACKETS
- COMPOSITE SIDING - B
- COMPOSITE BOARD AND BATTEN SIDING
- VINYL WINDOWS
- COMPOSITE SIDING - B
- STANDING SEAM METAL ROOFING
- ALUM. RAILING
- COMPOSITE WINDOW AND DOOR TRIM
- STONE VENEER
- PRECAST HEADS & SILLS



South Elevation

Oak Ridge Senior Apartments
Elevations
S. Fish Hatchery
May 20, 2019





SITE SECTION

Oak Ridge Senior Apartments
Site Section
S. Fish Hatchery
May 20, 2019

