Riley-Purgatory-Bluff Creek Watershed District

Board of Managers Regular Meeting
September 1, 2021
7:00PM Regular Meeting
Virtual Meeting via ZOOM
https://us02web.zoom.us/j/85831209963

Agenda

1. **7:00pm Call to Order Meeting of the Board of Managers** **Action**

2. **Swearing in of Manager Crafton and Manager Koch** **Action**

3. **Approval of the agenda** **Action**

4. **Matters of public interest** **Information**

   Welcome to the Board Meeting. Anyone may address the Board on any matter of interest in the watershed. Speakers will be acknowledged by the President; please come to the podium, state your name and address for the record. Please limit your comments to no more than three minutes. Additional comments may be submitted in writing. Generally, the Board of Managers will not take official action on items discussed at this time but may refer the matter to staff for a future report or direct that the matter be scheduled on a future agenda.

5. **Reading and approval of minutes** **Action**
   a. Board of Managers Regular Meeting, Aug 4, 2021, including Aug 12, 2021 Continuation

6. **Citizen Advisory Committee** **Action**
   a. Report
   b. Confirm September 20, 2021, Board CAC representative

7. **Consent Agenda**
   (The consent agenda is considered as one item of business. It consists of routine administrative items or items where discussion isn't essential to understanding. Any manager may remove an item from the consent agenda for action.)
   a. Accept August Staff Report
   b. Accept August Engineer's Report
   c. Accept August Construction Inspection Report
   d. Authorize Interim Administrator Jeffery to draft job description and announcement for District Administrator position, bring to the Personnel Committee for review and approval, and subsequently advertise for said position.
   e. Approve Permit 2018-066 Castle Ridge Modifications as presented in the proposed board action section of the permit review report

f. Approve Permit 2021-049 Foxford Shoreline Maintenance as presented in the proposed board action section of the permit review report.
g. Approve Permit 2021-054 Morimoto City Homes with as presented in the proposed Board action section of the permit review report.
h. Approve Permit 2021-061 Goddard School Redevelopment as presented in the proposed board action section of the permit review report.
i. Approve contract with Smith Partners and Authorize President Ward to sign

8. Action Items **Action**

a. Pulled consent items
b. Accept July Treasurer's Report
c. Approve paying of the bills
d. Consider Ray Newman's request for District Funding on Aquatic Vegetation Management
e. Consider Budget Modification Request for Barr Construction Management Services for Pioneer Wetland Restoration

9. Discussion Items **Information**

a. 2022 Preliminary Budget
b. Attorney Report
c. Administrator Report
    1. Regulatory Program
        i. Potential Revisions
        ii. Status of after-the-fact and pending permits
    2. Data Collection
    3. Covid Policy
    4. Riley Creek Erosion at Frederick Miller Spring
d. Manager Report
    1. Data Practices Requirements (LK)
    2. Greater MN Checklist from BWSR (LK)

10. Upcoming Board Topics

a. Public Hearing on Proposed Preliminary 2022 Budget and Levy
b. Adoption of 2022 Budget and Levy and authorization of distribution to county Auditors
c. Selection of District Administrator

11. Upcoming Events **Information**

- September 20th CAC Meeting, 6pm virtual
- October 6th Board Meeting
- October 9th Cycle the Creek – Purgatory Creek

Please check www.rpbcwd.org for the most current meeting details.

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
BOARD OF MANAGERS

OATH OF OFFICE

I, Jill Crafton, do solemnly swear (affirm) that I will support the Constitutions of the United States and the State of Minnesota, and will faithfully discharge the duties of the office of Manager of the Riley Purgatory Bluff Creek Watershed District to the best of my judgment and ability.

Date: September 1, 2021

_____
Jill Crafton

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
BOARD OF MANAGERS

OATH OF OFFICE

I, Larry Koch, do solemnly swear (affirm) that I will support the Constitutions of the United States and the State of Minnesota, and will faithfully discharge the duties of the office of Manager of the Riley Purgatory Bluff Creek Watershed District to the best of my judgment and ability.

Date: September 1, 2021

_____
Larry Koch

MEETING MINUTES

Riley-Purgatory-Bluff Creek Watershed District

August 4, 2021, RPBCWD Board of Managers Workshop and Monthly Meeting

PRESENT:

Managers: Jill Crafton, Treasurer
Larry Koch
Dorothy Pedersen, Vice President
Dick Ward, President
David Ziegler, Secretary

Staff: Amy Bakkum, Administrative Assistant
Zach Dickhausen, Water Resources Technician II
Liz Forbes, Grant Coordinator
Elizabeth Henley, Attorney, Smith Partners
Terry Jeffery, Interim District Administrator and Watershed Planning Manager
Eleanor Mahon, Education and Outreach Coordinator
Josh Maxwell, Water Resources Coordinator
Scott Sobiech, Engineer, Barr Engineering Company
Michael Welch, Attorney, Smith Partners

Other attendees:

Jeff Abrahamson	Susu Jeffrey	Jim Senske, Bearpath
Miel Arredondo	Terry Jorgenson	Zach Stafslien
Nicole Banks	Natalie Lang	Otto Strack
Sue Bennett	Kevin	Joel Swenson
Brinkley	Mary Jo Linder	Willow Teri
Cappierre	Seth Loken	Tim Toavs
Curt	Dean Lotter	Marilyn Torkelson
Jen Cordell	Chad Lukkarila	Christine Vantankhah-Gutierrez
Briana Crusan	Madhura	Clark Wicklund
Chesney Engquist	Aspira Maison	*
Heidi Groven	Jesse Mercado	
Mark Harding	Nick	
Greg Hawks	Rebecca Prochaska	
Paul Heuer	Kate Rohlfsen	
Kim Hyatt	Rod Rue	

**Note this meeting was held remotely via Zoom in abidance with District Covid procedures*

1. Workshop: District Preliminary 2022 Budget

Interim Administrator Jeffery stated the preliminary budget . He said the District set its 2021 levy at $3,575,000, and the draft 2022 budget prepared by staff is approximately $3,513,000. Interim Administrator Jeffery walked through the draft 2022 budget line by line, and managers provided feedback.

Based on feedback, Administrator Jeffery said he will talk with Treasurer Crafton about accounting services, and they can discuss how the services can be more efficient. Interim Administrator Jeffery said he will break out the staffing costs, acknowledging President Ward's comment the break out is a format change that doesn't need to be completed prior to the Board accepting a budget or submitting it to BWSR. President Ward noted that any costs for additional staff in 2022 should be reflected in the proposed 2022 budget and the budget the Board adopts.

Manager Koch asked Interim Administrator Jeffery for data on traffic to the inspection sites for Lotus Lake and Riley Lake in order to understand the justification for the difference in the proposed budget to support the City of Eden Prairie for AIS inspections, $32,000, versus the proposed amount to support the City of Chanhassen's AIS inspections $18,000. Interim Administrator Jeffery said the difference is based on use of the inspection sites and he will provide data to Manager Koch.

Interim Administrator Jeffery talked about staff's proposal to take $113,000 from the District's Repair and Maintenance Fund and use it in a 50%-50% match with the City of Eden Prairie for the Purgatory Recreation Area berm repair. Manager Koch asked if the District has a schedule of its facilities and when work might need to be done. Interim Administrator Jeffery said no, and he explained the District's Repair and Maintenance Fund has been used for unexpected repairs.

Interim Administrator Jeffery and the managers talked about grant opportunities, such as the Metropolitan Council's Community Resiliency grants and federal climate change grants. Interim Administrator Jeffery said managers can send their grant ideas to him.

Interim Administrator Jeffery talked about staff's proposal to transfer funds out of the District's Opportunity Projects budget to the Middle Riley Creek Stabilization Project. He said staff recommends transferring more than $313,000-$314,000 because of the project bids the District received. He noted that he would like the Board to consider levying $100,000 for Opportunity Projects in the 2022 levy. Manager Koch asked Interim Administrator Jeffery to go back and outline in more detail the anticipated use of the proposed $100,000 Opportunity Project funds.

Interim Administrator Jeffery went into detail about the Lotus Lake Watershed Improvement project. He noted the District's 10-Year Plan identifies two of the four locations as scheduled for 2022 and two scheduled for 2023. He said staff recommends changing the schedule so design for all project occurs in 2022 and construction for all four occur in 2023. Manager Koch asked if the District could update its tables in its 10-Year Plan to reflect the types of changes Interim Administrator Jeffery is proposing. He suggested providing the updated information to the managers and in the future, if the Board has a Plan Amendment to undertake, the tables in the Plan could be updated.

President Ward said staff will make the changes to the draft 2022 budget as discussed and the Board will talk about it next month.

Manager Koch said he would like to see what staff would propose if they were to increase the 2022 levy by one to five percent. Engineer Sobiech commented on the fact that the draft 2022 budget doesn't budget for any reserve funds. There was discussion about the current amount of the District's reserve, and Interim Administrator Jeffery commented he doesn't think the current amount $180,000 is enough.

President Ward noted he will not be able to attend the Board's September meeting.

Manager Koch remarked this is the best budget process for the District that he has ever experienced.

The workshop concluded at 6:06 p.m.

2. Call to Order of the Regular Meeting of the RPBCWD Board of Managers

President Ward announced Carver County appointed Larry Koch to another three-year term as a RPBCWD Board manager and Hennepin County appointed Jill Crafton to another three-year term as a RPBCWD Board manager.

President Ward called to order the Wednesday, August 4, 2021, Board of Managers Regular Meeting at 7:00 p.m. The meeting was held remotely via meeting platform Zoom.

3. Approval of Agenda

Manager Ziegler moved to approve the agenda. Manager Pedersen seconded the motion. Manager Koch requested removing Consent Agenda item 7f, Task Order 28c and item 7g – ratification of SRF contract and adding them as action items under 8a. He requested adding an item about the slope sloughing around Riley Creek near Frederick Spring, noting this could be discussed as part of the Noble Hill item but could be an opportunity project. Manager Koch also requested adding an item about COVID-19. President Ward said COVID-19 will be addressed in the Manager's Report and if action needs to be taken, it could be done as a consensus item. District staff said they would be prepared to talk about the slope sloughing. Managers Ziegler and Pedersen agreed to Manager Koch's friendly amendment.

Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

4. Matters of General Public Interest

President Ward explained the procedures for speaking during the matters of general public interest.

Ms. Briana Crusan said she is part of Spring Valley Friends, an advocacy group, and she spoke about her concerns about the proposed Noble Hill development. She said according to the United States Geological Survey, Riley Creek is already at the tipping point as it is already surrounded by 22% impervious surface and at 25% the creek may not be restorable. Ms. Crusan said 3% more development along the banks could cause severe and irreparable damage. She said one-third of a ten-mile creek is one-third of a mile, Ms. Crusan said the Noble Hill development sets

precedent for other landowners to follow suit. Ms. Crusan asked when development along the creek is no longer possible. She said her group asks that Professor Strack has time to review the data in the technical reports recently released to the Spring Valley Friends. Ms. Crusan said if a time delay for review of the data is not possible, then she asks the Board to deny the permit to Pulte due to the concerns and contingencies listed in the Barr Engineering study.

Ms. Aspira Maison of 7475 Flying Cloud Drive, Eden Prairie, introduced herself, noting she is from the medical profession including surgery, which is very much like carpentry. She talked about how the body is supported and provided an example about orthopedics and how a body is constructed, She talked about climate change and how she has seen along the river bluffs sandy soil cliff falling down. She said these are important factors for future degradation, which are even more of a priority with the 100-year weather events becoming 30-year and 10-year events. Ms. Maison related an analogy about a MNDOT sign on Highway 169 stating "Secure your load" and how to prepare for the weather extremes that are now the norm. She asked the rhetorical questions of whether to build something and take the money and run, insure it and let somebody deal with it later, or invest in good decisions. Ms. Maison said she thinks best practices would have denied the rezoning of the property behind Frederick Miller Spring. She said she could see how two houses on that property would still allow the property to secure the load, but fifty houses seem like very little bone density on a fractured foundation. She said for those people who are investing their livelihood in the purchase of a home, she would ask for a warranty, so the city doesn't have to pay for the loss. She asked for an environmental risk evaluation to be conducted to allow time for a second opinion review of the study data provided. study to allow . If Board permit be denied due to multiple contingencies and concerns within the summary.

Ms. Miel Arredondo of 2214 Lincoln Street Northeast, Minneapolis said she is raising her concerns about the chain of compliance risk and the potential cost to taxpayers and homeowners and the potential liability to the homeowner. She said she is concerned after reviewing the past four years of stormwater reporting to the Minnesota Pollution Control Agency that they rely heavily on the developers to self- report during construction projects and the City has minimal inspection processes. Ms. Arredondo said from reading the reports it appears the City has a soft enforcement strategy comprising verbal warnings not fines or stop work orders. She said out of 60 reported stormwater concerns in the City's system, five were discovered by staff and the rest came from public reporting, and less than 10 were given warnings. Ms. Arredondo said when the Minnehaha Creek was polluted during construction in Eden Prairie, the impaired waterbody and wetland suffered, and the MPCA investigated, enforced, and penalized all parties, not the City of Eden Prairie. She said we are dealing with a corporation that has a reputation as a Clean Water Act violator and which were sued by River's Edge and the lawsuit involved grading complaints. She said she is here tonight because citizens in the watershed have pushed compliance, which is a step that was skipped. Ms. Arredondo said the mud slide in Eden Prairie along Bear Ridge alongside the creek cost more than $1 million in tax payer money, including buy back of the land, slope reinforcement, and stormwater infrastructure repair. She stated the incident risked lives and required neighborhood evacuation . Ms. Arredondo said according to a creek-side homeowner, when the homeowner has structure defects to their structure due to slope issues, the City charged them a $200,000 assessment fee. She said Pulte has been in the situation of buying back homes for millions of dollars including slope failure and buyers' inability to live and occupy their

homes. She said the environmental consequences, liability, and property are all at risk, and a complete analysis would be in all the parties' best interest. Ms. Arredondo said due to these risks, she urges the Board to allow time to for a second opinion expert review of the study data and if that's not possible, then to support accountability at this stage in the chain of compliance, requiring completion of all contingencies before issuing permits.

Ms. Sue Bennett Eden Prairie resident for over 30 years. She thanked the Board for this opportunity to speak. Ms. Bennett said she is very concerned about the Noble Hill project and the long-term accumulative effect on Riley Creek. She said this is why we are moving forward with the EAW appeal that will go to court in September. Ms. Bennett stated that without an EAW study, you cannot get an overall picture of the long-term accumulative effects of this area, which would include the negative impact of removing over 400 trees, the effect of soil erosion and stormwater runoff on the already impaired Riley Creek, the long-term effects on Frederick Miller Spring, the biodiversity of this area, and endangered species like the rusty patch bumblebee. Ms. Bennett said that after studying the slope analysis report, she has many concerns. She said on page 95 Barr noted the methods and design of this project must be addressed to increase the level of confidence in the results presented in the technical memos and the overall resiliency of the proposed development. She continued reading, noting within those modifications on points C4, a modified construction drawing is needed to increase the proposed project's robustness against potential erosion during storms. She read from the report's page 96 about the property's steep slopes and minimum buffers from the steep slopes. Ms. Bennett read aloud from the report's summary on page 108 that many items need to be addressed to address the overall level of certainty in the results of the overall resiliency of the proposed development. Ms. Bennett remarked that after reading the report, it is clear a lot of outstanding issues still need to be addressed, and there are many notes of high-risk of erosion. She stated given the sensitivity of this project and over 3,000 petition signatures, she is asking Board to deny the issuing of the permit. Ms. Bennett commented a project of this nature should not be confirmed with so many contingencies for modifications within a contract.

Professor Strack said he has been asked to look into this slope stability problem. He said he has been a professor at the University of Minnesota teaching Civil Engineering, and he has written a textbook on groundwater flow and a textbook on slope stability. Professor Strack said he agreed to look into this problem, He stated it would be a good idea to look into slope stability a little differently than in the past because of climate change and the high rainfalls, which affect slope stability.

Ms. Chesney Engquist thanked the Board for the opportunity to speak and for its concern surrounding open safety risks unanswered by the recent slope stability analysis pertaining to the proposed Noble Hills development and the potential for landslide and ground water degradation. She said when she last addressed this Board regarding delays to the permit, she invoked her oath of engineer that she took to make the best use of the Earth's precious wealth, to act with integrity and safety to the standards of her profession, which may need to be updated due to the continual disruption of the climate . She said from her initial review she understands the project proposes a 13.75 % increase in impervious area and 67.56 % of the total 31.94-acre site to be disturbed within a contiguous portion of highly sensitive ecosystem and adjacent to an identified impaired body of water. She said based on this information along alone, it is not advised to proceed with

this proposal without understanding the cumulative impacts of development in this region. Ms. Engquist said furthermore, the implication of the loss of tree root structure and canopy may be potentially catastrophic and has not been examined. She said the recent report indicates up to two feet of topsoil and alluvial soils beneath. Ms. Engquist stated she would like to understand the influence of the vegetative impact of the 455 trees of significance, which stabilize the soil and slope on the hill. She said some factors she didn't see reported on in the engineering summary include the mechanisms and results of the tree roots and canopy, reinforcement of anchorage by roots, roots extract moisture from the soil, increasing hydraulic conductivity, increasing soil sheer strength, and the canopy intercepts and evaporates rainfall, weight of trees surcharges the slope, vegetation exposed wind forces into the slope, reducing rainfall for infiltration and increasing normal stress and increasing driving force. Ms. Engquist commented these are factors she doesn't see assessed from boring tests alone, and she read in the report the boring tests were unable to be conducted in areas of vegetation, so therefore we know we need more information on the impacts of the vegetation on the slope stability. She said she trusts the Board would agree that not enough information has been gathered to inform the level of potential risk and to further delay the permitting of this project. Ms. Engquist said the level of disturbance of the root structure and the soil system is unknown. She stated that with trusted experts standing by to provide secondary opinion on the current data, the Board is well positioned to gather more information and more expertise to better inform the decision going forward. Ms. Engquist said if the Board is not able to provide the time, then she asks the Board to deny the permit.

Ms. Nicole Banks, resident 2601 Marshall Avenue, St. Paul, opened her comments with an introduction in Ojibwe, recognizing this land as Dakota. She said she is an enrolled member of the White Earth Nation, which is part of Minnesota Chippewa Tribe. Ms. Banks said she is also a member of the American Indian Movement. She said this land is a heritage site to her family and community, and this, coupled with the low viability of building sound structures here, along with recent data collected by professional archeologists in the area showing there are native artifacts, is why she is asking that building not be permitted or at the very least allow more time for analysis on what is here on this land surrounding the spring. Ms. Banks said the water is also very important and is what brought this to her attention. She said she has respect for the District's position, and she hopes the District does for her and her community as well.

Ms. Rebecca Prochaska of 15781 Porchlight Lane, Eden Prairie, thanked the District for this opportunity to speak. She said considering this is a very important decision ahead of the Board, she encouraged the Board members to hear from the slope authority. Ms. Prochaska provided credentials of Professor Strack as an expert on local rock mechanics and a slope stability authority, who is amenable to reviewing the data. She encouraged the Board to take the opportunity to gather more information, which will lead to better decision making. Ms. Prochaska said her group hadn't received the requested report until yesterday, and one day is not adequate time for the professor to review the information plus the remaining reports that were requested, so she is asking for the Board's cooperation to provide that information and allow Professor Strack to give an opinion based on his credentials. She asked Board to grant another extension or if an extension isn't possible then to deny the permit based on the lack of confidence in the results and the concerns brought up in the Barr Engineering summary, including contradictory things that don't sit well and need more due diligence.

Ms. Susu Jeffery of 1063 Antoinette Avenue, Minneapolis, quoted the former executive director of Greenpeace International's statement "nature does not negotiate. She remarked Pulte has decided the residents will be responsible for the retaining walls and wished the residents good luck. Ms. Jeffery said it's just lock blocks on sand, which is iffy. She displayed three photos and described what the photos show. Ms. Jeffery talked about buckthorn in the proposed project area, stating 30% of the vegetation is buckthorn. She described the effects of buckthorn on the environment. She said where else can residents get real water without chemicals in it. Ms. Jeffery commented Pulte is selling these homes as a city built on a hill, but it's not that and instead is houses built upon sand, a misquote from the book of Matthew 7:27. She asked where Hennepin County residents can get real water that doesn't have chemicals in it, since the Great Medicine Spring in Theodore Wirth Park is gone – permanently dewatered, Glenwood Spring is permanently dewatered, Coldwater Spring, the spring where the state of Minnesota was founded and furnished water to Fort Snelling for a century has no access

Ms. Madhura Patel of 7501 Devon Lane, Shakopee said nature carries a lot of weight and she feels very emotional about it. She quoted from a sign hanging over the Frederick Miller Spring. Ms. Patel said this land has special value, and it would be very sad if environmental factors were ignored and there is a landslide. She said so many trees will be lost. Ms. Patel said it makes sense to make careful steps and it's a fair ask to let there be a period for the public to assess the slope stability data to assess the slope stability data.

5. Reading and Approval of Meeting Minutes

a. July 7, 2021, RPBCWD Board of Managers Regular Meeting

Manager Ziegler moved to approve the minutes of the July 7, 2021, Board of Managers Regular Meeting. Manager Pedersen seconded the motion. Manager Crafton noted a correction to the spelling of inappropriate on line 84. Attorney Welch shared corrections from Attorney Smith, including line 44 in the motion to approve the amended agenda, add Managers Ziegler and Pedersen concurred to Manager Koch's additions as a friendly amendment; line 262 after the word project, add "which is being pursuing in partnership with the District"; line 306 revise the sentence to "he explained the practical difficulty was created by the District, as the proponent of the project, in its efforts to restore and enhance portions of the Creek." Managers Ziegler and Pedersen accepted the friendly amendments.

Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye

Ward	Aye
Ziegler	Aye

6. CAC

Ms. Heidi Groven, CAC Chair, stated the CAC was one of the groups that brought the Noble Hill project to the Board to be aware of the issues and concerns. She for copies of the reports for the CAC's review and comment to the Board and offered to do that as well as offered the opportunity to work with the citizens. President Ward noted the CAC's next meeting is Monday, August 23 and Manager Crafton is the Board Representative.

7. Consent Agenda

Manager Ziegler moved to approve the Consent Agenda as amended in item 2. Manager Pedersen seconded the motion.. The Consent Agenda included the following items: 7a - Accept July Staff Report, 7b – Accept July Engineer's Report, 7c – Accept June Construction Report, 7d – Approve 2021-030 Johnson Ridge as Presented in the Proposed Board Action Section of the Permit Review Report, 7e - Approve Permit 2021-055 Prop Inc. Parking Lot Reconstruction as Presented in the Proposed Board Action Section of the Permit Review Report, and 7h – Authorize Administrator to Register and Pay for Managers, CAC Members, and Staff for the MN Water Resources Conference, Oct. 19-20, 2021. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

8. Action Items

a. Items Pulled from Consent Agenda

i. Task Order 028C for Rice Marsh Lake Water Quality Project Construction Administrator Services

Engineer Sobiech stated this task order is to provide to provide construction management services for the Rice Marsh Lake Water Quality Project, which is on the agenda later for action to award the contract. Engineer Sobiech explained when the task order was prepared and authorized, it didn't include construction management services, partially because the project wasn't fully defined, which it is now. Engineer Sobiech explained the items included in this task order.

Manager Koch asked if the $37,500 cost associated with this task order is in the line-item budget for this project or will be an addition to the amount. Interim Administrator Jeffery said it will be an addition. Manager Koch said so the Board will need to make an adjustment to cover the additional cost. Interim Administrator Jeffery agreed.

Manager Koch moved to approve Task Order 028-C for Rice Marsh Lake Water Quality Project Construction Administration Services with Barr Engineering Company. Manager Crafton seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

ii. Ratification of SRF Contract for St. Hubert

Administrator Jeffery said the motion made at the Board's May meeting was a Not-to-Exceed amount, which is about $9,000 short of what is needed for the contract and what was stated in the contract. He said this item is a ratification of that oversight. Attorney Welch provided more details about the action the Board took in May and the execution of the agreement.

Manager Koch moved to ratify the SRF contract for St. Hubert as signed to the correct amount $27,399. Manager Pedersen seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye

Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

b. Accept June Treasurer's Report

Manager Crafton stated the report has been reviewed in accordance with the District's internal control procedures. She moved to accept the June Treasurer's Report. Manager Ziegler seconded the motion. Manager Koch objected to tracking credit card expenditures with the credit card as the vendor and said it is an item the Board needs to review.

Upon a roll call vote, the motion carried 4-1 as follows:

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

c. Approve Paying of Bills

Manager Crafton moved to pay the bills. Manager Pedersen seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

d. Permit 2021-012 Noble Hills

i. Accept Slope Stability Analysis for Noble Hill

Interim Administrator Jeffery reminded the Board it took action at its May meeting to extend the permit review by 60 days to provide time for the slope stability study to be done. He described how the scope of work for the slope stability study was developed. Interim Administrator Jeffery said upon completion of the study, Braun Intertec provide the study to Barr for review. He noted Barr raised concerns about several assumptions and met with Braun to address those concerns. Interim Administrator Jeffery introduced Chad Lukkarila of Braun Intertec.

Mr. Chad Lukkarila shared a presentation on the slope stability and seepage analyses for the Noble Hill Development. He summarized Braun's geotechnical evaluation and findings. Mr. Lukkarila stated based on Braun's exploration and analysis, it is Braun's opinion the planned development doesn't pose instability or seepage concerns for the slopes and existing creek area. He provided a detailed review of the evaluation and methods. Mr. Lukkarila repeated Braun's conclusion that based on the subsurface information and Braun's seepage and stability analysis, it is Braun's opinion that the planned development does not pose instability or seepage concerns for the existing creek, provided the development and engineering controls are constructed as planned.

Manager Ziegler moved to accept the slope stability analysis. President Ward seconded the motion. Manager Koch asked what ability the Board has to defer this decision, under rules and statutes. Attorney Welch noted the analysis fulfills a request the Board made to get more information, and there isn't a timeframe on accepting the report. He said the report is additional background information about the permit. Manager Koch asked about the Board's options for approving, denying, or delaying action on the permit. President Ward recommended the Board act on the motion on the table and then discuss Manager Koch's question about the Board's action options regarding the permit. Manager Koch said he thinks it would be appropriate to table this motion until the Board has time to review the analysis.

Manager Pedersen asked if the slope stability analysis takes into account the trees on the slope provides some sort of stability or is the stability based on strictly on the type of soil and slope grade. Manager Koch added he would like to read the analysis before accepting or denying it. Mr. Lukkarila said soil parameters are based strictly on the soil and soil properties and use lab data and correlations to determine strength and does not take into account vegetation. He added that for the existing slope below the pond, the analysis did include added sheer strength for vegetation on the upper three feet to calibrate the model. Manager Pedersen clarified that Mr. Lukkarila is saying that in his opinion, if the entire area except for the pond area is denuded of vegetation, the calculations say there is no slope instability. Mr. Lukkarila said that is correct.

Manager Crafton raised her concerns about how much data was estimated and said she doesn't think the study has been groundstruthed enough, so she needs another opinion.

Mr. Seth Loken of Alliant Engineering displayed a presentation reported on the Noble Hills hydrologic and hydraulic analysis.

He reported that based on modeling and the provided project plans, Aliant Engineering demonstrates a design of safe conveyance of surficial flows in the most extreme and unlikely events modeled for the Noble Hills Development. Mr. Loken summarized the four scenarios and seven modeling events analyzed per location, explaining 98 scenarios were considered. He stated the events modeled included: 1-year, 10-year, 100-year, 500-year with the current Atlas-14 rainfall depth as well as the Mid-21st Century 10-year and 100-year event.

Mr. Loken presented the analysis conclusions for the four scenarios modeled:

Scenario 1 – Full buildout: all events modeled up to 100-year event contained within the storm sewer and events exceeded 100-year contained within turf reinforcement mat swale or infiltration basins

Scenario 2- Plugged storm sewer condition: All modeled events contained within turf reinforcement mat swales or infiltration basins

Scenario 3 – Interim condition: all modeled events contained within turf reinforcement mat swales and additional erosion control measures added for larger storm events

Scenario 4 - Plugged primary basin outlet condition: All modeled events are contained within proposed storm sewer utilizing secondary overflow grate.

Manager Koch raised his concerns about the site slope and sloping into Riley Creek and where the water goes. He reiterated he hasn't had time to review the information being presented. Interim Administrator Jeffery summarized the information Mr. Lukkarila and Mr. Loken presented.

Manager Pedersen asked if Atlas 14 is being used for the 100-year events. Mr. Loken said yes and the mid-21st century via Barr Engineering was used, too. Manager Koch asked what effect this year's level of annual rainfall had on this stormwater analysis. Mr. Lukkarila said the groundwater boring in 2019 was within a foot of this year's, showing the groundwater elevations consistent with this year's, even given this year's drought conditions. Manager Koch asked Mr. Lukkarila if he knows if the soils in the area in Eden Prairie that recently had a major slope collapse are similar to the soils evaluated for the Noble Hills development. Mr. Lukkarila said he does not. He pointed out the slope proposed to be developed for the Noble Hills development are a 3 horizontal to 1 vertical slope, which is different than some other developments in Eden Prairie that were built at a 2 to 1 slope.

Manager Koch talked about his concerns with saturation levels and sloughing. Manager Crafton raised her concerns about the turf reinforcement mats and how well they might perform given the possible violent rain storms that may occur.

Upon a roll call vote, the motion carried 4-1 as follows:

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

ii. Approval of Permit 2021-012 Noble Hill as Presented in the Proposed Board Action Section of the Permit Review Report

Engineer Sobiech reviewed the water resource protection concerns about the project that the managers raised at its June 2nd Board meeting. He reminded the Board it approved on June 2nd to extend the District's timeline of review of the permit by 60 days. He displayed slides showing the existing site and the proposed site, which would include 50 single-family homes, three infiltration basins, one pretreatment sedimentation pond, and wetland buffer.

Engineer Sobiech summarized the District Engineer's permit review, per applicable rule, noting the exposed soils on the site are highly erodible, the applicant's analysis is based on the best available information, standard engineering principals were used to complete the analysis, interior drainage assessment revealed the need for additional erosion protection measures – and the applicant has included remedial measure in the revised submittal, which increases project resiliency, the slope stability and seepage analysis results for the graded slopes are consistent with USACE guidelines for seepage gradients and factors of safety, and the District Engineer concurs with the findings presented and recommends additional conditions, if the Board conditionally approves the permit.

Engineer Sobiech reported the District Engineer recommends approval of the permit contingent on:

- Continued compliance with General Requirements
- Financial Assurance in the amount of $150,030
- The applicant providing documentation demonstrating that the necessary land-use rights have been obtained for the proposed activities within right of way
- Incorporation of seepage relief or other mitigation measures to minimize soil loss at the toe of slopes if analysis shows excessive seepage, exit gradients, or subsequent risk of erosion, including but not limited to where potential seeps develop downslopes of infiltration basin 3 or at flared end section outlets.
- Submission to the District of updated drawings

- Receipt in recordation a maintenance declaration for the stormwater management facilities and buffers. Drafts of any and all documents to be recorded must be approved by the District prior to recordation.
- Revision of Braun Intertec's Stability and Seepage Analysis and Alliant Engineering's Additional Hydrologic/Hydraulic Analysis to address RPBCWD's comments and submission for RPBCWD's review and concurrence.

Engineer Sobiech responded to many questions.

Manager Koch said he is a little leery about approving something conditioned on Engineer Sobiech's opinion, and Manager Koch commented he is really concerned about that creek and doesn't want to vote on something he doesn't understand. President Ward said he thinks the District's Engineering firm needs to inform the Board what's right or not, and he is hearing that the Engineers are comfortable. Manager Crafton said she is comfortable with Otto Strack providing another opinion and said she doesn't want the perception of conflict of interest. Manager Koch remarked he wants to make sure the citizens have confidence in the Board's process.

The was discussion about the 60-day extended review period deadline, which ends either August 11 or 12. Manager Crafton asked if the Board could extend the permit review period again to allow more examination. Attorney Welch said the Board can request the applicant grant an extension, but the applicant needs to concur and grant it.

Attorney Welch said the managers should vote on the information in front of them, including the information presented and District Engineer's recommendation. He reminded the Board the District Engineer recommends a conditional approval. Attorney Welch said the Board can ask the applicant to concur an extension, but that would need to happen on the record tonight, and he isn't sure there is a representative of the applicant at tonight's meeting. President Ward asked if there could be a meeting on Monday, August 9th and asked Engineer Sobiech if additional information could be ready by that time. There was discussion about the information being requested and timing of delivery of that information. Manager Koch recommended that if the applicant doesn't grant an extension and the information isn't provided to the Board, then the Board deny the permit on the basis of lack of information.

Attorney Welch said some of the requests brought up tonight couldn't happen before the end of the District's 120-day review period. The managers discussed what information they need.

Mr. Dean Lotter of Pulte Homes asked for a ten-minute recess so he can talk with his team. The Board agreed. At 9:10 p.m., President Ward called for a meeting recess.

President Ward resumed the meeting at 9:20 p.m.

Mr. Dean Lotter of Pulte Homes said the applicant is willing to extend review until August 18th. He said the family that owns the property is upset, and he noted that there are two District staff reports that recommend approval of the permit and the applicant is

concerned with the delay. Mr. Lotter asked for clarification about under what rules is the Board asking for further clarification. Administrator Jeffery directed the question to the Board and asked what the managers are asking the applicant provides to the District. Manager Koch said in lieu of voting no, he needs more time to understand the information, the slope rule, and the list of the District Engineer's conditions and make sure the District's rules are being met. He said he votes for what he understands and if he doesn't have the information, he will not make a decision. Manager Koch said he wants to make sure the District has been provided the information to make sure the District's rules are being met.

Manager Ziegler noted he is not a civil engineer but feels he has enough information to make a decision.

Manager Pedersen and Manager Crafton said they would like to know the answers to Engineer Sobiech's conditions.

President Ward suggested continuing this item. The Board and staff discussed timing. The Board decided to set a meeting on August 12th at 3 p.m. to continue this item.

Attorney Welch asked Mr. Lotter to email Interim Administrator Jeffery concurring the granting the District the permit review extension until August 18. Mr. Lotter said he will do so.

e. Middle Riley Creek Stabilization Project

i. Consider award of Middle Riley Creek Stabilization Project as presented in the recommended Board action section of the Engineer's memorandum.

Engineer Sobiech displayed a map of the project site and photos of eroded sites. He reviewed the proposed project and the bid process and reported on the two bids received, noting the Engineer's opinion of probable cost was $344,000 and the lowest bid was Sunram Construction with a total base bid of $439,582 .

Engineer Sobiech said the Engineer's requested Board action is to award the project to Sunram Construction, Inc. at the bid price of $439,582, authorize the president or Interim District Administrator to sign the Notice of Award, execute the contracts, and sign the Notice to Proceed at the appropriate points in the contracting and authorize the Interim District Administrator to execute change orders within 10% of the contract amount.

There was discussion amongst the managers, staff, and Mr. Senske about how Bearpath could conduct education activities, buffer markers, the parameters of being a Jack Nicklaus Signature Golf Course, and the contract, and the correct legal parties.

Manager Pedersen moved to award the contract to Sunram Construction. Manager Crafton seconded the motion.

Manager Koch asked if the District could terminate the contract if an adequate cooperative agreement isn't come up with. Attorney Welch said the contract award is the start of the process, and there are provisions to withdraw from the contract, but the provision Manager Koch is asking about isn't specifically in the construction contract.

Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

ii. Consider Approval of Cooperative Agreement with Bearpath Golf and Country Club and Authorize President Ward to Sign.

Interim Administrator Jeffery said the agreement does not have specifics in it about the education commitments as Manager Koch has noted. Interim Administrator Jeffery asked Mr. Senske if can meet quarterly meeting to determine education opportunities throughout the year. Mr. Senske agreed, noting the meetings would be with his team, and his team wants to overachieve with this.

Manager Koch said he doesn't believe the cooperative agreement is in a position to be approved because it doesn't reflect what Mr. Senske and his entity will be doing. He suggested Attorney Welch and Mr. Senske work on the agreement and bring it back to the Board on August 12th. Attorney Welch stated the cooperative agreement provides for the necessary cooperation between the parties, provides for permitting, and provides for education. He agrees some of the specifics Manager Koch has noted aren't in the agreement, but they are present in the proceedings of this meeting or other drawings and plans that are part of the cooperative agreement.

There was discussion about plans and contracts with contractors, and Mr. Senske outlined plans Bearpath would move forward with if the District decides not to enter into a cooperative agreement with Bearpath. Manager Koch raised his concerns about the cooperative agreement.

Manager Crafton moved to approve the Cooperative Agreement as presented. Manager Ziegler seconded the motion. Attorney Welch recommended the

motion also authorize President Ward to execute the agreement on behalf of the RPBCWD. Managers Crafton and Ziegler seconded the motion. Manager Koch moved to amend the motion to authorize Interim Administrator Jeffery and Attorney Welch to work through the specifications discussed, and correct any errors, including making sure the agreement to has the correct legal parties. President Ward seconded the motion.

Upon a roll call vote, the motion to amend carried 5-0.

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

Upon a roll call vote, the motion to approve the amended motion carried 4-1.

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

iii. Consider Approval of License with Bearpath Homeowners' Association and Authorize President to Sign

Engineer Sobiech stated in order to access the construction site in the north area, the permission is needed from the HOA to allow construction access and if damage occurs, it needs to be repaired to the owner's satisfaction, and access extends the duration of the vegetation establishment period, which is three years.

Manager Ziegler moved to approve the license with the Bearpath Homeowners Association and authorize President Ward to sign on behalf of the District.

Manager Pedersen seconded the motion. Manager Koch said he just received the agreement and can't vote for something he hasn't reviewed. Upon a roll call vote, the motion to carried 4-1.

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

iv. Approve Task Order 029B for Middle Riley Creek Stabilization Project Construction Administration Services

Engineer Sobiech said the request from Barr Engineering is for additional budget to perform project construction administration services for the Middle Riley Creek Project. He said the original task order included design, permitting, and construction observation; however, the project has been extended several years and all the authorized budget has expended to complete the construction observation and the vegetation establishment, which would extend through 2024 and not anticipated in the original scope.

Manager Ziegler moved to approve Task Order 029 B for Middle Riley Creek Stabilization Project construction administration services. Manger Crafton seconded the motion. Manager Koch asked if this amount will be enough money. Engineer Sobiech said his best opinion is yes.

Upon a roll call vote, the motion carried. 5-0.

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

v. Permit 2021-017 Middle Riley Creek Stabilization Project

i. Consider Approval of Request for Variance from Rule D, Subsection 3.2.b Minimum and Average Buffer Widths for Permit Application 2021-017 Middle Riley Creek Stabilization Project

Engineer Sobiech reminded the Board it took action at its July meeting to approve this variance, so no action is needed tonight.

ii. Consider Approval of Request for Variance from Rule D, Subsection 3.4 Buffer Monumentation Requirements for Permit Application 2021-017 Middle Riley Creek Stabilization Project.

Engineer Sobiech shared his screen and presented the Engineer's review of the variance request, including the variance criteria and analysis summary. He reported the District Engineer makes no determination as to whether there is an adequate technical basis for the managers to rely on to grant the requested variances from the free-standing sign requirement, District Rule D, subsection 3.4.

Manager Koch engaged in extensive discussion with Mr. Senske about Manager Koch's concerns

President Ward moved to approve variance from Rule D Subsection 3.4 Buffer Monumentation Requirements for Permit Application 2021-017 Middle Riley Creek Stabilization Project. Manager Crafton seconded the motion.

Manager Koch said he doesn't believe this variance meets the District's rules. Upon a roll call vote, the motion carried 4-1.

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

iii. **Consider Approval of Permit 2021-017 Middle Riley Creek Stabilization Project as Presented in the Proposed Board Action Section of the Permit Review Report.**

Manager Ziegler moved to approve permit 2021-017 Middle Riley Creek Stabilization Project. Manager Pedersen seconded the motion. Manager Koch asked Engineer Sobiech to clarify the work being approved under the permit. Engineer Sobiech responded. Manager Koch said he doesn't think the District is taking the right approach with this permit. Upon a roll call vote, the motion carried 4-1 as follows:

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Yes

f. Consider Award of Pioneer Trail Wetland Restoration Project as Presented in the Recommended Board Action Section of the Engineer's Memorandum

Engineer Sobiech explained bids were opened on July 28th and four contractors submitted bids, ranging from $295,098 and $391,735 . He said Sunram Construction was the lowest bidder at $295,098.00 and recommended awarding the project to Sunram Construction at that bid amount. Engineer Sobiech added that if the District awards the bid, he recommends authorizing the President or Interim District Administrator to sign the notice of award, execute the contracts, and sign the notice to proceed at appropriate points in the contracting process and to authorize the Interim Administrator to execute change orders within an aggregate change amount of 10% of the contract amount.

Manager Pedersen moved to award the Pioneer Wetland Restoration Project to Sunram Construction and authorize the President and Interim Administrator per the District Engineer's recommendation. Manager Crafton seconded the motion.

Manager Koch commented he doesn't think the District is going about this project quite correctly. Upon a roll call vote, the motion carried 4-1.

Manager	*Action*
Crafton	Aye

Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

g. Consider Award of Rice Marsh Lake Water Quality Project as presented in the Recommended Board Action Section of the Engineer's Memorandum

Engineer Sobiech reported bids opened on July 29, and the District received three bids ranging from $593,384 to $786,306. He stated Meyer Contracting Incorporated was the lower bidder. He recommended awarding the bid to Meyer Contracting Incorporated in the dollar amount $593,384, and if the Board awards the bid to also authorize the President or Interim District Administrator to sign the notice of award, execute the contracts, and sign the notice to proceed at appropriate points in the contracting process and to authorize the Interim Administrator to execute change orders within an aggregate change amount of 10% of the contract amount.

Manger Pedersen moved to award the Rice Marsh Lake Water Quality Project to Meyer Contracting and authorize the President and Interim Administrator per the District Engineer's recommendation. Manager Ziegler seconded the motion. Manger Koch said he thinks this project is premature based on old data and not sufficient data to evaluate the District's work on the pond or Lake Susan.

Upon a roll call vote, the motion carried 4-1.

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

President Ward .recommended the Board continue the meeting to August 12th at 3 p.m. Manager Koch moved to continue the meeting until August 12th at 3 p.m. Manager Pedersen seconded the motion. Upon a roll call vote, the motion carried 5-0.

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

At 10:55 p.m., the Board continued the meeting until August 12th at 3:00 p.m.

h. Consider Approval of Award for Information Technology Consulting Services and Authorize Smith Partners to Draft Contract and Interim Administrator Jeffery to Sign the Contract

Item continued until the Board's August 12th meeting.

i. Consider Approval of License with Bearpath Homeowners' Association and Authorize President Ward to Sign.

Item continued until the Board's August 12th meeting.

j. Consider Approval of Resolution 2021-005 Authorizing Solicitation of Bids for Middle Riley Creek Stabilization Project

Item continued until the Board's August 12th meeting.

k. Consider Approval of Cooperative Agreement with City of Chanhassen for the Rice Marsh Lake Water Quality Treatment Project and Authorize President Ward to Sign.

Item continued until the Board's August 12th meeting.

l. Consider Approval of Resolution 2021-006 Authorizing Solicitation of Bids for Rice Marsh Lake Water Quality Treatment Project.

Item continued until the Board's August 12th meeting.

9. Discussion Items

a. Attorney Report
Item continued until the Board's August 12th meeting.

b. Administrator Report
Item continued until the Board's August 12th meeting.

c. Managers' Report
Item continued until the Board's August 12th meeting.

10. Upcoming Board Topics

a. Preliminary 2022 Budget.

11. Upcoming Events

- August 13, 2021, Personnel Committee Meeting, 10 a.m., virtual
- August 16, 2021, CAC Meeting, 6 p.m., virtual
- September 1, 2021, Board Work Session, 5 p.m. and Regular Monthly Meeting, 7 p.m.

12. Adjournment

Item continued until the Board's August 12th meeting.

MEETING MINUTES

Riley-Purgatory-Bluff Creek Watershed District

August 12 Continuation of August 4, 2021, RPBCWD Board of Managers Workshop and Monthly Meeting

PRESENT:

Managers: Jill Crafton, Treasurer
Larry Koch
Dorothy Pedersen, Vice President
Dick Ward, President
David Ziegler, Secretary

Staff: Amy Bakkum, Administrative Assistant
Zach Dickhausen, Water Resources Technician II
Liz Forbes, Grant Coordinator
Terry Jeffery, Interim District Administrator and Watershed Planning Manager
Eleanor Mahon, Education and Outreach Coordinator
Josh Maxwell, Water Resources Coordinator
Scott Sobiech, Engineer, Barr Engineering Company
Michael Welch, Attorney, Smith Partners

Other attendees:

Jeff Abrahamson	Kim Hyatt	Rebecca Prochaska
Sue Bennett	Susu Jeffrey	Rana
Brinkley	Terry Jorgenson	Mark Rausch
Dianna	Seth Loken	Kate Rohlfsen
Robert Ellis	Dean Lotter	Otto Strack
Chesney Engquist	Chad Lukkarila	Joel Swenson
Naomi Fine	Madhura Patil	Willow Teri
Heidi Groven	Aspira Maison	Brent Theroux
Mark Harding	Jesse Mercado	Marilyn Torkelson
Paul Heuer	Felicia O.	

Note: this meeting was held remotely via meeting platform Zoom in abidance with state mandates in response to Covid-19.

8. Action Items

1 **d. Permit 2021-012 Noble Hill**

2. Consider approval of Permit 2021-012 Noble Hill as Presented in the Proposed Board Action Section of the Permit Review Report

Mr. Jeffery summarized the Board's direction at its August 4th Board meeting to continue this item until this meeting based on the permit applicant granting the District an extension of time to allow the District Engineer time to resolve conditions and to allow the managers time to review the analytics material submitted by the applicant's consultant and the District Engineer's review of the same. Mr. Jeffery said the Board needs to make a decision tonight about the permit.

Mr. Jeffery said in his opinion the District Engineer has completed a thorough and well-documented and supported review of the application. Mr. Jeffery encouraged the Board to adopt the District Engineer's recommendation.

Attorney Welch stated the options the Board could take are to approve the permit, approve the permit with conditions, or to deny the permit. He said the District Engineer's recommendation to the Board is to approve with conditions.

Engineer Sobiech described the additional information provided by the applicant over the last week to help resolve and complete comments provided in an earlier review. He said with the additional information, all of the District's comments have been addressed and several conditions have been removed from the permit report. Engineer Sobiech said the District Engineer recommends approval contingent on receiving the financial assurance recommended in the staff report, the applicant provide demonstration that they have the property rights to work within the right of way, and the review and approval of a maintenance declaration for the stormwater management facilities and buffers.

Manager Ziegler moved to approve Permit 2021-012 based on staff recommendations including staff stipulations and conditions. Manager Pedersen seconded the motion.

Manager Koch objected to approving this permit at this point. He said receiving a revised opinion a couple of hours before the meeting is bad management and it's inappropriate to make a decision based upon that. Manager Koch noted a discussion he had with staff about issues he sees with the plat, such as the basis upon which determinations were being made. He said at minimum there should be another discussion between Barr Engineering's geotechnical staff and Professor Strack to understand the professor's position about another methodology for determining slopes. Manager Koch stated he is not an engineer, but he is a physicist by education and training, so he understands a lot of this. He pointed out his issues with the analysis and conclusions. He said he is not going to agree to something he receives three hours prior to a meeting, he listed items he hasn't yet seen, and said he thinks it's in the best interest to do this in the best possible practices.

Manager Pedersen asked about Professor Strack's recommended methodology. Engineer Sobiech said Professor Strack provided a memo that detailed a different type of model. Mr. Theroux described the software recommended by Professor Strack and noted that Barr's review was of the Braun analysis. Engineer Sobiech said Braun used the industry standard that geotechnical engineers to analyze these types of slopes..

President Ward reminded the managers that the applicant agreed to an extension of time based on a specific group of questions to be answered, and the Board didn't commission Professor Strack to introduce another methodology, meaning with this discussion, the Board isn't acting to what it agreed to with the applicant, which was to answer the comments on those specific questions, so as far as he is concerned, the Board should move ahead to a vote.

Manager Koch said that is the lamest reason to move forward on a vote, and he doesn't remember any specific conditions on the extension of time. He stated if the slope fails, there is a good chance there will be soils down in either wetlands or Riley Creek. Manager Koch said he doesn't agree with President's Ward characterization of the basis of the extension, and the Board has adequate basis on which to deny the permit.

Manage Pedersen said she is an environmentalist at heart and understands the viewpoints that people have shared about this project. She commented she can't vote against the rules on the books, and this is a very difficult vote.

Manager Koch said the District has Rule C, and he isn't sure the Board has an adequate plan. He said he hasn't received information he believes is necessary and the analysis is incomplete in his opinion, and the Board has a basis to deny the permit, because the applicant hasn't provided the information for the Board to make an informed decision.

Manager Crafton said this is a vulnerable area and the climate has become so volatile. She said because she can't make a better-informed decision, she is going to have to vote no.

Upon a roll call vote, the motion carried 3-2.

Manager	*Action*
Crafton	No
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

h. Consider Approval of Award for Information Technology Consulting Services and Authorize Smith Partners to Draft Contract and Interim Administrator Jeffery to Sign the Contract

Interim Administrator Jeffery listed where the District advertised for IT services and said the District received eight proposals. He recommended Imagine IT, noting the company

does IT consulting for the Nine Mile Creek Watershed District. There was discussion about the length and timing of the contract.

Manager Ziegler move to approve Imagine IT with the stipulation that staff can get a contract for less than two years to allow the District to get back on its schedule for professional services.

Attorney Welch recommended amending on advice with legal counsel to enter into that agreement with Imagine IT for one year and four months for IT services. Managers Ziegler and Pedersen seconded the motion.

Manager Koch recommended the District hire a consultant to analyze the District's systems and processes and make recommendations, and in his experience that is best done by someone who will not be doing the actual work.

He moved to amend the motion to direct staff to find out if the District's accounting firm could do some analysis and for staff to report back to the Board. The motion died for lack of second.

Upon a roll call vote, the motion carried 4-1.

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

i. Consider Approval of Award for Banking Services.

Interim Administrator Jeffery noted the District's dissemination of the request for proposals for banking services. He said the District received one proposal from 4M. Manager Crafton said she would be in favor of it.

Manager Ziegler moved to approve staff to work with legal counsel to develop a contract with 4M that meets the District's time requirement. Manager Pedersen seconded the motion. President Ward made the friendly amendment to have staff develop a contract that aligns with the same timeframe the Board approved for IT services.

Manager Koch moved to amend the motion so the contract is effective January 1, 2022, and would terminate December 31, 2023, unless extended. Managers Ziegler and Pedersen agreed to the friendly amendment. Manager Koch moved to amend the motion to make it clear that staff Jeffery and Legal Counsel negotiate contracts with 4M and US Bank for the provision of investment management , fund management, and banking

services for the period of time from January 1, 2022, through the end of 2023, and the contracts be provided to the managers prior to their execution. Manager Crafton seconded the motion.

Upon a roll call vote, the motion to amend carried 5-0.

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

Upon a roll call vote, the amended motion carried 5-0.

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

j. Consider Approval of Award for Accounting Services and Authorize Smith Partners to Draft Contract and Interim Administrator Jeffery to Sign the Contract

Interim Administrator Jeffery recommended retaining Redpath for accounting services due to their price for services being competitive with the other proposals received and for continuity of service.

Manager Crafton moved to approve awarding accounting services to Redpath for 2021 and through the end of 2022. Manager Pedersen seconded the motion.

Manager Koch raised his concern about the level of cost expended with the audits. He proposed the District utilize another resource for data entry and the accountants for

quarterly statements. He said the District needs to sit down and talk about monthly accounting expenditures and audit costs.

Attorney Welch recommended the friendly amendment to the motion to authorize the Interim Administrator to execute the agreement on advice of Legal Counsel. Managers Pedersen and Crafton accepted the friendly amendment.

Upon a roll call vote, the motion carried 5-0.

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

k. Consider Approval of Award for Audit Services and Authorize Smith Partners to Draft Contract and Interim Administrator Jeffery to Sign the Contract

Interim Administrator Jeffery recommended the District remain with Abdo, Eick, and Meyers for audit services.

Manager Pedersen moved to approve awarding audit services to Abdo, Eick, and Meyers. Manager Ziegler seconded the motion.

Manager Koch moved to table this item for at least another month until he and Manager Crafton and Mr. Jeffery have the opportunity to have a discussion with the audit partner regarding exactly what the District's policies are and the process moving forward. Manager Koch's motion died due to lack of a second.

Manager Koch stated he believes that Abdo, or at least the junior people they have involved, are incompetent. He said if he has to go point out errors and then get attitude back as if the errors weren't made or what do you know, he thinks the District shouldn't be working with someone like that. He said he has great respect for the audit partner, but the District doesn't need someone like Justin on the audit team as he doesn't have the skills or demeanor, and the Board shouldn't be voting to have Abdo as the auditor at least until after the discussion with the audit he has recommended.

Attorney Welch recommended that the Board's motion incudes authorizing the Interim Administrator to execute the agreement. Manager Pedersen and Zeigler accepted the friendly amendment.

Upon a roll call vote, the motion carried 4-1.

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

l. Consider Approval of Award for Legal Services and Authorize Smith Partners to Draft Contract and Interim Administrator Jeffery to Sign the Contract

Interim Adminstrator Jeffery reported the District received one proposal for legal services and it was from Smith Partners. He recommended the Board award legal services to Smith Partners. There was discussion about the development and review of the contract. Administrator Jeffery recommended the contract come back to the Board for its review.

Manager Pedersen moved to approve retaining Smith Partners for legal services commencing January 1, 2022, through December 31, 2023, and for staff to bring the contract back to the Board for review. Manager Zeigler seconded the motion.

Manager Koch said he doesn't believe the methodology used to solicit proposals was sufficient and it is important to have a better solicitation. He moved to table the hiring of Smith Partners until the District has done a more thorough and widespread solicitation. The motion died due to lack of a second.

Manager Pedersen said Smith Partners is the pre-eminent watershed attorney in the state of Minnesota, and she doesn't think the District could get anyone more knowledgeable than Mr. Smith. Manager Koch commented Manager Pedersen has her opinions, and he doesn't share her opinions. Upon a roll call vote, the motion carried4-1.

Manager	*Action*
Crafton	Aye
Koch	No
Pedersen	Aye
Ward	Aye
Ziegler	Aye

m. COVID-19 Resolution Proposed by Manager Koch

Manager Koch discussed his resolution, included in the August 4th Board packet, pertaining to COVID. He stated that because the District is a science-based organization, the Board should require its personnel to have the COVID vaccination unless the member has a medical reason not to receive the vaccination. Manager Koch stated he believes the Board should continue meeting virtually until there is better direction from the Center for Disease Control and the District should require people who are not vaccinated to wear masks. He moved the adoption of his resolution. Manager Ziegler seconded the motion to open the floor for discussion.

Manager Ziegler commented he doesn't think the District's actions should precede the state's actions. President Ward said the District has a COVID policy in place, which should be updated, and he thinks staff should set these types of staff policies. There was discussion about the authority to mandate vaccinations. Manager Koch shared his opinion about the vaccination and requiring District staff to be vaccinated and said he doesn't see why the Board wouldn't go forward to require District staff to be vaccinated.

Upon a roll call vote, the motion failed 1-4.

Manager	*Action*
Crafton	No
Koch	Ay
Pedersen	No
Ward	No
Ziegler	No

n. Slope Collapse in Eden Prairie

Interim Administrator Jeffery summarized information about the collapse and his discussions with the City of Eden Prairie Public Works Director. Manager Koch said he thinks the District needs to look into this, which is a bad situation in terms of pollution and is an emergency situation because of the amount of dirt that could end up in the Creek. He asked staff to give an update on this situation at the Board's next meeting. The Board directed Interim Administrator Jeffery, Engineer Sobiech, and staff member Maxwell staff to get more information and bring it back to the Board at the next Board meeting.

9. Discussion Items

a. Attorney Report

No items raised.

b. Administrator Report

No items raised.

c. Managers' Report

No items raised.

10. Upcoming Board Topics

Upcoming Board topics listed on the meeting agenda included: Preliminary 2022 Budget.

11. Upcoming Events

- August 13, 2021, Personnel Committee Meeting, 10 a.m., virtual
- August 16, 2021, CAC Meeting, 6 p.m., virtual
- September 1, 2021, Board Work Session, 5 p.m. and Regular Monthly Meeting, 7 p.m.

12. Adjournment

Manager Pedersen moved to adjourn the meeting. Manager Crafton seconded the motion. Upon a roll call vote, the motion carried 5-0 as follows:

Manager	*Action*
Crafton	Aye
Koch	Aye
Pedersen	Aye
Ward	Aye
Ziegler	Aye

The meeting adjourned at 4:18 p.m.

Respectfully submitted,

_____

David Ziegler, Secretary

Draft Minutes: August 16, 2021
RPBCWD Citizens' Advisory Committee Monthly Meeting
6:00 - 8:00pm Virtual - Via Zoom
DRAFT

Member Attendance *(By each name, put a P=Present, E=Excused, not present but with notification or A=Absent with no notification)*

Andrew Aller	P	Samuel Griffin	P	Terry Jorgenson	P	Jeff Weiss	P
Rodey Batiza	P	Heidi Groven	P	Sharon McCotter	E	Jessica Wiley	P
Kim Behrens	P	Michelle Frost	P	Jan Neville	E		
Jim Boettcher	E	Peter Iverson	E	Marilynn Torkelson			

Terry Jeffery	RPBCWD staff	P
Liz Forbes	RPBCWD staff	P
Eleanor Mahon	RPBCWD staff	P
Manager Crafton	BOM	P

Key CAC MOTIONS for the Board of Managers: none

Key CAC discussion items for the Board of Managers: 1. Admin Jeffery to begin CAC training on the project review process with the goal of supplying knowledge we can use to make recommendations for revision of WD rules. (some concerns are maintaining or improving slope stability, maintaining or improving ecosystem function, and setting a cap on impervious surfaces within a subwatershed). 2. Proposal to have our next meeting outdoors with a field trip to review Lower and Upper Riley projects and finish up at Lake Ann park pavilion. Everyone approved the field trip for the September CAC meeting. 3. CAC members were polled about how members would like to be involved in WD activities.

I. Opening

A. **Call CAC meeting to Order: 6pm**

B. **Attendance:** As noted above.
C. **Staff and Manager introductions:** Eleanor Mahon started May 24th as the new Education & Outreach (E&O) coordinator.
D. **Matters of general public interest:** none
E. **Approval of Agenda:** Andrew to be timekeeper. Marilynn made a motion to approve the agenda and Andrew seconded. Motion passed.
F. **Approval of June 21, 2021 CAC Meeting Minutes**: Kim made a motion, Andrew seconded. Motion to approve minutes was approved. (Attendance was corrected to show Michelle as E instead of A).

II. Board Meeting Recap and Discussion - 6:10-6:20

A. **Highlights from the (monthly) managers meeting** (Terry J). 56 people attended. 10 citizens spoke against the Noble Hill project near the site of the Frederick Miller Spring in Eden Prairie, asking for a denial or postponement for more analysis. Many objections were revisited but a few new ones that Terry noted were: There are several Pulte compliance complaints from previous projects and the contractor reporting process is inadequate. Cumulative impacts of adding additional impervious surface and removing trees in the immediate area of Riley Creek have not been taken into account in the slope analysis. The BOM agreed to postpone the final vote for the project until August 12th. On August 12th the BOM voted 3-2 to approve the project, citing statutory requirements and technical recommendation from the Watershed Engineer, (Barr Eng).

Other topics covered during the meeting were renewing the IT contract, renewing the legal contract and accounting services contract. Potential CAC input to the Pioneer Trail wetland project. Administer Jeffrey to advise.

CAC Discussion: Heidi mentioned that one of the managers at the BOM meeting indicated the rules did not provide adequate scope to address the issues raised by the Noble Hill development project. She asked the CAC about interest in working on updating WD rules to include ecosystem function. Administrator Jeffery suggests we first review how an application for a new development is handled from start to finish (either an old one or a fictional one to cover many different contingencies) to make sure it conforms to the WD rules. Also review "What do we want the regulatory system to accomplish?" Too specific and we always run up against exceptions and too general then we seem arbitrary on what projects we approve and what we don't approve. Manager Crafton suggested the philosophy supporting the rules also be presented. Jeff wants to know if we can cap the total impervious surface in a subwatershed. Andrew made a motion to have Admin. Jeffery present to the CAC how approvals take place with a long term view of enabling the CAC to understand and make recommendations to the watershed rules and philosophy behind them. Jeff seconded. Possible considerations to discuss for incorporation into the rules include but are not limited to: slope stability, ecosystem function, cumulative impacts, soil health and total impervious surface within a subwatershed. Motion passes 10 to 0

B. **New Advisory Topics from the Board**? None

III. Program and Project Updates - 6:20-7:40pm

A. **Learning Presentation: Watershed Management 101 - Liz-** An overview of the Watershed District, CAC role and projects with potential for CAC involvement was presented.

B. **Engagement Session-Poll CAC member opportunities**: Cycle the Creek, Seep search, TAC rep, education, tree sapling giveaway, assist MN water Stewards, diversity . Future: data collection, tabling events, field work with staff, habitat maintenance. Liz to collate, create signup google documents and notify CAC when dates are established.

C. **Lotus Lake Cleanup Project -** Dr. Styles wants people to help with a cleanup project in waist deep or shallower water. Trash including glass has been dumped in the water. Contact Admin. Jeffery, if you can assist or can recommend an organization to assist. WD could provide tools needed such as waders.

IV. CAC Business: Process and Function 7:40-8:00

A. **Next Meeting Agenda Items:** Kim would like to see Capital Improvement Project (CIP) examples. Marilynn would like to see staff complete a WD StoryBoard (interactive map) of projects in the district. Information on upcoming conferences and an in-depth discussion of the water steward program were asked for. Proposal to have our next meeting outdoors with a field trip to review Lower and Upper Riley projects and finish up at Lake Ann park pavilion. Everyone approved the field trip for the September CAC meeting.

B. **2021 Calendars -** September Board of Managers meeting representative**:** Jeff Weiss

V. Upcoming Events and Adjournment

A. Volunteer Events: Cycle the Creek - October 9th. Purgatory Park pavilion 10-12. Volunteers needed. Contact Eleanor Mahon.

B. RPBCWD Board of Managers September 1, 2021; 7:00 PM Regular board meeting – virtual Zoom meeting -Jeff Weiss to attend on behalf of the CAC

C. RPBCWD CAC Meeting September 20, 2021; 6:00 PM in-person field trip- Manager Ziegler to attend on behalf of the BOM.

D. Motion to Adjourn made by Andrew and seconded by Jeff. Meeting adjourned at 7:44 pm. Post meeting poll seeking CAC recommendations to be completed.

RPBCWD August Staff Report

Administration		Staff update	Partners
Accounting, Audit, and Budget	Coordinate with Accountants for the development of financial reports. Coordinate with the Auditor. Continue to work with the Treasurer to maximize on fund investments.	Staff Bakkum and Interim Administrator Jeffery compiled the monthly treasurer's report. Interim Administrator Jeffery, District Engineer Sobiech, and Office Administrator Bakkum met and augmented proposed budget per August meeting.	
Administration		Interim Administrator Jeffery met with the City Manager of Chanhassen to further discuss potential partnership opportunities. Interim Administrator Jeffery has begun staff reviews. Interim Administrator Jeffery is working with staff to identify staff strengths, passions, and skill sets to adjust internal organization and job descriptions to efficiently maximize the talents of existing staff.	
Annual Report & Communication	Compile, finalize and submit an annual report to agencies.	Staff Mahon has begun working on the 2021 Annual Communication which is the calendar we alternate with Nine Mile in putting together.	
DEI	Diversity, Equity, and Inclusion	Interim Administrator Jeffery met with the Personnel Committee to discuss the DEI initiative. It was decided that a working group comprised of a staff member (perhaps 2), a board member, and a CAC member would be a good path forward to bring to the full board for consideration. Look for this in the coming months.	
Human Resources	General Human Resources	Interim Administrator Jeffery was in contact with the RPBCWD account manager at North Risk Partners to discuss value added services they provide. For instance, they provide, with existing contract, one hour of consultation on legal compliance and best	

		practices/month.	
Internal Policies	Work with Governance Manual and Personnel Committees to review bylaws and manuals as necessary.	Interim Administrator Jeffery met with the personnel committee to discuss the employee handbook. The outcome was to suggest a working group to look at DEI. Interim Administrator Jeffery is preparing a Covid preparedness plan based upon CDC and MDH guidance.	
Advisory	Engage with the Technical Advisory Committee on water conservation, chloride management and emerging topics. Engage with the Citizen Advisory Committee on water conservation, annual budget and emerging topics.	The next meeting of the CAC will be on September 20. The meeting will include a field trip to look at pre and post-restoration sites along Riley Creek. There is no scheduled TAC meeting	
Local SWMP		No change.	
MAWD		If there are resolutions	
District-Wide			
Regulatory Program	Review regulatory program to maximize efficiency. Engage Technical Advisory Committee and Citizen Advisory Committee on possible rule changes. Implement a regulatory program.	The public interface can be viewed here: MS4 Permit Software (ms4front.net) Four applications for a permit have been received since the August meeting. One permit has been administratively approved since the August meeting. Three permits will be expiring in 30 days. Notification will be sent to those permit holders. One probable violation was brought to staff by Chanhassen staff. A Notice of Probable Violation has been sent.	

Aquatic Invasive Species	Review AIS monitoring program. Develop and implement Rapid Response Plan as appropriate Coordinate with LGUs and keep stakeholders aware of AISmanagement activities. Manage and maintain the aeration system on Rice Marsh Lake. Riley Chain of Lakes Carp Management. Purgatory Chain of Lakes Carp Management. Review AIS inspection program. Keep abreast in technology and research in AIS. Zebra mussel adult and veliger monitoring.	Staff began conducting regular carp monitoring for 2021. Two electrofishing transects occurred on UPCRA, Staring, Ann, and Lotus. Trap nets were also set on UPCRA, LSPP, and Staring. Water samples were collected in June on all lakes to be scanned for zebra mussel veligers. An additional sampling date was added for both Lotus and Ann. Samples were submitted, and the results are in. Veligers were only found on Lake Riley as expected/hoped. Carver County processed eDNA samples for Lotus Lake, Lake Ann, and Lake Susan. Only Lotus came back positive for zebra mussels. In addition to our monthly boat launch scans and plate checks, adult zebra mussel lake scans occurred on Ann and Lotus and none were found. Carver County also conducted adult scans on these lakes and on Susan and none were found.	City of Chanhassen City of Eden Prairie University of Minnesota MN DNR Carver County
Cost-Share	Schedule and coordinate site visits. Review applications and recommend implementation. Evaluate program.	Eight site visits were conducted in August for potential cost-share projects. Three projects wrapped up in August: two shoreline restorations and one native planting. Several more projects are nearing completion. Requests for site visits and grant applications continue be submitted. Staff Forbes met with HEI to explore a GIS-based system to manage all phases of the grant process including reporting. The Chloride Reduction Grant for the City of Chaska was wrapped up.	Carver County Soil and Water Conservation District
Data Collection	Continue Data Collection at permanent sites. Watershed Outlet Monitoring Program. Identify monitoring sites to assess future project sites.	WOMP stations: samples were collected 3 times this month for the Metropolitan Council. Staff conducted two regular stream sampling events and two regular lake sampling events this month. A total of 4 stormwater ponds are being monitored biweekly to add to the district's and	Metropolitan Council City of Eden Prairie University of MN

		partners' stormwater pond work to understand and improve function of the ponds. Staff have placed and been visiting three auto sampling stations this year: Site B5 - Bluff Creek/Hwy 5. Site LL_7 - West Lotus Lake North Tributary. Site STL_17 – Purgatory Creek/Staring Lake Parkway. These stations were placed to collect more storm event nutrient and flow data to assess/confirm upstream loading for the proposed upcoming project sites. Limited rainfall has limited the data being collected at these stations this year. Field data was collected for the MNDNR Score Your Shoreline Assessment and the Erosion Intensity Worksheet for Lake Lucy, Lake Ann, Lake Susan, and Lotus Lake. Staff will complete the scoring via desktop review and GIS. Staff have been visiting lake level sensors monthly to download data and ensure they are working correctly. The Lake McCoy and Round Lake radar unit was reinstalled as water levels receded to the point that the units were not in the water. Staff also were able to assess the accuracy/precision of the historical benchmarks used to set lake level sensors every year with the District's Trimble survey equipment. Staff will complete a workup and work with the DNR to correct some of the discrepancies. Staff may also have some benchmarks surveyed if large discrepancies exist. Riley, Rice Marsh, and Susan will have sediment cores collected for alum application and/or evaluation. Staff will conduct the coring and coordinate the lab processing. Staff Tim Toavs last day was in mid-August. We	City of Chanhassen MNDNR City of Minnetonka

		wish him well as he pursues a Master's degree regarding C02 in freshwater at LSU. Interns Abby Tekiela and Jared Fladebo (the district's super interns) also had their last days at the end of August. We would like to thank everyone for their service at the district!	
District Hydrology and Hydraulics Model	Coordinate maintenance of Hydrology and Hydraulics Model. Coordinate model update with LGUs if additional information is collected. Partner and implement with the City of Bloomington on Flood Evaluation and Water Quality Feasibility.	District Staff, Barr Engineering, and Eden Prairie will be updating the District's stormwater model for both Purgatory Creek and Riley Creek. District staff have installed and checked monitoring equipment monthly in the Upper Purgatory Creek Recreational Area, Bren Pond, Eden Lake, and three additional ponds. Three stream units were also installed on Purgatory Creek. This data will be used for model validation.	City of Bloomington City of Minnetonka City of Eden Prairie City of Deephaven City of Shorewood.
Education and Outreach	Implement Education & Outreach Plan, review at year end. Manage partnership activities with other organizations. Coordinate Public Engagement with District projects.	Staff Bakkum continues to receive inquiries via the District website "Contact Us" form. Staff Mahon is in contact with Rob Schlegal to develop curriculum to go along with the St Hubert Project. Staff Mahon has reserved Purgatory Creek Park Pavilion for Cycle the Creek on October 9. Sign-up has been opened. Staff Mahon has launched outreach efforts for the gravel bed tree giveaway program. Staff Mahon attended an introductory meeting with Freshwater to discuss the upcoming 2022 Minnesota Water Stewards program. Staff Mahon is in contact with district educators to set up classroom visits. Staff Mahon is putting together learning topics to add to the website. Staff Mahon, Staff Forbes, and Interim Administrator Jeffery are developing postcards to mail out to lake shore property owners.	Adopt a drain: City of Eden Prairie, City of Minnetonka, City of Bloomington, City of Eden Prairie Hamline University, Nine Mile Creek Watershed District, MPCA, Fortin Consulting City of Chanhassen

		Staff Forbes continues to work with HDR to move website redevelopment forward. On Aug. 18 Manager Crafton, Staff Forbes, and Staff Nicklay attended the Land Stewardship Project Field Day featuring soil health expert Ray Archuleta. Interim District Administrator Jefferey and Staff Forbes organized an Aug. 25 virtual open house about the Pioneer Trail Wetland Restoration Project. Nearby property owners were invited. Three households RSVP'd but did not attend. Intern Dickel completed a shoreline zones illustration to use in outreach efforts.	
Groundwater Conservation	Work with other LGUs to monitor, assess, and identify gaps. Engage with the Technical Advisory Committee to identify potential projects. Develop a water conservation program (look at Woodbury model).	The CAC has passed a motion requesting that the Board of Managers direct staff to begin inventorying springs and seeps in the District and populate the DNR Spring and Seep Inventory Database. With the hire of Staff Mahon and Staff Forbes it is anticipated that the District will begin work on this initiative again.	Metropolitan Council City of Eden Prairie City of Shorewood City of Bloomington City of Minnetonka City of Chanhassen
Lake Vegetation Management	Work with the University of Minnesota or Aquatic Plant Biologist, Cities of Chanhassen and Eden Prairie, lake associations, and residents as well as the Minnesota Department of Natural Resources on potential treatment. Implement herbicide treatment as needed. Secure DNR permits and contracts with herbicide applicators. Schedule regularly scheduled point intercept surveys. Work with Three Rivers Park District for Hyland Lake.	The City of Eden Prairie will be conducting vegetation harvesting this year on Red Rock and Mitchell. Harvesting will occur for navigational channels and should not impact the plant community at this point in the year. Point Intercept Vegetation Surveys are currently being conducted on: • Red Rock • Staring • Riley • Idlewild • McCoy • Susan (only one late August sampling date) The Lake Vegetation Management Plans for	City of Eden Prairie City of Chanhassen University of Minnesota MNDNR

		Mitchell and Red Rock will be completed early in September. These plans will be used to guide plant management moving forward. Staff Maxwell, Interim Administrator Jeffery, and Staff from Barr are meeting with the Mitchell Lake Association and staff from the City of Eden Prairie to discuss vegetation management.	
Opportunity Projects	Assess potential projects as they are presented to the District.	Interim Administrator Jeffery spoke with the City Manager for Chanhassen and the Parks Superintendent for the same regarding potential collaboration. St Hubert project is substantially complete.	Chanhassen St Hubert School
Total Maximum Daily Load	Continue working with MinnesotaPollution Control Agency on theWatershed Restoration and Protection Strategies (WRAPS). Engage the Technical Advisory Committee.	No new updates	MPCA
Repair and Maintenance Grant	Develop and formalize grant program.	No change	
University of Minnesota	Review and monitor progress on University of Minnesota grant. Support Dr John Gulliver and Dr Ray Newman research and coordinatewith local partners. Keep the manager abreast to progress inthe research. Identify next management steps.	Along with completing an additional year of monitoring on the iron filing ponds, the U of MN has a new project funded by the Local Road Research Board to study wetlands (historic/converted to pond) and they will be conducting in situ monitoring and laboratory studies with sediment cores on a pond in Shorewood and Chanhassen.	Stormwater ponds partners: Bloomington, Chanhassen, Eden Prairie, Minnetonka, Shorewood, U of MN,

Watershed Plan	Review and identify needs for amendments.	No changes	
Wetland Conservation Act (WCA)	Administer WCA within the Cities of Shorewood and Deephaven. Represent the District on Technical Evaluation Panel throughout the District.	No WCA applications have been received in Deephaven. No WCA applications have been received in Shorewood. Staff Dickhausen set in on the TEP for delineation review in Chaska.	City of Shorewood City of Deephaven City of Chanhassen City of Eden Prairie MCWD BWSR DNR ACOE
Wetland Management	Assess known existing wetlands, identify previously unknown wetlands, identify wetlands for potential restoration/ rehabilitation and wetlands requiring additional protection.	Staff Jeffery, Staff Dickhausen and staff Nicklay continue updating the MNRAM Access database. Staff Dickhausen and Interim Administrator Jeffery are continuing to develop biological assessment metrics of wetlands with Barr Engineering staff to supplement District MNRAM assessments.	City of ChanhassenCity of Eden Prairie Hennepin County Carver County MNDNR BWSR USFWS
Hennepin County Chloride Initiative	Phase 1: Develop a plan to target commercial and association-based sources or chloride pollution - businesses, malls, HOAs, property management companies and the private applicators that they hire. We will hire a consultant to facilitate focus groups with private applicators, as well as those that execute contracts with private applicators. These focus groups will help identify needs and barriers for our target audience. The consultant will compile information into a plan for implementation.	The HCCI education subgroup will continue discussion of the property manager communication plan at the Aug 31 meeting.	

Lower Minnesota Chloride Cost-Share Program	The Lower Minnesota River Watersheds are coming together to offer cost-share grants.	Chloride Reduction cost-share grant remains open and is posted on District website and advertised through Fortin Consulting and the MPCA. Reimbursement funds were released to the City of Chaska for the refurbishment of a snowplow with segmented blades.	LMRWD, RBWMO, NMCWD
Bluff Creek One Water			
Bluff Creek Tributary Restoration	Implement and finalize restoration. Monitor Project.	No new updates.	City of Chanhassen
Wetland Restoration at Pioneer and 101	Remove 3 properties from flood zone, restore a minimum 7 acres and as many as 16 acres of wetlands, connect public with resources, reduction of volume, rate, pollution loads to Bluff Creek.	The Notice to Proceed was sent to Sunram Construction on 8/24/2021. A preconstruction meeting is scheduled for the morning of September 7. A virtual open house was held the evening of 8/25/2021 for the neighbors of the project area.	City of Chanhassen MN DNR Carver County
Riley Creek One Water			
Lake Riley Alum	Continuing to monitor the Lake.	Coring will occur in the fall of 2021 to assess the effectiveness of the alum application. Summer monitoring will continue.	
Lake Susan Improvement Phase 2	Complete final site stabilization and spring start up. Finalize and implement E and O for the project. Monitor project.	There have been issues with the priming of the iron sand filter system which has led to gaps where the system is not online. District staff have scheduled a meeting with the city and contractor to address this issue moving forward. An Enviro DIY station has been placed in the unit to better assess when the unit is running.	City of Chanhassen Clean Water Legacy Amendment
Lake Susan Spent Lime	2021 startup and monitoring.	The unit was turned on in May and an Enviro DIY unit was placed to monitor water levels. Samples are being collected at least once a week. The unit appears to be working well with	City of Chanhassen

		removals over 50%.	
Lower Riley Creek Stabilization	Coordinate agreement and acquire easements if needed for the restoration of Lower Riley Creek reach D3 and E. Implement Project. Continue Public Engagement for project and develop signage of restoration.	Interim Administrator Jeffery, Water Resources Coordinator Maxwell, and staff from Eden Prairie will be walking the corridor prior to handing over maintenance responsibilities.	City of Eden Prairie Lower MN River Watershed District
Rice Marsh Lake Alum Treatment	Continuing to monitor the Lake.	Staff will be conducting sediment core sampling this fall to assess treatment effectiveness and prepare for a second dose application.	City of Eden Prairie City of Chanhassen
Rice Marsh Lake Watershed Load Project 1	Conduct feasibility. Develop cooperative agreement with City of Chanhassen.	The notice to proceed was sent to Meyer Contracting on 8/24/2021. A preconstruction meeting is being coordinated for shortly after Labor Day.	City of Chanhassen
Upper Riley Creek	Work with city to develop scope of work(in addition to stabilizing the creek can we mitigate climate change). Conduct feasibility. Develop cooperative agreement with the City of Chanhassen. Order project and begin design.	Interim Administrator Jeffery is working with Chanhassen to develop a cooperative agreement.	City of Chanhassen
Middle Riley Creek	Work with Bearpath HOA/Golf Course to develop scope of work (in addition to stabilizing the creek can we mitigate climate change and provide for an improved recreational experience). Draft feasibility report. Develop cooperative agreement with Bearpath.	Approvals from the US ACOE, and the WCA authority are expecting the first week of September. Counselor Welch, Engineer Sobiech, and Interim Administrator Jeffery are working with Bear Path to finalize the Cooperative Agreement. The preconstruction meeting was held August 20th.	Bearpath Neighborhood Association. City of Eden Prairie Dept. of Natural Resources
St Hubert Water Quality Project		The rain garden and tree trench have been installed on the site Prairie restoration is beginning. Interim Administrator Jeffery and Staff Mahon are	CCSWCD Metropolitan Council City of Chanhassen

		working with the school to develop curriculum. Engineer Sobiech and Interim Administrator Jeffery are working to develop soil sampling protocol based upon Cornell University guidance.	
Purgatory Creek One Water			
PCRA Berm		Engineer Sobiech and Interim Administrator Jeffery met with Eden Prairie to discuss project management duties and cost sharing. No decision has been made as details about overall cost, cost per feature, and schedule are forthcoming.	City of Eden Prairie MN DNR
Duck Lake Water Quality Project	Work with the City to implementneighborhood BMP. Identify neighborhood BMP to helpimprove water resources to DuckLake. Implement neighborhood BMPs.	No change	City of Eden Prairie
Lotus Lake – Internal Load Control	Continuing monitoring the lake. Plan second alum dose application.	In 2021, staff added an additional phosphorus monitoring location on Lotus Lake in the east bay. This will allow staff to better assess the alum treatment effectiveness across Lotus Lake and better apply alum in the second application. Actual sediment coring will occur in 2022.	
Scenic Heights	Continue implementing restorationeffort. Work with the City of Minnetonka and Minnetonka School District on Public Engagement for project as well as signage.	No change	Minnetonka Public School District City of Minnetonka Hennepin County
Silver Lake Restoration	Order project. Design Project. Work with the City of Chanhassen forDesign, cooperative agreement and Implementation.	Molnau Trucking LLC will begin work on September 6th with completion by the end of September.	City of Chanhassen

Professional Development	● Interim Administrator Jeffery is continuing annual reviews with the staff and will be looking to identify educational and other professional development opportunities. ● Microsoft Excel training was purchased through Minnetonka Community Education allowing all staff to take part in self-paced lessons to improve and expand Excel skills.

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BARR

Memorandum

To: Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator
From: Barr Engineering Co.
Subject: Engineer's Report Summarizing August 2021 Activities for September 1, 2021, Board Meeting
Date: August 25, 2021

The purpose of this memorandum is to provide the Riley-Purgatory-Bluff Creek Watershed District (RPBCWD) Board of Managers and the District Administrator with a summary of the activities performed by Barr Engineering Co., serving in the role of District Engineer, during August 2021.

General Services

a. Participated in an August 9th meeting with Interim Administrator Jeffery and staff Bakkum to discuss 2022 activities and revise the 2022 budget and levy based on Manager feedback from the August 4th workshop, and construction bids received for Middle Riley Creek, Pioneer Wetland, and the Rice Marsh Lake Water Quality projects.

b. Attended an August 10th meeting with Interim Administrator Jeffery, City of Eden Prairie and Stantec to discuss potential repairs to the berm separating upper and lower Purgatory Creek Park. The berm eroding following the severe rain event in 2014. The City requested that the watershed lead the repair effort because it was originally constructed by RPBCWD. The discussion included repair options, modification to enhance carp management, implementation timeline and permitting requirements. Because Stantec's estimated construction cost is less than $175,000 it is anticipated that quotes will be sufficient instead of the full bidding process.

c. Met with Interim Administrator Jeffery and City of Eden Prairie on August 18th to begin the development of a cooperative agreement for the potential repair to the berm separating upper and lower Purgatory Creek Park. The discussion included cost splits, project management and permitting requirements.

d. Continued working with Counsel Smith on finalizing the cooperative agreement with Bearpath Golf and Country Club, HOA access license, easements, and maintenance declaration for the Middle Riley Creek project.

e. Participated in a virtual pre-construction meeting on August 20th to discuss owner coordination, contractor coordination, schedules, and permitting.

f. Assisted Interim Administrator Jeffry and staff Bakkum with information to support a possible clean water fund grant application.

g. Participated in the August 25th meeting with President Ward, Vice-President Petersen, Interim Administrator Jeffery, and Counsel Smith to discuss upcoming September 1st agenda.

h. Participated in the August 4th workshop on the draft 2022 budget.

i. Participated in the August 4th regular Board of Managers meeting.

j. Took part in a meeting with Manager Koch on August 12th to discuss his concerns with the Noble Hills slope stability analysis prepared by Braun Intertec.

k. Attended the continuation of the regular Board of Managers meeting on August 12th.

l. Prepared Engineer's Report for engineering services performed during August 2021.

m. Miscellaneous discussions and coordination with Interim Administrator Jeffery about recent data requests, the 2022 budget process, upcoming budget workshop, regulatory program, and upcoming Board meeting agenda.

Permitting Program

a. *Permit 2018-066 Castle Ridge Redevelopment*: This permit was originally approved in October 2019 for the redevelopment the Castle Ridge, Broadmoor, and two adjacent owned properties at the southwest quadrant of Flying Cloud Drive and Prairie Center Drive into mixed-use senior housing, market rate apartments, and commercial/retail mixed-use project. The present modification request is to transfer permit application 2021-011: Flying Cloud Commons to a modification to permit 2018-066 because of the common scheme of development. The proposed modification involves redevelopment of the eastern 7.3 acres of the site for mixed retail use and a change to the previously approved infiltration bench because of high groundwater and low infiltration rate testing results. The modification request triggers RPBCWD Rules B, C, D, and J. Reviewed revised submittal received on July 28th and August 19th. Developed permit report for consideration at the September 1st Board of Managers meeting.

b. *Permit 2020-060: Christian Brothers Automotive*– This project proposed construction of an auto care center and associated parking areas on Crossroads Boulevard in Chanhassen, MN. A subsurface stormwater management facility, iron enhanced sand filter, hydrodynamic separator, Bayfilter filtration device, and rainwater harvest and reuse are proposed to provide volume control, water quality, and rate control. The project triggers the erosion prevention and sediment control rule and the stormwater management rule. Continued working with the applicant on the draft maintenance declaration.

c. *Permit 2020-073: Welters Way Streambank Stabilization* – This project consists restoration of approximately 160 feet of Purgatory Creek streambank and adjacent slope at 11579 Welters Way in Eden Prairie. The project triggers the floodplain management rule, erosion prevention and sediment control rule, wetland and creek buffer rule, and shoreline and streambank stabilization rule. Reviewed the revised August 19, 2021 submittal and provided comments on August 23rd. Discussed review comments with applicant on August 23rd.

d. *Permit 2021-012: Noble Hill*– The applicant is planning a low-density residential development consisting of 50 single-family homes on a 32-acre site in Eden Prairie, Minnesota. The site contains large varying slopes including steep slopes within a high-risk erosion area as delineated by the District and most of the site discharges to a wetland which abuts Riley Creek on the western border of the site. The proposed development of 50 single-family homes will include construction of associated streets, underground utilities, and stormwater features. Three infiltration basins and one sediment basin are proposed to provide stormwater quantity, volume, and quality control. The proposed project triggers RPBCWD's erosion prevention and sediment control, wetland and creek buffers, and stormwater

management rules. Responded to questions from developer's consultants (Braun Intertec and Alliant) about stability scope of work and interior flows/erosion mitigation measures. Received developer's revised analyses on August 2nd, 5th, 6th, and 10th, reviewed materials, discussed analyses with the applicant's consultants, developed (and revised) a memorandum to the Board summarizing Barr's review and revised the permit report for the Board's further consideration at the August 4th Board of Managers meeting as well as additional revisions for the August 12th meeting continuation.

e. *Permit 2021-038 Burger King-* The project proposes to reconstruct a Burger King at the intersection of Eden Prairie Road and Highway 5. The proposed project triggers RPBCWD's erosion prevention and sediment control and stormwater management rules. Assisted the applicant's engineer with addressing the conditions of approval.

f. *Permit 2021-046: Crossroads at Chanhassen:* The project proposes construction of a retail building and associated onsite parking areas at 8971 Crossroads Boulevard in Chanhassen. The proposed project triggers RPBCWD's erosion prevention and sediment control and stormwater management rules. The original submittal was considered incomplete. Participated in a conference call with the applicant's engineer to discuss the restricted site, required soil boring and infiltration testing, and other review comments.

g. *Permit 2021-048: Vogel Shoreline:* The project proposes stabilization of 103 feet of shoreline and the installation of a sand blanket along Lake Riley at 9641 Meadowlark Lane in Chanhassen. The proposed project triggers RPBCWD's floodplain management, erosion prevention and sediment control, wetland and creek buffers, and shoreline streambank stabilization rules. The permit fee for this application was received on June 30th and review comments were sent to the applicant on July 5th. Reviewed revised submittal materials and notified the applicant on August 12 that the submittal remains incomplete because of missing wetland delineation data and provided additional review comments.

h. *Permit 2021-049: Foxford Shoreline:* The project proposes maintenance of stabilization measures along of 300 feet of shoreline and the installation of a sand blanket along Lake Riley at 9500 Foxford Road in Chanhassen. The proposed project triggers RPBCWD's floodplain management, erosion prevention and sediment control, and shoreline streambank stabilization rules. Reviewed revised submittal and draft the permit report for consideration at the September 1st Board of Managers meeting.

i. *Permit 2021-051: Eagle Bluff:* The project proposes a lot split and construction of a single-family home resulting in 0.47 acres of land-disturbing activity and an increase in imperviousness of the site of 54%. The project proposes construction of an infiltration basin to provide stormwater quantity, volume, and rate quality control. The proposed project triggers RPBCWD's erosion prevention and sediment control, wetland and creek buffer, and stormwater management rules. Reviewed the August 8th revised submittal and provided review comments on August 15th as well as informing the applicant the submittal remained incomplete because of missing information to support the landlocked basins analysis. Participated in several conference calls with the applicant's engineer to discuss review comments.

j. *Permit 2021-054: Morimoto City Homes:* The project proposes to develop a 2.8-acre site into 4 new townhome buildings and associated parking along Hennepin Town Road just south of Anderson Lakes Parkway in Eden Prairie, MN. This is a duplicate submittal with application

2021-028. Because the fee was provided in association with permit 2021-054, this permit number will be used for the Morimoto City Home application. The proposed project triggers RPBCWD's erosion prevention and sediment control, wetland buffers, and stormwater management rules. Reviewed revised submittal received on July 29th and developed permit report for consideration at the September 1st Board of Managers meeting.

k. *Permit 2021-061: Goddard School Addition:* The project proposes to construct of new sidewalk, parking lot, play areas, retaining walls, and an underground stormwater management. The proposed project triggers RPBCWD's erosion prevention and sediment control and stormwater management rules. Reviewed August 21st submittal materials and provided review comments to the applicant and developed permit report for consideration at the September 1st Board of Managers meeting.

l. *Permit 2021-062: The Ellie:* The project proposes to redevelop 5.7 acres of land that currently comprise seven single family residences on Lincoln Lane in Eden Prairie into a four story 245-unit apartment. The project proposes construction of two underground detention/infiltration systems and three tree trenches to provide stormwater quantity, volume, and rate quality control. The proposed project triggers RPBCWD's erosion prevention and sediment control and stormwater management rules. Reviewed submittal materials and provided review comments to the applicant on August 4th. The original submittal was considered incomplete because of missing stormwater models in their native format, infiltration testing, and engineer's opinion of probable cost for the stormwater facilities. Discussed review comments with the applicants engineer on August 11th.

m. *Permit 2021-063 Reserve at Autumn Woods*- The project proposes the construction of an 87-lot development in Chaska. The site is proposed to be mass graded for roads, sidewalks, and building pads, as well as construction of supporting underground utilities and stormwater management. The project proposes construction of four infiltration basins and two ponds to provide stormwater quantity, volume, and rate quality control. The proposed project triggers RPBCWD's erosion prevention and sediment control, wetland buffers, and stormwater management rules. Reviewed submittal materials and provided review comments to the applicant on August 9th. The submittal was considered incomplete because of missing stormwater models in their native format, wetland protection analysis, wetland delineation report, and engineer's opinion of cost.

n. *Permit 2021-068 Erhart Farm*- The project proposes the construction of a 21-lot development to the west of Hwy 101 in Chanhassen. The project proposes construction of a wet pond and infiltration basin to provide stormwater quantity, volume, and rate quality control. The proposed project triggers RPBCWD's erosion prevention and sediment control, wetland buffers, and stormwater management rules. Reviewed submittal materials and provided review comments to the applicant on August 20th. The application was considered incomplete because the permit fee has not been received by the District, no wetland delineation report was provided, no floodplain analysis provided for filling Wetland 1, missing stormwater models in their native format, missing wetland protection analysis for water quality, and no engineer's opinion of cost was provided for the stormwater facilities

o. Miscellaneous preapplication calls from applicant with questions about rule applicability and criteria.

p. Miscellaneous conversations with Interim Administrator Jeffery about rules, permit database status, which permits will be reviewed by staff versus Barr, and rule application.

Education and Outreach

a. Assisted with the development of materials for a neighborhood meeting for the Pioneer Wetland restoration project.

Data Management/Sampling/Equipment Assistance

b. Prepared, loaded, and 38 verified RMB laboratory (RMB) reports.

c. Prepared and loaded 2021 field data collected with the Survey123 mobile application for the Pond monitoring program.

d. Worked with RMB labs to correct and finalize the format for electronic data deliverables (EDD).

e. Worked with the MPCA to finalize the 2020 creek and lake data submittal.

Task Order 6: WOMP Station Monitoring

Purgatory Creek Monitoring Station at Pioneer Trail

a. Download and review data.

b. Prep staff for storm event sampling efforts.

Purgatory Creek Monitoring Station at Valley View Rd

a. Download and review data.

b. Clean up mouse nests at station and remove pests (snakes, mice, etc.)

Task Order 24B: Silver Lake Water Quality Improvement Project

a. Coordination with contractor (Molnau) regarding submittals and anticipated schedule

b. Preparation for construction oversight.

c. Contractor anticipates starting construction week of September 5.

Task Order 25: Duck Lake Watershed Rainwater Gardens

a. Communicated with the contractor to clarify the contractual requirements for year-two establishment activities, including monthly maintenance property owner training, and watering as needed.

b. Barr staff will perform another planting and garden inspection in October, at the end of this growing season.

Task Order 28B: Rice Marsh Lake (RM_12a) Water Quality Improvement Project

a. Coordinating with the City of Chanhassen's street improvement project involving work along Dakota Lane. The city's work will occur before the construction of the District's project.

b. Received contract documents from lowest bidder, Meyer Contracting. All documents have been reviewed by Counsel Welsh and considered acceptable for execution of the contract.

c. Discussed stormwater treatment filter submittal with contractor (Meyer Contracting), and product manufacturer (BioClean), on August 18th.

Task Order 29B: Middle Riley Creek (Reach R3) Stabilization Project Design

a. Continued coordination with Bearpath and RPBCWD to finalize HOA access agreement and cooperative agreement.

b. Coordinated with Sunram Construction, Inc. to finalize project contract with RPBCWD.

c. Met with Sunram on-site to review retaining wall reconstruction with Sunram's subcontractor and Bearpath on August 2nd.

d. Continued coordination with USACE, including information related to wetland impacts and archeological questions. Anticipate permit being issued first week of September.

e. Continued coordination with City of Eden Prairie for Vegetation Management Permit (issued 8-13-21), Land Alteration Permit, and WCA approval. The city anticipates issuing the permit and WCA approval the first week of September.

f. Applied for MPCA SWPPP 8-13-21. Coordinated with Sunram Construction, Inc. and Bearpath to provide information needed for SWPPP.

g. A pre-construction meeting was held on-line via Microsoft Teams on August 20, 2021. Attendees included representatives from Barr, RPBCWD, Bearpath, Sunram Construction, Inc., Duininck Golf, and the City of Eden Prairie.

h. Golf Course construction is slated for September 2021, with the goal of finishing the north area stream work by September 29, 2021 the south area stream work by November 15, 2021, and the tee areas by October 1st, 2021, with final completion no later than May 15, 2022.

Task Order 30B: Pioneer Trail Wetland Restoration Project

a. Received contract documents from lowest bidder, Sunram Construction Inc. All documents have been reviewed by Counsel Welsh and considered acceptable for execution of the contract.

b. Received and reviewing preliminary construction submittals from Sunram Construction Inc.

c. Scheduled virtual Preconstruction meeting with Sunram Construction Inc and Interim Administrator Terry Jeffery to occur on September 7 from 9am-11am.

d. Barr has expended 92% the authorized engineering budget during the design, permitting and bidding phase of the project and will be requesting additional funding for the construction administration services. With the project requiring extensive vegetation management and monitoring, the construction documents require the contractor to provide three year of vegetation establishment, thus resulting in additional engineering/landscape architect support that was not included in the original authorization. In addition, Barr staff provided additional support to RPBCWD staff during the wetland permitting process, including but not limited to

providing a template wetland delineation report and reviewing the staff developed wetland delineation report. the project was anticipated. The project timeline to start construction was also extended from 2020 to 2021.

Task Order 033: Wetland Assessment – Phase 1

a. Continued drafting methodologies to support the framework including water quality and hydrology functions.

b. Developed loading rates for each wetland to determine water quality settling and function.

c. Review SWMM modeling conducted for the Mitchell Lake area and how to incorporate results into the framework.

d. Continued drafting Phase 1 report to define ecosystem services and describe methodology for assessing each service.

Task Order 035: Eden Prairie Stormwater Model Update and Flood-Risk Area Prioritization

a. Submitted updated watershed divides to City of Eden Prairie for review. City staff are reviewing the divides and anticipate providing comments by the end of August. The City's review will consist of verifying that the level of detail is consistent with divides the City has developed for their water quality model and that there is adequate resolution in locations that will be used for model validation.

b. Added additional storm sewer pipes to the model. Additional details for the storm sewer system and overland flow paths are required to connect the updated subwatershed divides to the existing model. Staff began using the City of Eden Prairie's GIS files to populate model input parameters such as pipe inverts, shape, and length. Staff are in the process of reviewing which pipes do not have information in the City's GIS files. For these locations, staff are compiling a data request for the City of Eden Prairie and District staff. After submitting the data request, we will meet with City staff to discuss how to define the missing information, which could include the City providing as-built or record drawings, collecting survey information or field measurements, or in some locations making educated assumptions based on available information upstream and downstream of locations where information is available. For example, in locations without as-built plans that maybe inaccessible for survey, a reasonable assumption could be to assume that a pipe has a constant slope through a manhole. All locations where information is assumed are documented within the District's stormwater model. If survey information is needed, it is anticipated that survey would be complete in September and October.

c. The schedule for this task order extends through 2022. In 2021 work will focus on updating the District's stormwater models for Riley Creek and Purgatory Creek to include additional detail within Eden Prairie. Currently staff are working on identifying missing information needed to update the model. This task will continue through September. This fall work will shift to calculating hydrologic parameters, available floodplain storage volume, and debugging the updated models. In 2022, work will include model validation, simulation of

design events, inundation mapping, identification and prioritization of flood prone areas, and documentation.

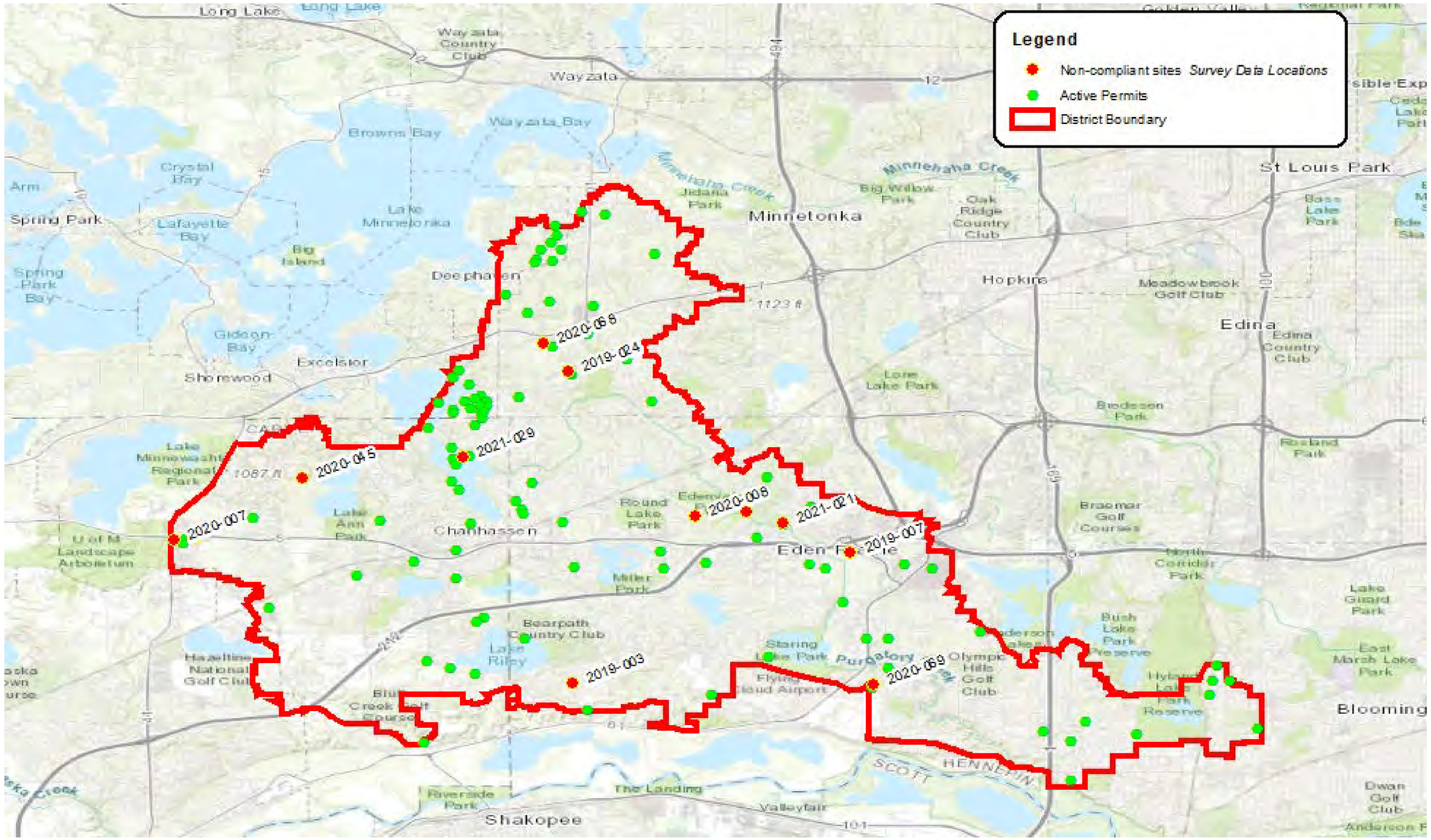
Task Order 036A: Bluff Creek Reach 5 Concept Design

a. Continued to develop concept designs based on information collected during the site visit in June.

b. Continued developing feasibility assessment report including cost estimates for concept designs.

Permit #	Date	Precip	Perimeter Contr	Inlet Protection	Stabilized Entran	Tracking	Soil Stabilization	Concrete Washo	Other2	Notes	Development/Project Name	ptype
2021-021	Thursday, July 29, 2021	0.1	Non_Compliant	Non_Compliant	Compliant	Non_Compliant	Compliant	Non_Compliant			CSAH 60 - Baker Rd (WO# 97179999)	Private - Commercial/Industrial
2020-068	Tuesday, August 3, 2021	0	Non_Compliant	Compliant	Compliant	Compliant	Compliant				Minnetonka High School 2021 Einer Anderson Field Site Improvements	Government - Other
2019-024	Tuesday, August 3, 2021	0	Non_Compliant	Non_Compliant	Non_Compliant	Non_Compliant	Non_Compliant				Conifer Heights	Private - Residential
2019-003	Tuesday, August 3, 2021	0	Non_Compliant	Non_Compliant	Compliant	Compliant	Non_Compliant				Stable Path	Private - Residential
2019-007	Wednesday, August 11, 2021	0.03	Non_Compliant	Compliant	Compliant	Non_Compliant	Non_Compliant				Beverly Hills	Private - Residential
2021-007	Thursday, August 12, 2021	0.04	Non_Compliant	Non_Compliant	Compliant	Compliant	Non_Compliant				TH 5 Trail Chanhassen (WO# 95525620)	Private - Commercial/Industrial
2020-007	Thursday, August 12, 2021	0.04	Non_Compliant	Compliant	Compliant	Compliant	Compliant				TH 5 Regional Trail	Government - Linear
2020-069	Monday, August 16, 2021	0	Compliant	Compliant	Compliant	Non_Compliant					Prairie Heights	Private - Residential
2020-057	Monday, August 23, 2021	0.11	Compliant	Compliant	Compliant	Compliant	Non_Compliant				Bluff 25 Culvert Rehabilitation Project	Government - Other
2020-008	Monday, August 23, 2021	0.11	Non_Compliant	Non_Compliant	Non_Compliant	Compliant	Compliant				Eden Ridge Estates	Private - Residential
2020-045	Monday, August 23, 2021	0.11	Non_Compliant	Compliant	Compliant	Compliant	Compliant				Galpin Project	Private - Residential
2021-029	Wednesday, August 25, 2021	0.99	Compliant	N/A	Compliant	Compliant	Compliant		Non_Compliant	Grading work has occurred outside of plans and within shoreline setback	Bruner Residence	Existing Single - Family

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT



RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512
www.rpbcwd.org

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2018-066

Considered at Board of Managers Meeting: September 1, 2021

Modification Received complete: August 4, 2021

Applicant:	Presbyterian Homes Housing and Assisted Living, Inc
Consultant:	Gretchen Schroeder, Westwood Professional Services
Project:	Castle Ridge Redevelopment – redevelopment of a 19.86-acre site for a senior living housing building on Lot 1 (phase 1), a five-story apartment building on Outlot A (phase 2) and mixed retail use on Outlot B (phase 3). A large filtration basin, an infiltration basin, two underground stormwater management systems and two rainwater harvest and reuse irrigation systems will provide storm water quantity, volume and quality control.
Location:	Flying Cloud Drive and Prairie Center Drive, Eden Prairie, MN
Reviewer:	Scott Sobiech, P.E., Barr Engineering

Board Action

Manager _____ moved and Manager _____ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the September 1, 2021 meeting of the managers:

Resolved that the application for modification to and extension through 2024 of Permit 2018-066 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2018-066 to the applicant on behalf of RPBCWD.

Upon vote, the resolutions were adopted, _____ [VOTE TALLY].

Applicable Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management and Drainage Alterations**		Yes.	
C	**Erosion Control Plan**		See comment.	See rule-specific permit condition C1.
D	**Wetland and Creek Buffers**		Yes	
J	**Stormwater Management**	Rate	Yes.	
		Volume	Yes.	See stipulations 1 and 2
		Water Quality	Yes.	
		Low Floor Elev.	Yes.	
		Maintenance	See comment.	See rule-specific permit condition J1.
		Chloride Management	See comment.	See stipulation 3
		Wetland Protection	Yes	
L	**Permit Fee**		See comment.	See rule-specific permit condition L1.
M	**Financial Assurance**		See comment.	The financial assurance is calculated at $1,310,152

Background

RPBCWD permit 2018-066 (Castle Ridge Redevelopment) authorized the demolition of an existing apartment building and assisted living facility to construct a new senior living facility (Phase 1) and five-story apartment (Phase 2) on a four-parcel, 19.86-acre site located near the intersection of Flying Cloud Drive and Prairie Center Drive. The permit was approved for a three-year term (through 2022). Flying Cloud Commons is Phase 3 of the Castle Ridge Redevelopment project. Because the redevelopment of Outlot B for the Flying Cloud Commons phase 3 is proceeding in conjunction with modifications to work already completed on Outlot A and under common or related ownership with shared stormwater management systems, the presently proposed work is analyzed as modification of permit 2018-066 and as common scheme of development (J 2.5) for purposes of determining stormwater-management requirements. The present modification request is for redevelopment of the eastern 7.3 acres of the site for mixed retail use and a change to the previously approved infiltration bench because of high groundwater and low infiltration rate testing results. Construction of the new building and stormwater

facilities is underway on Lot 1 and building demolition and grading have occurred on Outlot A. The applicant has also requested that the modification include extension of the permit term through 2024.

Relevant project site information is provided below.

Site Information	Permit 2018-066	Permit 2018-066 Modification (Current)
Total Site Area (acres)	19.86	19.86
Existing Site Impervious Area (acres)	8.5	8.5
Proposed Impervious Area (acres)	7.92	13.86
New (increase) in Site Impervious Area (acres)	-0.58	5.36
Percent Increase in Impervious Surface	-6.8	63
Disturbed Site Impervious Area (acres)	8.31	8.5
Percent Disturbance of Existing Impervious Surface	97	100
Total Disturbed Area (acres)	19.27	19.27

The following materials were reviewed in support of the permit request:

1. Conditional approval of application 2018-066 for phase 1 and 2, October 2, 2019; conditions met and permit issued October 22, 2019
2. Permit Application for phase 3 received March 9, 2021 (Notified applicant on March 30, 2021, that submittal was incomplete) Application was withdrawn on July 28,2021 in favor of a permit modification to permit 2018-066.
3. Phase 1 Construction Plan Sheets (19 sheets) dated October 3, 2018 (revised September 9, 2019 and utility plans updated September 25, 2019, revised July 28, 2021, revised erosion control plan dated August 19, 2021)
4. Phase 2 Construction Plan Sheets (11 sheets) dated May 17, 2019 (revised September 9, 2019 and utility plans updated September 25, 2019, revised February 21, 2020, revised erosion control plan dated August 19, 2021)
5. Phase 3 Construction Plan Sheets (20 sheets) dated January 12, 2021 (revised June 28, 2021 and July 28, 2021)
6. Preliminary Geotechnical Exploration and Review by American Engineering Testing, Inc. dated April 16, 2007.
7. Geotechnical Evaluation Report by Braun Intertec dated June 24, 2019.
8. Stormwater Management Plan dated October 3, 2018 (revised September 9, 2019, July 28, 2021, and August 19, 2021)
9. WCA Wetland Delineation Report completed by Westwood Professional Services dated September 5, 2018
10. Phase I Environmental Site Assessment completed by Westwood Professional Services dated June 6, 2018
11. RPBCWD Preliminary Review Comments and Responses dated February 20, 2019

12. Electronic HydroCAD and P8 models received on May 22, 2019 and revised on September 9, 2019. P8 model were further revised on September 24, 2019. HydroCAD and P8 models received revised July 28. 2021 and august 19, 2021.
13. Stormwater Reuse Calculator received on May 22, 2019 and revised on September 9, 2019.
14. MIDS water quality and volume model dated September 20, 2019 and revised on September 24, 2019
15. Phase 1 Site Area Irrigation Plan by Paravel dated May 17, 2019
16. Phase 2 Site Area Irrigation Plan by Paravel dated June 4, 2019
17. Phase 1 Landscaping Plan by Paravel dated May 17, 2019
18. Phase 2 Landscaping Plan by Paravel dated May 17, 2019
19. Phase 2 Irrigation Plan by Central Turf and Irrigation Supply dated June 13, 2019
20. Notified applicant of complete application on August 20, 2019
21. Response to Comments from RPBCWD dated August 5, 2019
22. Response to Comments from RPBCWD dated September 9, 2019
23. Response to Comments from RPBCWD dated September 17, 2019
24. Phase 1 and 2 Engineer's Opinion of probable cost dated September 24, 2019 and revised September 25, 2019.Phase 3 Engineer's Opinion of probable cost received July 28, 2021.
25. A letter from Oppidan Investment Company withdrawing permit 2021-011 and transferring the permit fee deposit of $3,000 to the request for a modification to permit 2018-066.
26. Letter dated August 19, 2021 from Timberland Partners/Paravel Property LLC, authorizing Presbyterian Homes to apply for the permit modification for work on Outlot A.

Rule B: Floodplain Management and Drainage Alterations

Because the proposed project involves the placement of fill below the 100-year flood elevation (825.78 msl) of a wetland (PH EP Wetland 1), the project activities must conform to the RPBCWD's Floodplain Management and Drainage Alterations rule (Rule B).

Because the project involves the construction of two structures, project must conform to the low floor criteria in subsection 3.1. The lowest floor elevation is 828.83 ft which is 3.05 feet above the 100-year flood elevation of the wetland, thus conforming to subsection 3.1.

The RPBCWD engineer concurs with the applicant-provided floodplain analysis that shows the floodplain fill will be fully compensated for because the proposed storage below the 100-year flood elevation will be increased by 26 cubic feet, as summarized in the following table. The analysis also confirms that the flood storage will be provided within the 100-year floodplain of the wetland, thus conforming to Rule B, subsection 3.2.

Waterbody ID	Floodplain Fill (CY)	Compensatory Storage Provided (CY)
PH EP Wetland 1	683	709

The engineer concurs with the hydrologic modeling provided by the applicant's engineer confirming that the project will not alter surface flows, conforming to subsection 3.3. There is no creek within 100 feet of the subject property, so subsection 3.4 imposes no requirements, and an erosion and sediment control plan has been submitted and is analyzed under Rule C below, conforming to subsection 3.5. A note on the erosion control plan sheet requires the construction to be conducted to minimize the potential transfer of aquatic invasive species conforming to Rule B, Subsection 3.6.

The proposed project conforms to the floodplain management and drainage alteration requirements of Rule B

Rule C: Erosion and Sediment Control

Because the project will involve 19.27 acres of land-disturbing activity, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1). The erosion control plan prepared by Westwood Professional Services includes installation of erosion control fence, inlet protection for storm sewer catch basins, a temporary sedimentation basin, rock construction entrances, tree protection fencing, rip rap at outfalls, decompaction of areas compacted during construction, six inches of top soil, and retention of native topsoil onsite. To conform to the RPBCWD Rule C the following revisions are needed:

C1. The Applicant must provide the name and contact information of the individual responsible for erosion control for phases 2 and 3 of the site. RPBCWD must be notified if the responsible individual changes during the permit term.

Rule D: Wetland and Creek Buffers

Because onsite PH EP Wetland 1 is downgradient from the proposed land disturbing activities and rules B and J are triggered by the project, the project must conform to the requirements in the RPBCWD Wetland and Creek Buffers rule (Rule D, Subsection 3). Rule D, Subsections 2.1a and 3.1b require buffer on the edge of the wetland that is downgraidnet from the activity. The onsite wetland itself will not be disturbed by the project activities.

Under previously approved Permit 2018-066 at the Castle Ridge property, the applicant provided a wetland delineation report, type and boundary determination, and MnRAM assessment based on a field investigation dated September 5, 2018. According to the MnRAM assessment and RPBCWD, Rule D Appendix D1, the wetland is rated as medium value. Under Rule D, Subsection 3.2.b.iii buffer must average of 40 feet from the delineated edge of the wetland, minimum 20 feet. Under Permit 2018-066, the applicant established wetland buffers for the wetland which average 40.3 feet wide with a minimum width of 21.3 feet, thus conforming to the criteria identified in Rule D, Subsection 3.1a for medium value wetlands. The revised plan documents show that disturbed areas within the buffer area will be

maintained with native vegetation and maintained in a natural state (subsection 3.3). As shown on the Phase 1 and 2 plans, the buffer markers will be placed per District monumentation criteria (subsection 3.4). As part of the original issuance of permit 2018-066 the applicant provided RPBCWD a copy of the approved buffer maintenance declaration recorded with the county in accordance with Rule D, subsection 3.5.

Rule J: Stormwater Management

Because the project all told will disturb 19.27 acres of land-surface area, the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.1). Under paragraph 2.5 of Rule J, common scheme of development, activities subject to Rule J on a parcel or adjacent parcels under common or related ownership will be considered in the aggregate, and the requirements applicable to the activity under this rule will be determined with respect to all development that has occurred on the site or on adjacent sites under common or related ownership since the date this rule took effect (January 1, 2015). Because the development and redevelopment of the four parcels constituting the site is proceeding under common or related ownership and involves shared stormwater management systems, , the proposed activities must be considered in aggregate with previously permitted activities. Therefore, the application is properly considered as a modification to the previously issued permit 2018-066. The criteria listed in Subsection 3.1 will apply to the entire project site because the project will disturb more than 50% of the existing imperviousness of the entire site (Rule J, Subsection 2.3).

The developer is proposing construction of two underground infiltration systems associated with phase 3 in combination with a filtration basin, an infiltration basin, and two rainwater harvest and reuse irrigation systems to provide the rate control, volume abstraction and water quality management on the site. Sump manholes will provide pretreatment for runoff entering the filtration basin and infiltration features.

Rate Control

In order to meet the rate control criteria listed in Subsection 3.1.a, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The applicant used a HydroCAD hydrologic model to simulate runoff rates for pre- and post-development conditions for the 2-, 10-, and 100-year frequency storm events using a nested rainfall distribution, and a 100-year frequency, 10-day snowmelt event. The existing and proposed 2-, 10-, and 100-year frequency discharges from the site are summarized in the table below. The proposed project is in conformance with RPBCWD Rule J, Subsection 3.1.a.

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
West	30.7	17.0	52.2	42.8	93.9	48.1	2.8	2.4
East	5.4	2.3	9.9	8.8	19.0	16.8	0.7	0.6
Northeast Wetland	2.7	2.7	5.8	5.5	12.3	11.9	0.3	0.3

Volume Abstraction

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from all impervious surface of the parcel. An abstraction volume of 55,343 cubic feet is required from the 13.86 acres (576,517 square feet) of new or reconstructed impervious area on the project for volume retention. The applicant asserts that the site qualifies as restricted under subsection 3.3 of the rule, and proposes to use an infiltration basin, two underground stormwater management systems, and two rainwater harvesting/reuse irrigation system to abstract a total of 29,620 cubic feet of runoff from the site. (2,033 cubic feet in the infiltration basin, 23,740 cubic feet in the two underground stormwater management systems, and 3,847 cubic feet through rainwater harvesting and reuse.)

For restricted sites, Subsection 3.3 of Rule J requires rate control in accordance with Subsection 3.1a and that abstraction and water quality protection be provided in accordance with the following sequence: (a)Abstraction of 0.55 inches of runoff from site impervious surface determined in accordance with paragraphs 2.3, 3.1 or 3.2, as applicable, and treatment of all runoff to the standard in paragraph 3.1c; or (b) Abstraction of runoff onsite to the maximum extent practicable and treatment of all runoff to the standard in paragraph 3.1c; or (c) Off-site abstraction and treatment in the watershed to the standards in paragraph 3.1b and 3.1c.

Based on the soil borings in the Preliminary Geotechnical Exploration and Review Report conducted by American Engineering Testing, Inc. on April 16, 2007, the only areas conducive to infiltration are on the western side of the Outlot B (soil borings ST-12, ST-13 and ST-14) and near the southeast corner of the stormwater basin (soil borings ST-19 and ST-20). Because the majority of Lot 1 and Outlot A are at lower elevations than the sandy soils located in Outlot B, the site topography limits ability to gravity-drain runoff from Lot 1 and Outlot A to this area with adequate depth of sand remaining for infiltration. Full infiltration for Lot 1 and Outlot A cannot be provided elsewhere due to the clay soils with a measured infiltration rate of 0.1 inches per hour.

The northern non-roof impervious areas of Lot 1, the portion of the site road, and Outlot A are routed to the filtration portion of the stormwater basin. It is not practicable to route this imperious surface runoff to the infiltration area due to lower invert elevations coming from Outlot A and pipe cover issues.

Because the engineer concurs that the soil boring information, topography, and low observed infiltration rates support that the abstraction standard in Subsection 3.1 of Rule J cannot practicably be met, the site is considered a restricted site and stormwater runoff volume must be managed in accordance with Subsection 3.3 of Rule J.

For the Lot 1 building, the 1.937 acre roof area will discharge to a 2,550 CF cistern, which will be used to irrigate 1.45 acres of lawn area. For Outlot A, the site will discharge to a 1,350 CF cistern, which will be used to irrigate 0.77 acres of onsite greenspace.

The infiltration basin with rock trench originally permitted was intended to use the silty sands found in ST-19 and ST-20 for infiltration. During construction the applicant was unable to locate the silty sand identified in boring ST-19 and ST-20. Rather the applicant discovered clay soils with high groundwater. The applicant conducted a double ring infiltration test at the proposed infiltration basin location resulting in a measured rate of 0.1 inches per hour. As a result, the applicant modified the infiltration basin design by reducing the retention depth to 0.4 feet ensure the surface infiltration basin will draw down within 48 hours (Rule J, subsection 3.1b.3). The geotechnical report does not contain infiltration or hydraulic conductivity testing results at the two proposed underground stormwater management systems for phase 3 because there is an existing building on the site. The applicant used a design infiltration rate of 0.45 in/hr beneath the underground stormwater management systems based on the MPCA's recommended design infiltration rate for sandy soils. The engineer finds that under these presumptions and design specifications, the surface infiltration basin will draw down within 48 hours. To confirm the design presumptions and ensure the applicant has incorporated 0.55 inches of abstraction (Rule J, subsection 3.3a), supporting information in the form of infiltration or hydraulic conductivity testing at the proposed underground detention/ infiltration systems must be provided during construction. If infiltration capacity is less than needed to conform with the volume abstraction requirement in subsection 3.3a, design modifications to achieve compliance with RPBCWD requirements to maximize the abstraction will need to be submitted (in the form of an application for a permit modification or new permit).

The table below summarizes the volume abstraction for the site.

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)[1]	Provided Abstraction Volume (cubic feet)
0.55	26,424	0.61	29,420

1- The abstraction depth and volume achieved on site is a combination of the infiltration basin with rock trench using an assumed infiltration of 0.45 in/hr. The reuse systems assume irrigation of Type D soils.

Groundwater was encountered at an elevation of 820 ft. The bottom of the infiltration basin is at 823 feet. Therefore, the required 3-foot separation between the groundwater elevation and bottom of the infiltration practices was achieved.

Because the proposed water reuse irrigation systems require consistent use to meet District requirements, performance monitoring for the site will be required to ensure that the project is able to meet the RPBCWD volume abstraction requirement as has been proposed. In accordance with Rule J, Subsection 2.6 performance monitoring, and as a condition of issuing a permit for this project, the Applicant must submit an operations plan and agree to monitor the proposed irrigation systems to determine the ability of the systems to achieve the estimated volume abstraction as presented in the design. The operating plan, monitoring program and irrigation areas must be included in the maintenance declaration that is recorded with the County. The recorded reuse volume must be submitted to the RPBCWD on a yearly basis for five years from the date of substantial completion. If it is

determined that the system is not performing as designed, the applicant will need to submit a revised design and construction plan to demonstrate that the reuse systems are providing abstraction substantially consistent with the proposal. The engineer recommends retention of $5,000 of the financial assurance for the project until the necessary reports and data are submitted in years one and two after substantial completion.

Water Quality Management

Subsection 3.1.c of Rule J requires the Applicant provide for at least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff, and no net increase in TSS or TP loading leaving the site from existing conditions. The Applicant is proposing a filtration basin with infiltration bench and a rock trench to achieve the required TP and TSS removals and submitted a P8 model to estimate the TP and TSS removals. The results of this modeling are summarized in tables below. The engineer concurs with the modeling, and finds that the proposed project is in conformance with Rule J, Subsection 3.1.c.

Annual TSS and TP removal summary:

Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	9,435	8,492 (90%)	8,796 (93.2%)
Total Phosphorus (TP)	30.1	18.1 (60%)	20.5 (68.1%)

Summary of net change in TSS and TP leaving the site

Pollutant of Interest	Existing Site Loading (lbs/yr)	Proposed Site Load after Treatment (lbs/yr)	Change (lbs/yr)
Total Suspended Solids (TSS)	6,500	710	-5,790
Total Phosphorus (TP)	20.8	3.3	-17.5

Low floor Elevation

All new buildings must be constructed such that the lowest floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow of a stormwater-management facility according to Rule J, Subsection 3.6a . In addition, a stormwater-management facility must be constructed at an elevation that ensures that no adjacent habitable building will be brought into noncompliance with this requirement according to Rule J, Subsection 3.6b.

The low floor elevation of the existing buildings as well as the 100-year flood elevation and emergency overflow of the adjacent stormwater management facility are summarized below. Because the low floor elevations of the existing structures are more than one foot above the proposed emergency overflow of the proposed stormwater facilities, the proposed project is in conformance with Rule J, Subsection 3.6a.

Structure Location	Low Floor Elevation of Existing Building (feet)	100-year Event Flood Elevation of Stormwater Facility (feet)	Emergency Overflow Elevation (EOF) (feet)	Freeboard to 100-year (feet)	Freeboard to Emergency Overflow (feet)

Lot 1	832.0	826.77	827.0	5.23	5
Outlot A	828.83	826.77	827.0	2.06	1.83
Lowest Outlot B	846.0	841.70	844.97	4.3	1.03

The lowest floor elevation of the proposed Lot 1 and Outlot A structures are both below the 100-year flood elevation of the proposed underground stormwater management system proposed for Outlot B. Using Plot 1 in Appendix J1 – Low-Floor Elevation Assessment, the required separation from the seasonal high-water table was determined. Two feet was added to the groundwater level to account for seasonal high-water table elevation. The required separation from the seasonal high-water table determined using Plot 1 in Appendix J1 are summarized below. According to the table, the buildings are located sufficiently far away from the basin to alleviate flooding risk. Therefore, no additional elevation separation is required. The RPBCWD Engineer concurs that the proposed project is in conformance with Rule J, Subsection 3.6.

Structure Location	Low Floor Elevation of Building (feet)	Provided Distance from Strormwater Facility (feet)	Assumed Seasonal High-Water Table Elevation[1](feet)	Required Separation to Groundwater based on Appendix J (feet)	Provided Separation to Groundwater (feet)
Lot 1	832	164	822.0	0.5[2]	13
Outlot A	828.83	250	822.0	0.2[2]	8.83

[1]The seasonal high-water table was assumed to be 2.0 feet above the groundwater elevation of 820.0 ft.
[2] Using Appendix J1 Plot 1

Maintenance

Subsection 3.7 of Rule J requires the submission of a maintenance plan. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed. The applicant has already recorded maintenance declarations on Outlot A and Lot 1, Block 1 for phases 1 and 2. One or both of those declarations may need to be modified, and may need to be supplemented with recorded rights to drain to and rely on treatment capacity on adjacent parcels, in conjunction with memorializing maintenance for stormwater management systems on Outlot B for phase 3.

J1. Permit applicant must provide revised, updated maintenance and inspection declarations for Outlot A and Lot 1 Block 1 (and Outlot C), as necessary, and a maintenance declaration for Outlot B. A maintenance declaration template is available on the permits page of the RPBCWD website. (http://www.rpbcwd.org/permits/). If needed separate new or revised declarations can be completed for each parcel (Lot 1, Outlot A and Outlot B), but the declarations must include cross-dedication of rights to access and rely on stormwater-treatment capacity among the parcels. Revised and new declarations must be submitted in draft form for RPBCWD administrative approval prior to recordation. Proof of recordation must be submitted as a stipulation of approval.

Wetland Protection

Because runoff from disturbed areas of the is directly tributary to a downstream, on-site medium value wetland, the project must comply with the wetland protection criteria in Rule J, Subsection 3.10

In accordance with Rule J, subsection 3.10a, no proposed activity subject to Rule J may alter the site in a manner that increases the bounce in water level, duration of inundation, or change the runout elevation in the subwatershed, for the wetland receiving runoff from the land disturbing activities. Because the project does not increase the drainage area or change its imperviousness characteristics, the engineer concurs that the bounce in water level and duration of inundation have not been increased from existing conditions, thus the project is in conformance with Rule J, subsection 3.10a

Rule J, Subsection 3.10b requires that treatment of runoff to medium value wetlands archive 90 percent total suspended solids removal and 60 percent total phosphorus removal. The proposed site conditions are such that the only area disturbed by the applicant that will be tributary to the wetland under post-construction conditions will be pervious surface. The applicant will restore the disturbed pervious area tributary to the wetland with native vegetation and dedicate the area as wetland buffer as a self-mitigating measure.

Chloride Management

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan. To close out the permit and release the $5,000 in financial assurance held for the purpose of chloride management, the permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.

Rule L: Permit Fee Deposit:

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit $3,000 to be held in escrow and applied to cover the $10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A permit fee deposit of $3,000 was received on March 30, 2021 associated with permit application 2021-011. The applicant withdrew permit application and requested the permit fee be transferred to support the modification request for permit 2018-066 on August 19, 2021. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. Subsequently, if the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice

that such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished

L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued.

Rule M: Financial Assurance:

	Unit	Unit Cost	Phase 1 & 2 Units	Phase 1 & 2 Cost	Phase 3 Units	Phase 3 Cost	Total
Rules C: Silt fence:	LF	$2.50	3734	$9,335	2200	$5,500	$14,835
Inlet protection	EA	$100	16	$1,600	26	$2,600	$4,200
Rock Entrance	EA	$250	2	$500	2	$500	$1,000
Restoration	Ac	$2,500	19.52	$48,800	7.7	$19,250	$68,050
Rules D: Wetland and Creek Buffer	LS	$5,000	1	$5,000	0	$0	$5,000
Rules J: Stormwater Management Filtration basin, infiltration basin, two reuse systems including irrigation, sump manholes and two underground stormwater management systems: 125% of engineer's opinion of cost	EA	125% OPC	1	$424,100	1	$663,863	$1,087,963
Chloride Management Plan	EA	$5,000	1	$5,000	1	$5,000	$10,000
Contingency (10%)		10%		$49,434		$69,671	$119,105
Total Financial Assurance				$543,769		$766,384	**$1,310,152**

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction shall be consistent with the plans and specifications approved by the District as a part of the permitting process. The date of the approved plans and specifications is listed on the permit.
3. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
4. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.

5. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
6. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
7. RPBCWD's determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.
8. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

Findings

1. The proposed project includes the information necessary, plan sheets, and erosion control plan for review.
2. The proposed project will conform to Rules C and J if the Rule Specific Permit Conditions listed above are met.

Recommendation:

1. A three-year permit extension is recommended since the construction is anticipated to continue through 2024.
2. Approval of the permit issuance contingent upon:

    a) Continued compliance with General Requirements

    b) Financial Assurance in the amount of $1,310,152.

    c) Applicant providing the name and contact information of the individual responsible for erosion and sediment control at the site.

    d) Submission of draft revised, updated maintenance and inspection declarations for Outlot A and Lot 1 Block 1 (and Outlot C), as necessary, and a maintenance declaration for Outlot B. A maintenance declaration template is available on the permits page of the RPBCWD website. (http://www.rpbcwd.org/permits/). If needed separate new or revised declarations can be completed for each parcel (Lot 1, Outlot A and Outlot B), but the declarations must include cross-dedication of rights to access and rely on stormwater-treatment capacity among the parcels as necessary to implement the proposed stormwater management. Revised and new declarations must be submitted

in draft form for RPBCWD administrative approval prior to recordation. After construction, any modifications to the proposed revised, updated maintenance and inspection declarations of Outlot A and Lot 1, Block 1 (and Outlot C), as necessary, and the maintenance declaration for Outlot B needed to reflect changes during construction (which must be approved by RPBCWD) must be submitted for RPBCWD approval prior to recordation.

e) Replenish the permit fee deposit to the original amount or such lesser amount as the RPBCWD administrator determines sufficient within 45 days of receiving notice that such deposit is due in order to cover actual costs incurred to facilitate the review of the application materials for compliance with the RPBCWD Rules.

f) The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued.

By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Per Rule J Subsection 2.6, performance monitoring, the applicant must monitor the proposed irrigation systems. The recorded reuse volumes must be submitted to the RPBCWD annually for five years; $5,000 of the financial assurance required above will be retained to assure timely submittal of the first and second annual reports. If it is determined that the irrigation systems are not performing as designed, a revised design must be submitted to the District for approval to demonstrate that the volume abstraction and water quality standard is achieved.

2. Per Rule J, Subsection 3.1.b.ii measured infiltration capacity of the soils at the bottom of the underground stormwater management systems on Outlot B (phase 3) must be provided before the BMPs are construction. The applicant must submit documentation verifying the infiltration capacity of the soils and that the volume control capacity is calculated using the measured infiltration rate. If infiltration capacity is less than needed to conform with the volume abstraction requirement in subsection 3.3a , design modifications to achieve compliance with RPBCWD requirements will need to be submitted (in the form of an application for a permit modification or new permit).

3. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization, all the stormwater facilities conform to design specifications and function as intended and approved by the District. As-built/record drawings must be signed by a professional engineer licensed in Minnesota and include, but not limited to:

    a. the surveyed bottom elevations, water levels, and general topography of all facilities;

    b. the size, type, and surveyed invert elevations of all stormwater facility inlets and outlets;

    c. the surveyed elevations of all emergency overflows including stormwater facility, street, and other;

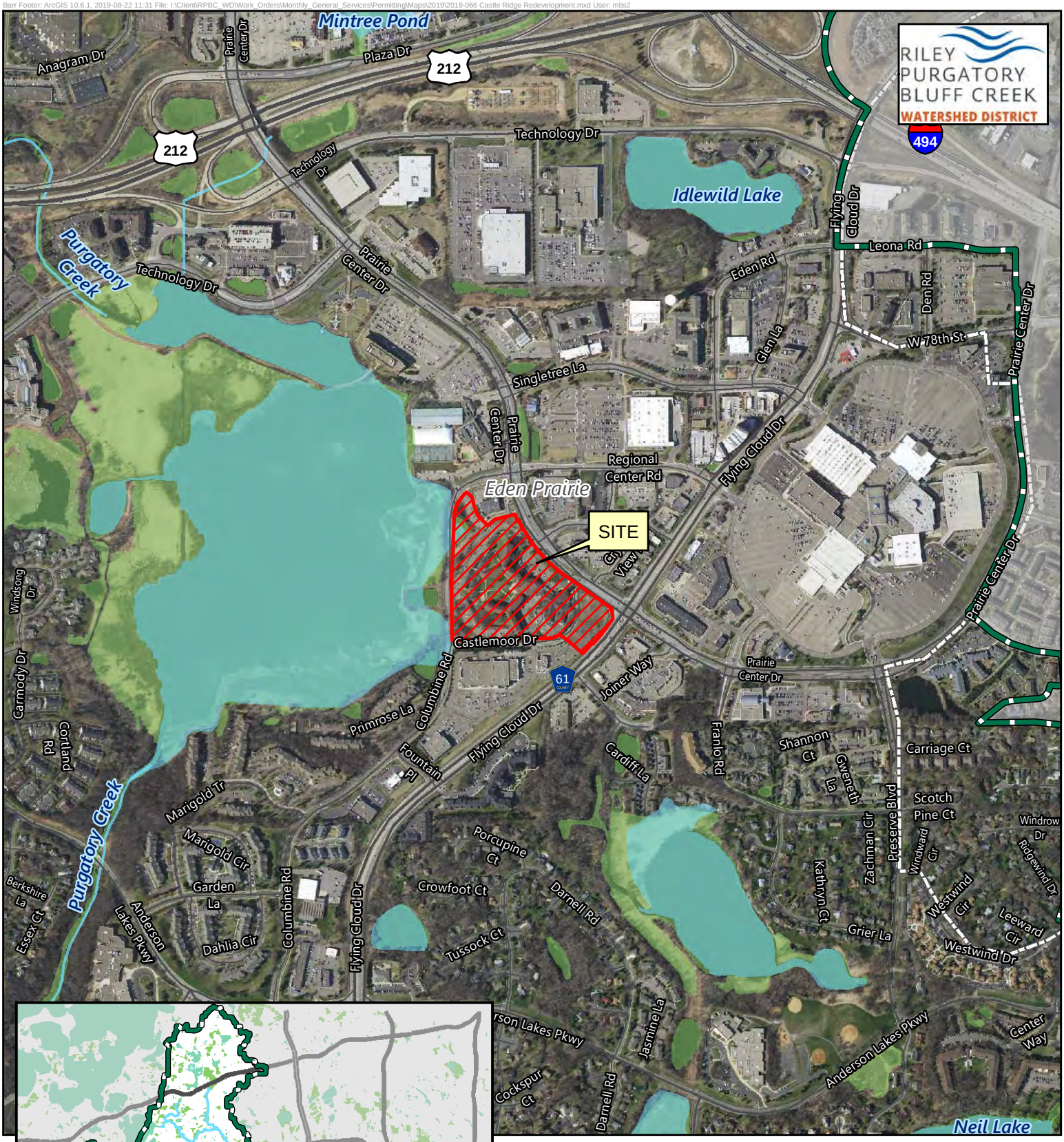
4. Providing the following additional close-out materials:

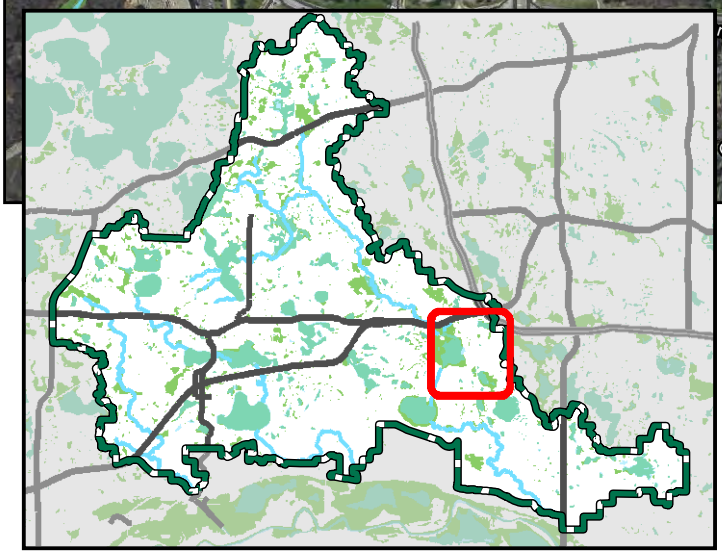
    a. Documentation that disturbed pervious areas remaining pervious have been decompacted per Rule C.2c criteria

5. The work on the Castle Ridge redevelopment under the terms of permit 2018-066, if issued, must have an impervious surface area and configuration materially consistent with the approved plans. Design that differs materially from the approved plans (e.g., in terms of total impervious area) will need to be the subject of a request for a permit modification or new permit, which will be subject to review for compliance with all applicable regulatory requirements.

6. To close out the permit and release the $5,000 in financial assurance held for the purpose of the chloride management, the permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.

7. Proof of recordation must be submitted as a stipulation of approval and return of the financial assurance.





Feet

0 1,000

Permit Location Map

CASTLE RIDGE REDEVELOPMENT

Permit 2018-066

Riley Purgatory Bluff Creek Watershed District

Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance

Construction Documents

for

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Prepared for:
Senior Housing Partners
3116 Fairview Avenue N
Roseville, MN 55113
Contact: Jon Fletcher
Phone: 262-490-4465
Email: jfletcher@seniorpartners.com

Prepared by:
Westwood

Phone: (952) 937-5150 12701 Whitewater Drive, Suite #200
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Toll Free: (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Project number: 0015752.00
Contact: Gretchen Schroeder

Vicinity Map

(Not to Scale)

NO.	DATE	REVISION	SHEETS
.	01/18/19	City Resubmittal	ALL
.	02/14/19	City Comments	5,7
.	03/22/19	City Comments	ALL
.	04/30/19	City Comments	4–7,12,15
.	05/21/19	Watershed Submittal	ALL
.	06/04/19	Road Shift/City Comments	ALL
.	08/05/19	Watershed Resubmittal	ALL
.	08/30/19	Issue For Pricing	ALL
.	09/09/19	Watershed Resubmittal	ALL
.	09/25/19	Watershed Resubmittal	12
.	10/14/19	Issue for Permit	ALL
.	12/23/19	Construction Plans	ALL
.	01/17/2020	Utility Adjustments	11–12
.	03/09/2020	DLI Comments	11–12
.	03/30/2020	DLI/City Comments	11–12
.	03/31/2020	Timberland & Cistern Storm	12
.	04/13/2020	City Comments	11
.	05/04/2020	Retaining Wall	4,6,7
.	05/14/2020	Sanitary Connection	11
.	06/02/2020	Cistern Revisions	12
.	07/28/2021	Watershed Resubmittal	7,12,15

Sheet List Table

Sheet Number	Sheet Title
1	Cover Page
2	Existing Conditions Plan
3	Significant Tree Inventory
4	Phase I Removal Plan
5	Phase II Removal Plan
6	Phase I – Senior Housing Site Plan
7	Phase I – Senior Housing Grading Plan
9	Phase I – Senior Housing Erosion Control Plan
10	Phase II – Senior Housing Grading Plan & Erosion Control
11	Phase I – Senior Housing Sanitary and Water Plan
12	Phase I – Senior Housing Storm Sewer Plan
13	Phase II – Senior Housing Utility Plan
14	Details
15	Details
16	Phase I – Senior Housing Landscape Plan
17	Landscape Details
18	Site Amenities Plan
19	Wetland Buffer Plan
20	SWPPP Narrative
21	SWPPP Notes

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www.westwoodps.com

Designed:
Checked:
Drawn:
Record Drawing by/date:

Revisions:
10/03/2018 Construction Plans
05/09/2020 DLI Comments
05/30/2020 DLI/City Comments
07/31/2020 Timberland & Cistern Storm
09/03/2020 City Comments
10/06/2020 Retaining Wall
05/04/2020 Sanitary Connection
05/07/2021 481-491 Revised Terrace
09/28/2021 481-497 Revised Lot1 Plan
07/28/2021 Watershed Resubmittal

Prepared for:
Senior Housing Partners
3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment
Eden Prairie, Minnesota

Cover Page

Date: 10/03/2018
Sheet: 1 OF 21
0015752CVP01.dwg

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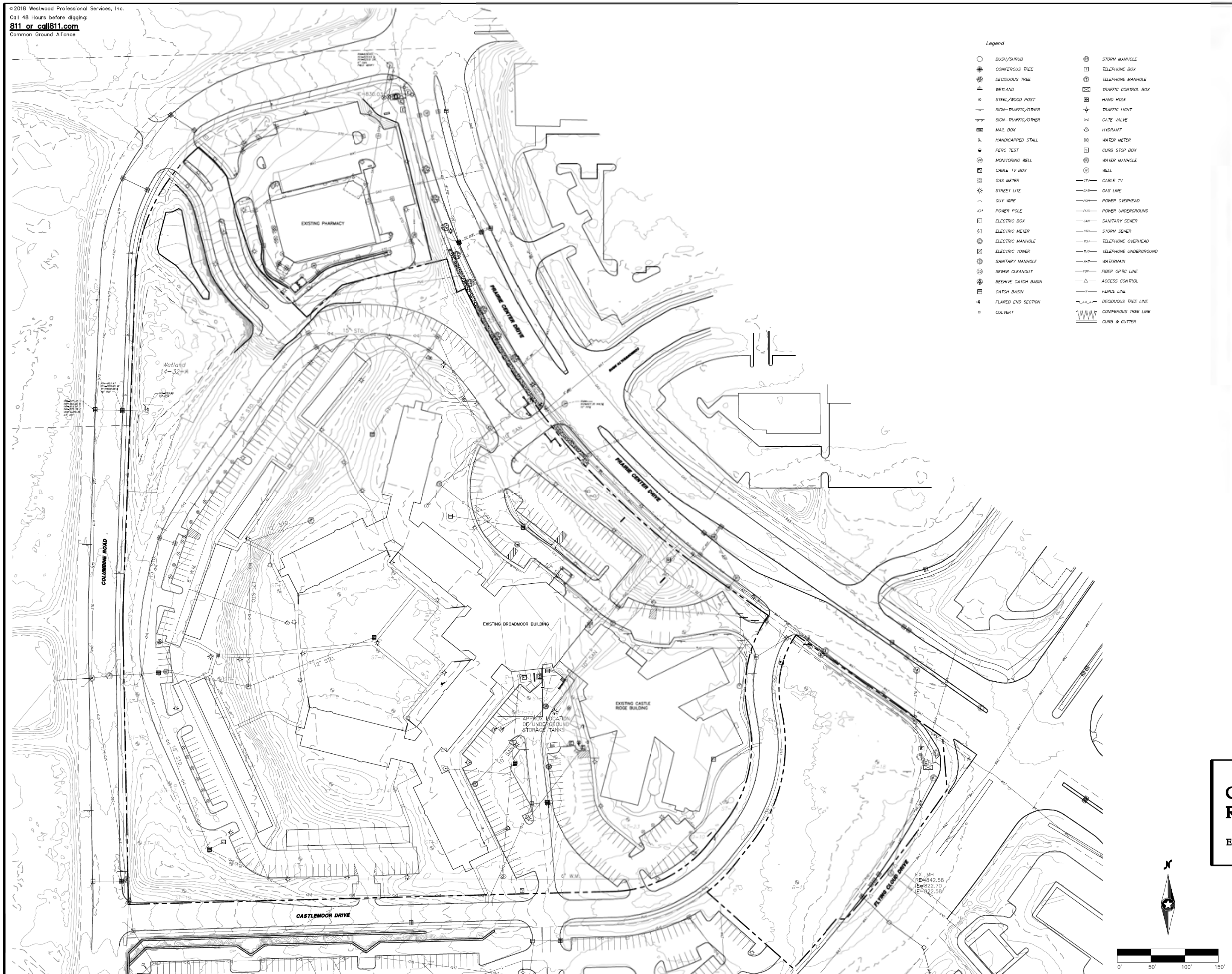

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Designed:
Checked:
Drawn:
Record Drawing by/date:

Revisions:
12/23/2019 Construction Plans
03/09/2020 City Comments
03/30/2020 City Comments
03/31/2020 Timberland & Custom chorm
04/13/2020 City Comments
05/04/2020 Retaining wall
08/20/2020 RFI 271 Generator Pad
05/07/2021 RFI-481 Revised Service
05/28/2021 RFI-497 Revised Light Poles
07/28/2021 Amended Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Gretchen Schroeder

Date: 07/28/2021 License No. 43019

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Existing Conditions Plan

Date: 10/03/2018
Sheet: 2 OF 21

0015753EXP01.dwg

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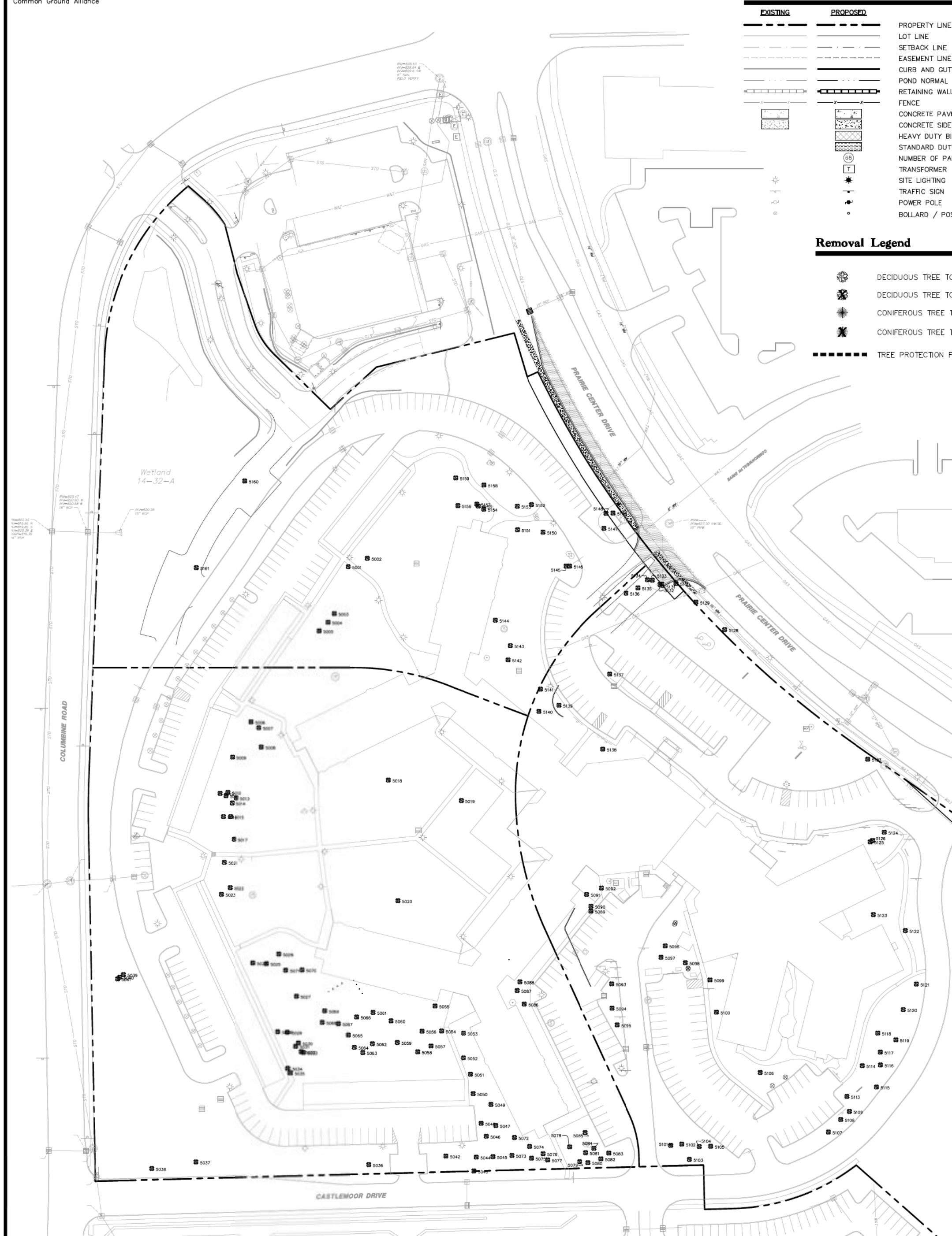
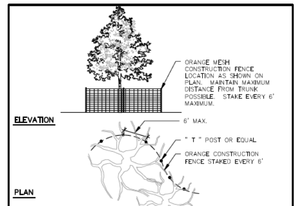


Site Legend

EXISTING	PROPOSED	
		PROPERTY LINE
		LOT LINE
		SETBACK LINE
		EASEMENT LINE
		CURB AND GUTTER
		POND NORMAL WATER LEVEL
		RETAINING WALL
		FENCE
		CONCRETE PAVEMENT
		CONCRETE SIDEWALK
		HEAVY DUTY BITUMINOUS PAVEMENT
		STANDARD DUTY BITUMINOUS PAVEMENT
	68	NUMBER OF PARKING STALLS
	T	TRANSFORMER
		SITE LIGHTING
		TRAFFIC SIGN
		POWER POLE
		BOLLARD / POST

Removal Legend

- DECIDUOUS TREE TO BE SAVED
- DECIDUOUS TREE TO BE REMOVED
- CONIFEROUS TREE TO BE SAVED
- CONIFEROUS TREE TO BE REMOVED
- TREE PROTECTION FENCING



NOTES:

1. PRUNING WILL BE DONE BY PROFESSIONALS DURING APPROPRIATE PRUNING SEASON.
2. NO STORAGE OF MATERIALS, OPERATION OF MACHINERY, OR DEVELOPMENT OF ANY SORT WILL OCCUR WITHIN THE FENCE-LINE WITHOUT APPROVAL IN WRITING FROM THE CITY.
3. SITE GRADING TO BE DONE ONLY AFTER PROTECTIVE MEASURES HAVE BEEN TAKEN, CITY HAS APPROVED FENCING LOCATIONS, AND ALL CONTRACTORS HAVE BEEN BRIEFED ON TREE PRESERVATION TECHNIQUES.

Westwood | TREE PROTECTION | LAST REVISED: 09/16/08 | LA19

Tree Inventory (Outlot A)

TAG ID	DESCRIPTION	CALIPER	MODIFIER	MODIFIER	IMPORTANCE	REMOVED
5001	SPC	14			s	
5002	SPC	15			s	
5003	BSW	24			s	
5004	OKB	26			s	
5005	OKB	31			s	
5142	PIW	16			s	
5143	PIW	16			s	
5144	ASH	32			h	
5145	PIR	12			s	
5146	PIW	14			s	
5147	ASH	14			s	
5148	SPC	12			s	
5149	SPC	16			s	
5150	BSW	18			s	
5151	BSW	18			s	
5152	BSW	12			s	
5153	BSW	16			s	
5154	PIR	16			s	
5155	PIR	15			s	
5156	ASH	13			s	
5157	PIR	15			s	
5158	MPS	20			s	
5159	ASH	22			s	
5160	ASH	14			s	
5161	CWD	24			s	

Tree Inventory List (Lot 1)

TAG ID	DESCRIPTION	CALIPER	MODIFIER	MODIFIER	IMPORTANCE	REMOVED
5006	BSW	28			s	X
5007	BSW	20			s	X
5008	OKB	38			h	X
5009	BSW	17			s	X
5010	BSW	18			s	X
5011	BSW	20			s	X
5012	BSW	16			s	X
5013	OKB	26			s	X
5014	OKB	24			s	X
5015	BSW	21			s	X
5016	BSW	24			s	X
5017	OKB	38			h	X
5018	LCB	28			s	X
5019	LCB	22			s	X
5020	LCB	20			s	X
5021	BSW	26	X	pd	s	X
5022	BSW	36	X	pd	h	X
5023	OKB	38			h	X
5024	OKB	25			s	X
5025	BSW	16			s	X
5026	CWD	40			s	X
5027	ASH	14			s	X
5028	BSW	16	X		s	X
5029	BSW	20	X		s	X
5030	BSW	14			s	X
5031	BSW	12			s	X
5032	BSW	14			s	X
5033	BSW	26		pd	s	X
5034	BSW	14			s	X
5035	BSW	14			s	X
5036	SPC	23			s	X
5037	PIR	8		pd	s	X
5038	SPC	8			s	X
5039	CWD	22			s	X
5040	CWD	18	X		s	X
5041	CWD	26			s	X
5042	SPC	8			s	X
5043	SPC	9			s	X
5044	ASH	23			s	X
5045	ASH	16			s	X
5046	ASH	21			s	X
5047	ASH	18			s	X
5048	ASH	14			s	X
5049	ASH	16			s	X
5050	ASH	16			s	X
5051	ASH	20			s	X
5052	ASH	22			s	X
5053	SPC	8			s	X
5054	SPC	13			s	X
5055	SPC	10			s	X
5056	ASH	18			s	X
5057	ASH	16			s	X
5058	ASH	21			s	X
5059	ASH	18			s	X
5060	ASH	21			s	X
5061	ASH	22			s	X
5062	SPC	16			s	X
5063	SPC	16			s	X
5064	SPC	12			s	X
5065	SPC	10			s	X
5066	ASH	26			s	X
5067	SPC	14		pd	s	X
5068	SPC	8			s	X
5069	SPC	9			s	X
5070	SPC	9			s	X
5071	SPC	13			s	X
5072	SPC	11			s	X
5073	ASH	22			s	X
5074	SPC	8			s	X
5075	SPC	14			s	X
5076	SPC	11			s	X
5077	SPC	16			s	X
5078	SPC	13			s	X
5079	SPC	12			s	X
5080	SPC	16			s	X
5081	SPC	10			s	X
5082	SPC	14			s	X
5083	SPC	17			s	X
5084	SPC	13			s	X
5085	SPC	14			s	X
5086	SPC	9			s	X
5087	SPC	12			s	X
5088	SPC	10			s	X

Tree Inventory (Outlot B)

TAG ID	DESCRIPTION	CALIPER	MODIFIER	MODIFIER	IMPORTANCE	REMOVED
5089	SPC	10			s	
5090	SPC	8			s	
5091	SPC	12			s	
5092	SPC	14			s	
5093	ASH	12		pd	s	
5094	ASH	12			s	
5095	ASH	12			s	
5096	ASH	22			s	
5097	SPC	9			s	
5098	MPA	12			s	
5099	MPV	32			h	
5100	MPV	22			s	
5101	SPC	12			s	
5102	SPC	10			s	
5103	SPC	12			s	
5104	SPC	11			s	
5105	SPC	9			s	
5106	ASH	18			s	
5107	SPC	11			s	
5108	SPC	9			s	
5109	SPC	8			s	
5110	CWD	13			s	
5111	CWD	12			s	
5112	CWD	14			s	
5113	SPC	8			s	
5114	LCB	22			s	
5115	SPC	12			s	
5116	SPC	10			s	
5117	PIR	10			s	
5118	LCB	14			s	
5119	PIR	8			s	
5120	MPV	38			h	
5121	LCB	16			s	
5122	LCB	21			s	
5123	FRT	14			s	
5124	LCB	20			s	
5125	SPC	22			s	
5126	SPC	14			s	
5127	LCB	12			s	
5130	LCB	14			s	
5131	SPC	13			s	
5132	SPC	10			s	
5133	SPC	9			s	
5134	ASH	16			s	
5135	ASH	14			s	
5136	ASH	13			s	
5137	FRT	14			s	
5138	PIR	21			s	
5139	ASH	17			s	
5140	ASH	24			s	
5141	ASH	20			s	

CODE	SPECIES
ASH	Green & White Ash
BSW	Basswood
CWD	Cottonwood
FRT	Fruit Tree
HAK	Hackberry
LCB	Black Locust
MPA	Amur Maple
MPS	Sugar Maple
MPV	Silver Maple
OKB	Bur Oak
PIR	Red (Norway) Pine
PIW	White Pine
SPC	Colorado Spruce

MODIFIER LEGEND

- x — muli-trunked
- pd — physically damaged (e.g. tornado, wind/ice storm)
- bd — biologically damaged (e.g. insects, fungal, bacterial)
- s — Significant Tree: Any living deciduous tree (except elm, willow, box elder and aspen) measuring at least 12 and less than 32 inches in diameter, or a living coniferous tree measuring at least 8 and less than 24 inches in diameter.
- h — Heritage Tree: Any living deciduous tree (except cottonwood, elm, willow, box elder and aspen) measuring 32 inches in diameter or greater, or a living coniferous tree measuring 24 inches in diameter or greater.

Tree Replacement Calculations (Lot 1)

SIGNIFICANT TREE REPLACEMENT:
Significant tree caliper inches are to be replaced at a 1:2 ratio.

A = EXISTING CALIPER INCHES:	1,325 CAL. IN.
B = CALIPER INCHES REMOVED:	1,325 CAL. IN.
(B/A) = PERCENTAGE OF CALIPER INCHES REMOVED:	100.00%
C = REPLACEMENT RATIO PER ORDINANCE:	(0.5)
TREE REPLACEMENT FORMULA:	(B/A)(C)(B)
	(1.00)(0.5)(1,325)
TOTAL REPLACEMENT REQUIRED:	663 CAL. IN.

HERITAGE TREE REPLACEMENT:
Heritage tree caliper inches are to be replaced at a 2:1 ratio.

A = EXISTING CALIPER INCHES:	150 CAL. IN.
B = CALIPER INCHES REMOVED:	150 CAL. IN.
(B/A) = PERCENTAGE OF CALIPER INCHES REMOVED:	100%
C = REPLACEMENT RATIO PER ORDINANCE:	(2)
TREE REPLACEMENT FORMULA:	(B/A)(C)(B)
	(1)(2)(150)
TOTAL REPLACEMENT REQUIRED:	300 CAL. IN.

TOTAL CALIPER INCHES REPLACED:
(Significant + Heritage Trees)

	(663+300)
TOTAL REPLACEMENT REQUIRED:	963 CAL. IN.

0' 50' 100' 150'

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Checked:
Drawn:
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Revisions:

Date: 07/28/2021

Prepared for:

Senior Housing Partners
3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Significant Tree Inventory

Date: 10/03/2018
Sheet: 3 OF 21
0015752TPP01.dwg

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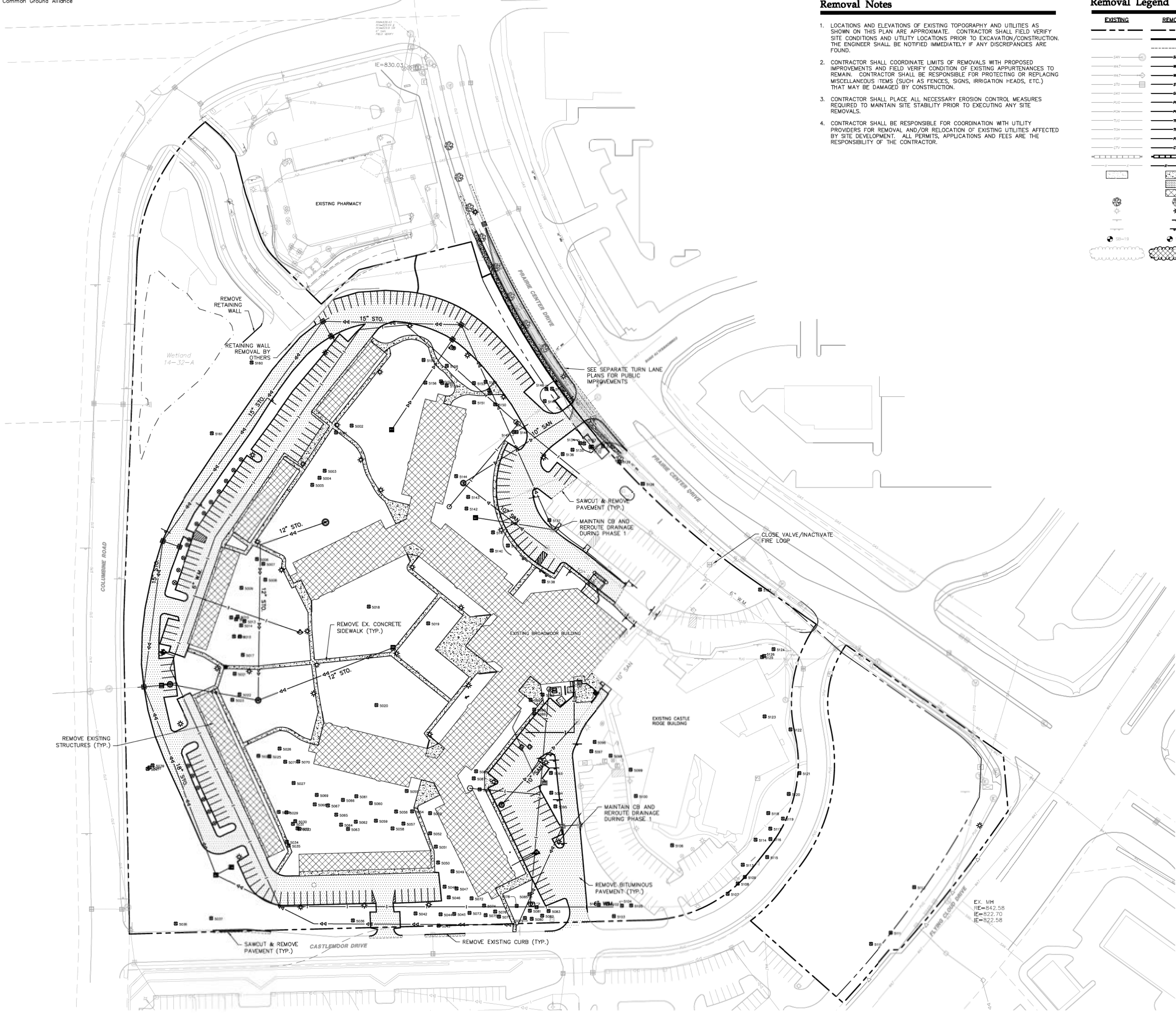

Removal Notes

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2. CONTRACTOR SHALL COORDINATE LIMITS OF REMOVALS WITH PROPOSED IMPROVEMENTS AND FIELD VERIFY CONDITION OF EXISTING APPURTENANCES TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING OR REPLACING MISCELLANEOUS ITEMS (SUCH AS FENCES, SIGNS, IRRIGATION HEADS, ETC.) THAT MAY BE DAMAGED BY CONSTRUCTION.
3. CONTRACTOR SHALL PLACE ALL NECESSARY EROSION CONTROL MEASURES REQUIRED TO MAINTAIN SITE STABILITY PRIOR TO EXECUTING ANY SITE REMOVALS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITY PROVIDERS FOR REMOVAL AND/OR RELOCATION OF EXISTING UTILITIES AFFECTED BY SITE DEVELOPMENT. ALL PERMITS, APPLICATIONS AND FEES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

Removal Legend

EXISTING / REMOVALS

PROPERTY LINE
CURB & GUTTER
SAW CUT PAVEMENT
SANITARY SEWER
WATER MAIN
HYDRANT
STORM SEWER
GAS
UNDERGROUND ELECTRIC
OVERHEAD ELECTRIC
UNDERGROUND TELEPHONE
OVERHEAD TELEPHONE
TELEPHONE FIBER OPTIC
CABLE TELEVISION
RETAINING WALL
FENCE
CONCRETE
BITUMINOUS
BUILDING
TREE
LIGHT POLE
TRAFFIC SIGN
CONSTRUCTION BARRICADE
SOIL BORING LOCATION
TREE LINE

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12/23/2019 Construction Plans
03/09/2020 Go Comments
03/30/2020 Go/City Comments
03/31/2020 Timberland & Custom Storm
04/13/2020 City Comments
05/04/2020 Retaining Wall
08/20/2020 RFI 271 Generator Pad
05/07/2021 RFI-481 Revised Service
05/26/2021 RFI-497 Revised Light Poles
07/28/2021 Amended Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Gretchen Schroeder

Date: 07/28/2021 License No. 43019

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Phase I Removal Plan

Date: 10/03/2018
Sheet: 4 OF 21

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Removal Notes

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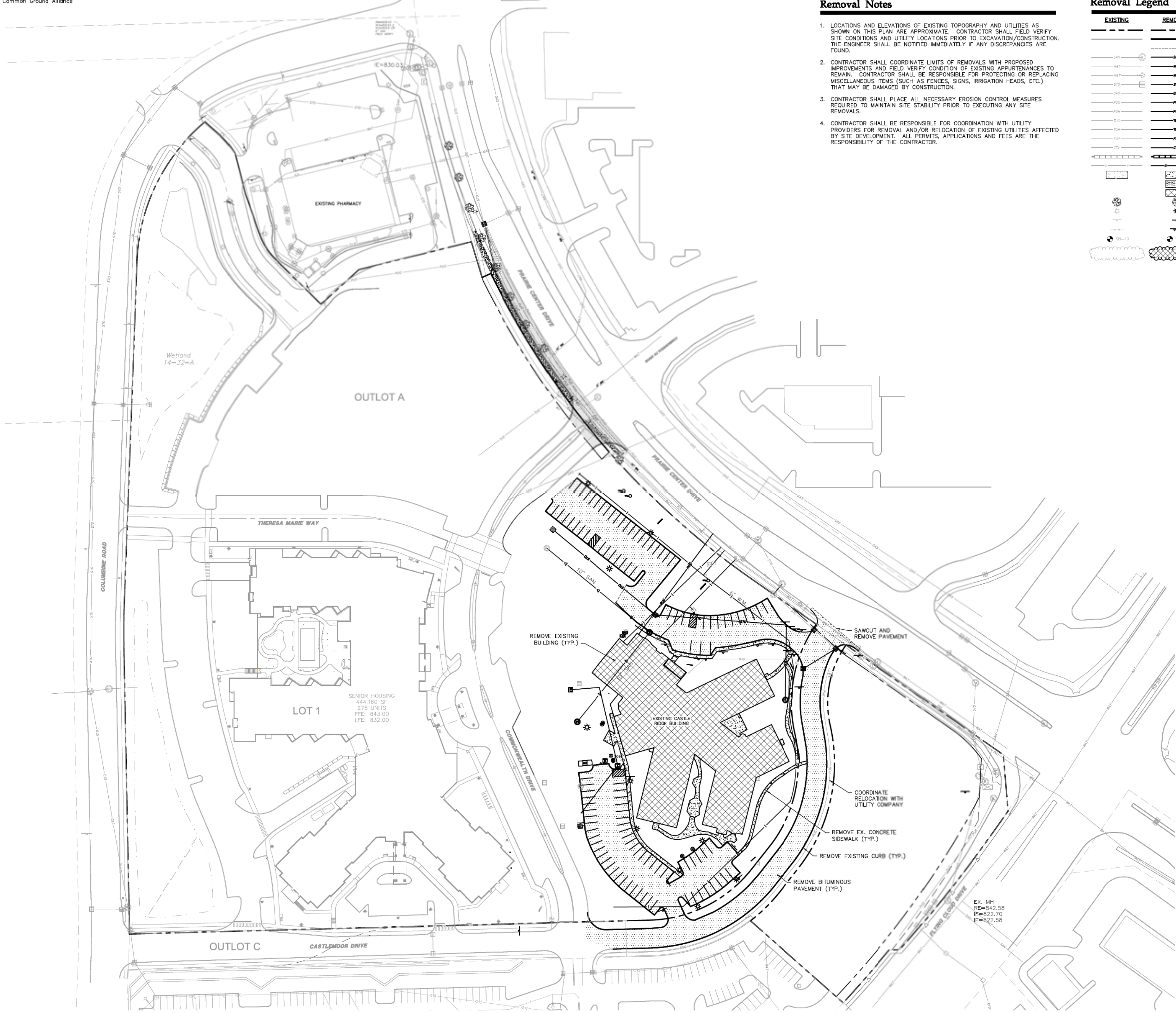
Removal Legend

EXISTING	REMOVALS	
		PROPERTY LINE
		CURB & GUTTER
		SAW CUT PAVEMENT
		SANITARY SEWER
		WATER MAIN
		HYDRANT
		STORM SEWER
		GAS
		UNDERGROUND ELECTRIC
		OVERHEAD ELECTRIC
		UNDERGROUND TELEPHONE
		OVERHEAD TELEPHONE
		TELEPHONE FIBER OPTIC
		CABLE TELEVISION
		RETAINING WALL
		FENCE
		CONCRETE
		BITUMINOUS
		BUILDING
		TREE
		LIGHT POLE
		TRAFFIC SIGN
		CONSTRUCTION BARRICADE
		SOIL BORING LOCATION
		TREE LINE



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08/20/2020 RFI 271 Generator Pad
05/07/2021 RFI-491 Revised Terrace
05/28/2021 RFI-497 Revised Light Poles
07/28/2021 Amended Resubmittal

[illegible]

Gretchen Schroeder

Date: 07/28/2021 License No. 43039

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Phase II Removal Plan

Date: 10/03/2018
Sheet: 5 OF 21

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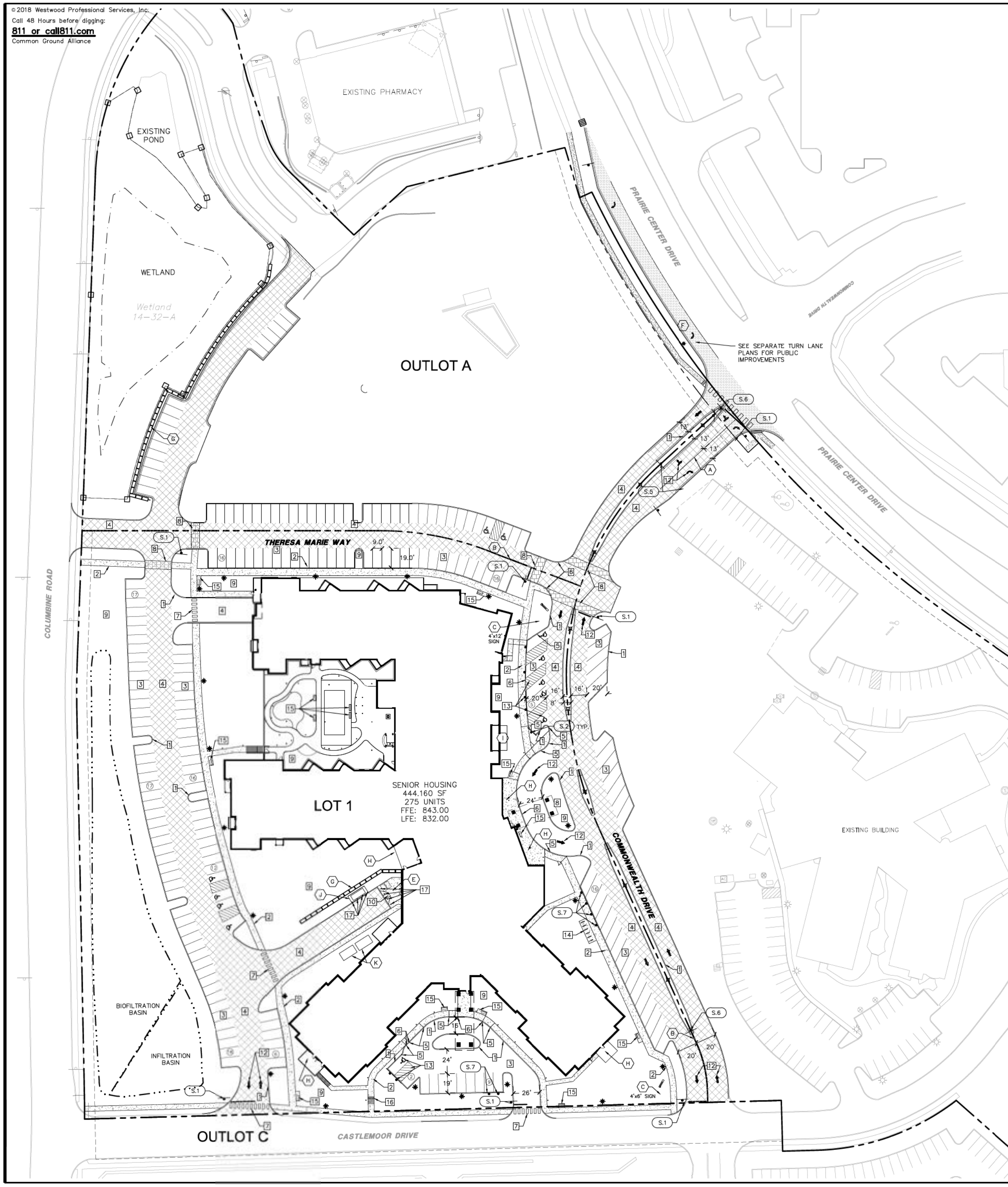

Site Legend

EXISTING	PROPOSED	
		PROPERTY LINE
		LOT LINE
		SETBACK LINE
		EASEMENT LINE
		CURB AND GUTTER
		POND NORMAL WATER LEVEL
		RETAINING WALL
		FENCE
		CONCRETE PAVEMENT
		CONCRETE SIDEWALK
		HEAVY DUTY BITUMINOUS PAVEMENT
		STANDARD DUTY BITUMINOUS PAVEMENT
	(68)	NUMBER OF PARKING STALLS
	T	TRANSFORMER
		SITE LIGHTING
		DECORATIVE LIGHTING
		TRAFFIC SIGN
		POWER POLE
		BOLLARD / POST

General Site Notes

1. BACKGROUND INFORMATION FOR THIS PROJECT PROVIDED BY WESTWOOD PROFESSIONAL SERVICES, MINNETONKA, MN, 2018.
2. LOCATIONS AND ELEVATIONS OF EXISTING TOPOGRAPHY AND UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AND UTILITY LOCATIONS PRIOR TO EXCAVATION/CONSTRUCTION. IF ANY DISCREPANCIES ARE FOUND, THE ENGINEER SHOULD BE NOTIFIED IMMEDIATELY.
3. REFER TO BOUNDARY SURVEY FOR LOT BEARINGS, DIMENSIONS AND AREAS.
4. ALL DIMENSIONS ARE TO FACE OF CURB OR EXTERIOR FACE OF BUILDING UNLESS OTHERWISE NOTED.
5. REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS AND LOCATIONS OF EXITS, RAMPS, AND TRUCK DOCKS.
6. ALL CURB RADII SHALL BE 3.0 FEET (TO FACE OF CURB) UNLESS OTHERWISE NOTED.
7. ALL CURB AND GUTTER SHALL BE B612 UNLESS OTHERWISE NOTED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGGERS AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE CITY AND ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE MNDOT STANDARDS.
9. BITUMINOUS PAVEMENT AND CONCRETE SECTIONS TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
10. CONTRACTOR SHALL MAINTAIN FULL ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES.
11. SITE LIGHTING SHOWN ON PLAN IS FOR REFERENCE ONLY. REFER TO LIGHTING PLAN PREPARED BY OTHERS FOR SITE LIGHTING DETAILS AND PHOTOMETRICS.

1 Site Details

1. B612 CURB & GUTTER (TYP.)
2. 5' CONCRETE SIDEWALK (7' ADJACENT TO PARKING)
3. STANDARD DUTY PAVEMENT
4. HEAVY DUTY PAVEMENT
5. TRANSITION CURB
6. FLUSH CURB
7. CROSSWALK (STRIPED)
8. CROSSWALK (MATERIAL #2)
9. LANDSCAPED AREA
10. PRIVATE PEDESTRIAN CURB RAMP
11. PUBLIC PEDESTRIAN CURB RAMP
12. PAINTED TRAFFIC ARROWS
13. ACCESSIBLE PARKING LOGO, STRIPING, & SIGNAGE
14. BIKE RACKS
15. BENCH
16. CONCRETE STAIRS WITH RAILING
17. BOLLARDS

A Site Notes

- A 4" WHITE LINE STRIPE
- B 4" DOUBLE YELLOW LINE STRIPE
- C MONUMENT SIGN
- D SAWCUT AND MATCH EXISTING PAVEMENT
- E TRUCK LOADING AREA
- F PUBLIC TURNLANE IMPROVEMENTS (SEE SEPARATE PLAN SET)
- G MODULAR BLOCK RETAINING WALL
- H TERRACE
- I YOGA ZONE
- J GENERATOR PAD (REFER TO ELEC. PLAN)
- K TRANSFORMER AND CABINET PAD (REFER TO ELEC. PLAN)

S.10 Sign Legend

REFERENCE		SIZE	MnDOT
S.1	STOP SIGN	30"X30"	R1-1
S.2	HANDICAP ACCESSIBLE	12"X18"	R7-8M
S.5	LANE USE SIGN	36"X30"	R3-8DA
S.6	ISLAND SIGN WITH NINE BUTTONS	24"X30"	R4-7
S.7	15 MINUTE PARKING	12"X18"	

0' 40' 80' 120'

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03/31/2020 Timberland & Custom Storm
04/13/2020 City Comments
05/04/2020 Retaining Wall
05/14/2020 Sanitary Connection
08/20/2020 RFI 231 Generator Pad
05/07/2021 RFI-491 Revised Terrace
05/25/2021 RFI-497 Revised Light Poles
07/28/2021 — Watermain Residential

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Gretchen Schroeder
Date: 07/28/2021 License No. 43019

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Phase I - Senior Housing Site Plan

Date: 10/03/2018
Sheet: 6 OF 21

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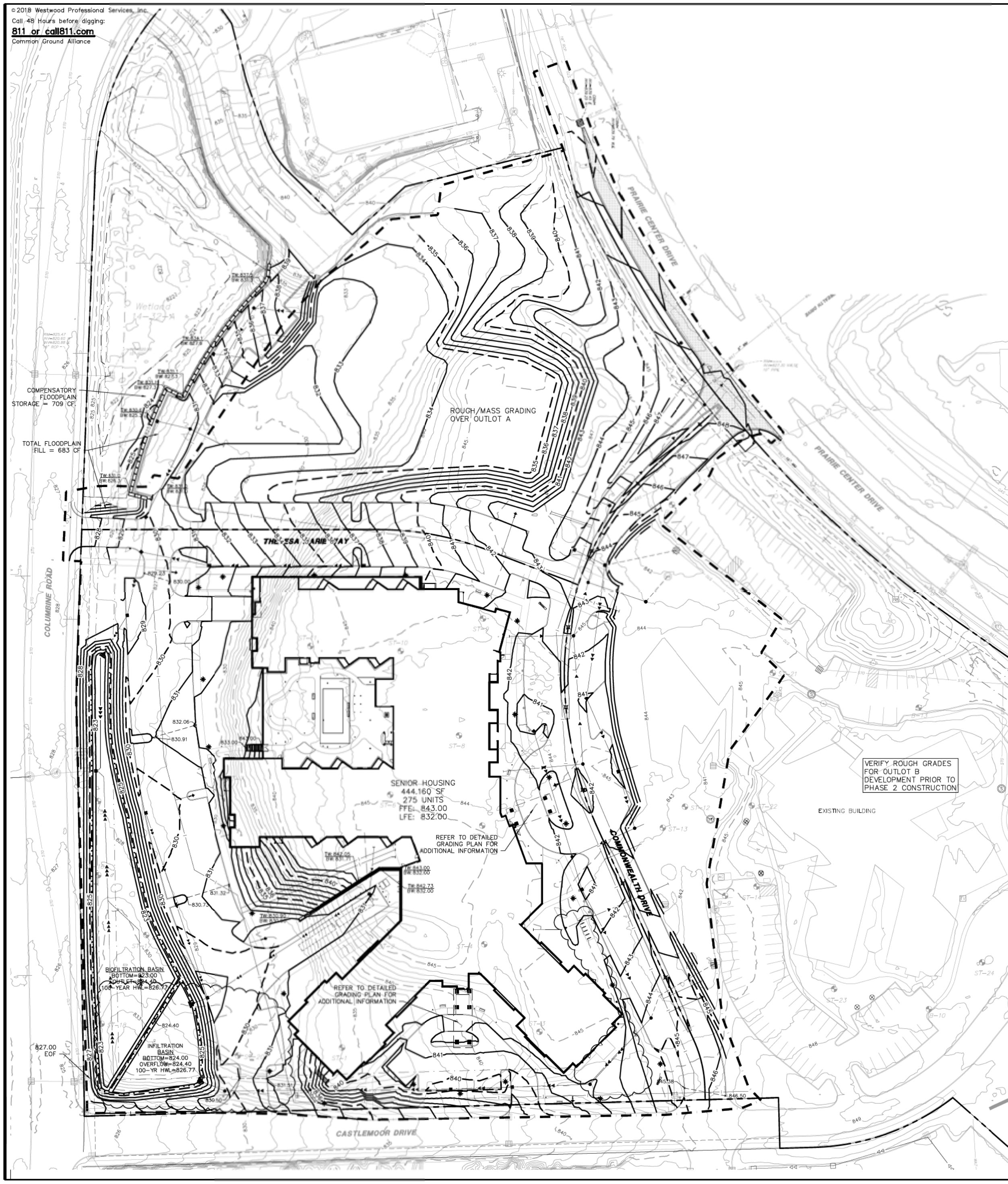

Grading Notes

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2. CONTRACTORS SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULE, SLOPED PAVEMENT, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY ENTRANCE LOCATIONS, AND EXACT LOCATIONS AND NUMBER OF DOWNSPOUTS.
3. ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR TRENCH EXCAVATION AND BACKFILL/SURFACE RESTORATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
4. ALL DISTURBED UNPAVED AREAS ARE TO RECEIVE SIX INCHES OF TOPSOIL AND SOD OR SEED. THESE AREAS SHALL BE WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. SEE LANDSCAPE PLAN FOR PLANTING AND TURF ESTABLISHMENT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGMEN AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE MNDOT STANDARDS.
6. ALL SLOPES SHALL BE GRADED TO 3:1 OR FLATTER, UNLESS OTHERWISE INDICATED ON THIS SHEET.
7. CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING AND PROVIDE A SMOOTH FINISHED SURFACE WITH UNIFORM SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN OR BETWEEN SUCH POINTS AND EXISTING GRADES.
8. SPOT ELEVATIONS SHOWN INDICATE FINISHED PAVEMENT ELEVATIONS & GUTTER FLOW LINE UNLESS OTHERWISE NOTED. PROPOSED CONTOURS ARE TO FINISHED SURFACE GRADE.
9. SEE SOILS REPORT FOR PAVEMENT THICKNESSES AND HOLD DOWNS.
10. CONTRACTOR SHALL DISPOSE OF ANY EXCESS SOIL MATERIAL THAT EXISTS AFTER THE SITE GRADING AND UTILITY CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS SOIL MATERIAL IN A MANNER ACCEPTABLE TO THE OWNER AND THE REGULATING AGENCIES.
11. CONTRACTOR SHALL PROVIDED A STRUCTURAL RETAINING WALL DESIGN CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.
12. ALL CONSTRUCTION SHALL CONFORM TO LOCAL, STATE AND FEDERAL RULES INCLUDING THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS.
13. PRIOR TO PLACEMENT OF ANY STRUCTURE OR PAVEMENT, A PROOF ROLL, AT MINIMUM, WILL BE REQUIRED ON THE SUBGRADE. PROOF ROLLING SHALL BE ACCOMPLISHED BY MAKING MINIMUM OF 2 COMPLETE PASSES WITH FULLY-LOADED TANDEM-AXLE DUMP TRUCK, OR APPROVED EQUAL, IN EACH OF 2 PERPENDICULAR DIRECTIONS WHILE UNDER SUPERVISION AND DIRECTION OF THE INDEPENDENT TESTING LABORATORY. AREAS OF FAILURE SHALL BE EXCAVATED AND RECOMPACTED AS SPECIFIED HEREIN.
14. EMBANKMENT MATERIAL PLACED BENEATH BUILDINGS AND STREET OR PARKING AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFIED DENSITY METHOD AS OUTLINED IN MNDOT 2105.3F1 AND THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEER.
15. EMBANKMENT MATERIAL NOT PLACED IN THE BUILDING PAD, STREETS OR PARKING AREA, SHALL BE COMPACTED IN ACCORDANCE WITH REQUIREMENTS OF THE ORDINARY COMPACTION METHOD AS OUTLINED IN MNDOT 2105.3F2.
16. ALL SOILS AND MATERIALS TESTING SHALL BE COMPLETED BY AN INDEPENDENT GEOTECHNICAL ENGINEER. EXCAVATION FOR THE PURPOSE OF REMOVING UNSTABLE OR UNSUITABLE SOILS SHALL BE COMPLETED AS REQUIRED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOILS TESTS AND INSPECTIONS WITH THE GEOTECHNICAL ENGINEER.
17. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE.
18. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KPA OR 200 PSI IN THE UPPER 12" OF THE SOIL PROFILE WHILE TAKING CARE TO PROTECT UTILITIES, TREE ROOTS, AND OTHER EXISTING VEGETATION.
19. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
20. THE PERMITTEE MUST, AT A MINIMUM, INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERY DAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL LAND-DISTURBING ACTIVITY HAS CEASED. THEREAFTER, THE PERMITTEE WILL MAINTAIN A LOG OF RESPONSIBILITIES UNDER THIS SECTION FOR INSPECTION BY THE DISTRICT ON REQUEST.
21. ACTIVITIES MUST BE CONDUCTED TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G., ZEBRA MUSSELS, EURASIAN WATERMILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE.

Grading Legend

EXISTING	PROPOSED	
		PROPERTY LINE
980	980	INDEX CONTOUR
982	982	INTERVAL CONTOUR
		CURB AND GUTTER
		POND NORMAL WATER LEVEL
		STORM SEWER
		FLARED END SECTION (WITH RIPRAP)
		WATER MAIN
		SANITARY SEWER
		RETAINING WALL
		DRAIN TILE
		RIDGE LINE
		PHASE 1 GRADING LIMITS
91.00	91.00	SPOT ELEVATION
	1.50%	FLOW DIRECTION
		TOP AND BOTTOM OF RETAINING WALL
	E.O.F. 85.00	EMERGENCY OVERFLOW
SB-19	SB-19	SOIL BORING LOCATION

0' 40' 80' 120'

Westwood

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Checked: GAB
Drawn: TJM
Record Drawing by/date:

Revisions:
12/23/2019 Construction Plans
07/28/2021 – Amended Residential

Gretchen Schroeder

Date: 07/28/2021 License No. 43019

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Phase I - Senior Housing Grading Plan

Date: 10/03/2018
Sheet: 7 OF 21

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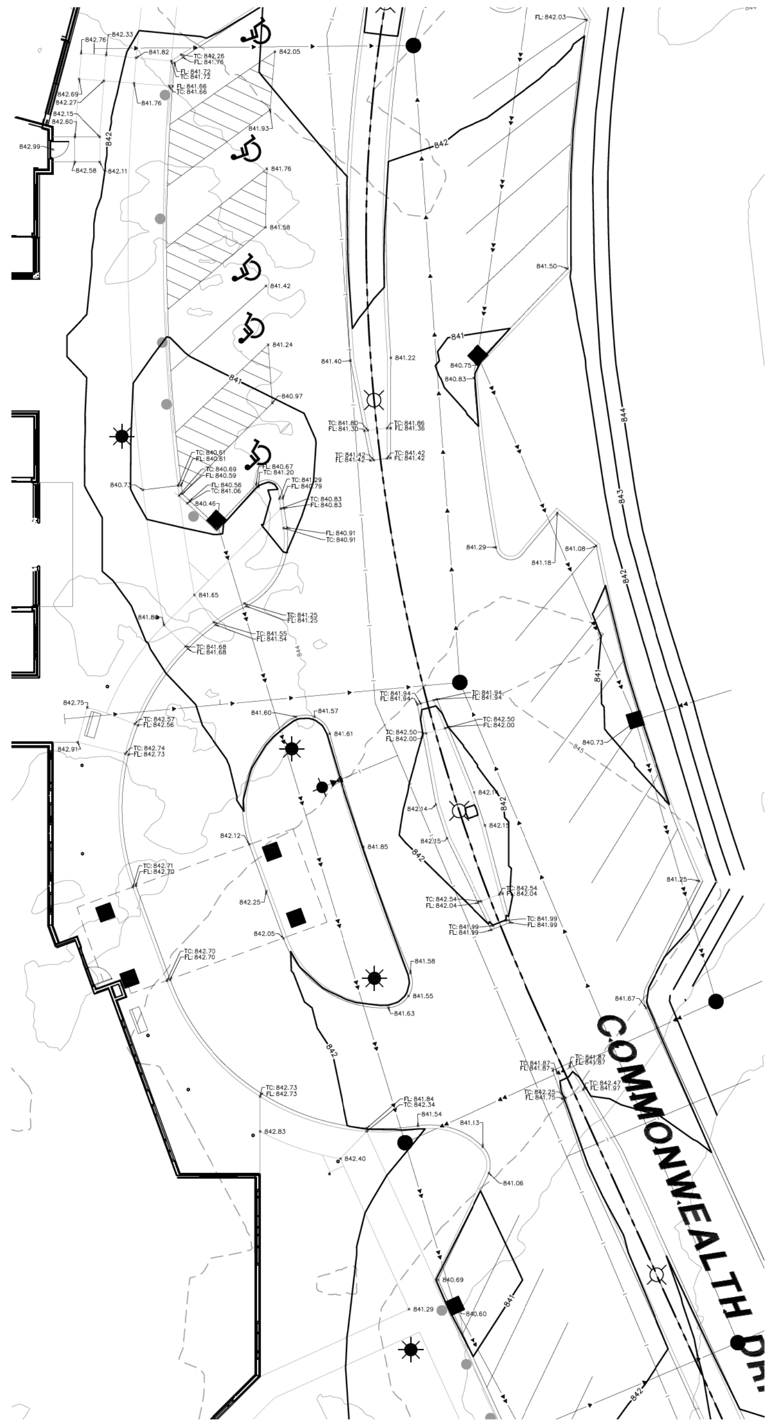
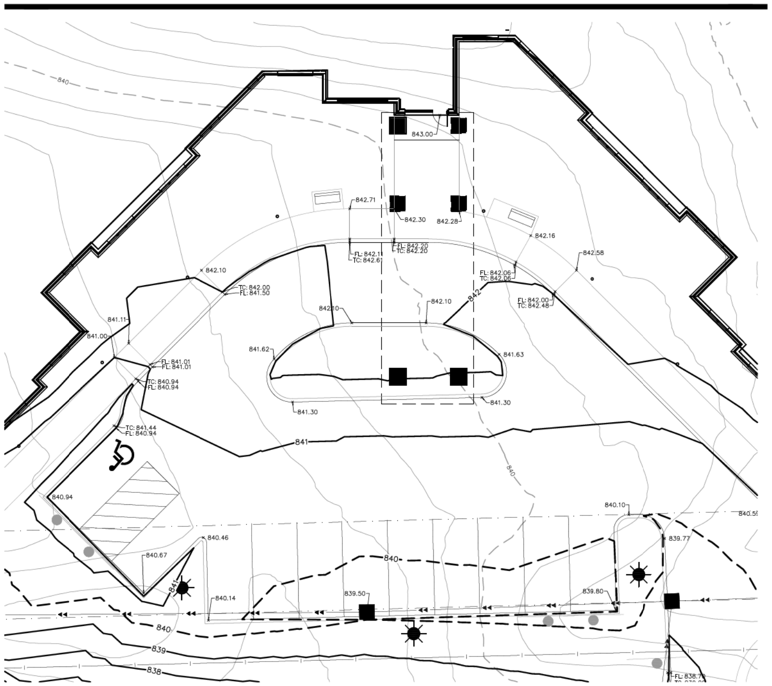
Grading Legend

EXISTING	PROPOSED	
		PROPERTY LINE
980	980	INDEX CONTOUR
982	982	INTERVAL CONTOUR
		CURB AND GUTTER
		POND NORMAL WATER LEVEL
		STORM SEWER
		FLARED END SECTION (WITH RIPRAP)
		WATER MAIN
		SANITARY SEWER
		RETAINING WALL
		DRAIN TILE
		RIDGE LINE
		PHASE 1 GRADING LIMITS
x 91.00	91.00	SPOT ELEVATION
	1.50%	FLOW DIRECTION
		TOP AND BOTTOM OF RETAINING WALL
	E.O.F. 85.00	EMERGENCY OVERFLOW
SB-19	SB-19	SOIL BORING LOCATION

East Entrance



South Entrance



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Revisions:
12/23/2019 Construction Plans
03/09/2020 City Comments
03/10/2020 3rd City Comments
03/31/2020 Timberland & Cistern storm
04/13/2020 City Comments
05/04/2020 Retaining wall
05/14/2020 Sanitary Connection
05/26/2021 RFI-497 Revised Light Poles
05/28/2021 RFI-497 Revised Light Poles
07/28/2021 Amended Resubmittal

Gretchen Schroeder
Date: 07/28/2021 License No. 43019

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Phase I - Senior Housing Detailed Grading Plan

Date: 10/03/2018
Sheet: 8 OF 21

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Erosion Control Notes

1. SILT FENCE WILL BE INSTALLED AROUND SITE IN ALL FILL AREAS AND LOCATIONS WHERE STORM WATER RUNOFF MAY LEAVE THE SITE, PRIOR TO ANY EXCAVATION/CONSTRUCTION ACTIVITIES.
2. ROCK CONSTRUCTION ENTRANCE WILL BE INSTALLED AT ALL CONSTRUCTION ENTRANCES.
3. SILTATION AND EROSION CONTROL: THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE WHATEVER MEANS NECESSARY TO CONTROL THE EROSION AND SILTATION INCLUDING BUT NOT LIMITED CATCH BASIN INSERTS, ROCK CONSTRUCTION ENTRANCES, EROSION CONTROL BLANKET, AND SILT FENCE. CONTROL SHALL COMMENCE WITH GRADING AND CONTINUE THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER. THE CONTRACTOR'S RESPONSIBILITY INCLUDES ALL IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE OWNER MAY DIRECT THE CONTRACTOR'S METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITION OF SILT OR MUD ON NEW OR EXISTING PAVEMENT OR IN EXISTING STORM SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN AFFECTED AREAS SHALL BE CLEANED TO THE SATISFACTION OF THE OWNER, ALL AT THE EXPENSE OF THE CONTRACTOR. ALL TEMPORARY EROSION CONTROL SHALL BE REMOVED BY THE CONTRACTOR AFTER THE TURF IS ESTABLISHED.
4. CONTRACTOR SHALL INSTALL TEMPORARY INLET PROTECTION (WIMCO OR EQUIVALENT) AROUND ALL CATCH BASIN GRATE INLETS, AFFECTED BY THIS CONSTRUCTION.
5. ALL DISTURBED AREAS SHALL HAVE TEMPORARY PROTECTION OR PERMANENT COVER OVER EXPOSED SOIL AREAS IF NOT BEING ACTIVELY GRADED WITHIN SEVEN (7) DAYS.
6. FOR AREAS WITH SLOPE OF 3:1 OR GREATER, RESTORATION WITH SOD OR WOOD FIBER BLANKET IS REQUIRED.
7. PUBLIC STREETS USED FOR HAULING SHALL BE KEPT FREE OF SOIL AND DEBRIS. STREET SWEEPING SHALL BE COMPLETED DAILY.

Grading Legend

EXISTING	PROPOSED	
		PROPERTY LINE
980	980	INDEX CONTOUR
982	982	INTERVAL CONTOUR
		CURB AND GUTTER
		POND NORMAL WATER LEVEL
SF	SF	SILT FENCE
		STORM SEWER
		FLARED END SECTION (WITH RIPRAP)
		WATER MAIN
		SANITARY SEWER
		RETAINING WALL
		DRAIN TILE
		RIDGE LINE
		PHASE 1 GRADING LIMITS
		ROCK CONSTRUCTION ENTRANCE
		EROSION CONTROL BLANKET
91.00	91.00	SPOT ELEVATION
	1.50%	FLOW DIRECTION
		TOP AND BOTTOM OF RETAINING WALL
	E.O.F. 85.00	EMERGENCY OVERFLOW
SB-19	SB-19	SOIL BORING LOCATION
		INLET PROTECTION
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03/20/2020 Div/City Comments
03/31/2020 Timberland & Culvert storm
04/13/2020 City Comments
05/04/2020 Retaining Wall
08/20/2020 RFI 271 Sewer Fix
07/29/2021 — Watershed Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Gretchen Schroeder
Date: 07/28/2021 License No. 43019

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Phase I - Senior Housing Erosion Control Plan

0' 40' 80' 120'

Date: 10/03/2018
Sheet: 9 OF 21

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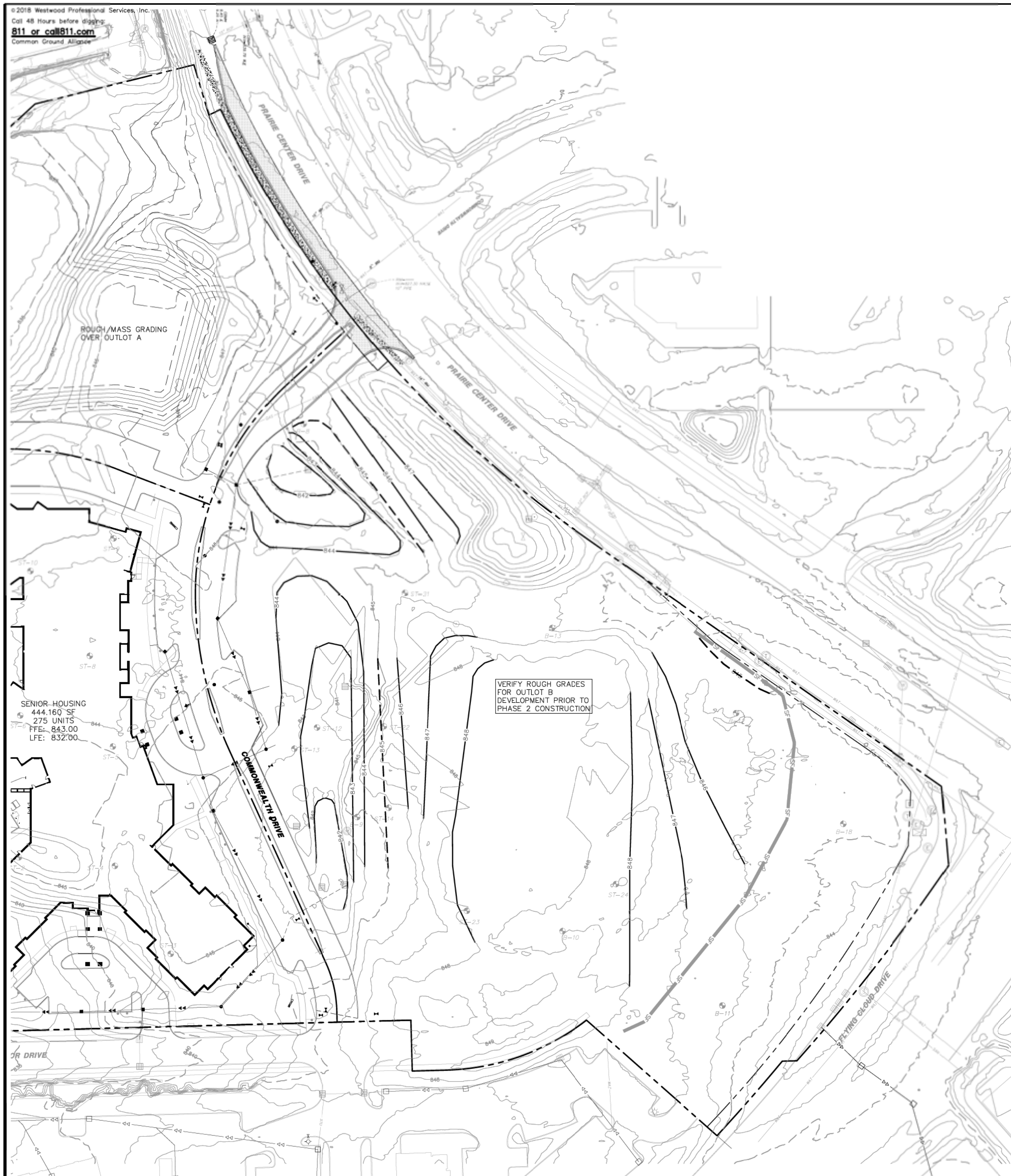

Grading Notes

1. LOCATIONS AND ELEVATIONS OF EXISTING TOPOGRAPHY AND UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AND UTILITY LOCATIONS PRIOR TO EXCAVATION/CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND.
2. CONTRACTORS SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULE, SLOPED PAVEMENT, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY ENTRANCE LOCATIONS, AND EXACT LOCATIONS AND NUMBER OF DOWNSPOUTS.
3. ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR TRENCH EXCAVATION AND BACKFILL/SURFACE RESTORATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
4. ALL DISTURBED UNPAVED AREAS ARE TO RECEIVE SIX INCHES OF TOPSOIL AND SOD OR SEED. THESE AREAS SHALL BE WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. SEE LANDSCAPE PLAN FOR PLANTING AND TURF ESTABLISHMENT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGMEN AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE MNDOT STANDARDS.
6. ALL SLOPES SHALL BE GRADED TO 3:1 OR FLATTER, UNLESS OTHERWISE INDICATED ON THIS SHEET.
7. CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING AND PROVIDE A SMOOTH FINISHED SURFACE WITH UNIFORM SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN OR BETWEEN SUCH POINTS AND EXISTING GRADES.
8. SPOT ELEVATIONS SHOWN INDICATE FINISHED PAVEMENT ELEVATIONS & GUTTER FLOW LINE UNLESS OTHERWISE NOTED. PROPOSED CONTOURS ARE TO FINISHED SURFACE GRADE.
9. SEE SOILS REPORT FOR PAVEMENT THICKNESSES AND HOLD DOWNS.
10. CONTRACTOR SHALL DISPOSE OF ANY EXCESS SOIL MATERIAL THAT EXISTS AFTER THE SITE GRADING AND UTILITY CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS SOIL MATERIAL IN A MANNER ACCEPTABLE TO THE OWNER AND THE REGULATING AGENCIES.
11. CONTRACTOR SHALL PROVIDED A STRUCTURAL RETAINING WALL DESIGN CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.
12. ALL CONSTRUCTION SHALL CONFORM TO LOCAL, STATE AND FEDERAL RULES INCLUDING THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS.
13. PRIOR TO PLACEMENT OF ANY STRUCTURE OR PAVEMENT, A PROOF ROLL, AT MINIMUM, WILL BE REQUIRED ON THE SUBGRADE. PROOF ROLLING SHALL BE ACCOMPLISHED BY MAKING MINIMUM OF 2 COMPLETE PASSES WITH FULLY-LOADED TANDEM-AXLE DUMP TRUCK, OR APPROVED EQUAL IN EACH OF 2 PERPENDICULAR DIRECTIONS WHILE UNDER SUPERVISION AND DIRECTION OF THE INDEPENDENT TESTING LABORATORY. AREAS OF FAILURE SHALL BE EXCAVATED AND RECOMPACTED AS SPECIFIED HEREIN.
14. EMBANKMENT MATERIAL PLACED BENEATH BUILDINGS AND STREET OR PARKING AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFIED DENSITY METHOD AS OUTLINED IN MNDOT 2105.3F1 AND THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEER.
15. EMBANKMENT MATERIAL NOT PLACED IN THE BUILDING PAD, STREETS OR PARKING AREA, SHALL BE COMPACTED IN ACCORDANCE WITH REQUIREMENTS OF THE ORDINARY COMPACTION METHOD AS OUTLINED IN MNDOT 2105.3F2.
16. ALL SOILS AND MATERIALS TESTING SHALL BE COMPLETED BY AN INDEPENDENT GEOTECHNICAL ENGINEER. EXCAVATION FOR THE PURPOSE OF REMOVING UNSTABLE OR UNSUITABLE SOILS SHALL BE COMPLETED AS REQUIRED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOILS TESTS AND INSPECTIONS WITH THE GEOTECHNICAL ENGINEER.
17. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE.
18. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KPA OR 200 PSI IN THE UPPER 12" OF THE SOIL PROFILE WHILE TAKING CARE TO PROTECT UTILITIES, TREE ROOTS, AND OTHER EXISTING VEGETATION.
19. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
20. THE PERMITTEE MUST, AT A MINIMUM, INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERY DAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL LAND-DISTURBING ACTIVITY HAS CEASED. THEREAFTER, THE PERMITTEE WILL MAINTAIN A LOG OF RESPONSIBILITIES UNDER THIS SECTION FOR INSPECTION BY THE DISTRICT ON REQUEST.
21. ACTIVITIES MUST BE CONDUCTED TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G., ZEBRA MUSSELS, EURASIAN WATERMILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE.

Erosion Control Notes

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Grading Legend

EXISTING | PROPOSED

- PROPERTY LINE
- INDEX CONTOUR (980)
- INTERVAL CONTOUR (982)
- CURB AND GUTTER
- POND NORMAL WATER LEVEL
- SILT FENCE
- STORM SEWER
- FLARED END SECTION (WITH RIPRAP)
- WATER MAIN
- SANITARY SEWER
- RETAINING WALL
- DRAIN TILE
- RIDGE LINE
- PHASE 1 GRADING LIMITS
- ROCK CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET
- SPOT ELEVATION (91.00)
- FLOW DIRECTION (1.50%)
- TOP AND BOTTOM OF RETAINING WALL
- EMERGENCY OVERFLOW (E.O.F. 85.00)
- SOIL BORING LOCATION (SB-19)
- INLET PROTECTION
- TREE PROTECTION FENCING

0' 40' 80' 120'

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03/31/2020 Timberland & Culvert
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05/04/2020 Retaining Wall
08/20/2020 RFI 271 Generator Pad
03/07/2021 RFI-461 Revised Terrace
05/26/2021 RFI-497 Revised Light Poles
07/28/2021 Watershed Resubmittal

Gretchen Schroeder
Date: 07/28/2021 License No. 43019

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Phase II - Senior Housing Grading Plan & Erosion Control

Date: 10/03/2018
Sheet: 10 OF 21

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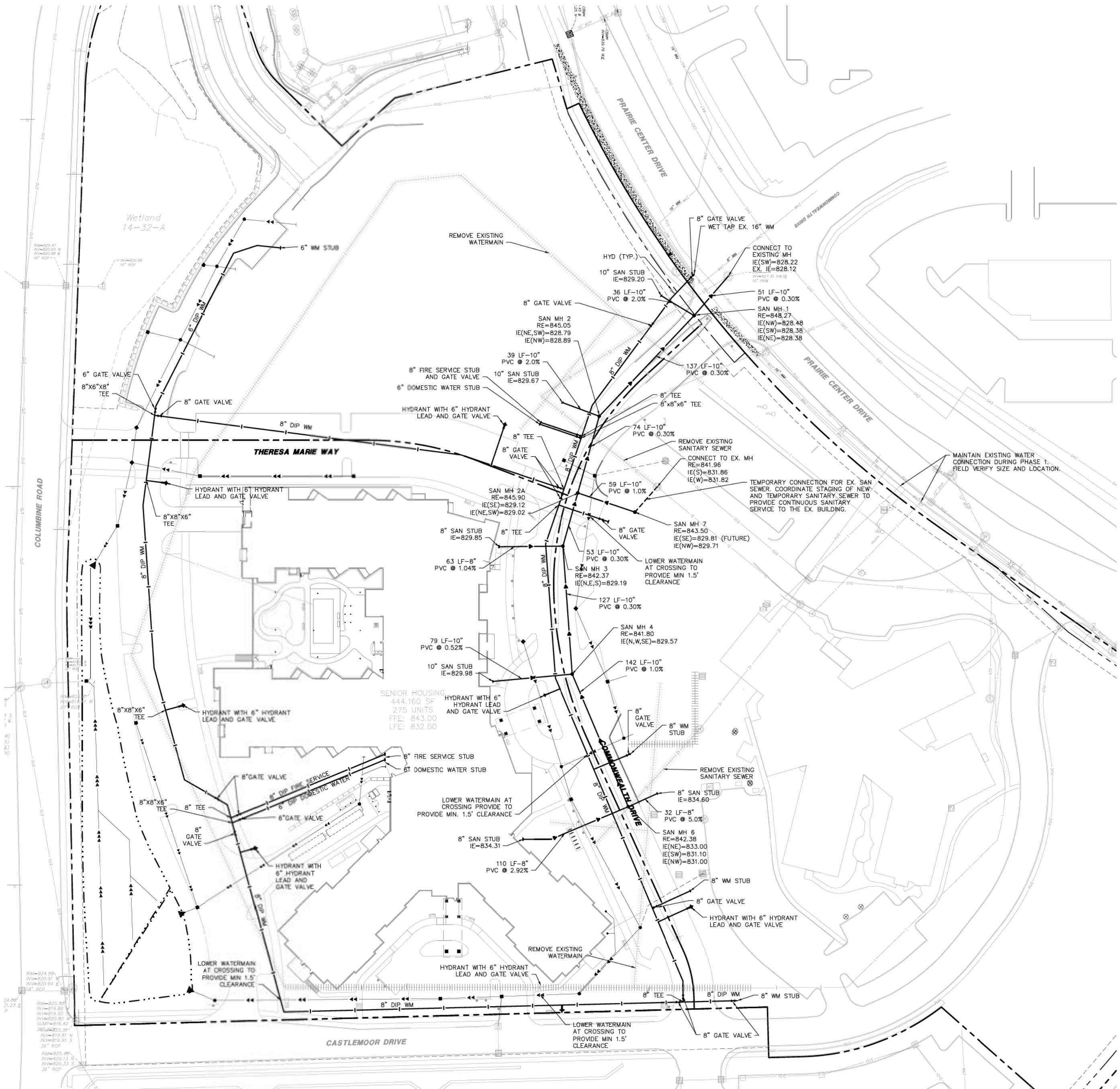

Utility Legend

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
		CURB AND GUTTER
		SANITARY SEWER
		SANITARY SEWER FORCE MAIN
		STORM SEWER
		WATER MAIN
		HYDRANT
		GAS
		UNDERGROUND ELECTRIC
		OVERHEAD ELECTRIC
		UNDERGROUND TELEPHONE
		OVERHEAD TELEPHONE
		TELEPHONE FIBER OPTIC
		CABLE TELEVISION
		DRAIN TILE
		GATE VALVE
		FLARED END SECTION (WITH RIPRAP)
		LIGHT POLE
		VERTICAL UTILITY SEPARATION

General Utility Notes

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND LIMITED MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION SHALL NOT BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY THE OWNER OR ENGINEER OF DISCREPANCIES.
2. ALL SANITARY SEWER, STORM SEWER AND WATER MAIN INSTALLATIONS SHALL BE PER MINNESOTA PLUMBING CODE AND IN ACCORDANCE WITH THE CURRENT EDITION OF EDEN PRAIRIE SPECIFICATIONS.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN THE NECESSARY FEDERAL, STATE AND LOCAL PERMITS FOR THE PROPOSED WORK OR VERIFY WITH THE OWNER OR ENGINEER THAT PERMITS HAVE BEEN OBTAINED. PERMIT FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS OTHERWISE ARRANGED WITH THE OWNER.
4. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DIMENSIONS OF DOORWAYS, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY CONNECTION LOCATIONS.
5. ALL PRIVATE UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL COORDINATE THE SERVICE LINE CONSTRUCTION WITH THE UTILITY COMPANIES.
6. CONTRACTOR SHALL OBTAIN ALL NECESSARY CITY PERMITS FOR UTILITY CONNECTIONS, AND UTILITIES SHALL BE INSPECTED AND APPROVED BY THE CITY. THE CITY SHALL BE NOTIFIED 48-HOURS PRIOR TO COMMENCING WITH THE UTILITY CONSTRUCTION OR ANY REQUIRED TESTING. CONTRACTOR SHALL NOT OPERATE, INTERFERE WITH, CONNECT ANY PIPE OR HOSE TO, OR TAP ANY WATER MAIN BELONGING TO THE CITY UNLESS DULY AUTHORIZED TO DO SO BY THE CITY. ANY ADVERSE CONSEQUENCES OF SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. WATER MAIN LENGTHS AS SHOWN ARE APPROXIMATE HORIZONTAL LENGTHS. ALLOW FOR ADDITIONAL PIPE WHEN INSTALLING ON SLOPES OR WHEN DEFLECTIONS ARE REQUIRED. THE JOINT DEFLECTIONS SHALL NOT EXCEED THE MAXIMUM RECOMMENDED BY THE PIPE MANUFACTURER OR BY LOCAL GOVERNING SPECIFICATIONS. FITTINGS REQUIRED TO CONSTRUCT WATER MAIN SHALL BE INCLUDED IN WATER MAIN CONSTRUCTION.
8. PROVIDE WATER MAIN THRUST RESTRAINTS PER CITY STANDARD REQUIREMENTS.
9. A MINIMUM VERTICAL SEPARATION OF 18 INCHES IS REQUIRED AT ALL WATER MAIN CROSSINGS WITH SANITARY SEWER OR STORM SEWER.
10. UTILITY SERVICES TYPICALLY TERMINATE 5' OUTSIDE BUILDING WALL UNLESS OTHERWISE SHOWN OR NOTED.
11. ALL MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY.
12. ALL WATER LINES SHALL BE DUCTILE IRON WRAPPED IN POLYETHYLENE, CLASS 52 WITH 7.5' MINIMUM COVER. PROVIDE MINIMUM SEPARATION OF 18" FROM SANITARY SEWER & STORM SEWER. INSULATE WATER MAIN IF LESS THAN 7.5' OF COVER.
13. INSULATION SHALL BE DOW STYROFOAM HI BRAND 35 OR EQUIVALENT, WITH 4 INCHES OF THICKNESS.
14. SANITARY SEWER PIPE OUTSIDE THE BUILDING ENVELOPE SHALL BE POLYVINYL CHLORIDE (PVC) SDR 35 OR 26. SDR 26 IS REQUIRED FOR DEPTHS GREATER THAN 15 FEET. SANITARY SEWER PIPE WITHIN 5 FEET OF BUILDING AND UNDER FOOTINGS, PIPE SHALL BE PVC SCHEDULE 40.
15. STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE (CLASS 5 FOR PIPE DIAMETERS 18" AND SMALLER, CLASS 3 FOR PIPE DIAMETERS 21" AND LARGER UNLESS OTHERWISE NOTED) WITH R-4 GASKETS, OR HDPE STORM SEWER PIPE IF ALLOWED BY THE CITY. RCP SHALL MEET ASTM C76 REQUIREMENTS. HDPE STORM PIPE SHALL MEET ASTM F2306 REQUIREMENTS. PIPE SHALL BE WATER TIGHT ACCORDING TO ASTM D3212 REQUIREMENTS. SEE PLAN FOR LOCATIONS WHERE RCP IS REQUIRED. PVC STORM SEWER PIPE SHALL BE SCHEDULE 40 PIPE. FLARED END SECTIONS SHALL BE RCP WITH TRASH GUARDS & RIP-RAP.

0' 40' 80' 120'

Westwood

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Revisions:

Date: 07/29/2021 License No. 42039

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Phase I - Senior Housing Sanitary and Water Plan

Date: 10/03/2018
Sheet: 11 OF 21

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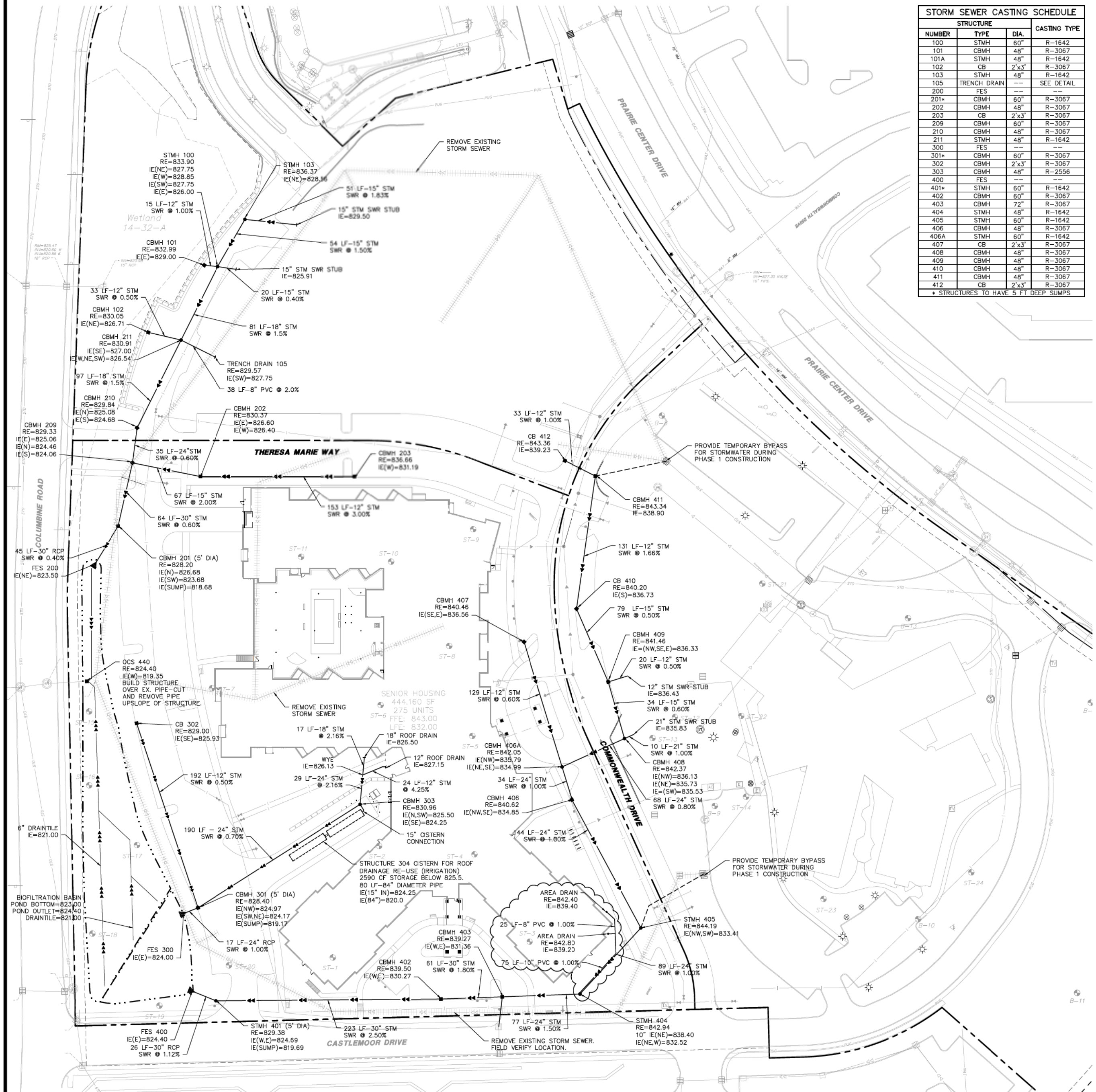

STORM SEWER CASTING SCHEDULE

STRUCTURE			CASTING TYPE
NUMBER	TYPE	DIA.	
100	STMH	60"	R-1642
101	CBMH	48"	R-3067
101A	STMH	48"	R-1642
102	CB	2'x3'	R-3067
103	STMH	48"	R-1642
105	TRENCH DRAIN	--	SEE DETAIL
200	FES	--	--
201*	CBMH	60"	R-3067
202	CBMH	48"	R-3067
203	CB	2'x3'	R-3067
209	CBMH	60"	R-3067
210	CBMH	48"	R-3067
211	STMH	48"	R-1642
300	FES	--	--
301*	CBMH	60"	R-3067
302	CBMH	2'x3'	R-3067
303	CBMH	48"	R-2556
400	FES	--	--
401*	STMH	60"	R-1642
402	CBMH	60"	R-3067
403	CBMH	72"	R-3067
404	STMH	48"	R-1642
405	STMH	60"	R-1642
406	CBMH	48"	R-3067
406A	STMH	60"	R-1642
407	CB	2'x3'	R-3067
408	CBMH	48"	R-3067
409	CBMH	48"	R-3067
410	CBMH	48"	R-3067
411	CBMH	48"	R-3067
412	CB	2'x3'	R-3067
* STRUCTURES TO HAVE 5 FT DEEP SUMPS			

Utility Legend

EXISTING / PROPOSED

- PROPERTY LINE
- EASEMENT LINE
- CURB AND GUTTER
- SANITARY SEWER
- SANITARY SEWER FORCE MAIN
- STORM SEWER
- WATER MAIN
- HYDRANT
- GAS
- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC
- UNDERGROUND TELEPHONE
- OVERHEAD TELEPHONE
- TELEPHONE FIBER OPTIC
- CABLE TELEVISION
- DRAIN TILE
- GATE VALVE
- FLARED END SECTION (WITH RIPRAP)
- LIGHT POLE
- VERTICAL UTILITY SEPARATION

General Utility Notes

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3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN THE NECESSARY FEDERAL, STATE AND LOCAL PERMITS FOR THE PROPOSED WORK OR VERIFY WITH THE OWNER OR ENGINEER THAT PERMITS HAVE BEEN OBTAINED. PERMIT FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS OTHERWISE ARRANGED WITH THE OWNER.
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7. WATER MAIN LENGTHS AS SHOWN ARE APPROXIMATE HORIZONTAL LENGTHS. ALLOW FOR ADDITIONAL PIPE WHEN INSTALLING ON SLOPES OR WHEN DEFLECTIONS ARE REQUIRED. THE JOINT DEFLECTIONS SHALL NOT EXCEED THE MAXIMUM RECOMMENDED BY THE PIPE MANUFACTURER OR BY LOCAL GOVERNING SPECIFICATIONS. FITTINGS REQUIRED TO CONSTRUCT WATER MAIN SHALL BE INCLUDED IN WATER MAIN CONSTRUCTION.
8. PROVIDE WATER MAIN THRUST RESTRAINTS PER CITY STANDARD REQUIREMENTS.
9. A MINIMUM VERTICAL SEPARATION OF 18 INCHES IS REQUIRED AT ALL WATER MAIN CROSSINGS WITH SANITARY SEWER OR STORM SEWER.
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11. ALL MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY.
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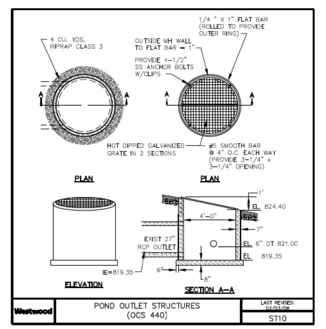
14. SANITARY SEWER PIPE OUTSIDE THE BUILDING ENVELOPE SHALL BE POLYVINYL CHLORIDE (PVC) SDR 35 OR 26. SDR 26 IS REQUIRED FOR DEPTHS GREATER THAN 15 FEET. SANITARY SEWER PIPE WITHIN 5 FEET OF BUILDING AND UNDER FOOTINGS, PIPE SHALL BE PVC SCHEDULE 40.
15. STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE (CLASS 5 FOR PIPE DIAMETERS 18" AND SMALLER, CLASS 3 FOR PIPE DIAMETERS 21" AND LARGER UNLESS OTHERWISE NOTED) WITH R-4 GASKETS, OR HDPE STORM SEWER PIPE IF ALLOWED BY THE CITY. RCP SHALL MEET ASTM C76 REQUIREMENTS. HDPE STORM PIPE SHALL MEET ASTM F2306 REQUIREMENTS. PIPE SHALL BE WATER TIGHT ACCORDING TO ASTM D3212 REQUIREMENTS. SEE PLAN FOR LOCATIONS WHERE RCP IS REQUIRED. PVC STORM SEWER PIPE SHALL BE SCHEDULE 40 PIPE. FLARED END SECTIONS SHALL BE RCP WITH TRASH GUARDS & RIP-RAP.



0' 40' 80' 120'

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Designed: DAP
Checked: CAS
Drawn: TDM
Record Drawing by/date:

Revisions:
12/23/2019 Construction Plans
01/17/2020 Utility Adjustments
03/09/2020 SD Comments
03/30/2020 SD/City Comments
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05/04/2020 Retaining Wall
06/02/2020 Cistern Revisions
07/02/2020 Cistern Revisions
08/20/2020 RFI 271 Generator Pad
07/28/2021 - Watershed Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Date: 07/28/2021 License No. 43079

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Phase I - Senior Housing Storm Sewer Plan

Date: 10/03/2018
Sheet: 12 OF 21

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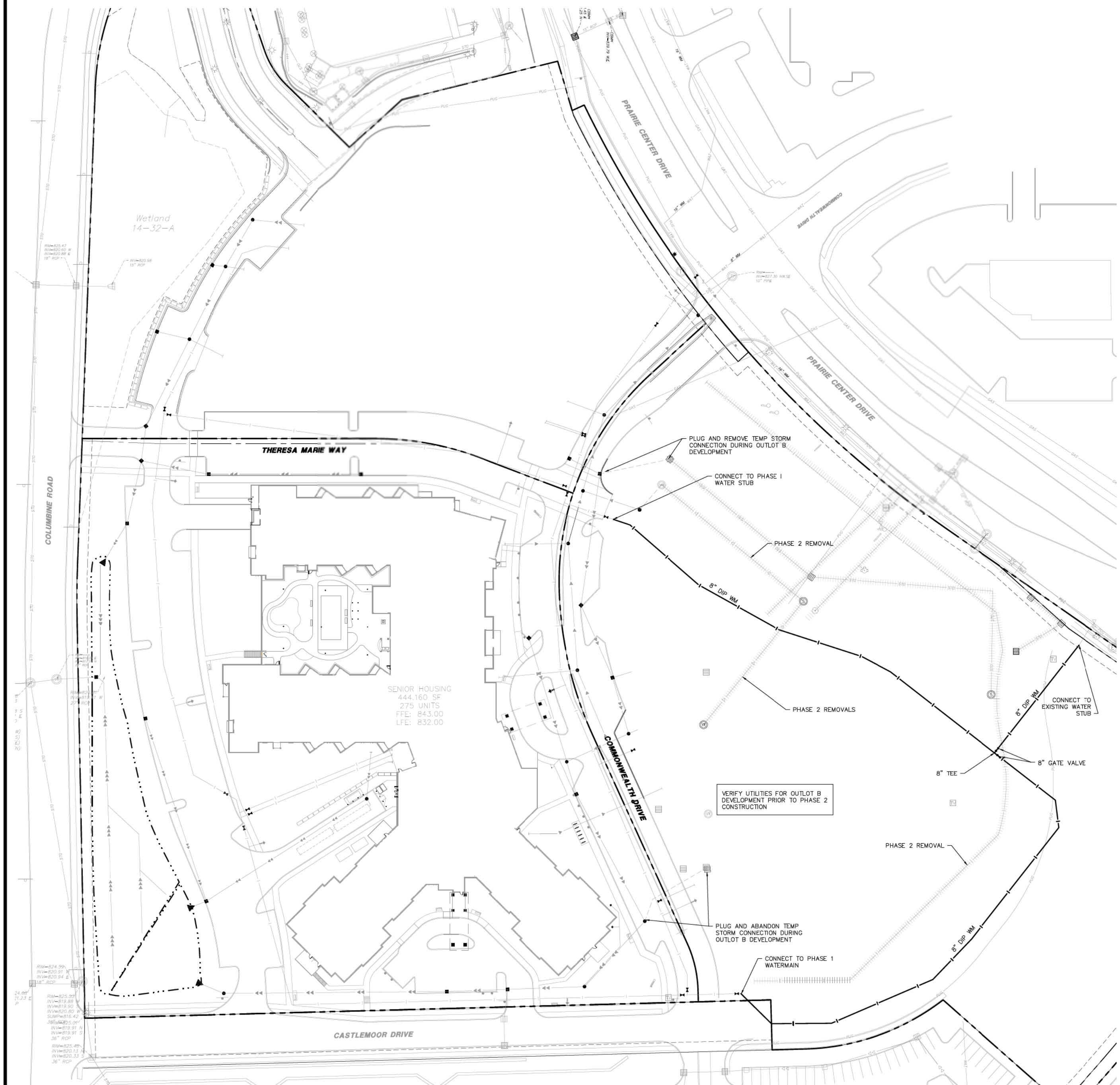

Utility Legend

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
		CURB AND GUTTER
		SANITARY SEWER
	FM	SANITARY SEWER FORCE MAIN
		STORM SEWER
		WATER MAIN
		HYDRANT
	GAS	GAS
	PUG	UNDERGROUND ELECTRIC
	POH	OVERHEAD ELECTRIC
	TUG	UNDERGROUND TELEPHONE
	TOH	OVERHEAD TELEPHONE
	FOP	TELEPHONE FIBER OPTIC
	CTV	CABLE TELEVISION
		DRAIN TILE
		GATE VALVE
		FLARED END SECTION (WITH RIPRAP)
		LIGHT POLE
	X.X	VERTICAL UTILITY SEPARATION

General Utility Notes

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND LIMITED MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION SHALL NOT BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY THE OWNER OR ENGINEER OF DISCREPANCIES.
2. ALL SANITARY SEWER, STORM SEWER AND WATER MAIN INSTALLATIONS SHALL BE PER MINNESOTA PLUMBING CODE AND IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION AND SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN THE NECESSARY FEDERAL, STATE AND LOCAL PERMITS FOR THE PROPOSED WORK OR VERIFY WITH THE OWNER OR ENGINEER THAT PERMITS HAVE BEEN OBTAINED. PERMIT FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS OTHERWISE ARRANGED WITH THE OWNER.
4. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DIMENSIONS OF DOORWAYS, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY CONNECTION LOCATIONS.
5. ALL PRIVATE UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL COORDINATE THE SERVICE LINE CONSTRUCTION WITH THE UTILITY COMPANIES.
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16. AFTER CONSTRUCTION IS COMPLETED, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AN AS-BUILT RECORD OF UTILITY CONSTRUCTION. THE AS-BUILT SHALL INCLUDE LOCATION AND LENGTH DEVIATIONS OR CHANGES TO THE PLAN. CONTRACTOR TO VERIFY WITH OWNER OR ENGINEER WHETHER A PLAN WITH POST-CONSTRUCTION ELEVATIONS IS REQUIRED.

0' 40' 80' 120'

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01/07/2021 RFI-491 Revised Terrace
05/20/2021 RFI-497 Revised Light Poles
07/28/2021 Watershed Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Gretchen Schroeder

Date: 07/28/2021 License No. 43029

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Phase II - Senior Housing Utility Plan

Date: 10/03/2018
Sheet: 13 OF 21

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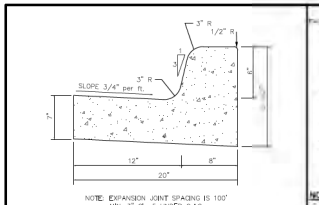
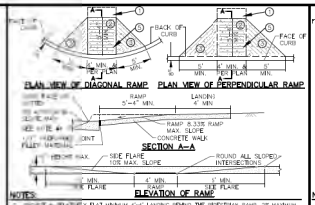


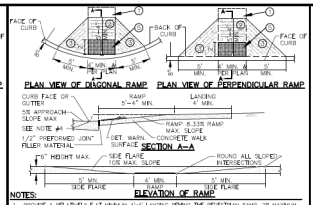
NOTE: EXPANSION JOINT SPACING IS 100' MIN. 3" CL. 5 UNDER C.&G.

Westwood | B612 CURB AND GUTTER | LAST REVISED: 01/01/08 | SI01



NOTES:
1. PROVIDE A RELATIVELY FLAT MINIMUM 4'x4' LANDING BEHIND THE PEDESTRIAN RAMP, 2% MAXIMUM CROSS SLOPE BOTH DIRECTIONS.
2. CURB RAMP AREA TO BE CONCRETE AND MEET LATEST ADA REQUIREMENTS. RAMP CROSS SLOPE 2% MAXIMUM. BACK-TO-BACK PEDESTRIAN RAMPS SHALL HAVE MINIMUM 48" LANDING BETWEEN, OR PROVIDE AT-GRADE CROSSING.
3. ZEBRA CROSSWALKS SHALL BE WHITE POLYMER-PREFORMED TAPE OR AN ACCEPTABLE EQUAL/EXACT APPROVED BY THE ENGINEER.
4. ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE MAY NOT BE GREATER THAN 1/4 INCH.
5. ADA REQUIRED DETECTABLE WARNING SURFACE/TRUNCATED DOMES SHALL BE 2' MIN. IN DIRECTION OF LANDING AT CURB AND SHALL EXTEND THE FULL WIDTH OF THE LANDING. AREA SHALL BE CONTRASTING COLOR TO THE ADJACENT WALKING SURFACE WITH A PREFABRICATED TRUNCATED DOMES PAD MEETING ADA GUIDELINES AND STATED REQUIREMENTS.
6. CONCRETE WALK SHALL BE CONSIDERED AS CONCRETE WALK, AND TRUNCATED DOME AREA IS INCIDENTAL UNLESS NOTED OTHERWISE.

Westwood | PRIVATE PEDESTRIAN CURB RAMP | LAST REVISED: 01/01/08 | SI09-CP



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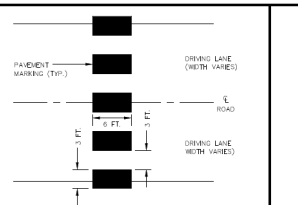
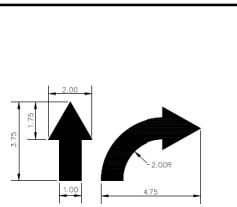
Westwood | PUBLIC PEDESTRIAN CURB RAMP | LAST REVISED: 01/01/08 | SI09-C



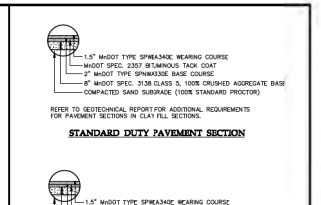
NOTE:
1. TAPED AREAS TO BE CENTERED AND ALIGNED ON CENTER LINE AND LANE LINES. MAKE ADJUSTMENTS IN CENTER MEDIAN AREA.
2. ZEBRA CROSSWALKS SHALL BE WHITE POLYMER-PREFORMED TAPE OR AN ACCEPTABLE EQUAL/EXACT APPROVED BY THE ENGINEER.
3. A MINIMUM OF 1.5 FT. CLEAR DISTANCE MUST BE LEFT ADJACENT TO CURB. IF LAST STRIPE) AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
4. REMOVE ALL CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
5. ALL CENTER CROSSWALKS THE TAPED AREAS ARE TO REMAIN PARALLEL TO THE LANE LINES.
6. WHERE PAVEMENT MARKINGS CAN NOT BE INLAYED INTO THE HOT MAT, PAVEMENT SHALL BE GROOVED FOR THE INSTALLATION OF THE POLYMER-PREFORMED MARKINGS. SEE MN/DOT STANDARD SPECIFICATION 2564.

Westwood | CROSS WALK STRIPING | LAST REVISED: 01/01/08 | SI11



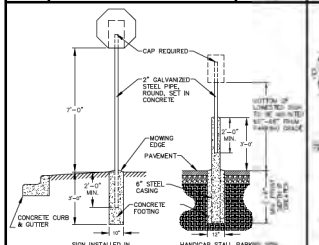
NOTE:
ALL TRAFFIC FLOW ARROWS TO BE SOLID WHITE REFLECTIVE TRAFFIC PAINT AS PER DIMENSIONS ABOVE

Westwood | TRAFFIC ARROW | LAST REVISED: 01/01/08 | SI13



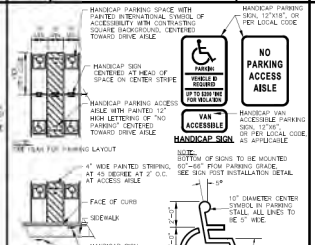
REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS FOR PAVEMENT SECTIONS IN CLAY FILL SECTIONS.

Westwood | PAVEMENT SECTIONS | LAST REVISED: 10/01/08 | SI19

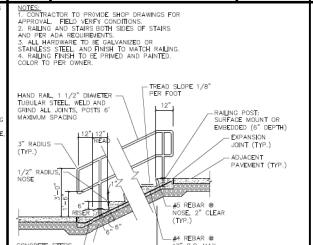


NOTE:
1. SIGN TO BE 2-SIDED WHERE HANDICAP PARKING STALLS FACE ONE ANOTHER.
2. PARKING GRADE IS DEFINED AS EITHER FLOW LINE OF CURB OR PAVEMENT SURFACE AT HEAD OF STALL.

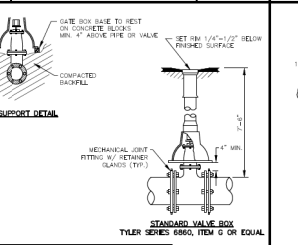
Westwood | SIGN POST INSTALLATION | LAST REVISED: 01/01/08 | SI14



Westwood | HANDICAP ACCESSIBLE SIGNAGE AND STRIPING | LAST REVISED: 01/01/08 | SI15-C

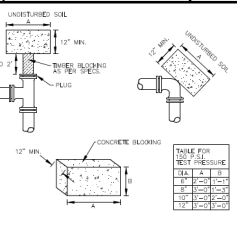


Westwood | CONCRETE STAIR AND RAILING DETAIL | LAST REVISED: 01/01/08 | SIXX



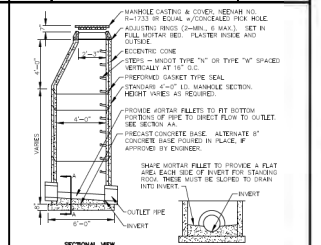
NOTE:
1. GATE VALVE CLOCKWISE OPENING ON SPWU SYSTEM OPENING.
2. COUNTERCLOCKWISE OPENING ON NORTH ST. PAUL SYSTEM VALVES CONFORMING TO AWWA C-509.
3. 12" WATER MAINS AND LARGER REQUIRE BUTTERFLY VALVES

Westwood | GATE VALVE | LAST REVISED: 01/01/08 | WM02



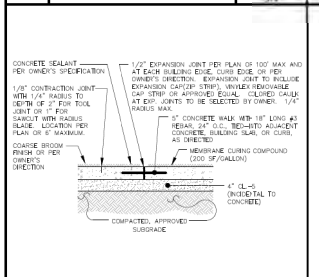
NOTES:
1. DIMENSIONS A & B VARY ACCORDING TO PIPE SIZE AND TEST PRESSURE

Westwood | WATERMAIN BLOCKING | LAST REVISED: 01/01/08 | WM04

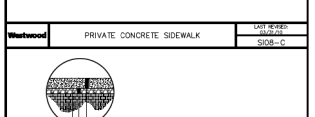


NOTE
THIS CONSTRUCTION IS NOT TO BE USED WITH PIPE LARGER THAN 36" DIAMETER.

Westwood | SANITARY MANHOLE PRECAST MANHOLE WITH ADJUSTABLE RINGS | LAST REVISED: 01/01/08 | SS01



Westwood | PRIVATE CONCRETE SIDEWALK | LAST REVISED: 05/01/08 | SI08-C



NOTES:

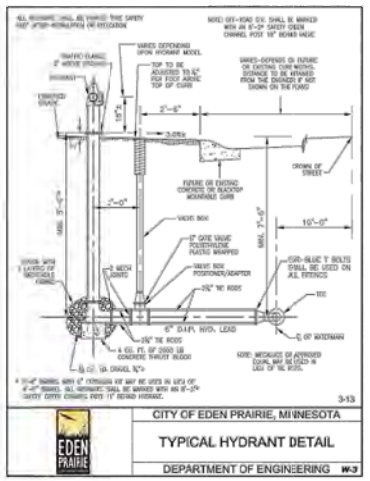
CONCRETE SHALL BE REINFORCED WITH WELDED WIRE FABRIC OR REINFORCING BARS TO ASSIST IN CONTROLLING CRACKING FROM DRYING SHRINKAGE AND THERMAL CHANGES.

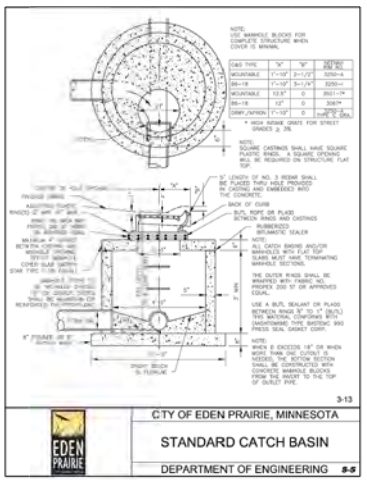
SAWED OR FORMED CONTROL JOINTS SHOULD BE INCLUDED FOR EACH 225 SQUARE FEET OF AREA OR LESS (15 FEET BY 15 FEET). CONTRACTOR SHALL PREPARE JOINTING PATTERN AND SUBMIT TO ENGINEER PRIOR TO CONSTRUCTION.

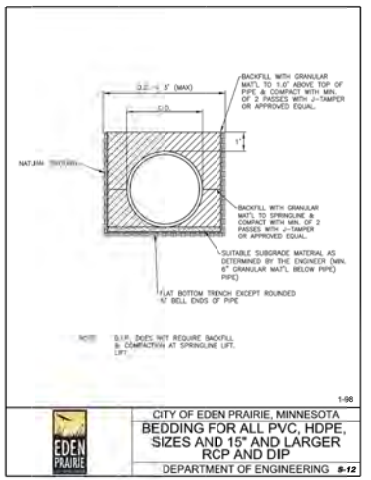
SAW CUTS SHOULD NOT CUT THROUGH THE WELDED WIRE FABRIC OR REINFORCING STEEL AND DOWELS SHOULD BE UTILIZED AT FORMED AND/OR COLD JOINTS.

DOWELS SHALL BE UTILIZED AT FORMED AND/OR COLD JOINTS. DOWEL SHALL BE 30" LONG 1" DIAMETER SMOOTH AND GREASED TIE BARS AT 30" SPACING, MINIMUM 18" FROM PAVEMENT EDGE.

Westwood | HEAVY DUTY CONCRETE SECTION | LAST REVISED: 05/01/08 | SI21







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06/05/2020 PR 271 Sensitive Pad
08/07/2020 PR 481 Revised Pervious
09/28/2021 PR 497 Revised Light Poles
10/28/2021 Watershed Reclassification

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Date: 07/28/2021 License No. 43019

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Details

Date: 10/03/2018
Sheet 14 OF 21

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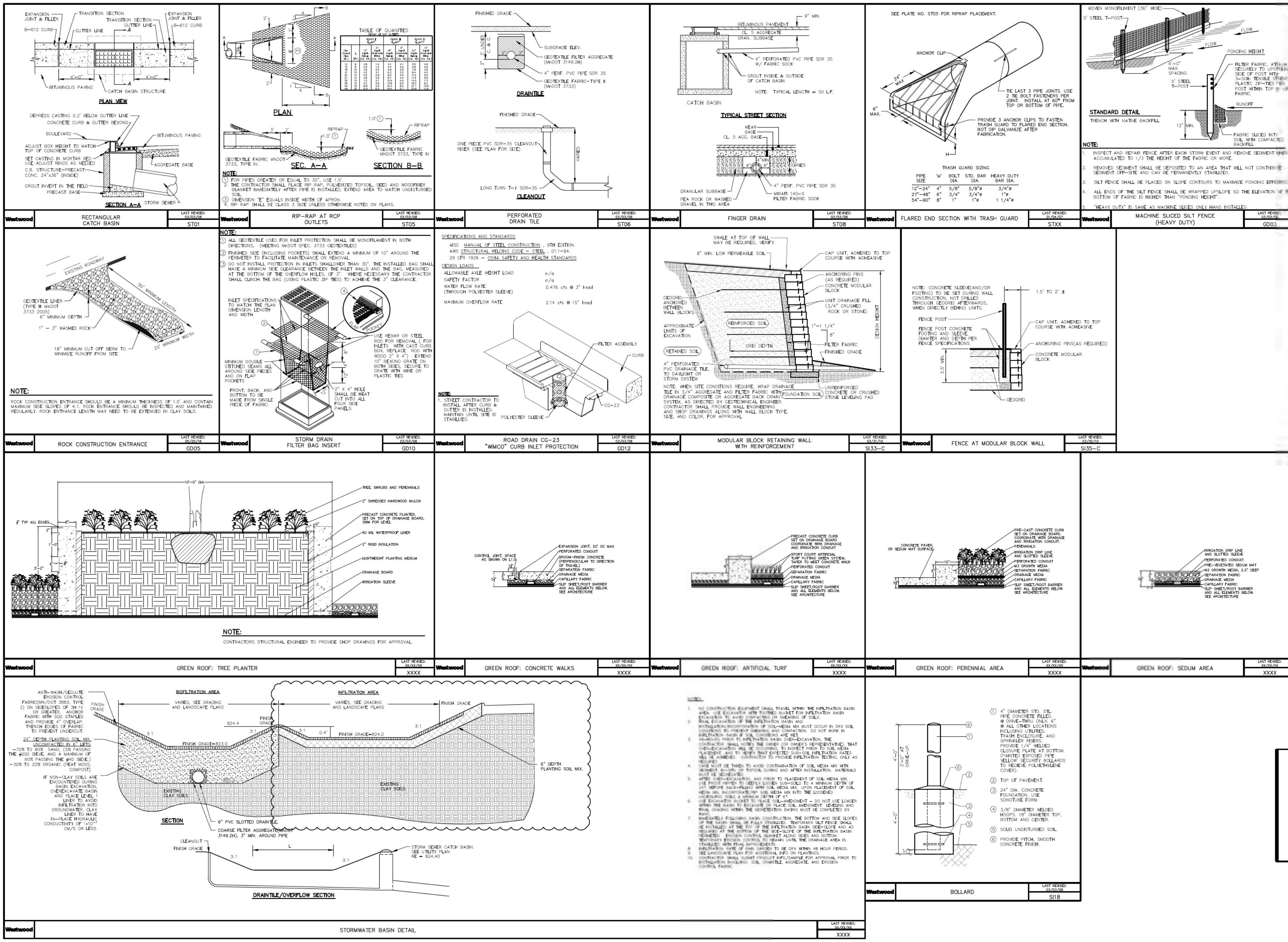

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www.westwoodps.com

Designed:
Checked:
Drawn:
Record Drawing by/date:

Revisions:

Date: 07/28/2021

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Details

Date: 10/03/2018
Sheet: 15 of 21

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Call 48 Hours before digging:
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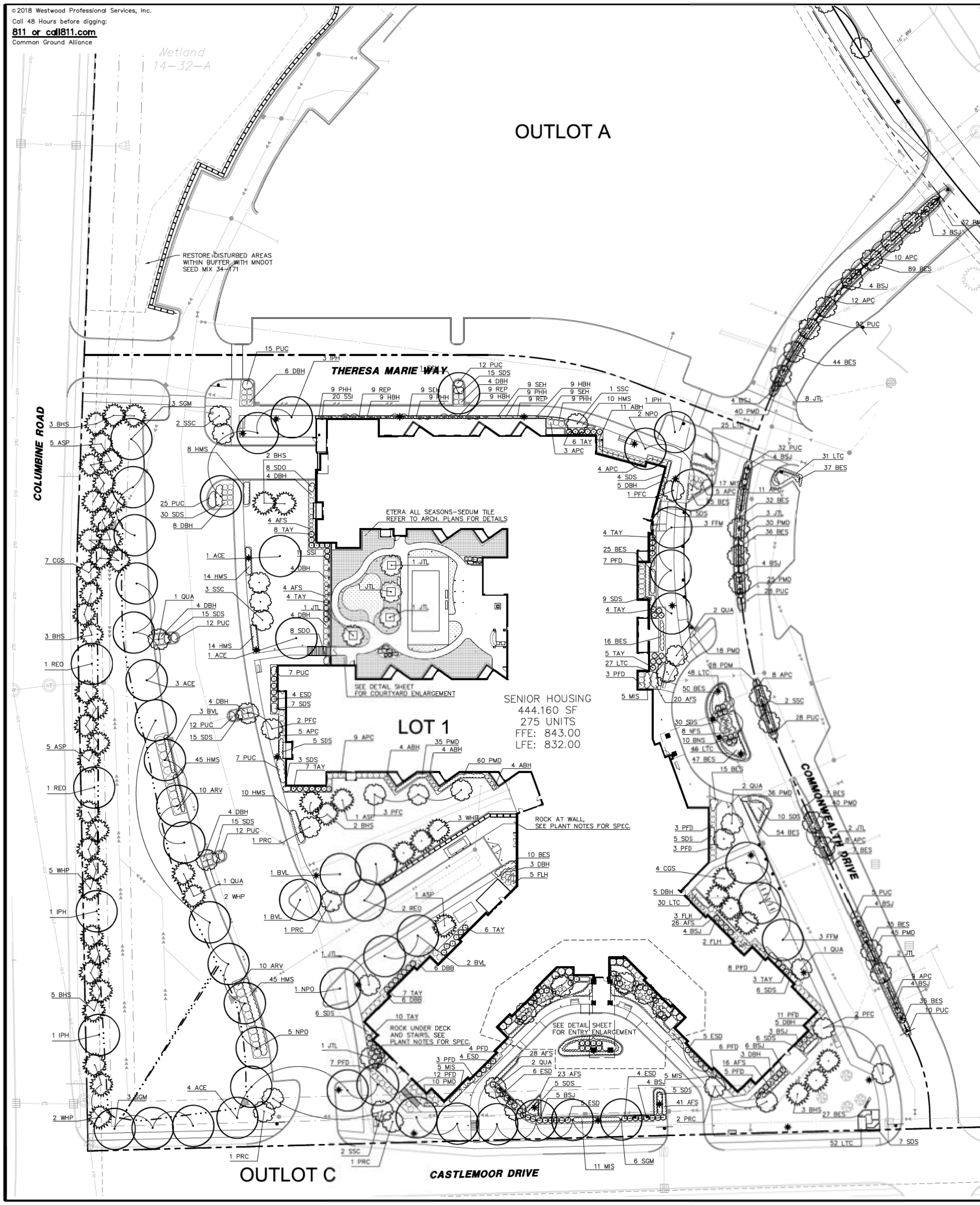

Landscape Requirement Calculations

TOTAL CALIPER INCHES REQUIRED: DIVIDE TOTAL GROSS SQUARE FOOTAGE OF ALL FLOORS OF A BUILDING BY 320.

Additional Tree Caliper Requirements

A= Total Gross Building Area (SF)
B= Constant 320
C= # new tree cal. inches

A / B = C

Lot 1: 444,160 SF / 320 = 1388.0 cal. in.

SHRUBS, PERENNIALS OR PLANTING BEDS MAY BE SUBSTITUTED FOR TREES ACCORDING TO THE FOLLOWING LIMIT: NOT MORE THAN 25% OF THE TOTAL TREE CALIPER INCHES REQUIRED SHALL BE REPLACED WITH SHRUBS AND PERENNIALS. REPLACEMENT RATIO: 6 SHRUBS MAY REPLACE 3 CALIPER INCHES OF TREES. OR 2 SHRUBS = 1CAL. IN.

Shrub/Perennial Planting Bed Substitutions for Trees:

Total required trees required = 1,388 cal. in.
Max. 25% = 1,388 * .25 = 347 cal. in.

Total number of shrubs on site = 564
564 / 2 = 282 cal. in. (less than max allowed for replacement)

IN ADDITION TO THE SHRUBS PROPOSED ON SITE THE DESIGN IS ALSO PROPOSING PERENNIALS THAT WILL COVER APPROXIMATELY 13,181 SF.

PLANTING BEDS AND/OR DECORATIVE PLANTING CONTAINERS MAY REPLACE UP TO TWENTY-FIVE PERCENT (25%) OF THE REQUIRED CALIPER INCHES FOR TREES AT A RATE OF THREE (3) CALIPER INCHES OF TREES PER FIVE HUNDRED (500) SQUARE FEET OF CUMULATIVE PLANTING BEDS AND/OR DECORATIVE PLANTING CONTAINERS.

- Total Perennial Planting Beds 12,525 SF
- 12,252 SF(500 SF/3 CAL. IN.) = 75 cal. in.
- Total Shrub/Perennial Planting Beds = 357 cal. in. (347 cal. in. max credit)

Tree Caliper Req. per Classification

PROVIDED Trees	Lot 1
Total add. cal. Inch	1388

	Lot 1
Decid. Overstory	57
Conifer	54
Ornamental	60
Shrubs (max. 25%)	554

	Size	Lot 1
Dec. Ovr.	LRG	14
Dec. Ovr.	SM	43
Conifer	LRG	11
Conifer	SM	43
Ornam.	LRG	12
Ornam.	SM	48
Shrubs		564
Perennial	sqft	12525

Class	Cal. Inch	Lot 1
Dec. Ovr.	3.5	49.00
Dec. Ovr.	2.5	107.50
Conifer	4.16	45.76
Conifer	2.5	107.50
Ornam.	2.5	30.00
Ornam.	1.5	72.00
Shrubs	total/2	282.00
Perennials	3 per 500SF	65
		(max allowed)
Total Cal. Inch		758.76
Defficit Cal. Inch		-629.24

Tree Schedule

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
OVERSTORY	57			
FFM	6	FALL FIESTA MAPLE / ACER SACCHARUM 'BAILSTA'	2.5" BB	AS SHOWN
SGM	13	SIENNA GLEN MAPLE / ACER X FREEMANNII 'SIENNA'	2.5" BB	AS SHOWN
NPO	8	NORTHERN PIN OAK / QUERCUS ELLIPSOIDALLIS	2.5" BB	AS SHOWN
REO	4	RED OAK / QUERCUS RUBRA	2.5" BB	AS SHOWN
ACE	9	ACCOLADE ELM / ULMUS 'MORTON'	2.5" BB	AS SHOWN
BVL	7	BOULEVARD LINDEN / TILIA AMERICANA 'BOULEVARD'	3.5" BB	AS SHOWN
IPH	6	IMPERIAL HONEYLOCUST / GLEDITSIA TRIACANTHOS VAR. INERMIS 'IMPCOLE'	3.5" BB	AS SHOWN
ORNAMENTAL	60			
JTL	9	JAPANESE TREE LILAC / SYRINGA RETICULATA	1.5" BB	AS SHOWN
JTL	12	JAPANESE TREE LILAC / SYRINGA RETICULATA	2.5" BB	AS SHOWN
QUA	9	QUAKING ASPEN / POPULUS TREMULOIDES	6' HT., BB CLUMP	AS SHOWN
PFC	14	PRAIRIE FIRE CRAB / MALUS 'PRAIRIEFIRE'	1.5" BB	AS SHOWN
SSC	10	SPRING SNOW CRAB / MALUS 'SPRING SNOW'	1.5" BB	AS SHOWN
PRC	6	PRAIRIE ROSE CRAB / MALUS 'PRAIRIE ROSE'	1.5" BB	AS SHOWN
CONIFER	54			
BHS	18	BLACK HILLS SPRUCE / PICEA GLAUCA DENSATA	6' HT., BB	AS SHOWN
CGS	5	COLORADO GREEN SPRUCE / PICEA PUNGENS	6' HT., BB	AS SHOWN
CGS	6	COLORADO GREEN SPRUCE / PICEA PUNGENS	10' HT., BB	AS SHOWN
ASP	7	AUSTRIAN PINE / PINUS NIGRA	6' HT., BB	AS SHOWN
ASP	5	AUSTRIAN PINE / PINUS NIGRA	10' HT., BB	AS SHOWN
WHP	13	WHITE PINE / PINUS STROBUS	6' HT., BB	AS SHOWN

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

Shrub & Perennial Plant Schedule

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
DECIDUOUS	352			
APC	84	ALPINE CURRANT / RIBES ALPINUM	#5 CONT.	5'–0" O.C.
DBB	12	DWARF BURNING BUSH / EUONYMUS ALATUS 'COMPACTUS'	#5 CONT.	5'–0" O.C.
FLH	24	FIRE LIGHT HYDRANGEA / HYDRANGEA PANICULATA 'SMHPFL'	#5 CONT.	5'–0" O.C.
PFD	82	PRAIRIE FIRE DOGWOOD / CORNUS ALBA 'AUREA'	#5 CONT.	5'–0" O.C.
ARV	20	ARROWOOD VIBURNUM / VIBURNUM DENTATUM	#5 CONT.	5'–0" O.C.
DBH	85	DWARF BUSH HONEYSUCKLE / DIERVILLA LONICERA	#5 CONT.	3'–0" O.C.
ABH	23	ANNABELLE HYDRANGEA / HYDRANGEA ARBORESCENS 'ANNABELLE'	#5 CONT.	3'–0" O.C.
NFS	22	NEON FLASH SPIREA / SPIREA 'NEON FLASH'	#5 CONT.	3'–0" O.C.
VINES	31			
SSI	31	STAR SHOWERS IVY / PARTHENOCISSUS QUINQUEFOLIA 'MONHAM'	#1 CONT.	6'–0" O.C.
CONIFER	181			
BSJ	74	BLUE STAR JUNIPER / JUNIPERUS SQUAMATA 'BLUE STAR'	#5 CONT.	4'–0" O.C.
TAY	69	TAUNTON YEW / TAXUS MEDII 'TAUNTON'	#5 CONT.	4'–0" O.C.
ESD	28	ELEGANS DWARF NORWAY SPRUCE / PICEA ABIES 'ELEGANS'	#5 CONT.	4'–0" O.C.
ARB	10	TECHNY ARBORVITAE / THUJA OCCIDENTALIS 'TECHNY'	#5 CONT.	4'–0" O.C.
PERENNIAL	2761			
MIS	78	GRAZIELLA MAIDEN GRASS / MISCANTHUS SINENSIS 'GRAZIELLA'	#1 CONT.	3'–0" O.C.
SDS	224	SHENANDOAH SWITCH GRASS / PANICUM VIRGATUM 'SHENANDOAH'	#1 CONT.	3'–0" O.C.
HMS	146	HEAVY METAL SWITCHGRASS / PANICUM VIRGATUM 'HEAVY METAL'	#1 CONT.	3'–0" O.C.
PMD	511	PARDON ME DAYLILY / HEMEROCALLIS 'PARDON ME'	#1 CONT.	18" O.C.
SDO	30	STELLA DE ORO DAYLILY / HEMEROCALLIS 'STELLA DE ORO'	#1 CONT.	18" O.C.
BES	748	BLACK EYED SUSAN / RUDBECKIA HIRTA	#1 CONT.	18" O.C.
AFS	168	AUTUMN FIRE SEDUM / SEDUM SPECTABILE 'HERBSTFREUDE'	#1 CONT.	18" O.C.
PUC	341	PURPLE CONEFLOWER / ECHINACEA PURPUREA 'MAGNA'	#1 CONT.	18" O.C.
LTC	398	LITTLE TRUDY CATMINT / NEPETA X 'PSFIKE'	#1 CONT.	18" O.C.
PHH	36	PRAYING HANDS HOSTA / HOSTA 'PRAYING HANDS'	#1 CONT.	18" O.C.
HBH	27	HADSPEN BLUE HOSTA / HOTSTA 'HADSPEN BLUE'	#1 CONT.	18" O.C.
REP	27	RUBRUM EPIMEDIUM / EPIMEDIUM X RUBRUM	#1 CONT.	18" O.C.
SEH	27	SOLAR ECLIPSE HEUCHERELLA / HEUCHERELLA 'SOLAR ECLIPSE'	#1 CONT.	18" O.C.

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

0' 30' 60' 90'

Westwood

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08/20/2020 RFI 271 Generator Pad
02/07/2021 RFI-491 Revised Terrace
05/28/2021 RFI-497 Revised Light Poles
07/28/2021 — Watershed Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL LANDSCAPE ARCHITECT under the laws of the State of Minnesota.

Jeff Wasmundt

Date: 07/28/2021 License No. 44018

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Phase I - Senior Housing Landscape Plan

Date: 10/03/2018
Sheet: 16 OF 21

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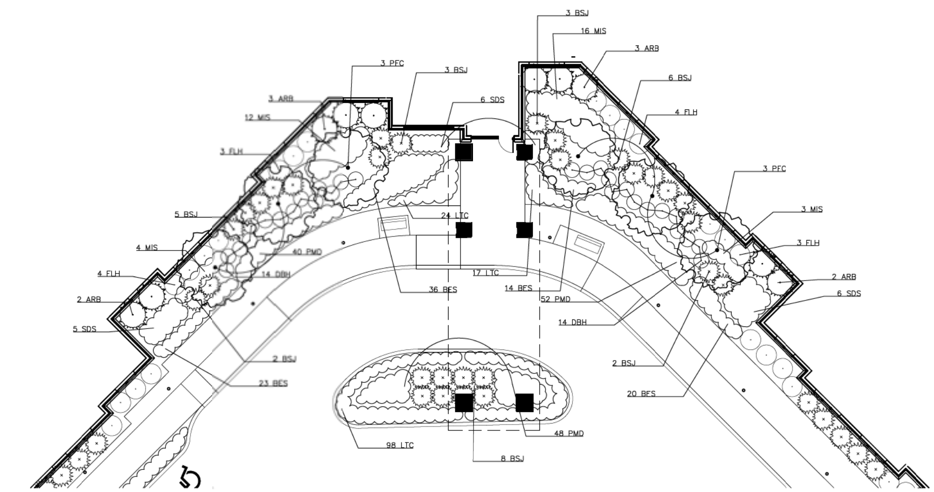
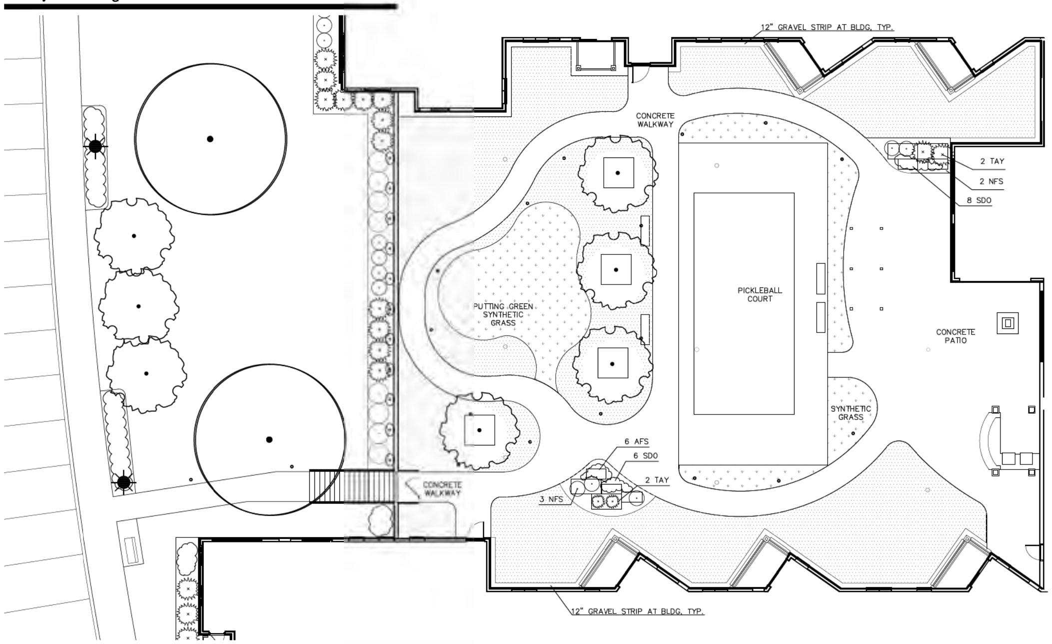
Entry Enlargement

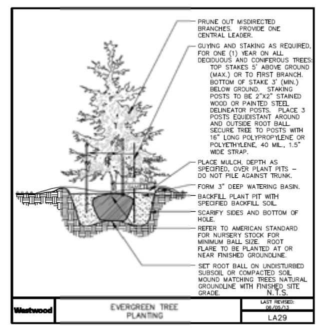


Courtyard Enlargement

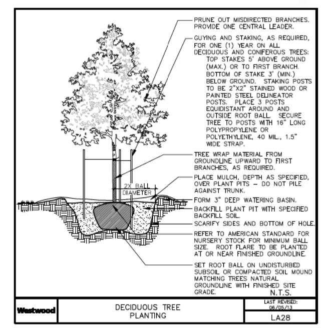


Planting Notes

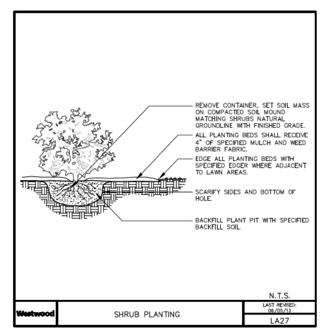
1. CONTRACTOR SHALL CONTACT COMMON GROUND ALLIANCE AT 811 OR CALL811.COM TO VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY PLANTS OR LANDSCAPE MATERIAL.
2. ACTUAL LOCATION OF PLANT MATERIAL IS SUBJECT TO FIELD AND SITE CONDITIONS.
3. NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
4. ALL SUBSTITUTIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO SUBMISSION OF ANY BID AND/OR QUOTE BY THE LANDSCAPE CONTRACTOR.
5. CONTRACTOR SHALL PROVIDE TWO YEAR GUARANTEE OF ALL PLANT MATERIALS. THE GUARANTEE BEGINS ON THE DATE OF THE LANDSCAPE ARCHITECT'S OR OWNER'S WRITTEN ACCEPTANCE OF THE INITIAL PLANTING. REPLACEMENT PLANT MATERIAL SHALL HAVE A ONE YEAR GUARANTEE COMMENCING UPON PLANTING.
6. ALL PLANTS TO BE SPECIMEN GRADE, MINNESOTA-GROWN AND/OR HARDY. SPECIMEN GRADE SHALL ADHERE TO, BUT IS NOT LIMITED BY, THE FOLLOWING STANDARDS:
   ALL PLANTS SHALL BE FREE FROM DISEASE, PESTS, WOUNDS, SCARS, ETC.
   ALL PLANTS SHALL BE FREE FROM NOTICEABLE GAPS, HOLES, OR DEFORMITIES.
   ALL PLANTS SHALL BE FREE FROM BROKEN OR DEAD BRANCHES.
   ALL PLANTS SHALL HAVE HEAVY, HEALTHY BRANCHING AND LEAFING.
   CONIFEROUS TREES SHALL HAVE AN ESTABLISHED MAIN LEADER AND A HEIGHT TO WIDTH RATIO OF NO LESS THAN 5:3.
7. PLANTS TO MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2014 OR MOST CURRENT VERSION) REQUIREMENTS FOR SIZE AND TYPE SPECIFIED.
8. PLANTS TO BE INSTALLED AS PER MNLA & ANSI STANDARD PLANTING PRACTICES.
9. PLANTS SHALL BE IMMEDIATELY PLANTED UPON ARRIVAL AT SITE. PROPERLY HEEL-IN MATERIALS IF NECESSARY; TEMPORARY ONLY.
10. PRIOR TO PLANTING, FIELD VERIFY THAT THE ROOT COLLAR/ROOT FLAIR IS LOCATED AT THE TOP OF THE BALLED & BURLAP TREE. IF THIS IS NOT THE CASE, SOIL SHALL BE REMOVED DOWN TO THE ROOT COLLAR/ROOT FLAIR. WHEN THE BALLED & BURLAP TREE IS PLANTED, THE ROOT COLLAR/ROOT FLAIR SHALL BE EVEN OR SLIGHTLY ABOVE FINISHED GRADE.
11. OPEN TOP OF BURLAP ON BB MATERIALS; REMOVE POT ON POTTED PLANTS; SPLIT AND BREAK APART PEAT POTS.
12. PRUNE PLANTS AS NECESSARY – PER STANDARD NURSERY PRACTICE AND TO CORRECT POOR BRANCHING OF EXISTING AND PROPOSED TREES.
13. WRAP ALL SMOOTH-BARKED TREES – FASTEN TOP AND BOTTOM. REMOVE BY APRIL 1ST.
14. STAKING OF TREES AS REQUIRED; REPOSITION, PLUMB AND STAKE IF NOT PLUMB AFTER ONE YEAR.
15. THE NEED FOR SOIL AMENDMENTS SHALL BE DETERMINED UPON SITE SOIL CONDITIONS PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT FOR THE NEED OF ANY SOIL AMENDMENTS.
16. BACKFILL SOIL AND TOPSOIL TO ADHERE TO MN/DOT STANDARD SPECIFICATION 3877 (SELECT TOPSOIL BORROW) AND TO BE EXISTING TOP SOIL FROM SITE FREE OF ROOTS, ROCKS LARGER THAN ONE INCH, SUBSOIL DEBRIS, AND LARGE WEEDS UNLESS SPECIFIED OTHERWISE. MINIMUM 6" DEPTH TOPSOIL FOR ALL LAWN GRASS AREAS AND 12" DEPTH TOPSOIL FOR TREE, SHRUBS, AND PERENNIALS.
17. MULCH TO BE AT ALL TREE, SHRUB, PERENNIAL, AND MAINTENANCE AREAS. TREE AND SHRUB PLANTING BEDS SHALL HAVE 4" DEPTH OF SHREDDED HARDWOOD MULCH. SHREDDED HARDWOOD CEDAR MULCH TO BE USED AROUND ALL PLANTS WITHIN TURF AREAS. PERENNIAL AND ORNAMENTAL GRASS BEDS SHALL HAVE 2" DEPTH SHREDDED HARDWOOD MULCH. MULCH TO BE FREE OF DELETERIOUS MATERIAL. ROCK MULCH TO BE BUFF LIMESTONE, 1 1/2" TO 3" DIAMETER, AT MINIMUM 3" DEPTH, OR APPROVED EQUAL. ROCK MULCH TO BE ON COMMERCIAL GRADE FILTER FABRIC, BY TYPAR, OR APPROVED EQUAL WITH NO EXPOSURE. MULCH AND FABRIC TO BE APPROVED BY OWNER PRIOR TO INSTALLATION. MULCH TO MATCH EXISTING CONDITIONS (WHERE APPLICABLE).
18. EDGING TO BE COMMERCIAL GRADE VALLEY-VIEW BLACK DIAMOND (OR EQUAL) POLY EDGING OR SPADED EDGE, AS INDICATED. POLY EDGING SHALL BE PLACED WITH SMOOTH CURVES AND STAKED WITH METAL SPIKES NO GREATER THAN 4 FOOT ON CENTER WITH BASE OF TOP BEAD AT GRADE, FOR MOWERS TO CUT ABOVE WITHOUT DAMAGE. UTILIZE CURBS AND SIDEWALKS FOR EDGING WHERE POSSIBLE. SPADED EDGE TO PROVIDE V-SHAPED DEPTH AND WIDTH TO CREATE SEPARATION BETWEEN MULCH AND GRASS. INDIVIDUAL TREE, SHRUB, OR RAIN-GARDEN BEDS TO BE SPADED EDGE, UNLESS NOTED OTHERWISE. EDGING TO MATCH EXISTING CONDITIONS (WHERE APPLICABLE).
19. ALL DISTURBED AREAS TO BE SODDED OR SEEDED, UNLESS OTHERWISE NOTED. PARKING LOT ISLANDS TO BE SODDED WITH SHREDDED HARDWOOD MULCH AROUND ALL TREES AND SHRUBS. SOD TO BE STANDARD MINNESOTA GROWN AND HARDY BLUEGRASS MIX, FREE OF LAWN WEEDS. ALL TOPSOIL AREAS TO BE RAKED TO REMOVE DEBRIS AND ENSURE DRAINAGE. SLOPES OF 3:1 OR GREATER SHALL BE STAKED. SEED AS SPECIFIED AND PER MN/DOT SPECIFICATIONS. IF NOT INDICATED ON LANDSCAPE PLAN, SEE EROSION CONTROL PLAN.
20. PROVIDE IRRIGATION TO ALL PLANTED AREAS ON SITE. IRRIGATION SYSTEM TO BE DESIGN/BUILD BY LANDSCAPE CONTRACTOR. LANDSCAPE CONTRACTOR TO PROVIDE SHOP DRAWINGS TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF IRRIGATION SYSTEM. CONTRACTOR TO PROVIDE OPERATION MANUALS, AS-BUILT PLANS, AND NORMAL PROGRAMMING. SYSTEM SHALL BE WINTERIZED AND HAVE SPRING STARTUP DURING FIRST YEAR OF OPERATION. SYSTEM SHALL HAVE ONE-YEAR WARRANTY ON ALL PARTS AND LABOR. ALL INFORMATION ABOUT INSTALLATION AND SCHEDULING CAN BE OBTAINED FROM THE GENERAL CONTRACTOR.
21. CONTRACTOR SHALL PROVIDE NECESSARY WATERING OF PLANT MATERIALS UNTIL THE PLANT IS FULLY ESTABLISHED OR IRRIGATION SYSTEM IS OPERATIONAL. OWNER WILL NOT PROVIDE WATER FOR CONTRACTOR.
22. REPAIR, REPLACE, OR PROVIDE SOD/SEED AS REQUIRED FOR ANY ROADWAY BOULEVARD AREAS ADJACENT TO THE SITE DISTURBED DURING CONSTRUCTION.
23. REPAIR ALL DAMAGE TO PROPERTY FROM PLANTING OPERATIONS AT NO COST TO OWNER.
24. RAIN GARDEN NOTE: PROVIDE AND INSTALL EROSION CONTROL BLANKET AT RAIN GARDEN AREA SIDE SLOPES AFTER ALL PLANTING HAVE BEEN INSTALLED. BLANKET TO BE ONE SEASON GEOJUTE, MN/DOT CATEGORY 2 (STRAW 1S, WOOD FIBER 1S), OR APPROVED EQUAL. BLANKET TO BE OVERLAPPED BY 4" AND ANCHORED BY SOD STAPLES. PLACE BLANKET PERPENDICULAR TO THE SLOPE. TRENCH IN EDGES OF BLANKET AREA TO PREVENT UNDER MINING. PROVIDE SILT FENCE AT TOP OF SLOPE AS NEEDED. SHREDDED HARDWOOD MULCH TO MATCH OTHER PROJECT PLANTING MULCH. PLACE 4" DEPTH OF MULCH AT ALL PLANTING AND EROSION CONTROL BLANKET AREA (NO FILTER FABRIC). SEE RAIN GARDEN DETAIL FOR FURTHER INFORMATION. RAIN GARDEN TO PROVIDE PROPER INFILTRATION AND DRAINAGE REQUIREMENTS PER ENGINEERS APPROVAL.



EVERGREEN TREE PLANTING



DECIDUOUS TREE PLANTING



SHRUB PLANTING

0' 10' 20' 30'

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Revisions:

Date: 07/28/2021 License No. 44018

Prepared for:

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FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Landscape Details

Date: 10/03/2018
Sheet: 17 OF 21

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Sienna Glen® Maple
Acer x freemanii 'Sienna' PP11,322


Imperial® Honeylocust
Gleditsia triacanthos var. inermis 'Impcole'


Boulevard Linden
Tilia americana 'Boulevard'


Techny Arborvitae
Thuja occidentalis 'Techny'


Black Hills Spruce
Picea glauca 'Densata'


Japanese Tree Lilac
Syringa reticulata


Quaking Aspen
Populus tremuloides

Project Site Trees


Herringbone Patterned 4"x12" Red Paver or Similar Crosswalk


ARO50 EuroLED Area Light Or Similar
4" Square Straight Steel Pole, 20' HT., Dark Bronze


Newcastle Bench Collection
Upbeat Site Furnishings


Exposition Receptacle
Upbeat Site Furnishings


Emerson Bike Rack
Landscape Forms


DC1 Bollard
Urban Accessories

Project Site Amenity Features (Or Approved Equal)

Westwood

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03/30/2020 City Comments
03/27/2020 Timberland & Culvert storm
04/13/2020 City Comments
05/04/2020 Retaining Wall
08/20/2020 RFI 271 Generator Pad
05/07/2021 RFI-481 Revised Terrace
05/28/2021 RFI-497 Revised Light Poles
07/28/2021 Watershed Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Gretchen Schroeder
Date: 07/28/2021 License No. 43019

Prepared for:

Senior Housing Partners

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Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

Site Amenities Plan

Date: 10/03/2018
Sheet: 18 OF 21

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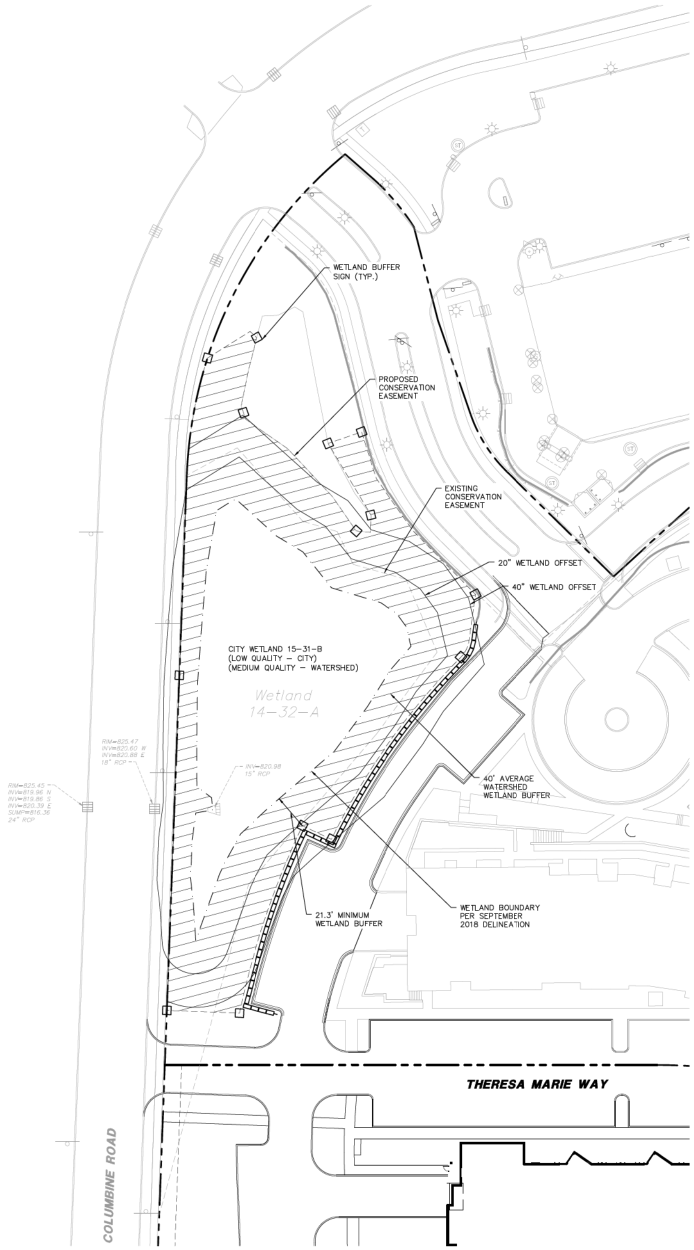
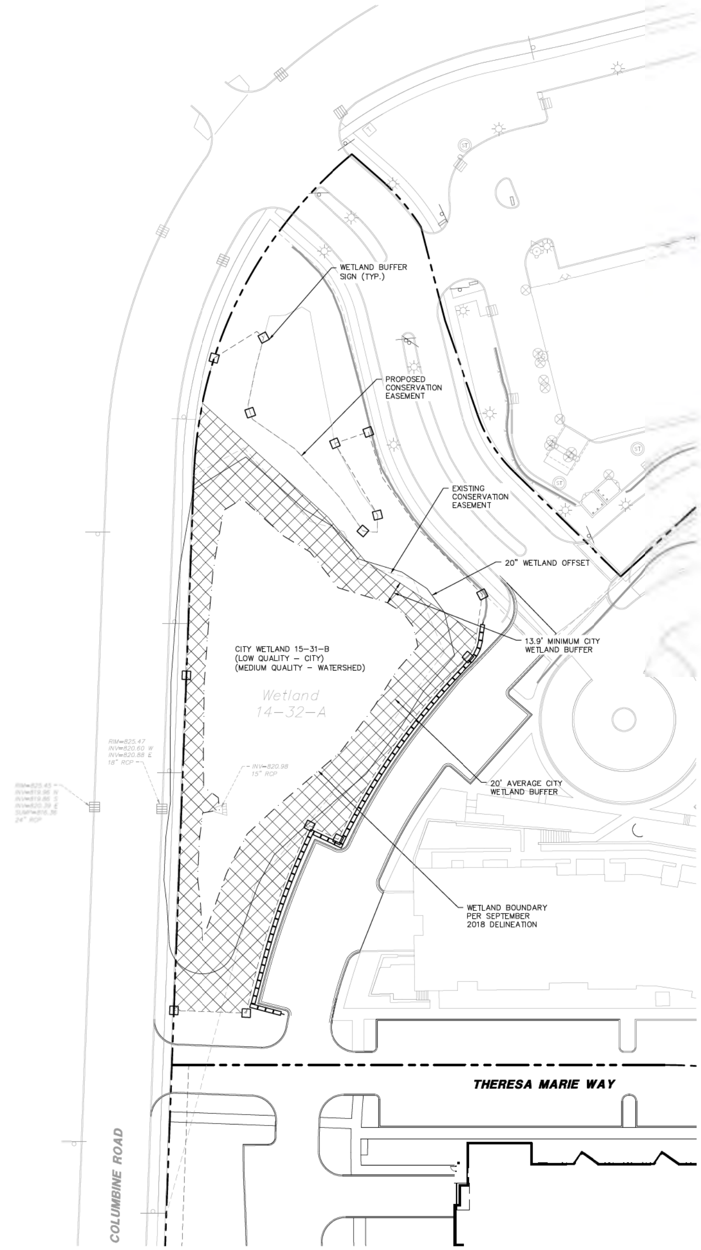


Wetland Buffer Table (Watershed)

WETLAND	REQUIRED 40' BUFFER AREA	PROPOSED 40' AVERAGE BUFFER AREA	PROPOSED AVERAGE BUFFER WIDTH
CWN-14-32-A	22,559 SF	22,746 SF	40.3 FT



Wetland Buffer Table (City)

WETLAND	REQUIRED 20' BUFFER AREA	PROPOSED 20' AVERAGE BUFFER AREA
CWN-14-32-A	12,225 SF	16,886 SF

Wetland Buffer Sign Detail

Westwood

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Wetland Buffer Plan

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SWPPP NARRATIVE

THE SWPPP IS PREPARED IN ACCORDANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REGULATIONS AS ESTABLISHED BY THE CLEAN WATER ACT. THE MINNESOTA POLLUTION CONTROL AGENCY'S CONSTRUCTION GENERAL PERMIT MN R100001 (CSGP) (EXPIRATION DATE: JULY 31, 2023) PROVIDES A FRAME WORK OF REQUIREMENTS FOR COMPLIANCE TO DISCHARGE STORMWATER FROM A CONSTRUCTION SITE.

THE SWPPP IS FOR IMPLEMENTATION BY THE OWNER AND OPERATOR, AS LISTED BELOW, AT CASTLE RIDGE PHASE I REDEVELOPMENT. THIS SWPPP, AMENDMENTS, AND INSPECTION AND MAINTENANCE REPORTS SHALL BE KEPT ON THE SITE AT ALL TIMES DURING CONSTRUCTION. THE OWNER MUST ALSO KEEP THIS SWPPP AND ALL ASSOCIATED NOTES AND RECORDS ON FILE FOR THREE YEARS AFTER SUBMITTAL OF THE NOTICE OF TERMINATION. THE FOLLOWING ARE OUTLINED IN THIS SWPPP:

- CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION PRIOR TO AND DURING CONSTRUCTION
- CONTROL MEASURES FOR STORM WATER POLLUTION PREVENTION AFTER CONSTRUCTION
- SOURCES OF STORMWATER AND NON-STORMWATER POLLUTION
- INSPECTION AND MAINTENANCE PROCEDURES

THE GRADING AND EROSION CONTROL PLAN PREPARED FOR CASTLE RIDGE REDEVELOPMENT SHALL BE CONSIDERED PART OF THE SWPPP.

PROJECT LOCATION
THIS DOCUMENT PRESENTS A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR CASTLE RIDGE PHASE I REDEVELOPMENT IN EDEN PRAIRIE, MINNESOTA. THE SITE IS LOCATED IN THE SOUTHWEST QUADRANT OF THE INTERSECTION OF PRAIRIE CENTER DRIVE AND FLYING CLOUD DRIVE OF PRAIRIE CENTER DRIVE IN EDEN PRAIRIE, MINNESOTA.

PROJECT CONTACT INFORMATION

OWNER/DEVELOPER:
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CONTRACTOR/OPERATOR:
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IDENTIFY PERSONNEL INVOLVED WITH THE PROJECT AND THEIR RELATED NECESSARY TRAINING COMMENSURATE WITH THEIR TASK PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

SWPPP DESIGNER:
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WESTWOOD PROFESSIONAL SERVICES
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U of M DESIGN OF CONSTRUCTION SWPPP
MAY 31, 2021

SWPPP INSPECTION:

BMP INSTALLER:

OWNER/OPERATOR RESPONSIBILITIES

OWNER
- DEVELOPMENT OF SWPPP PRIOR TO APPLICATION/NOI SUBMITTAL.
- SUBMIT A COMPLETE AND ACCURATE APPLICATION FORM (NOI)
- COMPLIANCE WITH ALL TERMS AND CONDITIONS OF CONSTRUCTION STORMWATER GENERAL PERMIT
- SWPPP SUBMITTAL FOR 30 REVIEW FOR PROTECT GREATER THAN 50 ACRES & DISCHARGING TO SPECIAL/IMPAIRED WATERS WITHIN 1 MILE OF SITE DISCHARGE.
- KEEPING PERMIT COVERAGE UP-TO-DATE (TRANSFER/SUBDIVISION)
- SUBMIT NOTICE OF TERMINATION (NOT) WITHIN 30 DAYS AFTER ALL PERMIT TERMINATION CONDITIONS AS LISTED IN SECTION 13 ARE COMPETE
- SUBMIT NOTICE OF TERMINATION (NOT) WITHIN 30 DAYS OF MEETING REQUIREMENTS OF FINAL STABILIZATION
- IDENTIFY WHO HAS LONG TERM OPERATION AND MAINTENANCE RESPONSIBILITY OF THE PERMANENT STORMWATER SYSTEM.
- DEVELOP CHAIN OF RESPONSIBILITY WITH ALL OPERATORS TO ENSURE NPDES AND SWPPP COMPLIANCE.
- IDENTIFY TRAINED PERSONNEL TO DEVELOP THE SWPPP, INSTALL AND MAINTAIN BEST MANAGEMENT PRACTICES, AND OVERSEE THE SWPPP AND CONDUCT INSPECTIONS

OPERATOR
- COMPLETION OF AN ACCURATE NOI WITH THE OWNER
- COMPLIANCE WITH CSGP SECTIONS 3, 4, 6-22, 24 AND ANY APPLICABLE REQUIREMENTS FOR CONSTRUCTION ACTIVITY IN SECTION 23 (MINN. R. 7090)
- KEEPING THE PERMIT UP-TO-DATE WITH THE OWNER (PARTIAL, WHOLE, CONTRACTOR, BUILDER, ECT).
- COMPLETE AND SIGN APPLICATIONS FOR PERMIT TRANSFER AND MODIFICATION AND NOTICE OF TERMINATION WITH OWNER AS NEEDED.

PROJECT DESCRIPTION

THE OVERALL REDEVELOPMENT SITE IS APPROXIMATELY 20.31 ACRES. CONSTRUCTION WILL BE PHASED AND DEVELOPMENT OF THE PARCELS WILL BE BY MULTIPLE PARTIES. PHASE I BY SENIOR HOUSING PARTNERS WILL INCLUDE, BUT NOT BE LIMITED TO, PHASE 1 DEMOLITION OF THE EXISTING BROADMOOR APARTMENTS, PAVEMENT, AND UTILITIES ON THE WESTERN PORTION OF THE PROPERTY, MASS GRADING OF LOT 1 AND OUTLOT A (PARAVEL DEVELOPMENT BY OTHERS), INSTALLATION OF UTILITIES AND PAVEMENT WITHIN LOT I AND THE SHARED ACCESS AREAS, AND THE SENIOR HOUSING BUILDING CONSTRUCTION AND LANDSCAPING FOR THE 6.84 ACRE PHASE I LOT. PHASE 2 WILL CONSIST OF DEMOLITION OF THE EXISTING CASTLE RIDGE CARE CENTER, ALONG WITH THE REMAINING UTILITIES AND PAVEMENT ON THE EASTERN PORTION OF THE SITE. OUTLOT B (OPPIDAN DEVELOPMENT BY OTHERS) WILL THEN BE MASS GRADED AND TEMPORARILY RESTORED. DEVELOPMENTS ON OUTLOTS A AND B WILL BE BY OTHERS UNDER SEPARATE PERMITS.

PROJECT AREA = 20.31 ACRES
DISTURBED AREA = 17.66 ACRES
EXISTING IMPERVIOUS AREA = 8.55 ACRES
PROPOSED IMPERVIOUS AREA = 5.01 ACRES

PRE-DEVELOPMENT SITE CONDITIONS
THE EXISTING SITE CONTAINS A LARGE APARTMENT BUILDING WITH DETACHED GARAGES AND A SENIOR CARE CENTER, SURFACE PARKING AND LANDSCAPED AREAS. EXISTING STORMWATER RUNOFF FROM THE MAJORITY OF THE SITE IS CAPTURED VIA CATCH BASINS AND IS DIRECTED VIA STORM SEWER TO A STORM POND WEST OF COLUMBINE ROAD WHICH ULTIMATELY DISCHARGES TO PURGATORY CREEK. THE EASTERN PORT OF THE SITE IS CONSISTS OF A DEVELOPED PORTION THAT SHEET FLOWS AND DRAINS THROUGH STORM SEWER NORTHEAST TO PRAIRIE CENTER DRIVE, AND AN UNDEVELOPED AREA THAT SHEET FLOWS SOUTHEAST TO FLYING CLOUD DRIVE. THE STORM SEWER IN PRAIRIE CENTER DRIVE COMBINES WITH THE STORM SEWER IN FLYING CLOUD DRIVE AND DISCHARGES EAST UNDER FLYING CLOUD DRIVE.

SOIL TYPES
THE SITE SOILS CONSIST OF FILL AND BURIED TOPSOIL AT THE SURFACE. THE FILL CONSISTS OF A MIXTURE OF SAND, SILT, AND CLAY. UNDERLYING THE FILL AND/OR BURIED TOPSOIL, THERE EXISTS ALLUVIAL AND GLACIAL DEPOSITS, MOSTLY CONSISTING OF CLAY. REFER TO THE GEOTECHNICAL REPORT DATED 11/27/2018 COMPLETED BY BRAUN INTERTEC CORPORATION FOR ADDITIONAL INFORMATION.

POST-DEVELOPMENT SITE CONDITIONS
THE PROPOSED DEVELOPMENT CONSISTS OF A MULTI-STORYSENIOR HOUSING FACILITY WITH SUB-SURFACE AND SURFACE PARKING AND LANDSCAPED AREAS. STORMWATER WILL BE COLLECTED FROM LOT 1 AND OUTLOT A AND ROUTED TO A STORMWATER BASIN PROVIDING INFILTRATION AND FILTRATION AT THE SOUTHWEST CORNER OF THE PROJECT SITE. THIS BASIN WILL DISCHARGE WEST VIA THE EXISTING 27" PIPE TO A POND WEST OF COLUMBINE ROAD AND ULTIMATELY DISCHARGES TO PURGATORY CREEK, LOCATED 2,200' TO THE WEST. THE EASTERN PORTION OF THE SITE WILL CONTINUE TO DISCHARGE TO FYLING CLOUD DRIVE.

STORM WATER MANAGEMENT PLAN
THE TEMPORARY STORMWATER MANAGEMENT PLAN WILL CONSIST OF USING A PORTION OF THE PROPOSED STORMWATER BASIN FOR TEMPORARY SEDIMENT CONTROL. THE BASIN IS NEEDED WHEN THERE ARE 10 ACRES OR GREATER OF DISTURBED SOILS DRAINING WEST. PHASE 1 GRADING LIMITS ARE APPROXIMATELY 12.1 ACRES. THE REQUIRED TEMPORARY BASIN STORAGE VOLUME IS 43,416 CF.

THE PERMANENT STORM WATER MANAGEMENT PLAN WILL CONSIST OF A WATER REUSE CISTERN TO CAPTURE ROOF RUNOFF FOR IRRIGATION REUSE AND AN INFILTRATION/FILTRATION BASIN LOCATED IN THE SOUTHWEST CORNER OF THE SITE THAT PROVIDES VOLUME ABSTRACTION FOR THE SHARDED DRIVEWAYS, ALONG WITH RATE CONTROL AND WATER QUALITY TREATMENT FOR LOT 1 AND OUTLOT A. A MAINTENANCE DECLARATION WITH THE WATERSHED WILL IDENTIFY CONTACTS FOR PARTY RESPONSIBLE FOR LONG TERM MAINTENANCE OF THE BASIN.

REFER TO THE CASTLE RIDGE REDEVELOPMENT STORMWATER MANAGEMENT REPORT BY WESTWOOD FOR MORE INFORMATION REGARDING THE PRE-DEVELOPMENT SITE CONDITIONS, POST-DEVELOPMENT SITE CONDITIONS, AND STORM WATER MANAGEMENT CALCULATIONS.

THE SITE STORM WATER DETENTION FACILITIES WILL BE CONSTRUCTED TO MEET OR EXCEED LOCAL, STATE AND FEDERAL REQUIREMEROSION/SEDIMENT CONTROL PREVENTION MEASURES.

SURFACE WATERS WITHIN ONE MILE OF THE PROJECT SITE

	TYPE	SPECIAL WATER	IMPAIRED WATER
UNNAMED WETLAND COMPLEX	WETLAND	NO	NO
PURGATORY CREEK	CREEK	NO	NO

TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP'S ALONG WITH THE PROCEDURES TO BE USED TO ESTABLISHED ADDITIONAL TEMPORARY BMP'S AS NECESSARY FOR SITE CONDITIONS DURING CONSTRUCTION ARE IDENTIFIED ON THE SITE GRADING AND EROSION CONTROL PLAN PREPARED FOR THE DEVELOPMENT OF THIS PROJECT, AND WITHIN THE PROJECT STORM WATER POLLUTION PREVENTION PLAN.

POTENTIAL STORM WATER POLLUTANTS

POTENTIAL POLLUTANT SOURCES, INCLUDING CONSTRUCTION AND WASTE MATERIALS THAT ARE USED OR STORED AT THE SITE, ARE DESCRIBED IN THE SECTION. BY IMPLEMENTATION OF THESE BMPS, THE POTENTIAL POLLUTANT SOURCES ARE NOT REASONABLY EXPECTED TO AFFECT THE STORM WATER DISCHARGES FROM THE SITE.

CONSTRUCTION MATERIALS, CHEMICALS AND WASTE MATERIALS THAT WILL BE USED OR STORED AT THE SITE:

POTENTIAL POLLUTANT	LOCATION	CONTROL MEASURE
ANTIFREEZE	VARIOUS	SECONDARY CONTAINMENT / DRIP PAN
DIESEL FUEL	VARIOUS	SECONDARY CONTAINMENT / DRIP PAN
FERTILIZER	LANDSCAPE CONTRACTOR	SECONDARY CONTAINMENT
GASOLINE	IN EQUIPMENT/FUELING AREA	SECONDARY CONTAINMENT / DRIP PAN
GLUE/ADHESIVES	CONTRACTOR	SECONDARY CONTAINMENT
HYDRAULIC OILS/FLUIDS	CONTRACTOR	SECONDARY CONTAINMENT
PAINTS	CONTRACTOR	SECONDARY CONTAINMENT
GREASE	CONTRACTOR	SECONDARY CONTAINMENT / DRIP PAN
SANITARY WASTE	PORTABLE BATHROOMS	SERVICE PROVIDER TO SECURE UNITS FROM TIPPING OVER AND MAINTAINED
SOIL AMENDMENTS	VARIOUS	SECONDARY CONTAINMENT
LANDSCAPING MATERIALS	LANDSCAPE CONTRACTOR	CONTRACTOR RESPONSIBLE
CONCRETE	TRUCK WASHOUT	WASHOUT AREA
CONCRETE / MORTAR	MOBILE MIXER	S.C. / WASHOUT AREA

CONSTRUCTION SEQUENCE

THE INTENDED SEQUENCING OF MAJOR SITE CONSTRUCTION ACTIVITIES IS AS FOLLOWS:
1. INSTALL PERIMETER CONTROL DEVICES (SILT FENCE, BIO-LOGS, ECT.) AND INLET PROTECTION TO EXISTING STRUCTURES AS SHOWN ON PLAN. INSTALL TREE PROTECTION FENCE AS SHOWN ON PLAN.
2. INSTALL STABILIZED ROCK CONSTRUCTION ENTRANCE.
3. CLEAR AND GRUB SITE.
4. STRIP AND STOCKPILE TOPSOIL.
5. ROUGH GRADE OF SITE.
6. STABILIZE DENUDED AREAS AND STOCKPILES.
7. INSTALL SANITARY SEWER, WATERMAIN, STORM SEWER AND SERVICES.
8. INSTALL INLET PROTECTION AROUND CATCH BASINS
9. INSTALL STREET SECTION.
10. INSTALL CURB AND GUTTER.
11. INSTALL PAVEMENT
12. INSTALL SMALL UTILITIES (GAS, ELECTRIC, PHONE, CABLE, ECT.)
13. FINE GRADE BOULEVARD, LANDSCAPE AREAS, SEED AND MULCH.
14. REMOVE ACCUMULATED SEDIMENT.
15. FINAL GRADE.
16. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED BY EITHER SEED OR SOD AND LANDSCAPING, REMOVE SILT FENCE AND RESEED ANY AREAS DISTURBED BY THE REMOVAL.

CONSTRUCTION NOTES

IT IS HIGHLY RECOMMENDED THAT THE CONTRACTOR MAINTAIN A STOCKPILE OF EROSION CONTROL DEVICES AND SEDIMENT CONTROL BMP'S ON SITE AT ALL TIMES FOR IMMEDIATE USAGE. IN THE EVENT OF AN ACCIDENTAL SEDIMENT DISCHARGE TO WATERS OF THE STATE, OR ANY DISCHARGE OF HAZARDOUS MATERIAL OF REPORTABLE QUANTITY, CONTACT THE MPCA STATE DUTY OFFICER AT 1-800-422-0798.

TIMING OF BMP INSTALLATION

THE EROSION PREVENTION AND SEDIMENT CONTROL BMP'S SHALL BE INSTALLED TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ON SITE. THE FOLLOWING LIST DEFINES THE TIMING OF EROSION PREVENTION AND SEDIMENT CONTROL MEASURES IN SPECIFIC AREAS.

- PRIOR TO START OF CONSTRUCTION

THE FOLLOWING EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE SHOWN IN THE PLANS AND SHALL BE IMPLEMENTED PRIOR TO CONSTRUCTION:
1. INSTALL SILT FENCE OR OTHER SEDIMENT CONTROL AROUND THE PERIMETER OF AREAS TO BE GRADED AND ALL AREAS WHICH ARE NOT TO BE DISTURBED AS SHOWN ON THE GRADING AND EROSION CONTROL PLAN.
2. CONSTRUCT GRAVEL CONSTRUCTION ENTRANCES AT FIELD ENTRANCES TO THE SITE AS SHOWN ON THE CONSTRUCTION PLANS.
3. INLET PROTECTION IS TO BE INSTALLED AT ALL STORM WATER INLETS WHICH HAVE THE POTENTIAL TO RECEIVE STORM WATER RUNOFF FROM THE CONSTRUCTION SITE WITHIN 200 FEET OF LIMITS OF CONSTRUCTION.
4. INSTALL SILT FENCE OR OTHER SEDIMENT CONTROL AROUND ALL TEMPORARY INACTIVE STOCKPILES. ALL SILT FENCES FOR STOCKPILES SHALL BE INCIDENTAL TO GRADING CONTRACT IF STOCKPILES ARE PLACED OUTSIDE OF SILT FENCES SHOWN ON THE PLAN.

- DURING CONSTRUCTION

THE FOLLOWING EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE SHOWN IN THE PLANS AND SHALL BE IMPLEMENTED DURING CONSTRUCTION:
1. PHASE GRADING WORK TO MINIMIZE THE DURATION THAT ANY DISTURBED SOIL IS EXPOSED.
2. ALL DISTURBED AREAS SHALL HAVE TEMPORARY PROTECTION OR PERMANENT COVER OVER EXPOSED SOIL AREAS IF NOT BEING ACTIVELY GRADED AND/OR IF NOT AT FINAL GRADE WITHIN 14 DAYS OF DISTURBANCE ACTIVITY, TEMPORARILY OR PERMANENTLY CEASING. TEMPORARY SEED MIX 150, APPLIED AT A RATE OF 40 LBS/ACRE, SHALL BE USED PRIOR TO WINTER, IF SITE NOT SODDED.
3. STRIP AND STOCKPILE TOPSOIL FOR REPLACEMENT OF 6 INCHES OF TOPSOIL OVER TURF AREAS WHEN GRADING IS COMPLETE.
4. PLACE A MINIMUM OF 2 TONS/ACRE OF STRAW ON ALL AREAS AFTER REACHING FINAL GRADE WITH TOPSOIL AND ANCHOR STRAW WITH EITHER A STRAIGHT DISK, HYDROMULCH OR POLYMER.
5. STABILIZATION OF TEMPORARY OR PERMANENT DRAINAGE DITCHES THAT DRAIN WATER FROM THE CONSTRUCTION SITE MUST BE INITIATED WITHIN 24 HOURS OF CONNECTING THE DRAINAGE DITCH TO ANY CONVEYANCE SYSTEM THAT DISCHARGES TO SURFACE WATERS. THE FIRST 200 LINEAR FEET MUST BE STABILIZED WITHIN 24 HOURS. THE REMAINING DITCH SHALL BE STABILIZED WITHIN 14 DAYS.
6. INSTALL SILT FENCE AROUND ALL TEMPORARY INACTIVE STOCKPILES WHICH ARE NOT PLACED WITHIN EXISTING SILT FENCES OR OTHER PERIMETER CONTROLS.
7. TEMPORARY OR PERMANENT ENERGY DISSIPATION AT PIPE APRON OUTLETS WILL BE PLACED PRIOR TO BUT NO SOONER THAN 7 DAYS BEFORE APRON IS INSTALLED. RIPRAP SHALL BE INSTALLED UNDER APRON LIP ACCORDING TO THE STANDARD DETAIL.
8. SUFFICIENT PERSONNEL, EQUIPMENT, AND MATERIALS SHALL BE MOBILIZED WITHIN 24 HOURS OF A WRITTEN ORDER BY THE OWNER OR OWNER'S REPRESENTATIVE TO CONDUCT CORRECTIVE WORK AND INSTALL TEMPORARY EROSION CONTROL WORK IN THE CASE OF AN EMERGENCY.
9. REMOVE ANY SEDIMENT THAT HAS BEEN TRACKED ONTO PUBLIC STREETS AT THE END OF THE DAY OR WITHIN 24 HOURS OF DETECTION, OR MORE FREQUENT AT DIRECTION OF SITE INSPECTOR.
10. COLLECT ALL CONSTRUCTION DEBRIS IN DUMPSTERS AND ROLL-OFF BOXES, EMPTY WHEN DEBRIS REACHES TOP OF DUMPSTER
11. INSPECT POLLUTION CONTROL MEASURES AS SPECIFIED WITHIN SECTION 11 OF THE GENERAL PERMIT.

- INLET SEDIMENT CONTROL BMP REMOVAL

IF INLET SEDIMENT CONTROLS (WIMCO TYPE OR EQUAL) BMPS ARE REMOVED FOR FLOODING / FREEZING CONCERNS UPON REQUEST OF THE MUNICIPALITY, WATERSHED DISTRICT OR OTHER AGENCY, DOCUMENTATION SHALL BE ATTACHED TO THE INSPECTION REPORTS AND THIS SWPPP OR BE AVAILABLE WITHIN 72 HOURS OF REQUEST. DOCUMENTATION SHALL BE A WRITTEN FORM OF CORRESPONDENCE VERIFYING THE NEED FOR REMOVAL.

- UPON COMPLETION OF CONSTRUCTION ACTIVITIES

PERMIT TERMINATION CONDITIONS ARE ACHIEVED FOR THE PROJECT WHEN PERMANENT EROSION CONTROL BMP'S ARE APPLIED TO THE SITE. THE PERMANENT EROSION CONTROL BMP'S MAY BE A COMBINATION OF VEGETATIVE AND NON-VEGITATIVE COVER TYPES. ADDITIONAL REQUIREMENTS TO ACHIEVING FINAL STABILIZATION PERMIT TERMINATION CONDITIONS INCLUDE:
1. ALL SOIL DISTURBING ACTIVITY IS COMPLETED. ALL DISTURBED AREAS WITHOUT PERMANENT IMPERMEABLE SURFACES ARE VEGETATED FOR FINAL STABILIZATION.
2. PERMANENT STORMWATER TREATMENT SYSTEM (IF REQUIRED) IS CONSTRUCTED AND ACCUMULATED SEDIMENT HAS BEEN REMOVED FROM CONSTRUCTION ACTIVITY. CLEAN OUT ALL SEDIMENT FROM CONVEYANCES AND FROM TEMPORARY SEDIMENT BASINS THAT ARE TO BE USED AS PERMANENT WATER QUALITY MANAGEMENT BASINS. THE CLEAN OUT OF PERMANENT MUST BE SUFFICIENT TO RETURN THE BASIN TO DESIGN CAPACITY.
3. THE VEGETATIVE COVER FOR THE SITE IS AT A DENSITY, WITH UNIFORM PERENNIAL COVER OF 70% OF THE EXPECTED FINAL GROWTH DENSITY.
4. ALL TEMPORARY, SYNTHETIC BMP'S HAVE BEEN REMOVED

PERMANENT VEGETATION ESTABLISHMENT

PERMANENT TURF SHALL FOLLOW THE RECOMMENDATIONS PER NOTES AND SPECIFICATIONS IN THE LANDSCAPE PLANS. SEEDING THAT IS TO OCCUR AFTER OCTOBER 20TH SHALL CONFORM TO THE MN/DOT SPECIFICATIONS FOR DORMANT SEEDING.

SWPPP INSPECTIONS AND MAINTENANCE

EROSION AND SEDIMENT CONTROL INSPECTIONS
CONSTRUCTION ACTIVITY AND ALL SUPPORT ACTIVITIES MUST BE INSPECTED (USING MPCA CONSTRUCTION STORMWATER INSPECTION CHECKLIST OR AN ALTERNATIVE FORM) WITHIN THE PARAMETERS OF THE SCHEDULE BELOW. THE INSPECTOR SHALL BE A PERSON TRAINED AND FAMILIAR WITH THE REQUIREMENTS OF THIS SWPPP AND THE MPCA MN R100001 PERMIT. ALTERNATES WILL INCLUDE INDIVIDUALS TO BE DESIGNATED BY THE OWNER AND MAY INCLUDE CONTRACTOR PERSONNEL OR OTHER QUALIFIED INDIVIDUALS AND SHALL BE LISTED IN THE PROJECT CONTACT INFORMATION SECTION OF THIS PLAN

INSPECTION SCHEDULE
- IF THE SITE IS ACTIVE: INSPECTION NEEDED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL GREATER THAT 0.5 INCHES.
- INACTIVE AND STABILIZED AREAS: INSPECTION NEEDED ONCE EVERY 30 CALENDAR DAYS.
- INACTIVE AREAS WITH FINAL STABILIZATION: INSPECTION NEEDED ONCE EVERY MONTH FOR 12 MONTHS (NOT INCLUDING FROZEN CONDITIONS).
- SUBJECT TO WINTER/FROZEN CONDITIONS: NOT APPLICABLE/NOT NEEDED IF NO CONSTRUCTION ACTIVITY IS OCCURRING.

SCOPE OF INSPECTION SHALL INCLUDE:
1. RECORD DATE AND TIME OF INSPECTION
2. NAME OF PERSON(S) CONDUCTING INSPECTION
3. FINDINGS OF THE INSPECTION
4. LOCATION AND CORRECTIVE ACTIONS NEEDED
5. CORRECTIVE ACTIONS TAKEN (DATE.TIME/BY WHOM)
6. DATE AND AMOUNT OF RAINFALL (RAINFALL AMOUNTS TO BE TAKEN FROM AN ONSITE RAIN GAUGE)
7. OBSERVED DISCHARGES LOCATIONS
8. DESCRIBE DISCHARGE (COLOR, ODOR, FLOATING. SETTLED, SOLIDS, FOAM, OIL SHEEN)
9. THE SITE INSPECTOR WILL VISUALLY CHECK A DISCHARGE FROM A TEMPORARY OR PERMANENT SEDIMENTATION BASIN TO ENSURE ADEQUATE TREATMENT IS OBTAINED AND DISCHARGE WATER WILL NOT CONTRIBUTE EXCESSIVE SEDIMENT OR OTHER NUISANCE CONDITIONS.
10. RECORD CHANGES MADE TO THE SWPPP. AMENDMENTS FROM INSPECTIONS NEED TO BE COMPLETED WITHIN 7 DAYS.
11. ALL INSPECTIONS SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER COMPLETING THE FIELD INSPECTION AND AVAILABLE IN PAPER OR ELECTRONIC FORM ON SITE.

MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES

THE OWNER/CONTRACTOR IS RESPONSIBLE FOR THE OPERATION, MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT BMPS AS WELL AS ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS, FOR THE DURATION OF THE CONSTRUCTION WORK AT THE SITE. THE CONTRACTOR MUST INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS AND POLLUTION PREVENTION MANAGEMENT MEASURES TO ENSURE INTEGRITY AND EFFECTIVENESS DURING ALL ROUTINE AND POST RAINFALL EVENTS. ALL NONFUNCTIONAL BMPS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS UNLESS ANOTHER TIME FRAME IS SPECIFIED BELOW.

THE FOLLOWING GUIDELINES WILL BE USED TO DETERMINE IF THE EROSION AND SEDIMENT CONTROL DEVICES REQUIRE MAINTENANCE, REPAIR, OR REPLACEMENT:

1. ALL NON-FUNCTIONAL BMPS – OBSERVED CONDITION; SEDIMENT OVERTOPPING, UNDER WATER, SCOURED ENDS, UNDERMINED, DESTROYED, NON-FUNCTION AS DESIGNED, ECT. – SHALL BE MAINTAINED OR REPLACED BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY OR NOTIFICATION, OR AS SOON AS FIELD CONDITIONS ALLOW.
2. PERIMETER SEDIMENT CONTROL (SILT FENCE, FIBER LOGS, BERMS, ECT.) – OBSERVED CONDITION TO BE ½ FULL OF SEDIMENT, FLATTENED TO ½ HEIGHT, DRIVEN OVER, UNDERMINED, SCOURED, MOVED FOR ACCESS, ECT. – SHALL BE MAINTAINED, REPAIRED OR SUPPLEMENTATION OF PERIMETER SEDIMENT CONTROL SHOULD BE DONE BY THE END OF NEXT BUSINESS DAY OR AD FIELD CONDITIONS ALLOW.
3. INLET PROTECTION BMPS, CONVEYANCES, SURFACE WATERS – OBSERVED CONDITION; SEDIMENT DEPOSITION, SEDIMENT DELTAS AN ACCUMULATION OF SEDIMENT MATERIAL, DEVICES APPEAR PLUGGED WITH SEDIMENT – REMOVEAL/CLEANOUT OF ACCUMULATED SEDIMENT AND DELTAS TO BE REMOVED WITHIN 7 DAYS, STABILIZE AS NEEDED IF SOILS ARE EXPOSED DURING REMOVAL/ CLEANOUT.
4. TEMPORARY SEDIMENT BASINS AND TRAPS/PERMANENT SEDIMENT BASINS – OBSERVED TO HAVE SEDIMENT DEPOSITION AND ACCUMULATION TO ½ OF THE STORAGE VOLUME – CLEANOUT, REMOVE ACCUMULATED SEDIMENT MATERIAL WITHIN 7 DAYS OF OBSERVATION, OR AS FIELD CONDITIONS ALLOW ACCESS.
5. SITE EXIT LOCATIONS, ROCK EXIT PADS, OTHER ANTI-TRACKING PRACTICES – OBSERVED TO HAVE ACCUMULATED SEDIMENT IN ROCK OR OTHER ANTI-TRACKING BMP, TRACKING OF SEDIMENT FROM THE SITE ONTO PAVED SURFACES – TOP DRESS ROCK, MAINTAIN ROCK EXIT OR OTHER ANTI-TRACKING CONTROLS, SCRAP PAVED SURFACES, SWEEP PAVED SURFACES WITHIN 1 CALENDAR DAY OF DISCOVERY.
6. PAVED SURFACES AND ADJACENT STREETS – OBSERVED TO BE TRACKED WITH SEDIMENT AND SOIL MATERIAL FRO THE SITE HAULING OR ACCESS – SWEEP WITHIN 1 CALENDAR DAY OF DISCOVERY, ADDITIONAL AND/OR MORE FREQUENT SWEEPING MAY BE NEEDED TO MAINTAIN PUBLIC SAFETY OR PREVENT WASHING FROM FORECASTED RAINS.

TERMINATION OF COVERAGE

THE PROJECT PERMIT MAY BE TERMINATED IN ONE OF THE FOLLOWING SCENARIOS:
1. ALL CONSTRUCTION ACTIVITY IS COMPLETE, TEMPORARY SYNTHETIC BMP'S ARE REMOVED, ACCUMULATED SEDIMENT FROM CONSTRUCTION IS REMOVED, AND PERMANENT COVER HAS BEEN ACHIEVED WITH VEGETATIVE AND/OR NON-VEGITATIVE COVER. THE NOTICE OF TERMINATION FORM FROM THE PCA SHOULD BE COMPLETED WITHIN 30 DAYS OF MEETING THE CONDITIONS ABOVE. UPON MIDNIGHT OF THE POST MARKED DATE, THE PERMIT COVERAGE IS TERMINATED UNLESS OTHERWISE NOTIFIED BY THE MPCA. OR:
2. WITHIN 30 DAYS OF SELLING OR OTHERWISE LEGALLY TRANSFERRING OWNERSHIP OF THE SITE IN IT'S ENTIRETY (INCLUDING STREET SWEEPING AND STORMWATER INFRASTRUCTURE) FROM THE ORIGINAL OWNER TO ANOTHER PARTY TAKING RESPONSIBILITY OF OWNERSHIP. THE TERMINATION IS EFFECTIVE UPON MIDNIGHT OF THE SUBMISSION DATE OF THE NOT. IF A PORTION OF THE SITE IS TRANSFERRED (I.E. OUTLOTS, LOTS/BLOCKS) THAT PORTION OF THE SITE IS TERMINATED FROM THE ORIGINAL PERMIT COVERAGE AT MIDNIGHT OF THE SUBMISSION DATE. OR:
3. PERMIT COVERAGE CAN BE TERMINATED IF ALL OF THE FOLLOWING ARE MET:
   - 3.a. CONSTRUCTION ACTIVITY HAS CEASED FOR 90 DAYS; AND
   - 3.b. AT LEAST 90% OF THE AREA OF THE ORIGINALLY PROPOSED ACTIVITY HAS BEEN COMPLETED AND PERMANENTLY ESTABLISHED WITH VEGETATION OR NON-VEGETATIVE COVER; AND
   - 3.c. WHERE CONSTRUCTION ACTIVITY IS NOT COMPLETE, PERMANENT COVER HAS BEEN ESTABLISHED; AND
   - 3.d. THE SITE IS COMPLIANT WITH PERMIT SECTIONS 13.3 THROUGH 13.7.
4. WHERE THE PROJECT OBTAINED PERMIT COVERAGE BUT NEVER STARTED CONSTRUCTION ACTIVITY DUE TO CANCELLATION OR OTHER REASONS, DOCUMENTATION SHOULD BE SENT TO THE PCA WITH THE NOT FORM AND IS SUBJECT TO PCA APPROVAL.

SWPPP BMP QUANTITIES

SILT FENCE	3740 LF
INLET PROTECTION	16 EACH
STORMWATER SEED MIX (33-261)	16 LBS
TEMPORARY SEED MIX (21-111)	650 LBS
PERMANENT SEED MIX (25-131)	275 LBS
EROSION CONTROL BLANKET	40,650 SF
ROCK CONSTRUCTION ENTRANCE	2 EACH
STREET SWEEPING	1 EACH

Westwood

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Designed:
Checked:
Drawn:
Record Drawing by/date:

Revisions:
12/23/2019 Construction Plans
[illegible]

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Gretchen Schroeder

Date: 07/28/2021 License No. 43019

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

SWPPP Narrative

Date: 10/03/2018
Sheet: 20 of 21

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SWPPP NOTES

Listed below are additional BMP's that may be considered for use if the BMP's identified in the erosion control plans prove to be insufficient. Payment for these BMP's may only be made if prior approval from an Owner has been given.

1. WORK NEXT TO WETLANDS
   - PRESERVE A 50' NATURAL BUFFER, OR IF A BUFFER IS INFEASIBLE, PROVIDE REDUNDANT SEDIMENT CONTROLS PRIOR TO DISTURBANCE OF UP-GRADIENT AREAS.
   - FILL SLOPES ADJACENT TO WETLANDS SHALL BE SEEDED AND MULCHED WITHIN 7 DAYS OF COMPLETION OF WORK. INSTALL EROSION CONTROL BLANKET AS INDICATED ON THE EROSION CONTROL / GRADING PLAN.

2. STORM SEWER INLET PROTECTION
   - STORM DRAIN INLETS SHALL BE PROTECTED UNTIL THE DISTURBED AREAS THAT COULD DISCHARGE TO AN INLET HAVE BEEN STABILIZED.
   - INFRASAFE SEDIMENT CONTROL BARRIERS OR APPROVED EQUAL SHALL BE USED WHEN CASTINGS ARE NOT IN PLACE. AS INDICATED ON THE UTILITY PLAN AND AS APPROVED BY THE OWNER.
   - INFRASAFE DEBRIS COLLECTION DEVICE OR APPROVED EQUIVALENT SHALL BE USED WHEN CASTINGS ARE IN PLACE AS INDICATED ON THE UTILITY PLAN AND AS APPROVED BY THE OWNER.
   - DOCUMENTATION IS NEEDED WITHIN 72 HOURS IF REMOVAL OF PROTECTION BMPS IS NEEDED DUE TO WINTER CONDITIONS OR FLOODING CONCERNS.

3. STORM WATER POND OUTLETS
   - TEMPORARY OR PERMANENT ENERGY DISSIPATION MEASURES SHALL BE IN PLACE AT THE STORM WATER POND OUTLETS WITHIN 24 HOURS OF DIRECT CONNECTION TO A SURFACE WATER.
   - RIPRAP AT PIPE APRON OUTLETS WILL BE PLACED PRIOR TO APRON INSTALLATION AND SHALL BE INSTALLED UNDER THE APRON LIP.
   - POND EMERGENCY SPILLWAYS SHALL BE LINED BASED ON THE DESIGN DISCHARGE FLOW VELOCITY AND AS INDICATED ON GRADING AND/OR UTILITY PLANS.

4. TEMPORARY SEDIMENT BASINS
   - TEMPORARY SEDIMENT BASINS WILL BE PROVIDED WHERE 10 OR MORE ACRES OF DISTURBED SOIL DRAIN TO A COMMON LOCATIONS. THE BASIN SIZE IS BASED ON RUNOFF FROM A 2-YEAR, 24 HOUR STORM, FOR EACH ACRE DRAINED TO THE BASIN. AT A MINIMUM, THE BASIN WILL PROVIDE 1800 CUBIC FEET OF STORAGE FOR EACH ACRE DRAINED TO THE BASIN.
   - SEDIMENT BASINS WILL DETAIN WATER LONG ENOUGH TO SETTLE OUT AT LEAST 75 PERCENT OF THE SEDIMENT. THE USE OF FLOCS MAY BE NECESSARY. THE DISCHARGE QUALITY SHALL BE EQUAL TO OR BETTER THAN THE RECEIVING WATER. THE TEMPORARY BASIN MAY BE DRAWN DOWN WITH A PUMP TO INCREASE CAPACITY FOR THE NEXT RAIN EVENT. TEMPORARY EROSION CONTROL DEVICES REQUIRED DUE TO CONTRACTORS METHOD OF SEQUENCING THEIR CONSTRUCTION WORK SHALL BE INCIDENTAL TO THE GRADING CONTRACT.
   - THE SEDIMENT PONDS WILL BE EXCAVATED TO MAINTAIN THE NECESSARY SEDIMENT CAPACITY AND CONTAINMENT.
   - TEMPORARY SEDIMENT FOREBAYS WILL BE CONSTRUCTED TO CAPTURE SEDIMENT BEFORE IT ENTERS THE POND, IF NECESSARY.
   - THE SEDIMENT PONDS WILL BE MONITORED BY THE CONTRACTOR TO DETERMINE THE SEDIMENT LEVEL IN THE POND.
   - WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE TEMPORARY BASIN REACHES ½ FULL (50% OF THE STORAGE VOLUME) THE BASIN SHALL BE DRAINED USING PUMPS AND ENERGY DISSIPATION AND SEDIMENT REMOVAL SHALL BE COMPLETED WITHIN 72 HOURS OF DISCOVERY OF THE BASIN BEING 1/2 FULL OF SEDIMENT, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS. TEMPORARY EROSION CONTROL DEVICES REQUIRED DUE TO CONTRACTORS METHOD OF SEQUENCING THEIR CONSTRUCTION WORK SHALL BE INCIDENTAL TO THE GRADING CONTRACT.
   - TEMPORARY SEDIMENT BASINS WILL HAVE A STABILIZED EMERGENCY OVERFLOW AND CONTAIN ENERGY DISSIPATION AT BASIN OUTLET.

5. STOCKPILES (TEMPORARY AND PERMANENT)
   - LOCATE STOCKPILES A MINIMUM OF 100 FEET FROM CATCH BASIN INLETS, PONDS, AND SITE DRAINAGE ROUTES
   - PERIMETER CONTROLS SUCH AS SILT FENCE SHALL BE INSTALLED AROUND ALL STOCKPILES IF NOT PLACED WITHIN EXISTING SILT FENCES OR OTHER SEDIMENT CONTROL.
   - TEMPORARY SEED AND MULCH SHALL BE USED TO STABILIZE THE STOCKPILES AND THE STOCKPILES SHALL BE SHAPED TO FACILITATE SEEDING AND MINIMIZE EROSION AND SHALL BE SEEDED WITHIN 7 DAYS. TEMPORARY EROSION CONTROL DEVICES REQUIRED DUE TO CONTRACTORS METHOD OF SEQUENCING THEIR CONSTRUCTION WORK SHALL BE INCIDENTAL TO THE GRADING CONTRACT.
   - IF TEMPORARY SEED AND MULCH CANNOT BE USED, THEN THE STOCKPILES SHALL BE COVERED WITH HYDROMULCH, TARPS OR PLASTIC SHEETING AS APPROVED BY THE OWNER.
   - IF STOCKPILES MUST BE PLACED WITHIN A CONVEYANCE A TEMPORARY BYPASS SHALL BE INSTALLED (I.E. PVC PIPE) TO ADEQUATELY CONVEY RUNOFF. TEMPORARY BYPASS BMPS SHALL BE INCIDENTAL TO THE CONTRACT UNLESS PREVIOUSLY APPROVED BY THE OWNER / ENGINEER

6. CONSTRUCTION DEWATERING
   - DURING DEWATERING ACTIVITIES, THE SEDIMENT LADEN WATER CANNOT BE DIRECTLY DISCHARGED TO SURFACE WATERS. OPTIONS FOR REDUCING THE TURBIDITY OF THE WATER INCLUDE: (TEMPORARY EROSION CONTROL DEVICES REQUIRED DUE TO CONTRACTORS METHOD OF SEQUENCING THEIR CONSTRUCTION WORK SHALL BE INCIDENTAL TO THE GRADING CONTRACT):
   - o CONSTRUCT A TEMPORARY SEDIMENT TRAP FOR TURBID WATER DISCHARGE.
   - o USE A PORTABLE SEDIMENT TRAP SYSTEM.
   - o APPLY NATURAL BASED FLOCCULENT TECHNOLOGY SUCH AS CHITOSAN IN SEDIMENT TRAPS OR A SERIES OF DITCH CHECKS TO CONTAIN SEDIMENT.
   - o DISCHARGE THROUGH FIBERLOGS OR A ROCK WEEPER INTO A LARGE VEGETATIVE BUFFER AREA.
   - o PUMP TO A TEMPORARY SEDIMENT BASIN.
   - ENERGY DISSIPATION WILL BE PROVIDED AT ALL DISCHARGE POINTS.
   - DEWATERING OR BASIN DRAINING ACTIVITIES WILL NOT CAUSE EROSION IN RECEIVING CHANNELS OR ADVERSELY IMPACT WETLANDS.
   - ALL EROSION CONTROL OR SEDIMENT TRAPS REQUIRED FOR CONSTRUCTION DEWATERING SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION ACTIVITY REQUIRING DEWATERING.

7. CONSTRUCTION ENTRANCES
   - A TEMPORARY CRUSHED ROCK OR WOOD CHIP PAD SHALL BE LOCATED WHERE VEHICLES LEAVE THE CONSTRUCTION SITE.
   - THE CONSTRUCTION ENTRANCE PAD SHALL BE AT LEAST 50 FEET IN LENGTH.
   - GEOTEXTILE FABRIC MAY BE PLACED UNDER THE CRUSHED ROCK OR WOOD CHIPS TO PREVENT MIGRATION OF MUD FROM UNDERLYING SOIL INTO THE CONSTRUCTION ENTRANCE MATERIAL.
   - ROCK PADS SHALL BE CONSTRUCTED OF ROCK 1 TO 3 INCHES IN SIZE AND PLACED IN 6 INCH LAYERS.
   - CONSTRUCTION ENTRANCES SHALL BE INSPECTED AT LEAST EVERY 7 DAYS AND MAINTAINED AS NEEDED.
   - TRACKED SEDIMENTS SHALL BE REMOVED FROM PAVED SURFACES AT THE END OF EACH DAY USING PICK-UP TYPE STREET SWEEPER.
   - IF TRACKING INTO ROADWAY BECOMES PROBLEMATIC THE ENTRANCE PADS SHALL BE LENGTHENED OR ANOTHER TECHNIQUE APPLIED. TEMPORARY EROSION CONTROL DEVICES REQUIRED DUE TO CONTRACTORS METHOD OF SEQUENCING THEIR CONSTRUCTION WORK SHALL BE INCIDENTAL TO THE GRADING CONTRACT.
   - THE CONSTRUCTION ENTRANCE SHALL BE MONITORED CLOSELY DURING WET CONDITIONS. IF TRACKING INTO ADJACENT ROADWAYS OCCURS, THE FREQUENCY OF STREET SWEEPING SHALL BE INCREASED.

8. CONCRETE TRUCK WASHOUT
   - CONCRETE TRUCKS SHALL UTILIZE THE CONCRETE WASHOUT AREA SHOWN ON THE PLANS TO WASH AND RINSE THEIR EQUIPMENT PRIOR TO LEAVING THE SITE.
   - WASHOUT OF CONCRETE MIXER TRUCKS WILL BE PERFORMED IN THE DESIGNATED AREAS ONLY.
   - WASHOUTS WILL BE CONSTRUCTED AND MAINTAINED TO PROVIDE SUFFICIENT CONTAINMENT FOR ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
   - WASHOUTS SHALL BE CLEARLY MARKED ON SITE WITH SIGNAGE BY THE UTILITY CONTRACTOR WITH APPROVAL FROM OWNER.
   - WASHOUTS SHALL BE LOCATED A MINIMUM OF 50 FEET FROM DRAINAGE FACILITIES AND WATERCOURSES.
   - CONCRETE WASHOUT AREAS WILL HAVE AN IMPERMEABLE LINER TO PREVENT CONCRETE WASHOUT WATER FROM INFILTRATING/CONTACTING WITH SOIL.
   - IMPERMEABLE LINER INCLUDES 10 MIL POLYLINER OR COMPACTED CLAY LINER.
   - WASHOUT SYSTEMS CAN BE USED AS ALTERNATE WASHOUT AREAS.

9. VEHICLE MAINTENANCE
   - ROUTINE MAINTENANCE OF VEHICLES AND EQUIPMENT SHALL OCCUR IN STAGING AREAS ONLY.
   - VEHICLE WASHING SHOULD BE AVOIDED. IF WASHING IS NECESSARY, RUNOFF FROM THE WASHING WILL BE CONTAINED AND LIMITED TO A DEFINED AREA OF THE SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF.
   - ENGINE DEGREASING SHALL BE AVOIDED. IF DEGREASING IS NECESSARY, RUNOFF FROM THE OPERATION WILL BE CONTAINED IN A LINED SEDIMENT TRAP AND PROPERLY DISPOSED OF AT A TREATMENT FACILITY.
   - ALL REQUIRED SEDIMENT TRAPS AND CONTAINMENT FACILITIES AND PROPER DISPOSAL OF WASH WATER/DEGREASING AT A TREATMENT FACILITY SHALL BE INCIDENTAL TO THE CONSTRUCTION CONTRACT.

10. FUELING
    - ANY FUEL TANK OR TRUCK STORED ON THE PROJECT SITE SHALL BE PROTECTED BY A SECONDARY CONTAINMENT SYSTEM.
    - FUELING AREAS SHALL NOT BE WASHED OR RINSED WITH WATER SINCE THIS COULD CAUSE FUEL SPILLS TO BE DISCHARGED INTO STORM WATER SYSTEMS.
    - ABSORBENT MATERIALS SHALL BE AVAILABLE ON SITE FOR USE IN CLEANING UP SMALL SPILLS.
    - ALL REQUIRED FUEL CONTAINMENT AND CLEAN-UP MATERIALS AND THE PROPER DISPOSAL OF THE MATERIALS SHALL BE INCIDENTAL TO THE CONSTRUCTION CONTRACT.

11. HAZARDOUS MATERIALS
    - HAZARDOUS MATERIALS SHALL BE PROPERLY STORED TO PREVENT VANDALISM OR UNAUTHORIZED ACCESS.
    - CONTAINMENT UNITS SHALL BE INSTALLED IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
    - MPCA STORING AND DISPOSAL REQUIREMENTS SHALL BE FOLLOWED FOR ALL HAZARDOUS WASTE.
    - NO HAZARDOUS MATERIAL SHOULD BE STORED WITHIN 200 FEET OF AN IDENTIFIED CRITICAL AREA.
    - ABSORBENT MATERIALS SHALL BE AVAILABLE FROM THE CONTRACTOR ON SITE FOR USE IN CLEANING UP SMALL SPILLS.
    - IF BUILDING MATERIALS, CHEMICALS, OR GENERAL REFUSE IS BEING USED, STORED, DISPOSED OF, OR OTHERWISE MANAGED INAPPROPRIATELY, THE CONTRACTOR SHALL CORRECT SUCH DEFECTS WITHIN 24 HOURS OF DETECTION OR NOTIFICATION.
    - ALL REQUIRED CONTAINMENT / STORAGE UNITS / ABSORBENT MATERIAL AND REQUIRED DISPOSAL SHALL BE INCIDENTAL TO THE CONSTRUCTION CONTRACT.

12. CHEMICAL CONTAINMENT
    - GASOLINE, OIL, PAINT, SOLVENTS, AND OTHER CHEMICALS NECESSARY FOR CONSTRUCTION ARE NOT ALLOWED TO CONTACT THE GROUND SURFACE, BE EXPOSED TO GROUNDWATER OR BE RELEASED TO A SURFACE OR GROUNDWATER EXCEPT IN DE MINIMIS QUANTITIES.
    - ALL PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINER, WITH ORIGINAL LABELS STILL ATTACHED, UNLESS THE CONTAINER IS NOT RESEALABLE.
    - HAZARDOUS MATERIALS SHALL BE RETURNED TO THE HAZARDOUS MATERIAL STORAGE AREA AT THE END OF EACH DAY.
    - AN EFFORT SHOULD BE MADE TO STORE ONLY ENOUGH PRODUCTS TO DO THE REQUIRED JOB.
    - THE CONTRACTOR SHALL PROVIDE TANKS OR BARRELS TO COLLECT LIQUID BYPRODUCTS THAT POSE A POLLUTION HAZARD.
    - THE POLLUTANTS SHALL BE REMOVED FROM THE SITE ON A WEEKLY BASIS AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
    - ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDED METHODS.
    - ALL REQUIRED CONTAINMENT / STORAGE UNITS / ABSORBENT MATERIAL AND REQUIRED DISPOSAL SHALL BE INCIDENTAL TO THE CONSTRUCTION CONTRACT
    - ALL STORAGE AREAS SHALL BE SECURED TO PREVENT UNAUTHORIZED ACCESS.

13. SOLID WASTE
    - SOLID WASTE SHALL BE STORED IN APPROPRIATE CONTAINERS AND PROPERLY DISPOSED OF ON A REGULAR BASIS.
    - CONTAINERS SHALL BE COVERED TO PREVENT WIND BLOWING THE WASTE AROUND THE SITE.
    - MPCA DISPOSAL REQUIREMENTS WILL BE FOLLOWED FOR ALL SOLID WASTE.
    - SOLID WASTE STORAGE CONTAINERS AND PROPER DISPOSAL SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION CONTRACT.

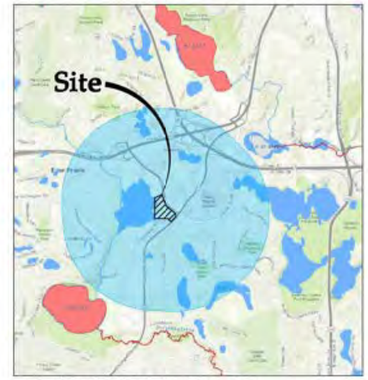
14. DUST CONTROL
    - THE CONTRACTOR SHALL USE A VARIETY OF DUST CONTROL INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
      A. RAPID STABILIZATION METHODS ON SLOPES
      B. WATER ON ROADWAYS AND GRADED AREAS
      C. ALTERNATIVES: IN THE FORM OF VEGETABLE POLYMERS, WATER AND CALCIUM CHLORIDE PETROLEUM EMULSION RESINS, OR ACRYLIC COPOLYMERS MAY ALSO BE USED.
    - ALL REQUIRED DUST CONTROL SHALL BE INCIDENTAL TO THE CONSTRUCTION CONTRACT AS PER SPECIFICATIONS.

15. WINTER STABILIZATION
    - COVER EXPOSED SOILS ON OR AROUND NOV. 15TH AND/OR PRIOR TO TERMINATION OF CONSTRUCTION ACTIVITIES FOR WINTER
    - ALL EXPOSED SOILS TO BE COVERED WITH 2 TONS TYPE 1 MULCH
    - ALL EXPOSED SOILS TO BE SEEDED WITH MNDOT SEED MIX 150
    - ALL LOW POINTS IN ROADS TO BE ADEQUATELY DRAINED IN ACCORDANCE WITH NPDES DEWATERING REQUIREMENTS PART IV. CONSTRUCTION ACTIVITY REQUIREMENTS. SECTION D. DEWATERING AND BASIN DRAINING.
    - PERIMETER SILT FENCE OR OTHER CONTROLS TO BE INSTALLED 3-5 FEET FROM THE BACK OF THE CURB AND OUT OF THE PLOWED SNOW AREA.
    - PERIMETER CONTROLS AROUND PERMANENT STORMWATER BASINS TO BE INSTALLED AND MAINTAINED
    - INLET CONTROLS TO BE REMOVED ACCORDING TO LEGAL REQUIREMENTS WITH DOCUMENTATION WITHIN 72 HOURS FROM LEGAL AUTHORITY.
    - IF WORK HAS OCCURRED NEAR OR IN STREAMS OR OTHER SURFACE WATERS, THE EXPOSED SOILS SHALL BE STABILIZED TO PROTECT AGAINST FLOODING AND SPRING RUNOFF TO THE 100-YR FLOOD ELEVATION.
    - ALL TEMPORARY AND PERMANENT STORMWATER BASINS AND SEDIMENT BASINS SHOULD HAVE OUTLETS AND STABILIZED EMERGENCY OVERFLOWS INSTALLED AS PER THE GRADING AND/OR UTILITY PLAN AND AT THE APPROVAL OF THE OWNER.

16. NON-STORMWATER DEWATERING
    - HYDRANT FLUSHING: FLUSHING OF HYDRANTS WILL BE DISCHARGED
    - THROUGH TEMPORARY PIPES AS NECESSARY, ONTO IMPERVIOUS SURFACES OR TO STABILIZED AREAS WITH ENERGY DISSIPATION AT THE DISCHARGE POINT. THE DISCHARGE SHOULD BE COLLECTED BY THE STORM WATER BASINS AND STORM SEWER SYSTEM.
    - POTABLE WATER DISCHARGE: ALL WATER LINES WILL BE FLUSHED USING HOSES AND DISCHARGED ONTO AN IMPERVIOUS SURFACE AND DIRECTED TO THE STORM SEWER INFRASTRUCTURE BY NON-EROSIVE MEANS.

17. INFILTRATION/FILTRATION AREAS (SECTIONS 16 & 17)
    - FENCE OFF AREA PRIOR TO BEGINNING CONSTRUCTION.
    - EXCAVATION AREA SHALL TAKE PLACE AFTER CONTRIBUTING AREAS ARE AT FINAL GRADE AND STABILIZED.
    - DO NOT USE HEAVY/WHEELED EQUIPMENT IN FILTRATION AREA.
    - DIVERSIONS, REDUNDANT SEDIMENT AND EROSION CONTROLS MUST BE USED TO PROTECT AREA.
    - ENSURE 8 FT MAINTENANCE ACCESS IS ADEQUATE FOR AREA.
    - IF GRADING MUST OCCUR IN FILTRATION AREA, LEAVE GRADE 3 FT HIGH TEMPORARILY UNTIL AREA CAN BE FINAL GRADED AND STABILIZED

WEB SOIL SURVEY MAP



VICINITY MAP/IMPAIRED WATERS MAP

Map Unit Symbol	Map Unit Name
L16A	Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes
L22D2	Lester loam, 10 to 16 percent slopes, moderately eroded
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes
L37B	Angus loam, 2 to 6 percent slopes
L40B	Angus-Kilkenny complex, 2 to 6 percent slopes
L41D2	Lester-Kilkenny complex, 10 to 16 percent slopes, moderately eroded
L44A	Nessel loam, 1 to 3 percent slopes
L49A	Klossner soils, depressional, 0 to 1 percent slopes
L61E	Lester-Metea complex, 18 to 25 percent slopes
L64A	Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes
Totals for Area of Interest	

SOIL MAP UNIT SYMBOL LEGEND

SWPPP AMENDMENTS
THIS PLAN AND THE ATTACHMENTS MUST BE AMENDED TO INCLUDE ADDITIONAL REQUIREMENTS OR MODIFIED REQUIREMENTS WHICH TAKE PLACE DURING CONSTRUCTION IF ONE OR MORE OF THE FOLLOWING OCCUR:

1. THERE IS A CHANGE IS DESIGN CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS THAT SIGNIFICANTLY IMPACTS THE DISCHARGE OF POLLUTANTS FROM THE SITE TO SURFACE OR GROUNDWATER.
2. INSPECTIONS OR INVESTIGATIONS BY THE SITE OWNER, OPERATOR, ENVIRONMENTAL PROTECTION AGENCY, MINNESOTA POLLUTION CONTROL AGENCY OFFICIALS INDICATE THIS PLAN IS NOT EFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING THE DISCHARGE OF POLLUTANTS.
3. THIS SWPPP IN NOT ACHIEVING THE GENERAL OBJECTIVES OF MINIMIZING POLLUTANTS IN STORMWATER DISCHARGES OR IF THIS PLAN IS NOT CONSISTENT WITH THE MN R1000011 CONSTRUCTION GENERAL PERMIT.
4. IF THE MPCA NOTIFIES THE OWNER AND/OR OPERATOR (i.e. PERMITTEES) THAT ADDITIONAL REQUIREMENTS ARE NEEDED, REQUIREMENTS ARE NOT BEING NET FOR TMDL OR OTHER WATER QUALITY STANDARDS, OR THAT THE SWPPP DID NOT INCORPORATE THE NECESSARY REQUIREMENTS.
5. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.

THE FOLLOWING TABLE SHOULD BE COMPLETED AS NECESSARY DURING CONSTRUCTION TO DOCUMENT CHANGES AND AMENDMENTS TO THIS DOCUMENT. AMENDMENTS MUST BE MADE BY ONE OF THE FOLLOWING INDIVIDUALS: THOSE PREPARING THIS DOCUMENT; THOSE OVERSEEING THE IMPLEMENTATION OF THE SWPPP; THOSE REVISING THE SWPPP; THOSE PERFORMING INSPECTIONS FOR THE PROJECT; AND/OR OTHER QUALIFIED INDIVIDUAL.

PLACE THE AMENDMENT NUMBER NEXT TO ALL APPLICABLE CHANGES, REDLINES, AND INFORMATION IN THE DOCUMENT TO REFERENCE BACK TO THE CHANGES SUMMARIZED BELOW.

AMENDMENT NO.	DATE	REASON, LOCATION AND BRIEF DESCRIPTION OF CHANGE OR AMENDMENT	REQUESTED BY	PREPARED BY

Westwood

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12701 Whitewater Drive, Suite #300
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Revisions:
12/23/2019 Construction Plans
03/09/2020 City Comments
03/30/2020 City Comments
04/15/2020 Timberland & Citizens Storm
04/13/2020 City Comments
05/04/2020 Retaining Wall
06/26/2021 RFI 271 Generator Pad
05/07/2021 RFI-481 Revised Terrace
05/09/2021 RFI-497 Revised Light Poles
07/09/2021 Watershed Resubmittal
07/28/2021 - Watershed Resubmittal

Date: 07/28/2021 License No. 43019

Prepared for:

Senior Housing Partners

3116 Fairview Avenue N
Roseville, MN 55113

FOR CONSTRUCTION

Castle Ridge Redevelopment

Eden Prairie, Minnesota

SWPPP Notes

Date: 10/03/2018
Sheet: 21 OF 21

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Permit Review

for

Paravel

Eden Prairie, MN

Prepared for:
Timberland Partners Inc.
8000 Norman Center Drive, Suite 830
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Westwood Professional Services, Inc.

Project Number: 0020727.00
Contact: Brad C. Wilkening

Vicinity Map

(Not to Scale)

Sheet List Table	
Sheet Number	Sheet Title
1	Cover Sheet
2	Existing Conditions and Removal Plan
3	Significant Tree Inventory
4	Site Plan
5	Grading Plan
6	Erosion Control Plan
7	Utility Plan
8	Wetland Buffer Plan
9	Details
10	Details

FOR PERMIT APPROVAL

Westwood

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Designed: BCW
Checked: BCW
Drawn: BH
Record Drawing by/date:

Revisions:
02/21/20 — CMP/Permit Set

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.
Brad C. Wilkening
Date 02/21/20 License No. 26908

Prepared for:
Timberland Partners Inc.
8000 Norman Center Drive, Suite 830
Bloomington, MN 55437

Paravel
Eden Prairie, MN

Cover Sheet

Date: 02/21/20
Sheet: 1 OF 10

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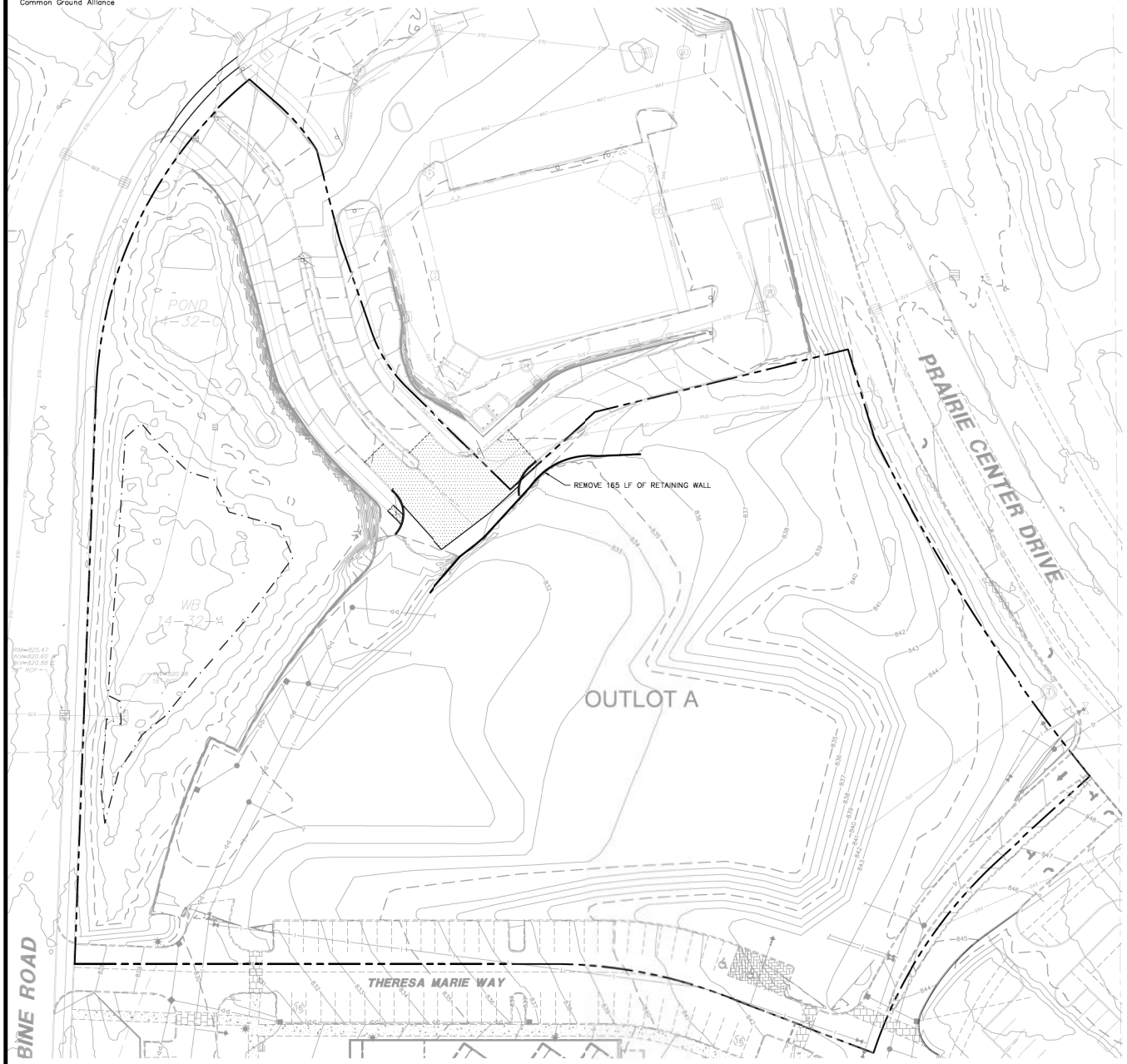

Existing Conditions Legend

BUSH/SHRUB	STORM MANHOLE
CONIFEROUS TREE	TELEPHONE BOX
DECIDUOUS TREE	TELEPHONE MANHOLE
WETLAND	TRAFFIC CONTROL BOX
STEEL/WOOD POST	HAND HOLE
SIGN-TRAFFIC/OTHER	TRAFFIC LIGHT
SIGN-TRAFFIC/OTHER	GATE VALVE
MAIL BOX	HYDRANT
HANDICAPPED STALL	WATER METER
PERC TEST	CURB STOP BOX
MONITORING WELL	WATER MANHOLE
CABLE TV BOX	WELL
GAS METER	CABLE TELEVISION LINE
STREET LITE	GAS LINE
GUY WIRE	POWER OVERHEAD
POWER POLE	POWER UNDERGROUND
ELECTRIC BOX	SANITARY SEWER
ELECTRIC METER	STORM SEWER
ELECTRIC MANHOLE	TELEPHONE OVERHEAD
ELECTRIC TOWER	TELEPHONE UNDERGROUND
SANITARY MANHOLE	WATERMAIN
SEWER CLEANOUT	FENCE LINE
BEEHIVE CATCH BASIN	TREE STUMP
CATCH BASIN	POST INDICATOR VALVE
FLARED END SECTION	SOIL BORING
TELEPHONE MANHOLE	PIEZOMETER
	FLOOD/YARD LIGHT

Removal Notes

1. LOCATONS AND ELEVATIONS OF EXISTING TOPOGRAPHY AND UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AND UTILITY LOCATIONS PRIOR TO EXCAVATION/CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND.
2. CONTRACTOR SHALL COORDINATE LIMITS OF REMOVALS WITH PROPOSED IMPROVEMENTS AND FIELD VERIFY CONDITION OF EXISTING APPURTENANCES TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING OR REPLACING MISCELLANEOUS ITEMS (SUCH AS FENCES, SIGNS, IRRIGATION HEADS, ETC.) THAT MAY BE DAMAGED BY CONSTRUCTION.
3. CONTRACTOR SHALL PLACE ALL NECESSARY EROSION CONTROL MEASURES REQUIRED TO MAINTAIN SITE STABILITY PRIOR TO EXECUTING ANY SITE REMOVALS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITY PROVIDERS FOR REMOVAL AND/OR RELOCATION OF EXISTING UTILITIES AFFECTED BY SITE DEVELOPMENT. ALL PERMITS, APPLICATIONS AND FEES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

0' 30' 60' 90'

FOR PERMIT APPROVAL

Westwood

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I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Brad C. Wilkening
Date 02/21/20 License No. 26908

Prepared for:

Timberland Partners Inc.

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Bloomington, MN 55437

Paravel

Eden Prairie, MN

Existing Conditions and Removal Plan

Date: 02/21/20
Sheet: 2 OF 10

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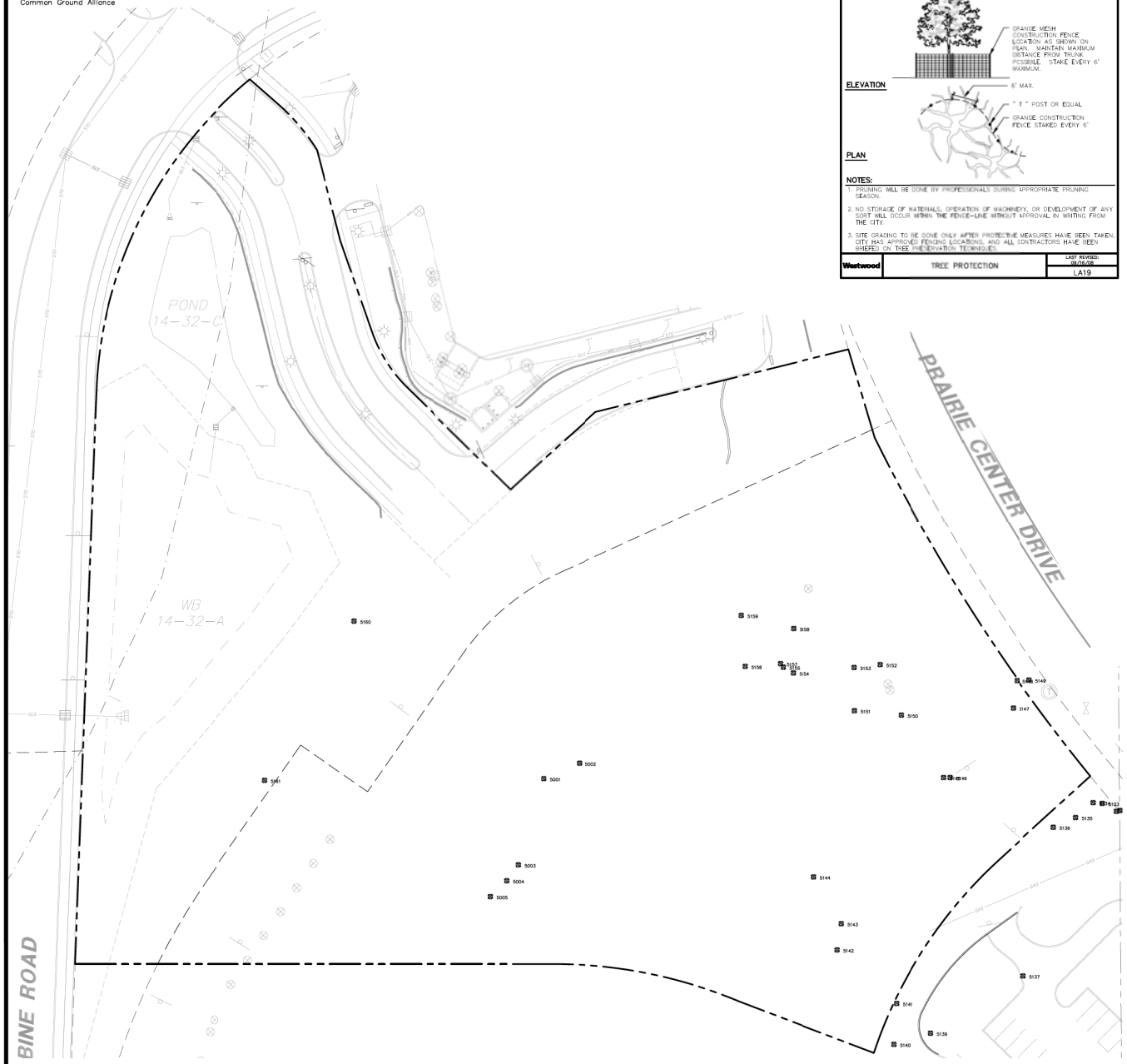

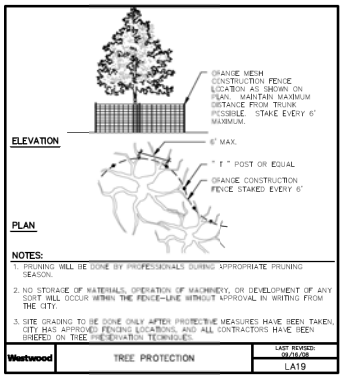

NOTES:
1. PRUNING WILL BE DONE BY PROFESSIONALS DURING APPROPRIATE PRUNING SEASON.
2. NO STORAGE OF MATERIALS, OPERATION OF MACHINERY, OR DEVELOPMENT OF ANY SORT WILL OCCUR WITHIN THE FENCE-LINE WITHOUT APPROVAL IN WRITING FROM THE CITY.
3. SITE GRADING TO BE DONE ONLY AFTER PROTECTIVE MEASURES HAVE BEEN TAKEN, CITY HAS APPROVED FENCING LOCATIONS, AND ALL CONTRACTORS HAVE BEEN BRIEFED ON TREE PRESERVATION TECHNIQUES.

Westwood	TREE PROTECTION	LAST REVISED: 02/19/08 LA19

Tree Inventory (Lot 2)

TAG ID	DESCRIPTION	CALIPER		MODIFIER	IMPORTANCE	REMOVED
5001	SPC	14			s	
5002	SPC	15			s	
5003	BSW	24			s	
5004	OKB	26			s	
5005	OKB	31			s	
5142	PIW	16			s	
5143	PIW	16			s	
5144	ASH	32			h	
5145	PIR	12			s	
5146	PIW	14			s	
5147	ASH	14			s	
5148	SPC	12			s	
5149	SPC	16			s	
5150	BSW	18			s	
5151	BSW	18			s	
5152	BSW	12			s	
5153	BSW	16			s	
5154	PIR	16			s	
5155	PIR	15			s	
5156	ASH	13			s	
5157	PIR	15			s	
5158	MPS	20			s	
5159	ASH	22			s	
5160	ASH	14			s	
5161	CWD	24			s	

CODE	SPECIES
ASH	Green & White Ash
BSW	Basswood
CWD	Cottonwood
FRT	Fruit Tree
HAK	Hackberry
LCB	Black Locust
MPA	Amur Maple
MPS	Sugar Maple
MPV	Silver Maple
OKB	Bur Oak
PIR	Red (Norway) Pine
PIW	White Pine
SPC	Colorado Spruce

MODIFIER LEGEND

x	muli-trunked
pd	physically damaged (e.g. tornado, wind/ice storm)
bd	biologically damaged (e.g. insects, fungal, bacterial)
s	Significant Tree: Any living deciduous tree (except elm, willow, box elder ard aspen) measuring at least 12 and less than 32 inches in diameter, or a living coniferous tree measuring at least 8 and less than 24 inches in diameter.
h	Heritage Tree: Any living deciduous tree (except cottonwood, elm, willow, box elder and aspen) measuring 32 inches in diameter or greater, or a living coniferous tree measuring 24 inches in diameter or greater.

Removal Legend

- DECIDUOUS TREE TO BE SAVED
- DECIDUOUS TREE TO BE REMOVED
- CONIFEROUS TREE TO BE SAVED
- CONIFEROUS TREE TO BE REMOVED
- TREE PROTECTION FENCING

0' 30' 60' 90'

PERMIT APPROVAL

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Designed: BCW
Checked: BCW
Drawn: JN
Record Drawing by/date

Revisions:
02/21/20 — GMP/Permit Set

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.
Brad C. Wilsterig
Date 02/21/20 License No. 26908

Prepared for:

Timberland Partners Inc.

8000 Norman Center Drive, Suite 830
Bloomington, MN 55437

Paravel

Eden Prairie, MN

Significant Tree Inventory

Date: 02/21/20
Sheet: 3 OF 10

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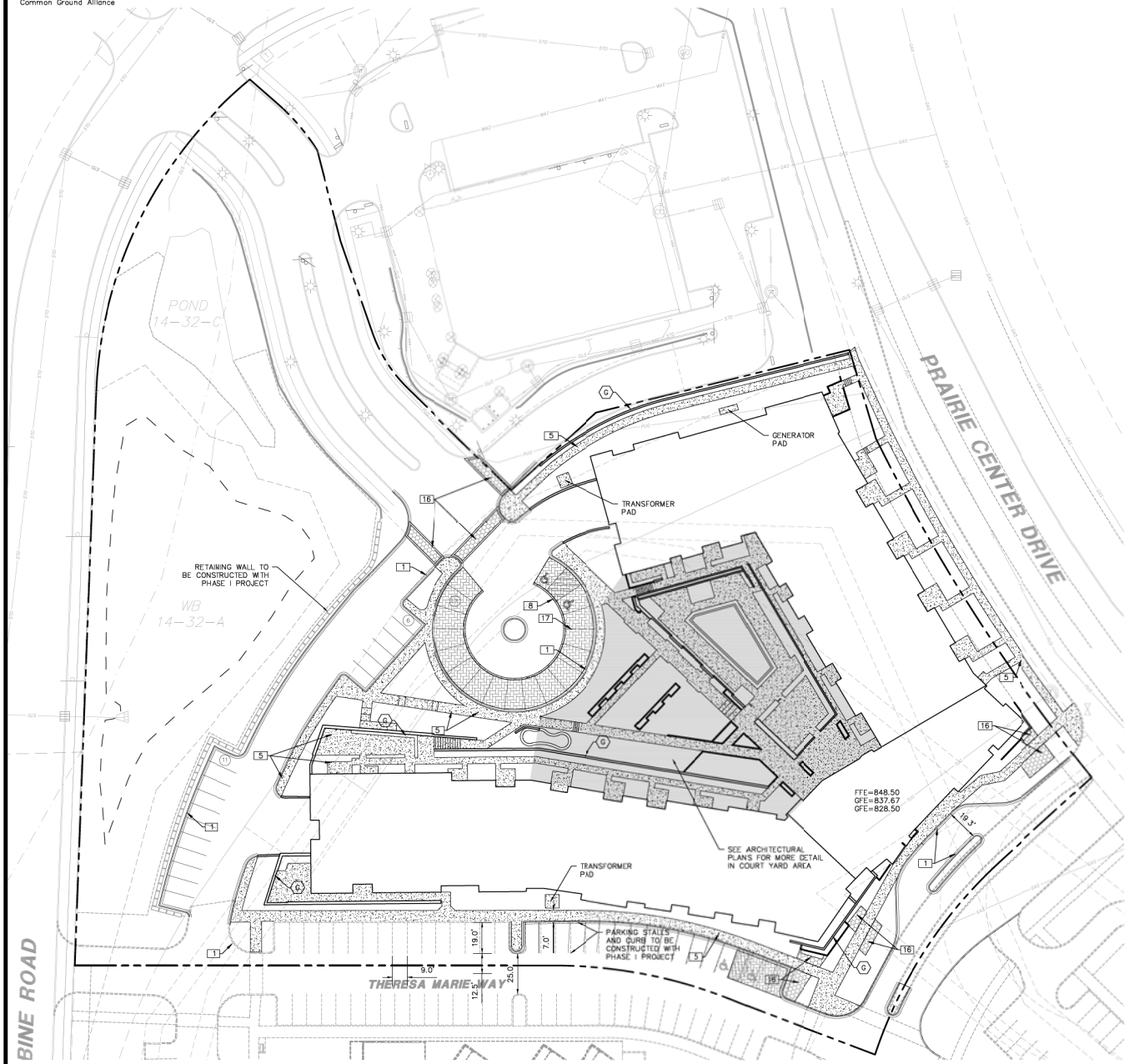

Site Legend

EXISTING	PROPOSED	
		PROPERTY LINE
		LOT LINE
		SETBACK LINE
		EASEMENT LINE
		CURB AND GUTTER
		TIP-OUT CURB AND GUTTER
		POND NORMAL WATER LEVEL
		RETAINING WALL
		FENCE
		CONCRETE PAVEMENT
		CONCRETE SIDEWALK
		HEAVY DUTY BITUMINOUS PAVEMENT
		NORMAL DUTY BITUMINOUS PAVEMENT
		PERVIOUS CONCRETE PAVERS
		STAMPED CONCRETE PAVEMENT
	(60)	NUMBER OF PARKING STALLS
		SITE LIGHTING
		TRAFFIC SIGN
		POWER POLE
		BOLLARD / POST

General Site Notes

1. LOCATIONS AND ELEVATIONS OF EXISTING TOPOGRAPHY AND UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AND UTILITY LOCATIONS PRIOR TO EXCAVATION/CONSTRUCTION. IF ANY DISCREPANCIES ARE FOUND, THE ENGINEER SHOULD BE NOTIFIED IMMEDIATELY.
2. REFER TO BOUNDARY SURVEY FOR LOT BEARINGS, DIMENSIONS AND AREAS.
3. ALL DIMENSIONS ARE TO FACE OF CURB OR EXTERIOR FACE OF BUILDING UNLESS OTHERWISE NOTED.
4. REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS AND LOCATIONS OF EXITS, RAMPS, AND TRUCK DOCKS.
5. ALL CURB RADII ARE SHALL BE 3.0 FEET (TO FACE OF CURB) UNLESS OTHERWISE NOTED.
6. ALL CURB AND GUTTER SHALL BE B612 UNLESS OTHERWISE NOTED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGGERS AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE CITY AND ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE MNDOT STANDARDS.
8. BITUMINOUS PAVEMENT AND CONCRETE SECTIONS TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
9. CONTRACTOR SHALL MAINTAIN FULL ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES.
10. SITE LIGHTING SHOWN ON PLAN IS FOR REFERENCE ONLY. REFER TO LIGHTING PLAN PREPARED BY OTHERS FOR SITE LIGHTING DETAILS AND PHOTOMETRICS.

[1] Site Details

1 B612 CURB & GUTTER (TYP.)
2 5' CONCRETE SIDEWALK (7' ADJACENT TO PARKING)
3 STANDARD DUTY PAVEMENT
4 HEAVY DUTY PAVEMENT
5 CONCRETE SIDEWALK
6 CONCRETE VALLEY GUTTER
7 CROSSWALK (STRIPED)
7A CROSSWALK (MATERIAL #2)
8 12" WIDE RIBBON CURB
9 LANDSCAPED AREA
10 PRIVATE PEDESTRIAN CURB RAMP
11 PUBLIC PEDESTRIAN CURB RAMP
12 PAINTED TRAFFIC ARROWS
13 ACCESSIBLE PARKING LOGO, STRIPING, & SIGNAGE
14 BIKE RACKS
15 BENCH
16 STAMPED CONCRETE PAVEMENT
17 DRIVEPAVE PERVIOUS CONCRETE PAVERS

<A> Site Key Notes

A 4" WHITE LINE STRIPE
B 4" DOUBLE YELLOW LINE STRIPE
C MONUMENT SIGN
D SAWCUT AND MATCH EXISTING PAVEMENT
F FUTURE TURNLANE IMPROVEMENTS
G RETAINING WALL
H TERRACE

0' 30' 60' 90'

FOR PERMIT APPROVAL

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Revisions:
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Paravel

Eden Prairie, MN

Site Plan

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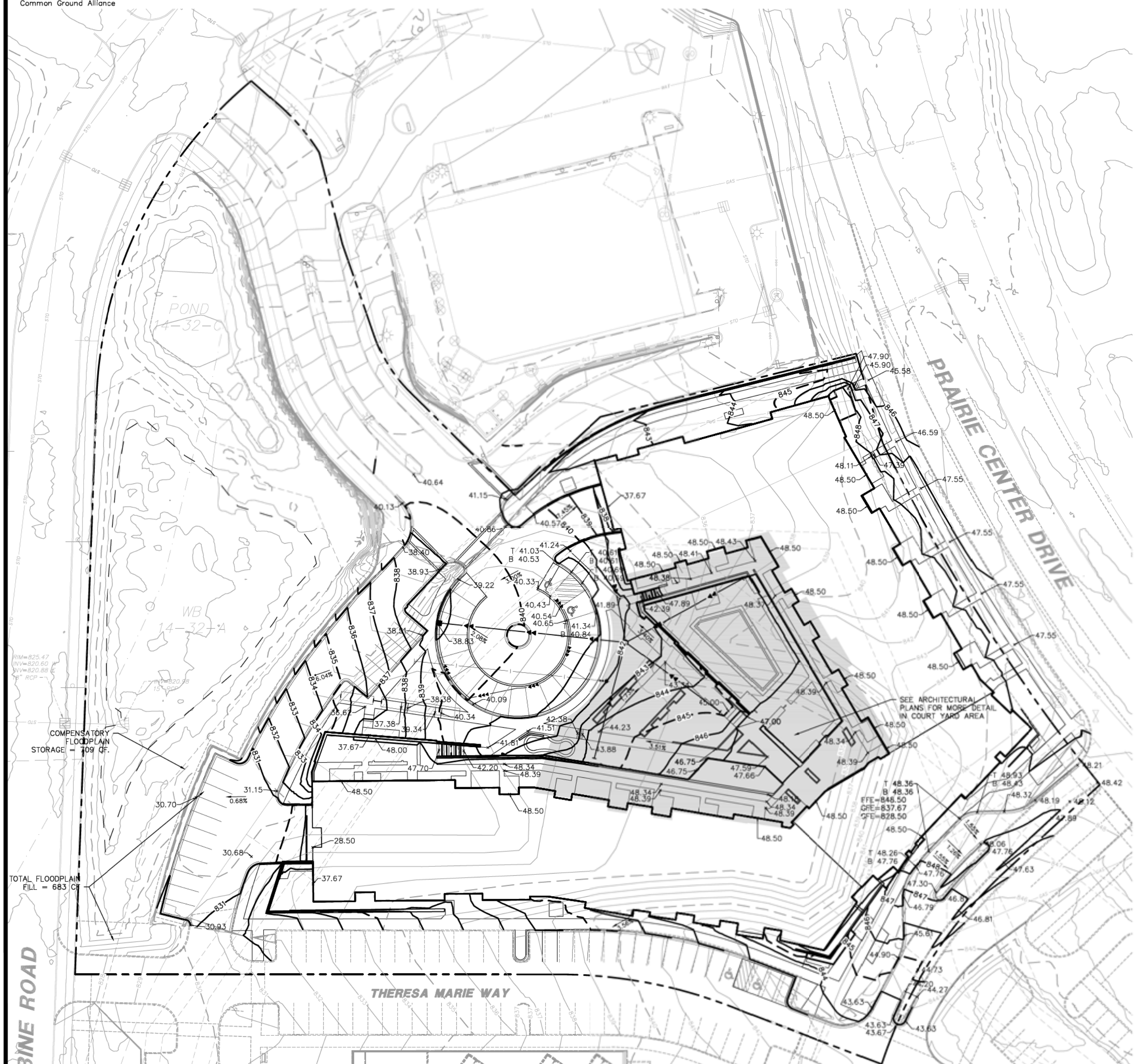

Grading Legend

EXISTING	PROPOSED	
		PROPERTY LINE
980	980	INDEX CONTOUR
982	982	INTERVAL CONTOUR
		CURB AND GUTTER
		POND NORMAL WATER LEVEL
		STORM SEWER
		FLARED END SECTION (WITH RIPRAP)
		WATER MAIN
		SANITARY SEWER
		RETAINING WALL
		DRAIN TILE
91.00	91.00	SPOT ELEVATION
	1.50%	FLOW DIRECTION
		TOP AND BOTTOM OF RETAINING WALL
	E.O.F. 85.00	EMERGENCY OVERFLOW
SB-19	SB-19	SOIL BORING LOCATION

Grading Notes

1. LOCATIONS AND ELEVATIONS OF EXISTING TOPOGRAPHY AND UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AND UTILITY LOCATIONS PRIOR TO EXCAVATION/CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND.
2. CONTRACTORS SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULE, SLOPED PAVEMENT, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY ENTRANCE LOCATIONS, AND EXACT LOCATIONS AND NUMBER OF DOWNSPOUTS.
3. ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR TRENCH EXCAVATION AND BACKFILL/SURFACE RESTORATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
4. ALL DISTURBED UNPAVED AREAS ARE TO RECEIVE SIX INCHES OF TOPSOIL AND SOD OR SEED. THESE AREAS SHALL BE WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. SEE LANDSCAPE PLAN FOR PLANTING AND TURF ESTABLISHMENT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGMEN AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE MNDOT STANDARDS.
6. ALL SLOPES SHALL BE GRADED TO 3:1 OR FLATTER, UNLESS OTHERWISE INDICATED ON THIS SHEET.
7. CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING AND PROVIDE A SMOOTH FINISHED SURFACE WITH UNIFORM SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN OR BETWEEN SUCH POINTS AND EXISTING GRADES.
8. SPOT ELEVATIONS SHOWN INDICATE FINISHED PAVEMENT ELEVATIONS & GUTTER FLOW LINE UNLESS OTHERWISE NOTED. PROPOSED CONTOURS ARE TO FINISHED SURFACE GRADE.
9. SEE SOILS REPORT FOR PAVEMENT THICKNESSES AND HOLD DOWNS.
10. CONTRACTOR SHALL DISPOSE OF ANY EXCESS SOIL MATERIAL THAT EXISTS AFTER THE SITE GRADING AND UTILITY CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS SOIL MATERIAL IN A MANNER ACCEPTABLE TO THE OWNER AND THE REGULATING AGENCIES.
11. CONTRACTOR SHALL PROVIDED A STRUCTURAL RETAINING WALL DESIGN CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.
12. ALL CONSTRUCTION SHALL CONFORM TO LOCAL, STATE AND FEDERAL RULES INCLUDING THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS.
13. PRIOR TO PLACEMENT OF ANY STRUCTURE OR PAVEMENT, A PROOF ROLL, AT MINIMUM, WILL BE REQUIRED ON THE SUBGRADE. PROOF ROLLING SHALL BE ACCOMPLISHED BY MAKING MINIMUM OF 2 COMPLETE PASSES WITH FULLY-LOADED TANDEM-AXLE DUMP TRUCK, OR APPROVED EQUAL, IN EACH OF 2 PERPENDICULAR DIRECTIONS WHILE UNDER SUPERVISION AND DIRECTION OF THE INDEPENDENT TESTING LABORATORY. AREAS OF FAILURE SHALL BE EXCAVATED AND RECOMPACTED AS SPECIFIED HEREIN.
14. EMBANKMENT MATERIAL PLACED BENEATH BUILDINGS AND STREET OR PARKING AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFIED DENSITY METHOD AS OUTLINED IN MNDOT 2105.3F1 AND THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEER.
15. EMBANKMENT MATERIAL NOT PLACED IN THE BUILDING PAD, STREETS OR PARKING AREA, SHALL BE COMPACTED IN ACCORDANCE WITH REQUIREMENTS OF THE ORDINARY COMPACTION METHOD AS OUTLINED IN MNDOT 2105.3F2.
16. ALL SOILS AND MATERIALS TESTING SHALL BE COMPLETED BY AN INDEPENDENT GEOTECHNICAL ENGINEER. EXCAVATION FOR THE PURPOSE OF REMOVING UNSTABLE OR UNSUITABLE SOILS SHALL BE COMPLETED AS REQUIRED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOILS TESTS AND INSPECTIONS WITH THE GEOTECHNICAL ENGINEER.
17. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE.
18. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 12 INCHES OF THE SOIL PROFILE WHILE TAKING CARE TO PROTECT UTILITIES, TREE ROOTS, AND OTHER EXISTING VEGETATION.
19. ACTIVITIES MUST BE CONDUCTED TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G., ZEBRA MUSSELS, EURASIAN WATERMILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE.

0' 30' 60' 90'

ERMIT APPROVAL

Westwood

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Designed: BCW
Checked: BCW
Drawn: JJH
Record Drawing by/date:

Revisions:
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Date: 02/21/20 License No. 26908

Prepared for:

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Paravel

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Grading Plan

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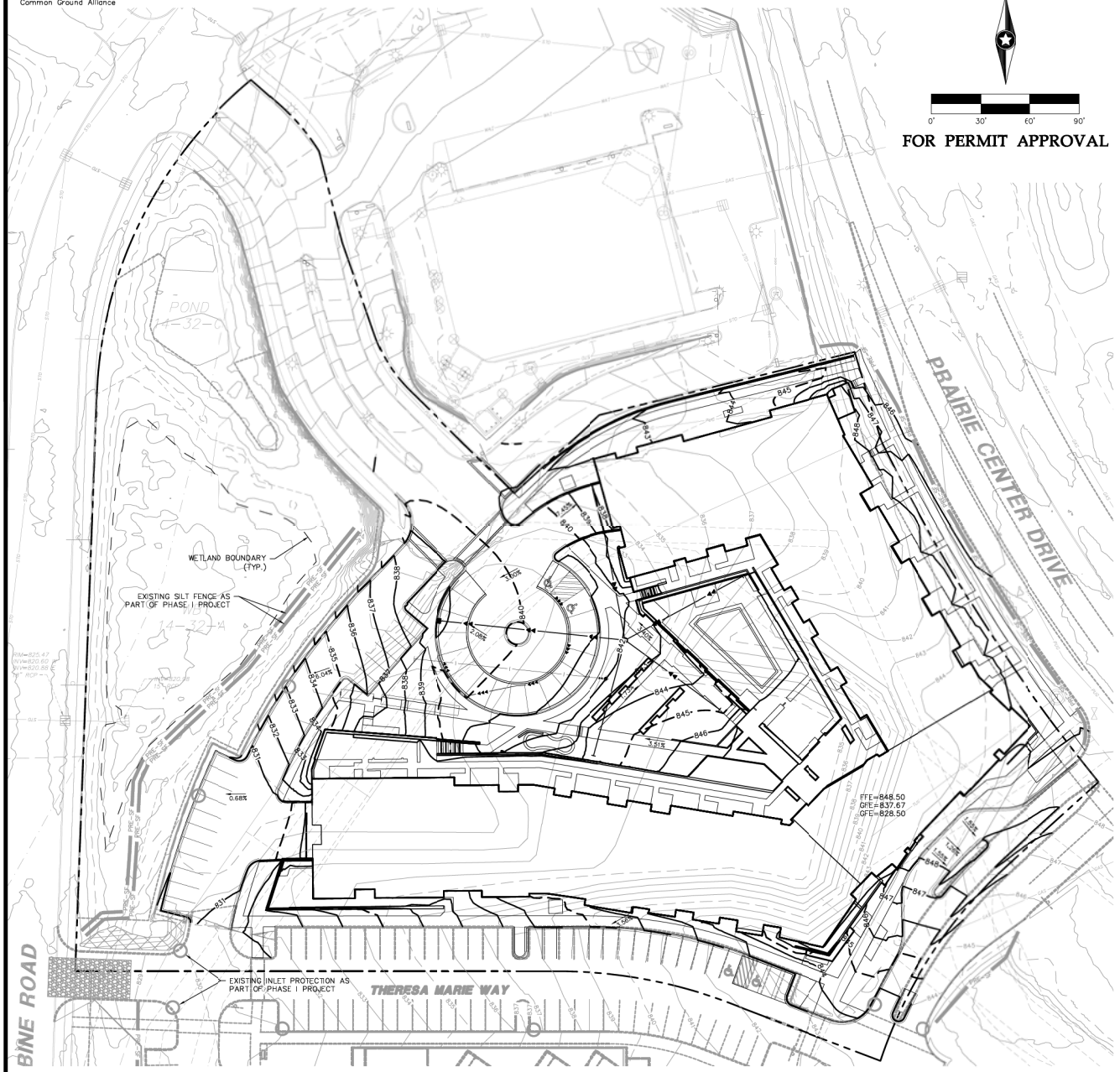

FOR PERMIT APPROVAL

Erosion Control Legend

EXISTING	PROPOSED	
		PROPERTY LINE
980	980	INDEX CONTOUR
982	982	INTERVAL CONTOUR
		CURB AND GUTTER
		POND NORMAL WATER LEVE_
PRE-SF	SF	SILT FENCE
STO		STORM SEWER
		FLARED END SECTION (WITH RIPRAP)
WAT		WATER MAIN
SAN		SANITARY SEWER
		RETAINING WALL
		DRAIN TILE
		RIDGE LINE
		GRADING LIMITS
		ROCK CONSTRUCTION ENTRANCE
		EROSION CONTROL BLANKET
		TURF REINFORCEMENT MAT
		TOP AND BOTTOM OF RETAINING WALL
	E.O.F. 85.00	EMERGENCY OVERFLOW
SB-19	SB-19	SOIL BORING LOCATION
		INLET PROTECTION

General Erosion Control Notes

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND LIMITED MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION SHALL NOT BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY THE OWNER OR ENGINEER OF DISCREPANCIES.
2. ALL SILT FENCE AND OTHER EROSION CONTROL FEATURES SHALL BE IN-PLACE PRIOR TO ANY EXCAVATION/CONSTRUCTION AND SHALL BE MAINTAINED UNTIL VIABLE TURF OR GROUND COVER HAS BEEN ESTABLISHED. EXISTING SILT FENCE ON-SITE SHALL BE MAINTAINED AND OR REMOVED AND SHALL BE CONSIDERED INCIDENTAL TO THE GRADING CONTRACT. IT IS OF EXTREME IMPORTANCE TO BE AWARE OF CURRENT FIELD CONDITIONS WITH RESPECT TO EROSION CONTROL. TEMPORARY PONDING, DIKES, HAYBALES, ETC., REQUIRED BY THE CITY SHALL BE INCIDENTAL TO THE GRADING CONTRACT.
3. EROSION AND SILTATION CONTROL (ESC): THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE WHATEVER MEANS NECESSARY TO CONTROL THE EROSION AND SILTATION INCLUDING BUT NOT LIMITED TO: CATCH BASIN INSERTS, CONSTRUCTION ENTRANCES, EROSION CONTROL BLANKET, AND SILT FENCE. ESC SHALL COMMENCE WITH GRADING AND CONTINUE THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER. THE CONTRACTOR'S RESPONSIBILITY INCLUDES ALL IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE OWNER MAY DIRECT THE CONTRACTOR'S METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITION OF SILT OR MUD ON NEW OR EXISTING PAVEMENT OR IN EXISTING STORM SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN EVENT. AFFECTED AREAS SHALL BE CLEANED TO THE SATISFACTION OF THE OWNER, ALL AT THE EXPENSE OF THE CONTRACTOR. ALL TEMPORARY EROSION CONTROL SHALL BE REMOVED BY THE CONTRACTOR AFTER THE TURF IS ESTABLISHED.
4. ALL STREETS DISTURBED DURING WORKING HOURS MUST BE CLEANED AT THE END OF EACH WORKING DAY. A CONSTRUCTION ENTRANCE TO THE SITE MUST BE PROVIDED ACCORDING TO DETAILS TO REDUCE TRACKING OF DIRT ONTO PUBLIC STREETS.
5. PROPOSED PONDS SHALL BE EXCAVATED FIRST AND USED AS TEMPORARY PONDING DURING CONSTRUCTION.
6. WHEN INSTALLING END-OF-LINE FLARED END SECTIONS, BRING THE SILT FENCE UP & OVER THE FLARED END SECTIONS & COVER DISTURBED AREAS WITH RIP RAP. THE UPSTREAM FLARED END SECTIONS SHALL HAVE WOOD FIBER BLANKET INSTALLED ON THE DISTURBED SOILS.
7. ALL UNPAVED AREAS ALTERED DUE TO CONSTRUCTION ACTIVITIES MUST BE RESTORED WITH SEED AND MULCH, SOD, EROSION CONTROL BLANKET OR BE HARD SURFACE WITHIN 2 WEEKS OF COMPLETION OF CONSTRUCTION.
8. THE SITE MUST BE STABILIZED WITH A 25-151 SEED MIX AT 70-POUNDS PER ACRE AND TYPE I MULCH AT 2-TONS PER ACRE IN ACCORDANCE WITH MNDOT 2575 UNLESS OTHERWISE NOTED.
9. TEMPORARY SEEDING SHALL BE MN/DOT SEED MIX 22-111 AT 40-POUNDS PER ACRE AND TYPE I MULCH AT 2-TONS PER ACRE IN ACCORDANCE WITH MNDOT 2575 UNLESS OTHERWISE NOTED.
10. FOR AREAS WITH SLOPE OF 3:1 OR GREATER, RESTORATION WITH SOD OR EROSION CONTROL BLANKET IS REQUIRED.
11. ALL TEMPORARY STOCKPILES MUST HAVE SILT FENCE INSTALLED AROUND THEM TO TRAP SEDIMENT.
12. ALL PERMANENT PONDS USED AS TEMPORARY SEDIMENT BASINS DURING CONSTRUCTON SHALL BE DREDGED AFTER THE SITE HAS BEEN STABILIZED TO RESTORE THE POND TO THE PROPOSED BOTTOM ELEVATION.
13. ALL CONSTRUCTION SHALL CONFORM TO LOCAL AND STATE RULES INCLUDING THE NATIONAL FOLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS.
14. THE SITE MUST BE KEPT IN A WELL-DRAINED CONDITION AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY DITCHES, PIPING OR OTHER MEANS REQUIRED TO INSURE PROPER DRAINAGE DURING CONSTRUCTION. LOW POINTS IN ROADWAYS OR BUILDING PADS MUST BE PROVIDED WITH A POSITIVE OUTFLOW.
15. PUBLIC STREETS USED FOR HAULING SHALL BE KEPT FREE OF SOIL AND DEBRIS. STREET SWEEPING SHALL BE CONCURRENT WITH SITE WORK.
16. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER AND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
17. THE PERMITTEE MUST, AT A MINIMUM, INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERY DAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL AND-DISTURBING ACTIVITY HAS CEASED. THEREAFTER, THE PERMITTEE MUST PERFORM THESE RESPONSIBILITIES AT LEAST WEEKLY UNTIL VEGETATIVE COVER IS ESTABLISHED. THE PERMITTEE WILL MAINTAIN A LOG OF ACTIVITIES UNDER THIS SECTION FOR INSPECTION BY THE DISTRIC" ON REQUEST.

Westwood

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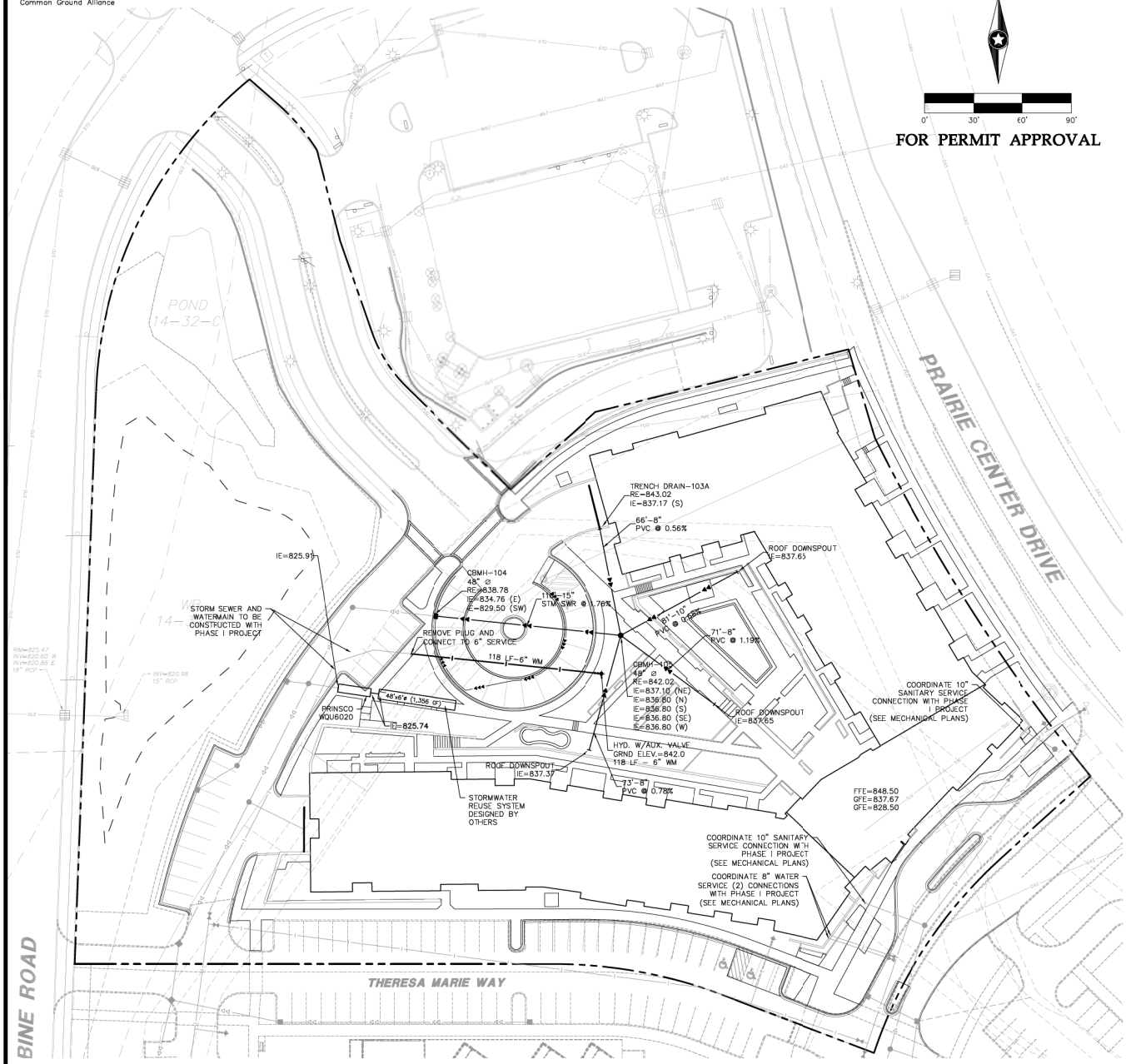

Utility Legend

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
		CURB AND GUTTER
SAN	SAN	SANITARY SEWER
STR	STR	STORM SEWER
WA	WA	WATER MAIN
WA	WA	HYDRANT
GAS	GAS	GAS
		UNDERGROUND ELECTRIC
		OVERHEAD ELECTRIC
		UNDERGROUND TELEPHONE
		OVERHEAD TELEPHONE
		TELEPHONE FIBER OPTIC
		CABLE TELEVISION
		DRAIN TILE
		GATE VALVE
		FLARED END SECTION (WITH RIPRAP)
		LIGHT POLE

General Utility Notes

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND LIMITED MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION SHALL NOT BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY THE OWNER OR ENGINEER OF DISCREPANCIES.
2. ALL SANITARY SEWER, STORM SEWER AND WATER MAIN MATERAL AND INSTALLATIONS SHALL BE PER CITY REQUIREMENTS, MINNESOTA PLUMBING CODE, AND IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION AND SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
3. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DIMENSIONS OF DOORWAYS, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY CONNECTION LOCATIONS.
4. ALL PRIVATE UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL COORDINATE THE SERVICE LINE CONSTRUCTION WITH THE UTILITY COMPANIES.
5. CONTRACTOR SHALL OBTAIN ALL NECESSARY CITY PERMITS FOR UTILITY CONNECTIONS, AND UTILITIES SHALL BE INSPECTED AND APPROVED BY THE CITY. THE CITY SHALL BE NOTIFIED 48-HOURS PRIOR TO COMMENCING WITH THE UTILITY CONSTRUCTION OR ANY REQUIRED TESTING. CONTRACTOR SHALL NOT OPERATE, INTERFERE WITH, CONNECT ANY PIPE OR HOSE TO, OR TAP ANY WATER MAIN BELONGING TO THE CITY UNLESS DULY AUTHORIZED TO DO SO BY THE CITY. ANY ADVERSE CONSEQUENCES OF SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. WATER MAIN LENGTHS AS SHOWN ARE APPROXIMATE HORIZONTAL LENGTHS. ALLOW FOR ADDITIONAL PIPE WHEN INSTALLING ON SLOPES OR WHEN DEFLECTIONS ARE REQUIRED. THE JOINT DEFLECTIONS SHALL NOT EXCEED THE MAXIMUM RECOMMENDED BY THE PIPE MANUFACTURER OR BY LOCAL GOVERNING SPECIFICATIONS. FITTINGS REQUIRED TO CONSTRUCT WATER MAIN SHALL BE INCLUDED IN WATER MAIN CONSTRUCTION.
7. A MINIMUM VERTICAL SEPARATION OF 18 INCHES IS REQUIRED AT ALL WATER LINE CROSSINGS WITH SANITARY SEWER OR STORM SEWER. THE WATER LINE SHALL NOT HAVE JOINTS OR CONNECTION WITHIN 10-FEET OF THE CROSSING. INSULATE CROSSINGS WITH STORM SEWER.
8. DUCTILE IRON WATER LINES SHALL BE CLASS 52, PER AWWA C115 OR C151. COPPER WATER LINES SHALL BE TYPE K PER ASTM B88. PVC WATER LINES SHALL BE PER AWWA C900 AND INSTALLED PER AWWA C605 IF ALLOWED BY CITY.
9. ALL WATER LINES SHALL HAVE 8' MINIMUM COVER. INSULATE WATER MAIN IF LESS THAN 8' OF COVER. INSULATION SHALL BE DOW STYROFOAM HI BRAND 35 OR EQUIVALENT, WITH 4 INCHES OF THICKNESS.
10. SANITARY SEWER PIPE OUTSIDE THE BUILDING ENVELOPE SHALL BE POLYVINYL CHLORIDE (PVC) SCHEDULE 40 PER ASTM D2665. ALL PLASTIC SANITARY SEWER SHALL BE INSTALLED PER D2321. SOLVENT WELD JOINTS MUST INCLUDE USE OF A PRIMER WHICH IS OF A CONTRASTING COLOR TO THE PIPE AND CEMENT. ALL SANITARY SEWER SHALL BE TESTED ACCORDING TO MINNESOTA PLUMBING CODE, PART 712.0.
11. STORM SEWER PIPE:
    A. RCP AND HDPE PIPE MAY BE INSTALLED WITH APPROVAL OF LOCAL GOVERNING AGENCY.
    B. REINFORCED CONCRETE PIPE SHALL BE CLASS 5 FOR PIPE DIAMETERS 18" AND SMALLER, CLASS 3 FOR PIPE DIAMETERS 21" AND LARGER UNLESS OTHERWISE NOTED, PER ASTM C76 WITH R-4 GASKETS.
    C. HDPE STORM PIPE 4- TO 10-INCHES IN DIAMETER SHALL MEET REQUIREMENTS OF AASHTO M252. HDPE STORM PIPE 12- TO 60-INCHES IN DIAMETER SHALL MEET REQUIREMENTS OF ASTM F2306. FITTINGS SHALL BE PER ASTM D3212 AND INSTALLED PER ASTM D2321.
    D. PVC STORM SEWER PIPE AND FITTINGS SHALL BE SCHEDULE 40 PIPE PER ASTM D2665 AND INSTALLED PER ASTM D2321.
    E. ALL STORM SEWER JOINTS AND STRUCTURE CONNECTIONS SHALL BE GASTIGHT OR WATERTIGHT AS REQUIRED BY MINNESOTA PLUMBING CODE, PART 707.3. STORM SEWER LOCATED WITHIN 10-FEET OF A BUILDING AND/OR WATER LINE SHALL BE TESTED PER MINNESOTA PLUMBING CODE, PART 712.
15. ALL NONCONDUCTIVE PIPE SHALL BE INSTALLED WITH A LOCATE (TRACER) WIRE PER MINNESOTA RULES, PART 7560.0150.
16. AFTER CONSTRUCTION IS COMPLETED, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AN AS-BUILT RECORD OF UTILITY CONSTRUCTION. THE AS-BUILT SHALL INCLUDE LOCATION AND LENGTH DEVIATIONS OR CHANGES TO THE PLAN. CONTRACTOR TO VERIFY WITH OWNER OR ENGINEER WHETHER A PLAN WITH POST-CONSTRUCTION ELEVATIONS IS REQUIRED.

Westwood
Westwood Professional Services, Inc.
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Minnetonka, MN 55343
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FAX 952-937-5822
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Designed: BCW
Checked: BCW
Drawn: TJH
Record Drawing by/date:

Revisions:
02/21/20 – CMP/Permit Set

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.
Brad C. Wilkening
Date 02/21/20 License No. 26908

Prepared for:

Timberland Partners Inc.

8000 Norman Center Drive, Suite 830
Bloomington, MN 55437

Paravel

Eden Prairie, MN

Utility Plan

Date: 02/21/20
Sheet: 7 OF 10

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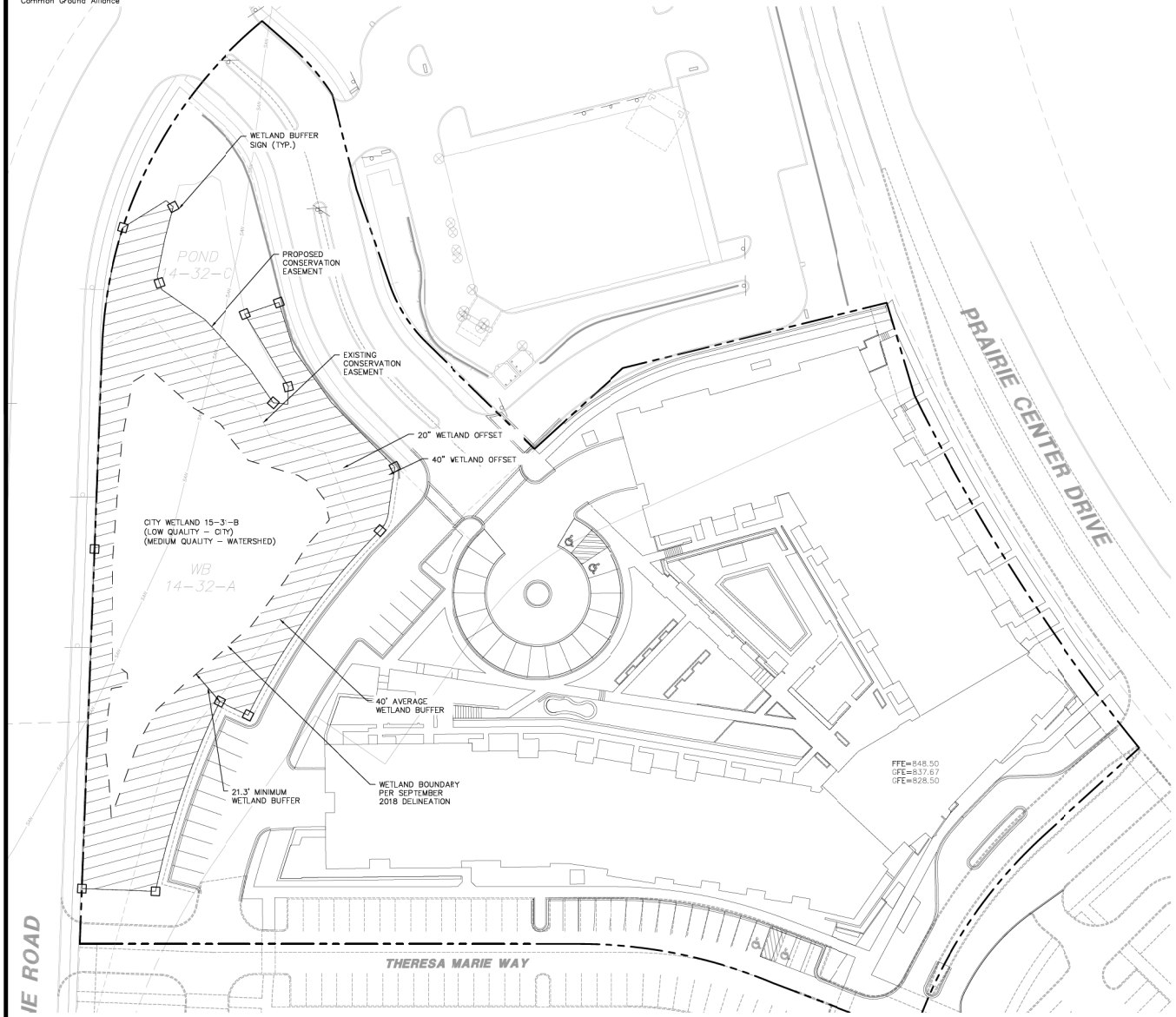
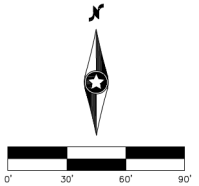


Wetland Buffer Table

WETLAND	REQUIRED 40' BUFFER AREA	PROPOSED 40' AVERAGE BUFFER AREA	PROPOSED AVERAGE BUFFER WIDTH
CWN-14-32-A	22,559 SF	22,746 SF	40.3 FT

Wetland Buffer Sign Detail



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Paravel

Eden Prairie, MN

Wetland Buffer Plan

Date: 02/21/20
Sheet: 8 OF 10

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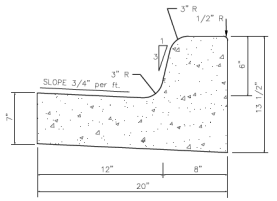
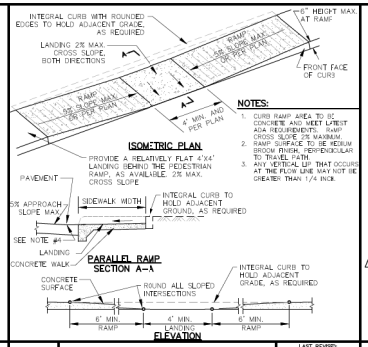
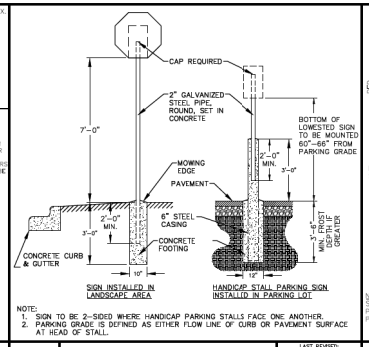


NOTE: EXPANSION JOINT SPACING IS 100' MIN. 3" CL. 5 UNDER C&G.

Westwood	B612 CURB AND GUTTER	LAST REVISED: 03/03/08	SI01

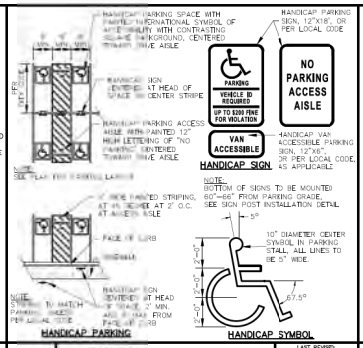


Westwood	PRIVATE PARALLEL PEDESTRIAN CURB RAMP	LAST REVISED: 06/08/14	SI10B

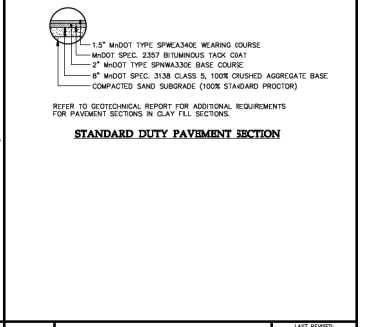


NOTE:
1. SIGN TO BE 2-SIDED WHERE HANDICAP PARKING STALLS FACE ONE ANOTHER.
2. PARKING GRADE IS DEFINED AS EITHER FLOW LINE OF CURB OR PAVEMENT SURFACE AT HEAD OF STALL.

Westwood	SIGN POST INSTALLATION	LAST REVISED: 06/01/09	SI14



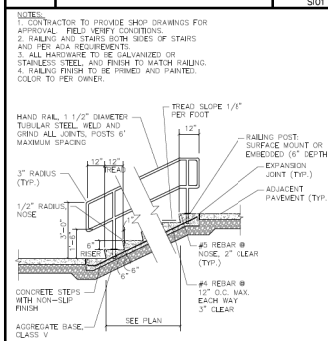
Westwood	HANDICAP ACCESSIBLE SIGNAGE AND STRIPING	LAST REVISED: 06/01/09	SI15-C



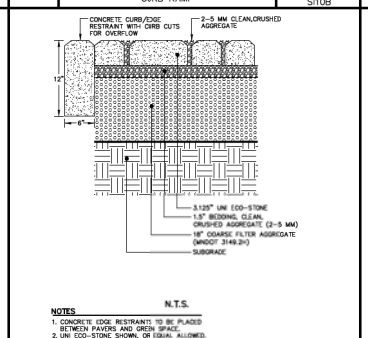
REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS FOR PAVEMENT SECTIONS IN CLAY FILL SECTIONS.

STANDARD DUTY PAVEMENT SECTION

Westwood	PAVEMENT SECTIONS	LAST REVISED: 11/03/10	SI19

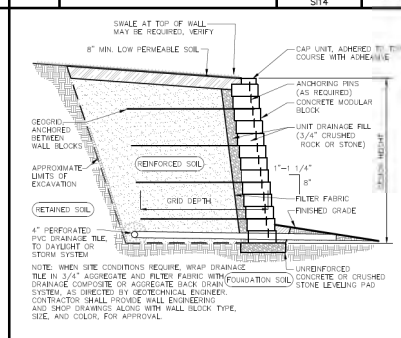


Westwood	CONCRETE STAIR AND RAILING DETAIL	LAST REVISED: 05/05/08	SIXX



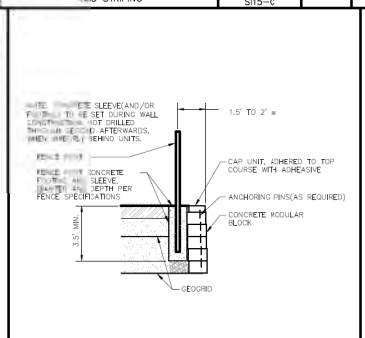
NOTES
1. CONCRETE EDGE RESTRAINTS TO BE PLACED BETWEEN PAVERS AND GREEN SPACE
2. UNI ECO-STONE SHOWN, OR EQUAL ALLOWED.

Westwood	PERMEABLE PAVEMENT TYPICAL SECTION	LAST REVISED: 06/29/06	

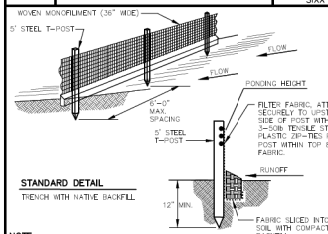


NOTE: WHEN SITE CONDITIONS REQUIRE, WRAP DRAINAGE TILE IN 3/4" AGGREGATE AND FILTER FABRIC WITH DRAINAGE COMPOSITE OR AGGREGATE BACK DRAIN SYSTEM, AS DIRECTED BY GEOTECHNICAL ENGINEER. CONTRACTOR SHALL PROVIDE WALL ENGINEERING AND SHOP DRAWINGS ALONG WITH WALL BLOCK TYPE, SIZE, AND COLOR, FOR APPROVAL.

Westwood	MODULAR BLOCK RETAINING WALL WITH REINFORCEMENT	LAST REVISED: 03/03/08	SI33-C

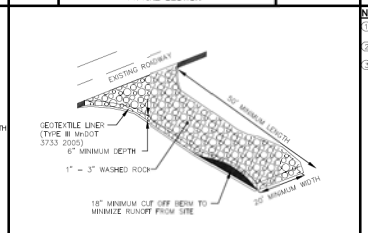


Westwood	FENCE AT MODULAR BLOCK WALL	LAST REVISED: 03/03/08	SI35-C



NOTE:
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN ACCUMULATED TO 1/3 THE HEIGHT OF THE FABRIC OR MORE.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
4. ALL ENDS OF THE SILT FENCE SHALL BE WRAPPED UPSLOPE SO THE ELEVATION OF THE BOTTOM OF FABRIC IS HIGHER THAN "PONDING HEIGHT".
5. "HEAVY DUTY" IS SAME AS MACHINE SLICED ONLY HAND INSTALLED.

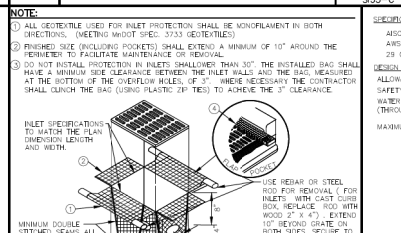
Westwood	MACHINE SLICED SILT FENCE (HEAVY DUTY)	LAST REVISED: 03/03/08	GD03



NOTE:
ROCK CONSTRUCTION ENTRANCE SHOULD BE A MINIMUM THICKNESS OF 1.0' AND CONTAIN MAXIMUM SIDE SLOPES OF 4:1. ROCK ENTRANCE SHOULD BE INSPECTED AND MAINTAINED REGULARLY. ROCK ENTRANCE LENGTH MAY NEED TO BE EXTENDED IN CLAY SOILS.

Westwood	ROCK CONSTRUCTION ENTRANCE	LAST REVISED: 03/03/08	GD05

NOTE:
1. ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, (MEETING MnDOT SPEC. 3733 GEOTEXTILES)
2. FINISHED SIZE (INCLUDING POCKETS) SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
3. DO NOT INSTALL PROTECTION IN INLETS SHALLOWER THAN 30". THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG (USING PLASTIC ZIP TIES) TO ACHIEVE THE 3" CLEARANCE.

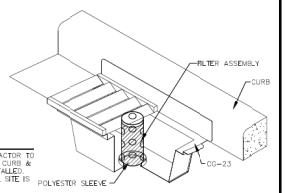


Westwood	STORM DRAIN FILTER BAG INSERT	LAST REVISED: 03/03/08	GD10

SPECIFICATIONS AND STANDARDS
AISC MANUAL OF STEEL CONSTRUCTION , 9TH EDITION.
AWS STRUCTURAL WELDING CODE – STEEL , D1.1-94.
29 CFR 1926 – OSHA SAFETY AND HEALTH STANDARDS

DESIGN LOADS

ALLOWABLE AXLE WEIGHT LOAD	n/a
SAFETY FACTOR	n/a
WATER FLOW RATE (THROUGH POLYESTER SLEEVE)	0.476 cfs @ 3" head
MAXIMUM OVERFLOW RATE	2.14 cfs @ 15" head



NOTE:
1. STREET CONTRACTOR TO INSTALL AFTER CURB & GUTTER IS INSTALLED. MAINTAIN UNTIL SITE IS STABILIZED.

Westwood	ROAD DRAIN CG-23 "WMCO" CURB INLET PROTECTION	LAST REVISED: 03/03/08	GD12

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Date 02/21/20 License No. 26908

Prepared for:
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Paravel
Eden Prairie, MN

Details

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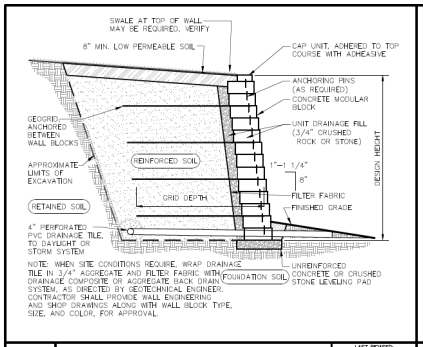
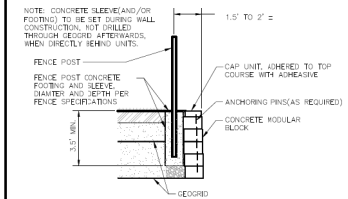
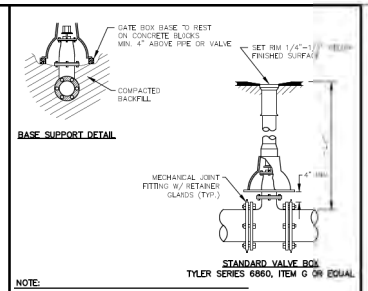


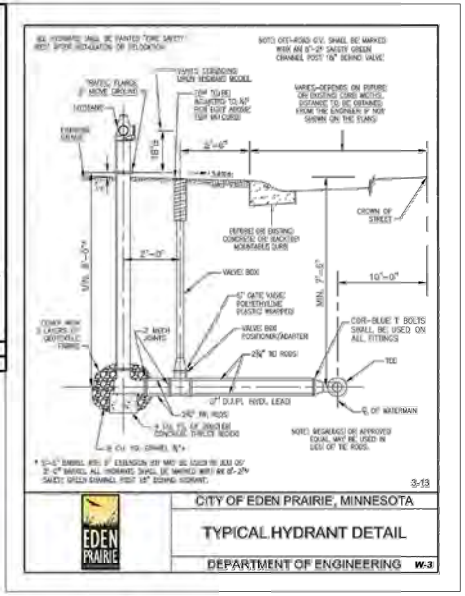
Westwood | MODULAR BLOCK RETAINING WALL WITH REINFORCEMENT | LAST REVISED: 03/31/10 | SI33-C

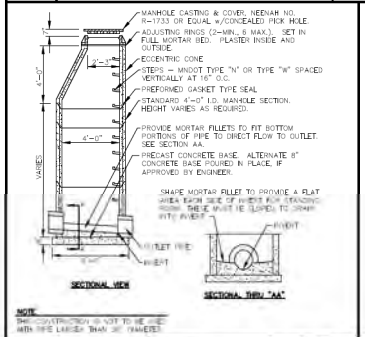


Westwood | FENCE AT MODULAR BLOCK WALL | LAST REVISED: 03/29/10 | SI35-C

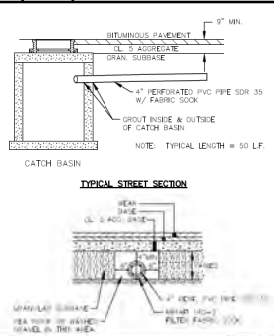


Westwood | GATE VALVE | LAST REVISED: 03/31/08 | WM02

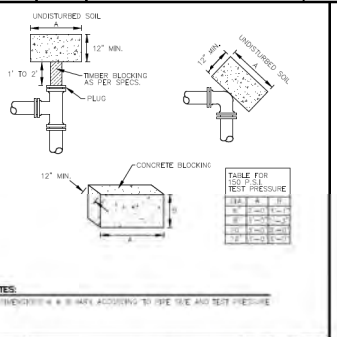




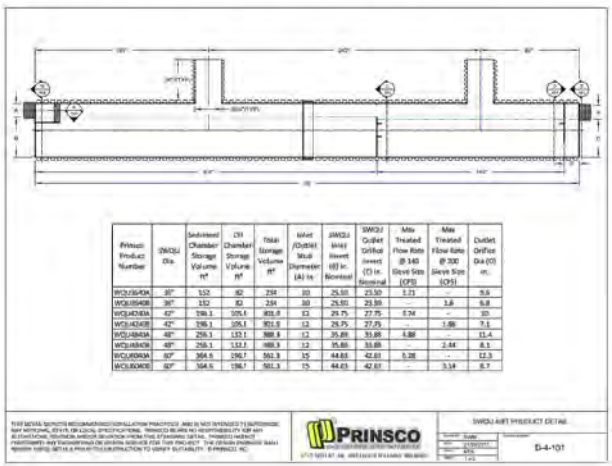
Westwood | SANITARY MANHOLE PRECAST MANHOLE WITH ADJUSTABLE RINGS | LAST REVISED: 03/07/08 | SS01

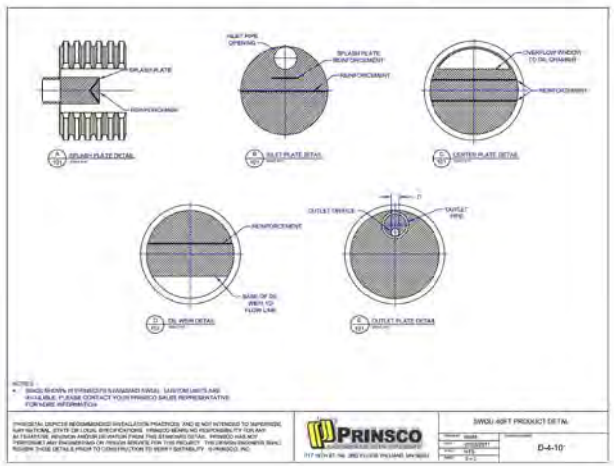


Westwood | FINGER DRAIN | LAST REVISED: 03/07/08 | ST08



Westwood | WATERMAIN BLOCKING | LAST REVISED: 03/07/08 | WM04





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Paravel

Eden Prairie, MN

Details

Date: 02/21/20
Sheet: 10 OF 10

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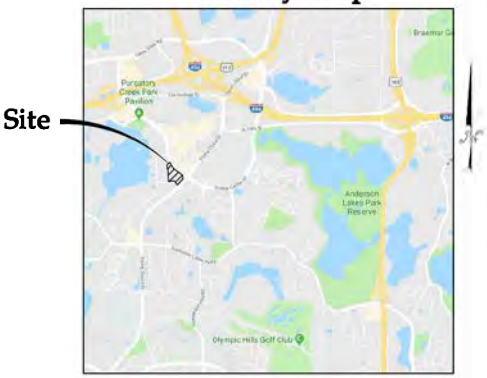
Preliminary Development Plans

for

Flying Cloud Commons
Eden Prairie, MN

Vicinity Map



Sheet List Table	
Sheet Number	Sheet Title
C001	COVER
C002	PRELIMINARY PLAT
C100	EXISTING CONDITIONS
C101	TREE INVENTORY PLAN
C200	SITE PLAN
C300	GRADING PLAN
C301	CUT-FILL PLAN
C400	EROSION CONTROL PLAN
C500	SANITARY AND WATERMAIN PLAN
C501	STORM SEWER PLAN
C600	DETAILS
C601	DETAILS
L100	OVERALL LANDSCAPE PLAN
L200	LOT 1 SOUTH LANDSCAPE PLAN
L300	LOT 1 NORTH LANDSCAPE AREA
L400	LOT 2 & 3 LANDSCAPE PLAN
L500	LOT 2 & 3 ENLARGEMENT AREA
L600	LANDSCAPE DETAILS
E100	LIGHTING PLAN

NOT FOR CONSTRUCTION

Prepared for:
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Prepared by:
Westwood

Project number: 0021497.00
Contact: David Bade

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Revisions

Prepared for:
Oppidan
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Excelsior, MN 55331

Flying Cloud Commons
Eden Prairie, MN

Cover

Date: 10/11/2019
Sheet C001 XX

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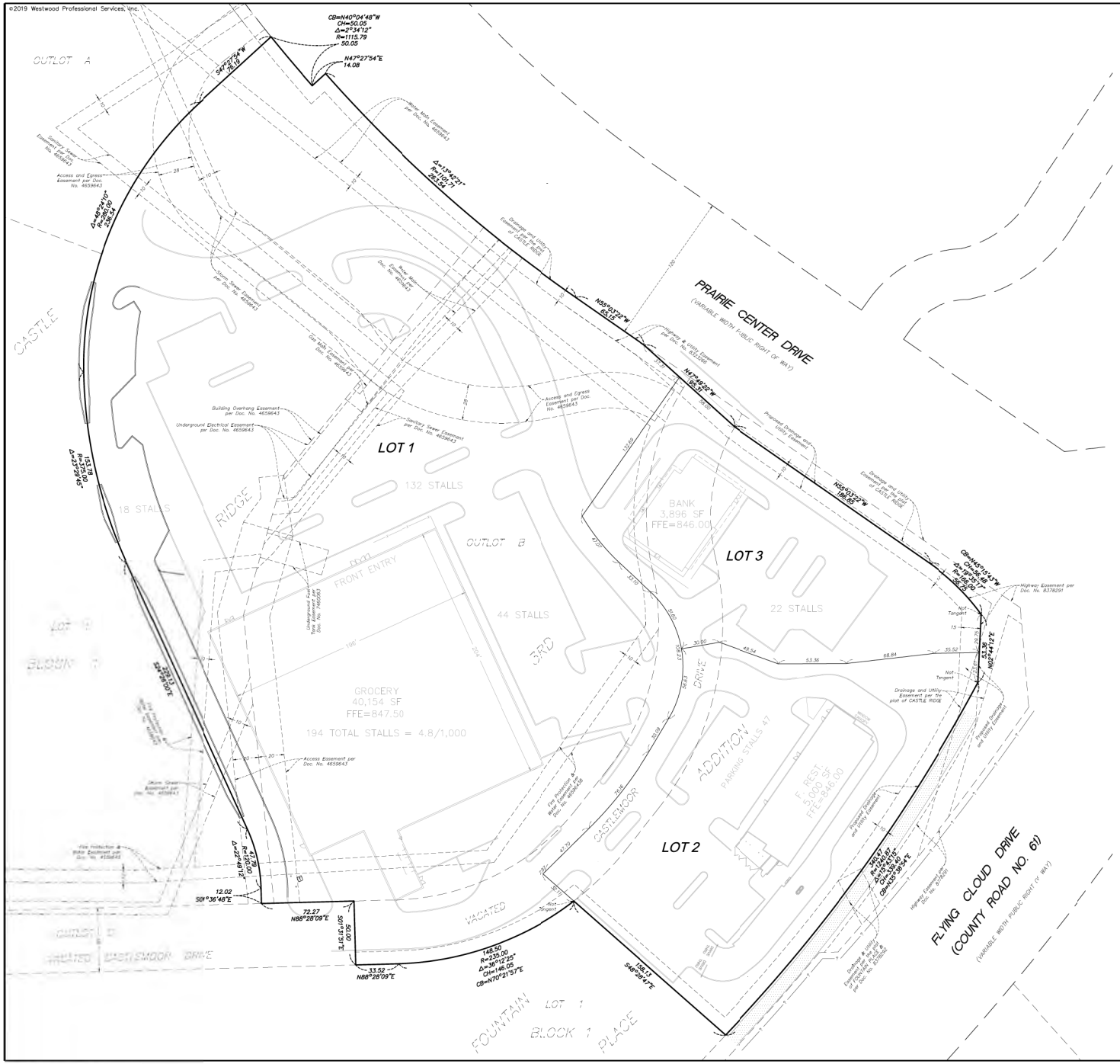

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PROPERTY DESCRIPTION

Outlot B, CASTLE RIDGE 5TH ADDITION, Hennepin County, Minnesota

AREA TABULATION

Proposed Lot 1 = 223,720 Sq. Ft. or 5.136 Ac.
Proposed Lot 2 = 65,421 Sq. Ft. or 1.272 Ac.
Proposed Lot 3 = 37,549 Sq. Ft. or 0.862 Ac.

Total Area = 316,690 Sq. Ft. or 7.270 Ac.

ZONING

C/COM (Community Commercial)

OWNER / SUBDIVIDER

Senior Housing Partners/Oppidan

ENGINEER

Westwood Professional Services
12701 Whitewater Drive, Suite 300
Minnetonka, Minnesota 55343
Phone 952.937.5150

0' 30' 60' 90'

Date: 7/9/2021 Sheet: 1 OF 1

0021497-PPF01_M.dwg

Westwood
Phone: (952) 937-5150 12701 Whitewater Drive, Suite 300
Fax: (952) 937-5822 Minnetonka, MN 55343
Toll Free: (800) 937-5150
Westwood Professional Services, Inc.

Revisions:

Crew:
Checked: CBP
Drawn: MAB
Record Drawing by/date:

Prepared for:

OPPIDAN
400 Water Street, Suite 200
Excelsior, MN 55331

CASTLE RIDGE 5TH ADDITION

Eden Prairie, Minnesota

PRELIMINARY PLAT

Call 48 Hours before digging:
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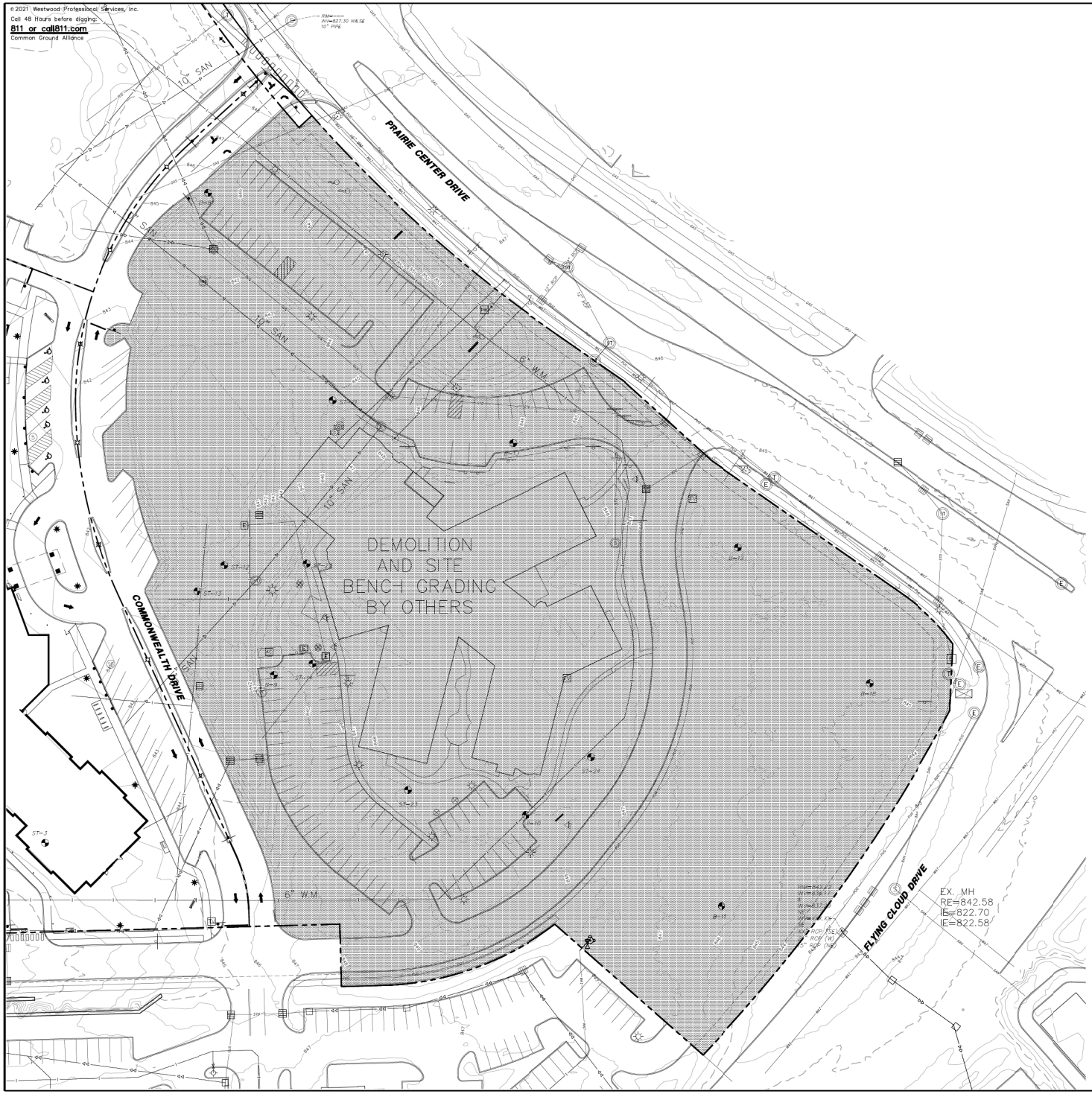

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Revisions
07/28/21 — Watershed Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Date: 07/28/21 License No.:

Prepared for:

Oppidan

400 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Existing Conditions

Date: 07/09/21
Sheet C100 19

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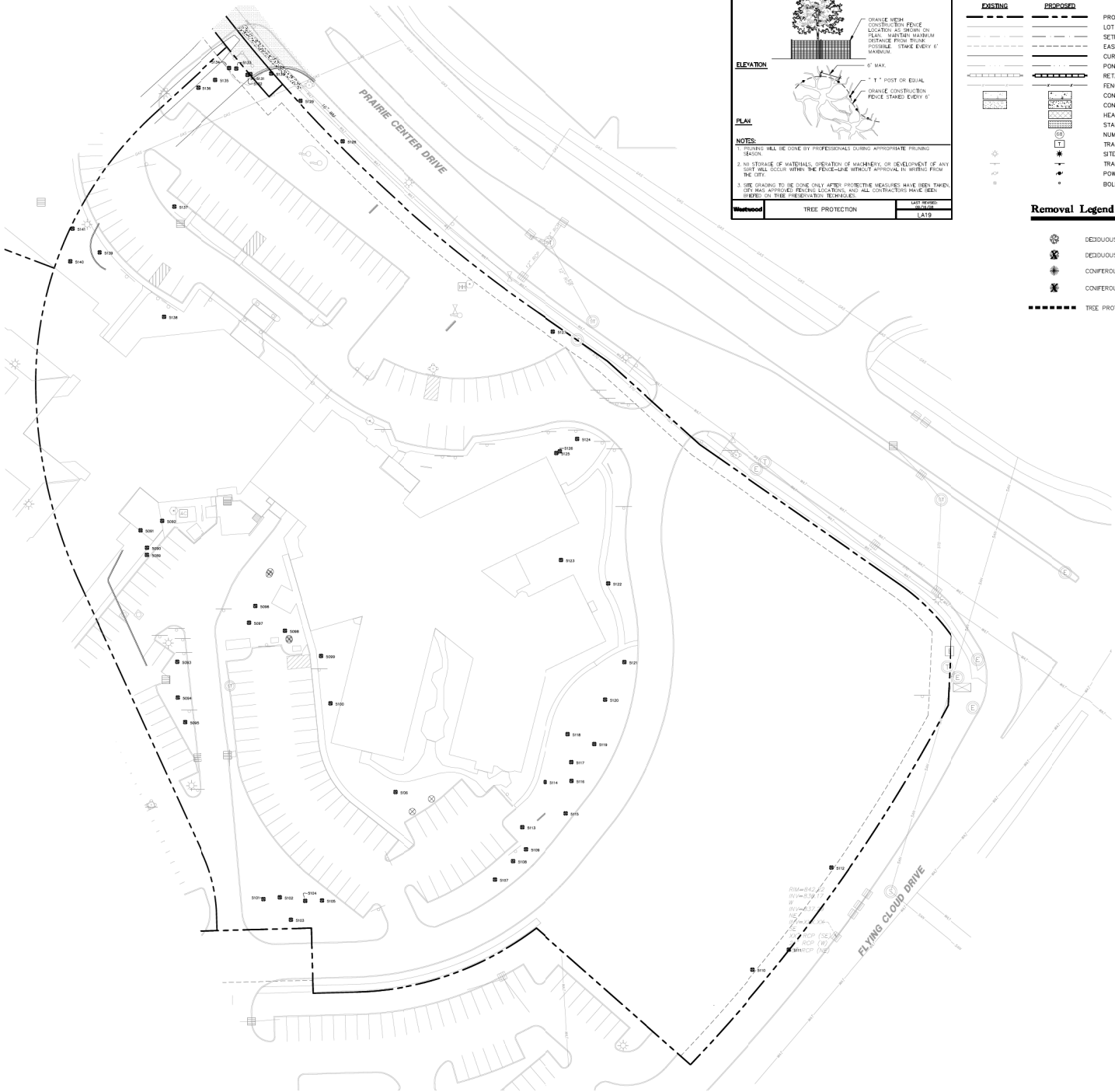

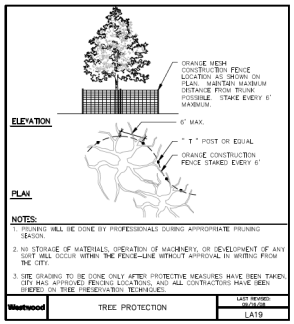

Site Legend

EXISTING	PROPOSED	
		PROPERTY LINE
		LOT LINE
		SETBACK LINE
		EASEMENT LINE
		CURB AND GUTTER
		POND NORMAL WATER LEVEL
		RETAINING WALL
		FENCE
		CONCRETE PAVEMENT
		CONCRETE SIDEWALK
		HEAVY DUTY BITUMINOUS PAVEMENT
		STANDARD DUTY BITUMINOUS PAVEMENT
	(09)	NUMBER OF PARKING STALLS
	T	TRANSFORMER
		SITE LIGHTING
		TRAFFIC SIGN
		POWER POLE
		BOLLARD / POST

Removal Legend

- DECIDUOUS TREE TO BE SAVED
- DECIDUOUS TREE TO BE REMOVED
- CONIFEROUS TREE TO BE SAVED
- CONIFEROUS TREE TO BE REMOVED
- TREE PROTECTION FENCING

Tree Inventory

TAG ID	DESCRIPTION	CALIPER	MODIFIER	MODIFIER	IMPORTANCE	REMOVED
5089	SPC	10			s	#
5090	SPC	8			s	#
5091	SPC	12			s	#
5092	SPC	14			s	#
5093	ASH	12		pd	s	#
5094	ASH	12			s	#
5095	ASH	12			s	#
5096	ASH	22			s	#
5097	SPC	9			s	#
5098	MPA	12			s	#
5099	MPV	32			h	#
5100	MPV	22			s	#
5101	SPC	12			s	#
5102	SPC	10			s	#
5103	SPC	12			s	#
5104	SPC	11			s	#
5105	SPC	9			s	#
5106	ASH	18			s	#
5107	SPC	11			s	#
5108	SPC	9			s	#
5109	SPC	8			s	#
5110	CWD	13			s	#
5111	CWD	12			s	#
5112	CWD	14			s	#
5113	SPC	8			s	#
5114	LCB	22			s	#
5115	SPC	12			s	#
5116	SPC	10			s	#
5117	PIR	10			s	#
5118	LCB	14			s	#
5119	PIR	8			s	#
5120	MPV	38			h	#
5121	LCB	16			s	#
5122	LCB	21			s	#
5123	FRT	14			s	#
5124	LCB	20			s	#
5125	SPC	22			s	#
5126	SPC	14			s	#
5127	LCB	12			s	#
5128	HAK	13			s	#
5129	LCB	18			s	#
5130	LCB	14			s	#
5131	SPC	13			s	#
5132	SPC	10			s	#
5133	SPC	9			s	#
5134	ASH	16			s	#
5135	ASH	14			s	#
5136	ASH	13			s	#
5137	FRT	14			s	#
5138	PIR	21			s	#
5139	ASH	17			s	#
5140	ASH	24			s	#
5141	ASH	20			s	#

CODE	SPECIES
ASH	Green & White Ash
BSW	Basswood
CWD	Cottonwood
FRT	Fruit Tree
HAK	Hackberry
LCB	Black Locust
MPA	Amur Maple
MPS	Sugar Maple
MPV	Silver Maple
OKB	Bur Oak
PIR	Red (Norway) Pine
PIW	White Pine
SPC	Colorado Spruce

MODIFIER LEGEND

x	muli-trunked
pd	physically damaged (e.g. tornado, wind/ice storm)
bd	biologically damaged (e.g. insects, fungal, bacterial)
s	Significant Tree: Any living deciduous tree (except elm, willow, box elder and aspen) measuring at least 12 and less than 32 inches in diameter, or a living coniferous tee measuring at least 8 and less than 24 inches in diameter.
h	Heritage Tree: Any living deciduous tree (except cottonwood, elm, willow, box elder and aspen) measuring 32 inchs in diameter or greater, or a living coniferous tee measuring 24 inches in diameter or greater.

Tree Replacement Calculations

SIGNIFICANT TREE REPLACEMENT:
Significant tree caliper inches are to be replaced at a 1:2 ratio.

A = EXISTING CALIPER INCHES:	703 CAL. IN.
B = CALIPER INCHES REMOVED:	703 CAL. IN.
(B/A) = PERCENTAGE OF CALIPER INCHES REMOVED:	100%
C = REPLACEMENT RATIO PER ORDINANCE:	(0.5)
TREE REPLACEMENT FORMULA:	(B/A)(C)(B) (1)(0.5)(703)
TOTAL REPLACEMENT REQUIRED:	352.0 CAL. IN.

HERITAGE TREE REPLACEMENT:
Heritage tree caliper inches are to be replaced at a 2:1 ratio.

A = EXISTING CALIPER INCHES:	70 CAL. IN.
B = CALIPER INCHES REMOVED:	70 CAL. IN.
(B/A) = PERCENTAGE OF CALIPER INCHES REMOVED:	100%
C = REPLACEMENT RATIO PER ORDINANCE:	(2)
TREE REPLACEMENT FORMULA:	(B/A)(C)(B) (1)(2)(70)
TOTAL REPLACEMENT REQUIRED:	140 CAL. IN.

TOTAL CALIPER INCHES REPLACED:
(Significant + Heritage Trees)

	(352.0+140.0)
TOTAL REPLACEMENT REQUIRED:	492.0 CAL. IN.

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Revisions
07/26/21 - Watershed Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Date: 07/28/21 License No.:

Prepared for:

Oppidan

400 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Tree Inventory Plan

0' 30' 60' 90'

Date: 07/09/21
Sheet C101 19

0021497TP_M.dwg

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Site Keynotes

A	MATCH EXISTING CURB & GUTTER
B	MATCH EXISTING PAVEMENT
C	MATCH EXISTING CONCRETE (WALK OR DRIVE)
D	STEPS AND HANDRAIL (SEE ARCH. PLANS)
E	PLANTED AREA
F	TRASH ENCLOSURE
G	FENCE
H	MONUMENT SIGN
I	TRANSFORMER PAD
J	SCREEN WALL (SEE STRUCTURAL PLANS)
K	McCUE S20 CRASH CORE BOLLARD
L	LOADING DOCKS
M	LIGHT LOCATION (SEE LIGHTING PLAN)
N	FDC LOCATION
O	CART CORRALS
P	BIKE RACKS
Q	RETAINING WALL WITH FENCE
R	BENCH
S	DELIVERY RAMP
T	FUTURE EV PARKING
U	BACKLESS BENCH
V	PUBLIC ART
W	3" CONDUIT
X	GENERATOR PAD
Y	DECORATIVE BOLLARD (TYP.) - SEE LIGHTING PLAN

Site Legend

EXISTING	PROPOSED	
		PROPERTY LINE
		LOT LINE
		SETBACK LINE
		EASEMENT LINE
		CURB AND GUTTER
		POND NORMAL WATER LEVEL
		RETAINING WALL
		FENCE
		HEAVY DUTY CONCRETE PAVEMENT
		CONCRETE SIDEWALK
		HEAVY DUTY BITUMINOUS PAVEMENT
		STANDARD DUTY BITUMINOUS PAVEMENT
	(##)	NUMBER OF PARKING STALLS
	T	TRANSFORMER
		SITE LIGHTING
		TRAFFIC SIGN
		POWER POLE
		BOLLARD / POST
		DECORATIVE BOLLARD (SEE LIGHTING PLAN)

Sign Legend

REFERENCE	SIZE	MnDOT DESIGNATION
S.1 STOP SIGN	30" X 30"	R1-1
S.2 HANDICAP ACCESSIBLE	12" X 18"	R7-8M
S.3 NO PARKING	12" X 12"	R8-3M
S.4 DO NOT ENTER	30" X 30"	R5-1
S.5 PEDESTRIAN CROSSING	30" X 30"	W11-2

Site Development Summary

• EXISTING ZONING:	C-COM, COMMERCIAL
• PROPOSED ZONING:	C-COM, COMMERCIAL
• BUILDING SETBACK PER CODE:	25'=FROM 10'=SIDE AND REAR
• PARKING SETBACK:	17.5'=FROM 10'=SIDE AND REAR
• PARKING SPACE/DRIVE AISLE:	9' WIDE X 18' LONG= 90° ASLE
LOT 1	
• PROPERTY AREA:	223,721 SF (5.13 AC)
• PERVIOUS SURFACE:	37,326 SF (16.68%)
• IMPERVIOUS SURFACE(RATIO):	186,395 SF (83.32%)
• FLOOR-AREA-RATIO(FAR):	0.178
LOT 2	
• PROPERTY AREA:	55,421 SF (1.27 AC)
• PERVIOUS SURFACE:	13,113 SF (23.66%)
• IMPERVIOUS SURFACE(RATIO):	42,308 SF (76.34%)
• FLOOR-AREA-RATIO(FAR):	0.070
LOT 3	
• PROPERTY AREA:	37,549 SF (0.87 AC)
• PERVIOUS SURFACE:	12,188 SF (32.46%)
• IMPERVIOUS SURFACE(RATIO):	25,361 SF (67.54%)
• FLOOR-AREA-RATIO(FAR):	0.103

Development Note

1. STREET WIDTH AND STRIPING 'A' REQUIREMENT OF GROCERY TENANT TO PROVIDE MINIMUMS FOR SEMI DELIVERY TRUCKS.

Site Data Chart

LEGAL DESCRIPTION	PROPOSED USE	LOT AREA (ACRES)	BLDG AREA (SF)	REQUIRED PARKING RATIO	PARKING REQUIRED	PARKING PROVIDED
LOT 1	GROCERY	5.13 AC	40,154	5/1,000 SF	200	194
LOT 2	RESTAURANT	1.27 AC	5,000	1/2.5 SEATS (94 SEATS)	38	47
LOT 3	BANK	0.87 AC	3,896	5/1,000 SF	21	61
TOTAL	--	7.27 AC	49,050	--	TBD	302

Lot Data Chart

LEGAL DESCRIPTION	PUBLIC FRONTAGE	SETBACKS MET	LOT SIZE (5 ACRE MIN.)	LOT WIDTH (300' MIN.)	LOT DEPTH (300' MIN.)
LOT 1	X	X	X	X	X
LOT 2	X			X	
LOT 3	X	X			

NOTE: 'LOTS WITHOUT AN "X" WILL REQUIRE A WAIVER

General Site Notes

1. BACKGROUND INFORMATION FOR THIS PROJECT PROVIDED BY WESTWOOD PROFESSIONAL SERVICES, MINNETONKA, MN, 2018.
2. LOCATIONS AND ELEVATIONS OF EXISTING TOPOGRAPHY AND UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AND UTILITY LOCATIONS PRIOR TO EXCAVATION/CONSTRUCTION. IF ANY DISCREPANCIES ARE FOUND, THE ENGINEER SHOULD BE NOTIFIED IMMEDIATELY.
3. REFER TO BOUNDARY SURVEY FOR LOT BEARINGS, DIMENSIONS AND AREAS.
4. ALL DIMENSIONS ARE TO FACE OF CURB OR EXTERIOR FACE OF BUILDING UNLESS OTHERWISE NOTED.
5. REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS AND LOCATIONS OF EXITS, RAMPS, AND TRUCK DOORS.
6. ALL CURB RADII SHALL BE 3.0 FEET (TO FACE OF CURB) UNLESS OTHERWISE NOTED.
7. ALL CURB AND GUTTER SHALL BE B612 UNLESS OTHERWISE NOTED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGGERS AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE CITY AND ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE MNDOT STANDARDS.
9. BITUMINOUS PAVEMENT AND CONCRETE SECTIONS TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
10. CONTRACTOR SHALL MAINTAIN FULL ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES.
11. SITE LIGHTING SHOWN ON PLAN IS FOR REFERENCE ONLY. REFER TO LIGHTING PLAN PREPARED BY OTHERS FOR SITE LIGHTING DETAILS AND PHOTOMETRICS.

Site Details

1. B612 CURB & GUTTER
1A. B612 MODIFIED CURB AND GUTTER
1B. SURMOUNTABLE CURB AND GUTTER
2. TRANSITION CURB & GUTTER
3. FLUSH CONCRETE CURB & GUTTER
4. CONCRETE DRIVEWAY APRON
5. CONCRETE CROSS GUTTER
6. PRIVATE PEDESTRIAN CURB RAMP
7. ACCESSIBLE PARKING LOGO, STRIPING, & SIGNAGE
8. CROSS WALK STRIPING
9. BOLLARD
10. PAINTED STOP BAR
11. CONCRETE SIDEWALK
12. STANDARD DUTY BITUMINOUS PAVEMENT
13. HEAVY DUTY BITUMINOUS PAVEMENT
14. HEAVY DUTY CONCRETE PAVEMENT
15. TRAFFIC ARROWS
16. CONCRETE CROSSWALK (MATCH PRESBYTERIAN HOMES CROSSWALKS)
17. CONCRETE VALLEY GUTTER
18. CURB CUT WITH CONCRETE SWALE
19. PUBLIC PEDESTRIAN CURB RAMP

0' 30' 60' 90'

Westwood

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Revisions:
07/28/21 — Watershed Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Date: 07/28/21 License No.:

Prepared for:

Oppidan

400 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Site Plan

Date: 07/09/21
Sheet C200 19

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Grading Legend

EXISTING / PROPOSED

- PROPERTY LINE
- INDEX CONTOUR
- INTERVAL CONTOUR
- CURB AND GUTTER
- POND NORMAL WATER LEVEL
- SILT FENCE
- BIOLOGS
- STORM SEWER
- FLARED END SECTION (WITH RIPRAP)
- WATER MAIN
- SANITARY SEWER
- RETAINING WALL
- DRAIN TILE
- RIDGE LINE
- GRADING LIMITS
- SPOT ELEVATION
- FLOW DIRECTION
- TOP AND BOTTOM OF RETAINING WALL
- EMERGENCY OVERFLOW
- SOIL BORING LOCATION
- TEMPORARY ROCK CHECK DAM

Grading Notes

1. LOCATIONS AND ELEVATIONS OF EXISTING TOPOGRAPHY AND UTILITIES ARE SHOWN ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AND UTILITY LOCATIONS PRIOR TO EXCAVATION/CONSTRUCTING. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND.
2. CONTRACTORS SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULE, SLOPED PAVEMENT, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY ENTRANCE LOCATIONS, AND EXACT LOCATIONS AND NUMBER OF DOWNSPOUTS.
3. ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR TRENCH EXCAVATION AND BACKFILL/SURFACE RESTORATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
4. ALL DISTURBED UNPAVED AREAS ARE TO RECEIVE FOUR INCHES OF TOPSOIL AND SOD OR SEED. THESE AREAS SHALL BE WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. SEE LANDSCAPE PLAN FOR PLANTING AND TURF ESTABLISHMENT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGMEN AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE MNDOT STANDARDS.
6. ALL SLOPES SHALL BE GRADED TO 3:1 OR FLATTER UNLESS OTHERWISE INDICATED ON THIS SHEET.
7. CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING AND PROVIDE A SMOOTH FINISHED SURFACE WITH UNIFORM SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN OR BETWEEN SUCH POINTS AND EXISTING GRADES.
8. SPOT ELEVATIONS SHOWN INDICATE FINISHED PAVEMENT ELEVATIONS & GUTTER FLOW LINE UNLESS OTHERWISE NOTED. PROPOSED CONTOURS ARE TO FINISHED SURFACE GRADE.
9. SEE SOILS REPORT FOR PAVEMENT THICKNESSES AND HOLD DOWNS.
10. CONTRACTOR SHALL DISPOSE OF ANY EXCESS SOIL MATERIAL THAT EXISTS AFTER THE SITE GRADING AND UTILITY CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS SOIL MATERIAL IN A MANNER ACCEPTABLE TO THE OWNER AND THE REGULATING AGENCIES.
11. CONTRACTOR SHALL PROVIDED A STRUCTURAL RETAINING WALL DESIGN CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.
12. ALL CONSTRUCTION SHALL CONFORM TO LOCAL, STATE AND FEDERAL RULES INCLUDING THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS.
13. PRIOR TO PLACEMENT OF ANY STRUCTURE OR PAVEMENT, A PROOF ROLL, AT MINIMUM, WILL BE REQUIRED ON THE SUBGRADE. PROOF ROLLING SHALL BE ACCOMPLISHED BY MAKING MINIMUM OF 2 COMPLETE PASSES WITH FULLY-LOADED TANDEM-AXLE DUMP TRUCK, OR APPROVED EQUAL, IN EACH OF 2 PERPENDICULAR DIRECTIONS WHILE UNDER SUPERVISION AND DIRECTION OF THE INDEPENDENT TESTING LABORATORY. AREAS OF FAILURE SHALL BE EXCAVATED AND RECOMPACTED AS SPECIFIED HEREIN.
14. EMBANKMENT MATERIAL PLACED BENEATH BUILDINGS AND STREET OR PARKING AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFIED DENSITY METHOD AS OUTLINED IN MNDOT 2105.3F1 AND THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEER.
15. EMBANKMENT MATERIAL NOT PLACED IN THE BUILDING PAD, STREETS OR PARKING AREA, SHALL BE COMPACTED IN ACCORDANCE WITH REQUIREMENTS OF THE ORDINARY COMPACTION METHOD AS OUTLINED IN MNDOT 2105.3F2.
16. ALL SOILS AND MATERIALS TESTING SHALL BE COMPLETED BY AN INDEPENDENT GEOTECHNICAL ENGINEER. EXCAVATION FOR THE PURPOSE OF REMOVING UNSTABLE OR UNSUITABLE SOILS SHALL BE COMPLETED AS REQUIRED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOILS TESTS AND INSPECTIONS WITH THE GEOTECHNICAL ENGINEER.

0' 30' 60' 90'

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Revisions:
07/28/21 — Watershed Resubmittal

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Date: 07/28/21 License No.

Prepared for:

Oppidan

400 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Grading Plan

Date: 07/09/21
Sheet C300 19

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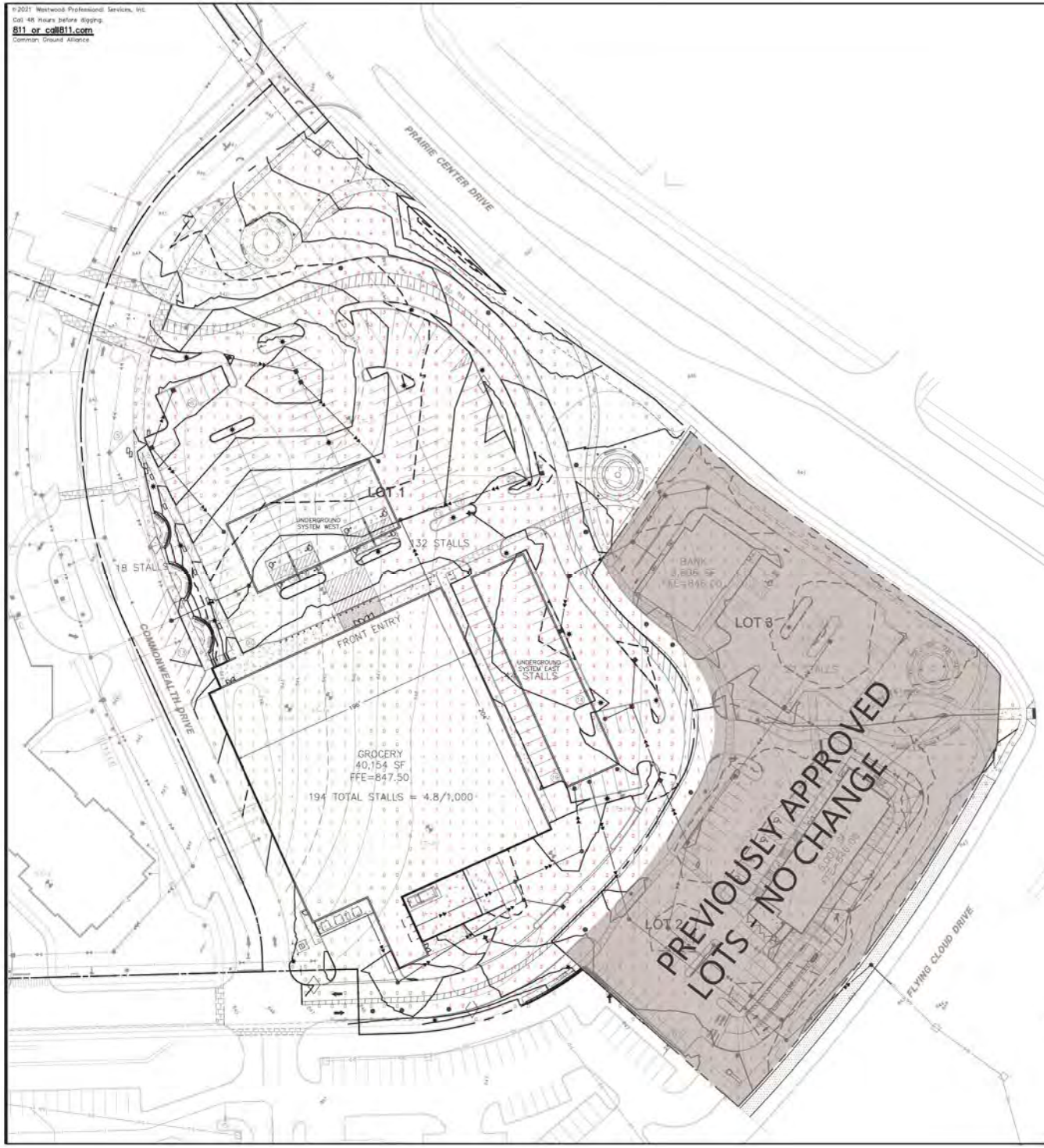

Earthwork Analysis

- CUT: 12,881 CY
- FILL: 4,246 CY
- NET: 8,635 CY (CUT)

Westwood

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Revisions
11/3/21 – Watershed Resubmittal

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Date: 07/28/21 License No.

Prepared for:

Oppidan

600 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Cut-Fill Plan

Date: 07/09/21
Sheet: C301 19

0 30 60

Call 48 Hours before digging:
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Common Ground Alliance

Erosion Control Legend

EXISTING	PROPOSED	
		PROPERTY LINE
960	960	INDEX CONTOUR
962	962	INTERVAL CONTOUR
		CURB AND GUTTER
		POND NORMAL WATER LEVEL
SF	SF	SILT FENCE
		STORM SEWER
		FLARED END SECTION (WITH RIPRAP)
		WATER MAIN
		SANITARY SEWER
		RETAINING WALL
		DRAIN TILE
		RIDGE LINE
		GRADING LIMITS
		ROCK CONSTRUCTION ENTRANCE
		EROSION CONTROL BLANKET
		TURF REINFORCEMENT MAT
	97.00	SPOT ELEVATION
		FLOW DIRECTION
		TOP AND BOTTOM OF RETAINING WALL
	E.O.F. 85.00	EMERGENCY OVERFLOW
		SOIL BORING LOCATION
		INLET PROTECTION
		SEDIMENT CONTROL LOG

Erosion Control Notes

1. SILT FENCE WILL BE INSTALLED AROUND SITE IN ALL FILL AREAS AND LOCATIONS WHERE STORM WATER RUNOFF MAY LEAVE THE SITE, PRIOR TO ANY EXCAVATION/CONSTRUCTION ACTIVITIES.
2. ROCK CONSTRUCTION ENTRANCE WILL BE INSTALLED AT ALL CONSTRUCTION ENTRANCES.
3. SILTATION AND EROSION CONTROL: THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE WHATEVER MEANS NECESSARY TO CONTROL THE EROSION AND SILTATION INCLUDING BUT NOT LIMITED CATCH BASIN INSERTS, ROCK CONSTRUCTION ENTRANCES, EROSION CONTROL BLANKET, AND SILT FENCE. CONTROL SHALL COMMENCE WITH GRADING AND CONTINUE THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER. THE CONTRACTOR'S RESPONSIBILITY INCLUDES ALL IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE OWNER MAY DIRECT THE CONTRACTOR'S MEANS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITION OF SILT OR MUD ON NEW OR EXISTING PAVEMENT OR IN EXISTING STORM SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN AFFECTED AREAS SHALL BE CLEANED TO THE SATISFACTION OF THE OWNER, ALL AT THE EXPENSE OF THE CONTRACTOR. ALL TEMPORARY EROSION CONTROL SHALL BE REMOVED BY THE CONTRACTOR AFTER THE TURF IS ESTABLISHED.
4. CONTRACTOR SHALL INSTALL TEMPORARY INLET PROTECTION (INLCO OR EQUIVALENT) AROUND ALL CATCH BASIN GRATE INLETS, AFFECTED BY THIS CONSTRUCTION.
5. ALL DISTURBED AREAS SHALL HAVE TEMPORARY PROTECTION OR PERMANENT COVER OVER EXPOSED SOIL AREAS IF NOT BEING ACTIVELY GRADED WITHIN SEVEN (7) DAYS.
6. FOR AREAS WITH SLOPE OF 3:1 OR GREATER, RESTORATION WITH SOD OR WOOD FIBER BLANKET IS REQUIRED.
7. PUBLIC STREETS USED FOR HAULING SHALL BE KEPT FREE OF SOIL AND DEBRIS. STREET SWEEPING SHALL BE COMPLETED DAILY.

RPBCWD Standard Erosion Control Notes

1. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION (RIGHT OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE.
2. ADDITIONAL MEASURES, SUCH AS HYDRAULIC MULCHING AND OTHER PRACTICES AS SPECIFIED BY THE DISTRICT MUST BE USED ON SLOPES OF 3:1 (H:V) OR STEEPER TO PROVIDE ADEQUATE STABILIZATION.
3. FINAL SITE STABILIZATION MEASURES MUST SPECIFY THAT AT LEAST SIX INCHES OF TOPSOIL OR ORGANIC MATTER BE SPREAD AND INCORPORATED INTO THE UNDERLYING SOIL DURING FINAL SITE TREATMENT WHEREVER TOPSOIL HAS BEEN REMOVED.
4. CONSTRUCTION SITE WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER, AND SANITARY WASTE MUST BE PROPERLY MANAGED.
5. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE DISTRICT.
6. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE REMOVED UPON FINAL STABILIZATION.
7. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 12 INCHES OF THE SOIL PROFILE WHILE TAKING CARE TO PROTECT UTILITIES, TREE ROOTS, AND OTHER EXISTING VEGETATION.
8. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
9. THE PERMITTEE MUST, AT A MINIMUM, INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERY DAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL LAND-DISTURBING ACTIVITY HAS CEASED. THEREAFTER, THE PERMITTEE MUST PERFORM THESE RESPONSIBILITIES AT LEAST WEEKLY UNTIL VEGETATIVE COVER IS ESTABLISHED. THE PERMITTEE MUST MAINTAIN A LOG OF ACTIVITIES UNDER THIS SECTION FOR INSPECTION BY THE DISTRICT ON REQUEST.
10. TOPSOIL TO BE INSTALLED AS PART OF THE SITE RESTORATION SHALL CONTAIN AT LEAST 5% ORGANIC CONTENT CONSISTENT WITH THE WATERSHED DISTRICT'S TOPSOIL DEFINITION.

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Revisions:
07/28/21 – Watershed Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Date 07/28/21 License No. .

Prepared for:

Oppidan

600 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Erosion Control Plan

Date: 07/09/21
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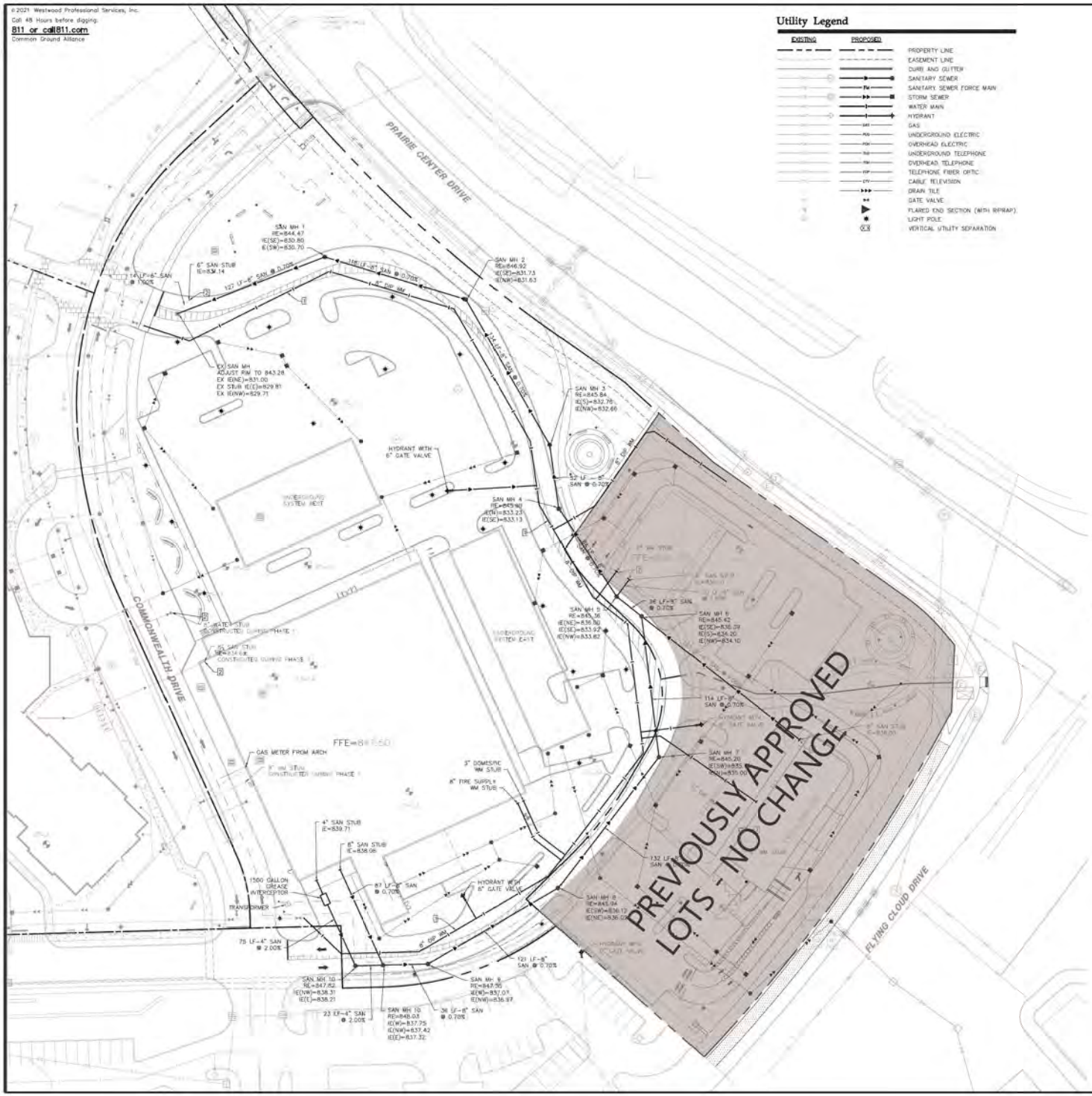

Utility Legend

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
		CURB AND GUTTER
		SANITARY SEWER
		SANITARY SEWER FORCE MAIN
		STORM SEWER
		WATER MAIN
		HYDRANT
GAS		GAS
UGE		UNDERGROUND ELECTRIC
OHE		OVERHEAD ELECTRIC
UTE		UNDERGROUND TELEPHONE
OHT		OVERHEAD TELEPHONE
UTF		TELEPHONE FIBER OPTIC
CTV		CABLE TELEVISION
		DRAIN TILE
		GATE VALVE
		FLARED END SECTION (WITH RIPRAP)
		LIGHT POLE
		VERTICAL UTILITY SEPARATION

General Utility Notes

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND LIMITED MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION SHALL NOT BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY THE OWNER OR ENGINEER OF DISCREPANCIES.
2. ALL SANITARY SEWER, STORM SEWER AND WATER MAIN INSTALLATIONS SHALL BE PER MINNESOTA PLUMBING CODE AND IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION AND SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN THE NECESSARY FEDERAL, STATE AND LOCAL PERMITS FOR THE PROPOSED WORK OR VERIFY WITH THE OWNER OR ENGINEER THAT PERMITS HAVE BEEN OBTAINED. PERMIT FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS OTHERWISE ARRANGED WITH THE OWNER.
4. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DIMENSIONS OF DOORWAYS, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY CONNECTION LOCATIONS.
5. ALL PRIVATE UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL COORDINATE THE SERVICE LINE CONSTRUCTION WITH THE UTILITY COMPANIES.
6. CONTRACTOR SHALL OBTAIN ALL NECESSARY CITY PERMITS FOR UTILITY CONNECTIONS, AND UTILITIES SHALL BE INSPECTED AND APPROVED BY THE CITY. THE CITY SHALL BE NOTIFIED 48-HOURS PRIOR TO COMMENCING WITH THE UTILITY CONSTRUCTION OR ANY REQUIRED TESTING. CONTRACTOR SHALL NOT OPERATE, INTERFERE WITH, CONNECT ANY PIPE OR HOSE TO, OR TAP ANY WATER MAIN BELONGING TO THE CITY UNLESS DULY AUTHORIZED TO DO SO BY THE CITY. ANY ADVERSE CONSEQUENCES OF SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. WATER MAIN LENGTHS AS SHOWN ARE APPROXIMATE HORIZONTAL LENGTHS. ALLOW FOR ADDITIONAL PIPE WHEN INSTALLING ON SLOPES OF WHEN DEFLECTIONS ARE REQUIRED. THE JOINT DEFLECTIONS SHALL NOT EXCEED THE MAXIMUM RECOMMENDED BY THE PIPE MANUFACTURER OR BY LOCAL GOVERNING SPECIFICATIONS. FITTINGS REQUIRED TO CONSTRUCT WATER MAIN SHALL BE INCLUDED IN WATER MAIN CONSTRUCTION.
8. PROVIDE WATER MAIN THRUST RESTRAINTS PER CITY STANDARD REQUIREMENTS.
9. A MINIMUM VERTICAL SEPARATION OF 18 INCHES IS REQUIRED AT ALL WATER MAIN CROSSINGS WITH SANITARY SEWER OR STORM SEWER.
10. UTILITY SERVICES TYPICALLY TERMINATE 5' OUTSIDE BUILDING WALL UNLESS OTHERWISE SHOWN OR NOTED.
11. ALL MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY.
12. ALL WATER LINES SHALL BE DUCTILE IRON WRAPPED IN POLYETHYLENE, CLASS 52 WITH 7.5' MINIMUM COVER. PROVIDE MINIMUM SEPARATION OF 18" FROM SANITARY SEWER & STORM SEWER. INSULATE WATER MAIN IF LESS THAN 7.5' OF COVER.
13. INSULATION SHALL BE DOW STYROFOAM HI BRAND 35 OR EQUIVALENT, WITH 4 INCHES OF THICKNESS.
14. SANITARY SEWER PIPE OUTSIDE THE BUILDING ENVELOPE SHALL BE POLYVINYL CHLORIDE (PVC) SDR 35 OR 26. SDR 26 IS REQUIRED FOR DEPTHS GREATER THAN 15 FEET. SANITARY SEWER PIPE WITHIN 5 FEET OF BUILDING AND UNDER FOOTINGS, PIPE SHALL BE PVC SCHEDULE 40.
15. STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE (CLASS 5 FOR PIPE DIAMETERS 18" AND SMALLER, CLASS 3 FOR PIPE DIAMETERS 21" AND LARGER UNLESS OTHERWISE NOTED) WITH R-4 GASKETS, OR HDPE STORM SEWER PIPE IF ALLOWED BY THE CITY. HDPE STORM PIPE SHALL MEET REQUIREMENTS OF ASTM F2648. PIPE SHALL BE WATER TIGHT ACCORDING TO ASTM D3212 REQUIREMENTS. SEE PLAN FOR LOCATIONS WHERE RCP IS REQUIRED. PVC STORM SEWER PIPE SHALL BE SCHEDULE 40 PIPE. FLARED END SECTIONS SHALL BE RCP WITH TRASH GUARDS & RIP-RAP.
16. AFTER CONSTRUCTION IS COMPLETED, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AN AS-BUILT RECORD OF UTILITY CONSTRUCTION. THE AS-BUILT SHALL INCLUDE LOCATION AND LENGTH DEVIATIONS OR CHANGES TO THE PLAN. CONTRACTOR TO VERIFY WITH OWNER OR ENGINEER AND CREATE A PLAN WITH POST-CONSTRUCTION ELEVATIONS IS REQUIRED.

Utility Keynotes

1. 8" WATERMAIN LOOP TO BE CONSTRUCTED BY PRESBYTERIAN HOMES.
2. COORDINATE FINAL SANITARY AND WATER SERVICE SIZING WITH ARCH/PLUMBING PLANS.

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07/28/21 – Watermain Resubmittal

I hereby certify that this plan, was prepared by me or under my direct supervision and that I am a duly licensed ENGINEER/LA ENGINEER under the laws of the State of Minnesota.

Date 07/28/21 License No.

Prepared for:

Oppidan

400 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Sanitary and Watermain Plan

Date 07/09/21
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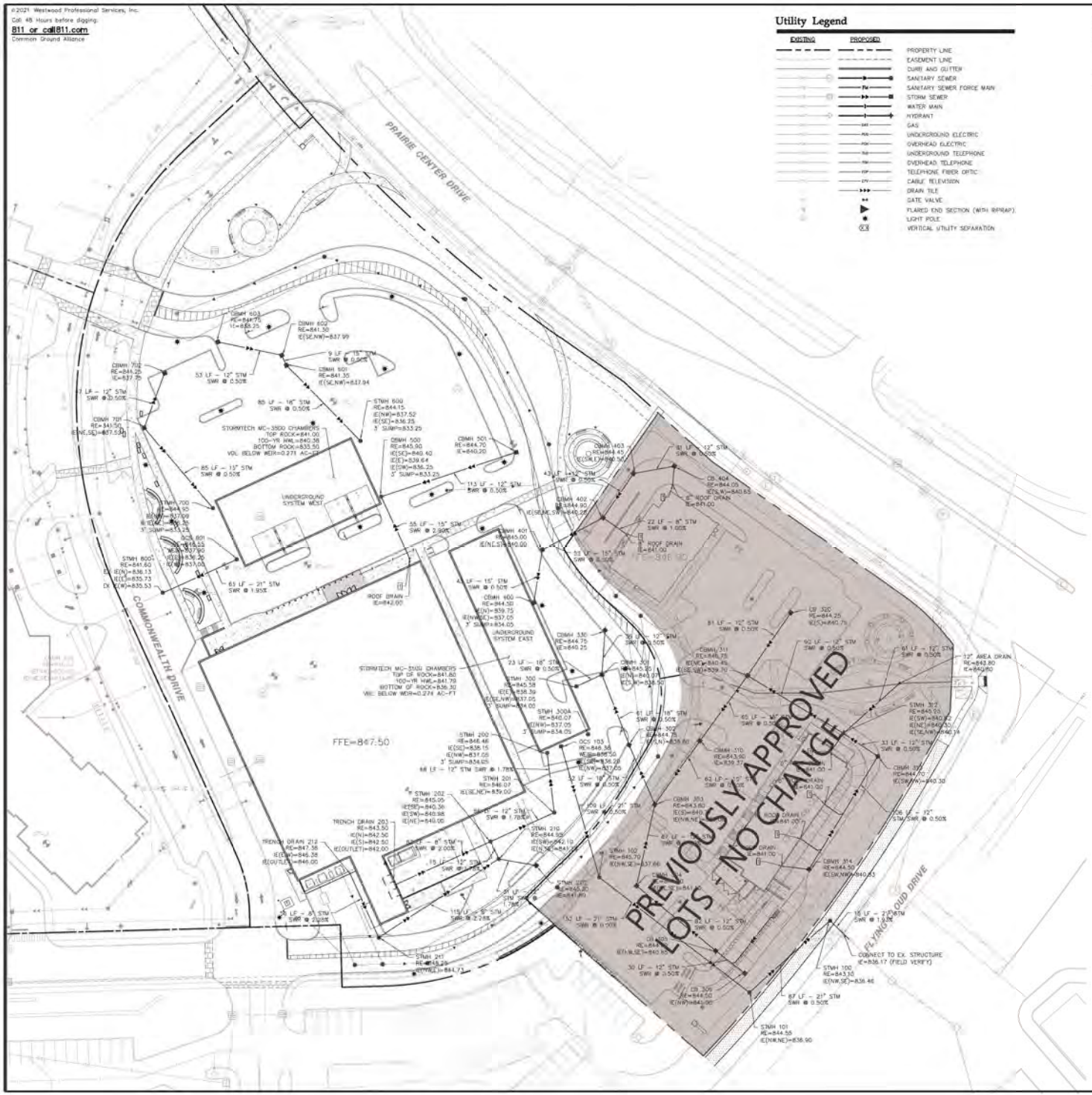

Utility Legend

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
		CURB AND GUTTER
		SANITARY SEWER
		SANITARY SEWER FORCE MAIN
		STORM SEWER
		WATER MAIN
		HYDRANT
		GAS
		UNDERGROUND ELECTRIC
		OVERHEAD ELECTRIC
		UNDERGROUND TELEPHONE
		OVERHEAD TELEPHONE
		TELEPHONE FIBER OPTIC
		CABLE TELEVISION
		DRAIN TILE
		GATE VALVE
		FLARED END SECTION (WITH RIPRAP)
		LIGHT POLE
		VERTICAL UTILITY SEPARATION

Storm Sewer Keynotes

1. COORDINATE FINAL ROOF DRAIN LOCATIONS WITH ARCH/PLUMBING PLANS

SEE SANITARY AND WATERMAIN PLAN FOR GENERAL UTILITY NOTES

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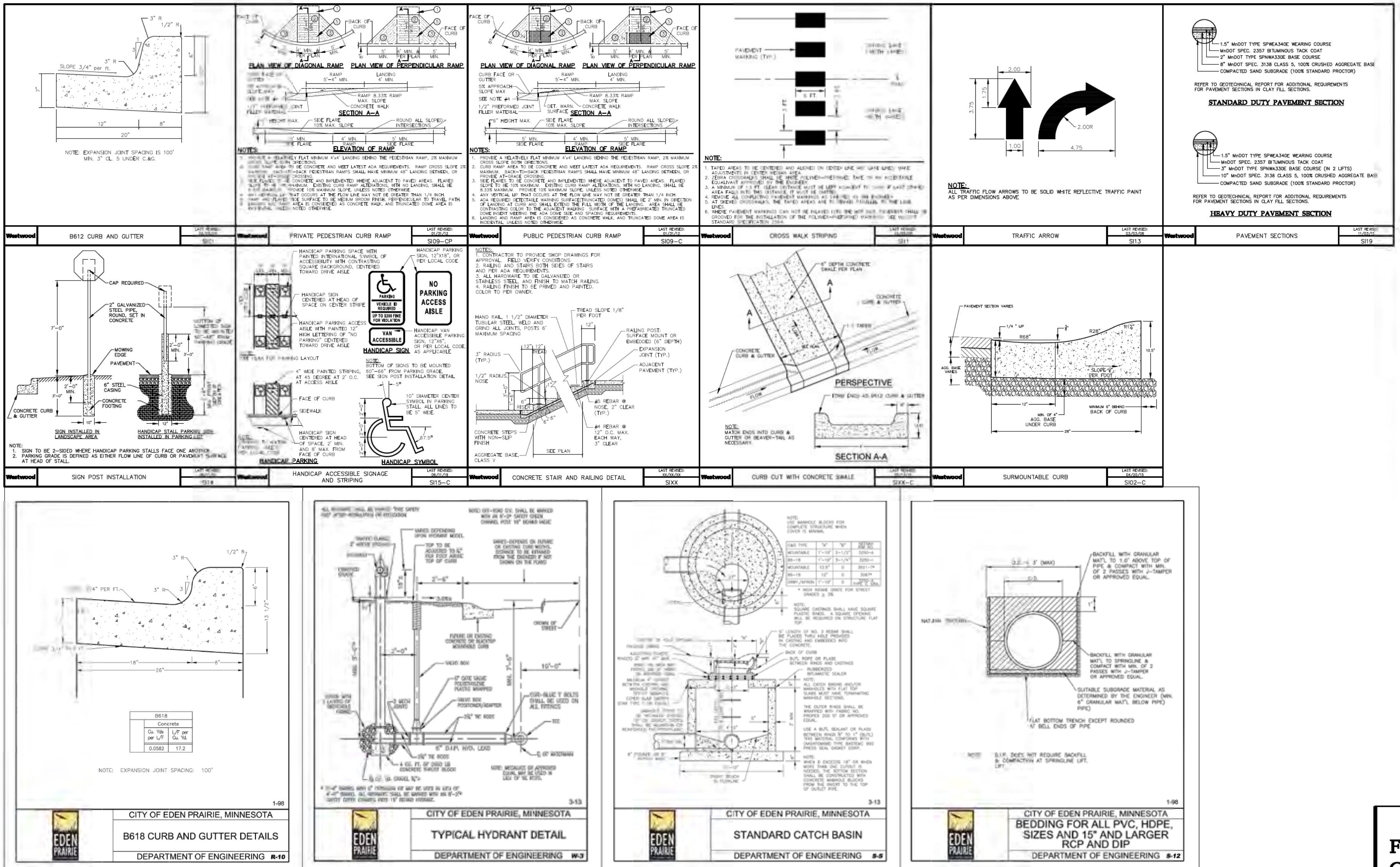

B612 CURB AND GUTTER
NOTE: EXPANSION JOINT SPACING IS 100' MIN. 3" CL. 5 UNDER C.&G.
PRIVATE PEDESTRIAN CURB RAMP
SI09-CP
PLAN VIEW OF DIAGONAL RAMP
PLAN VIEW OF PERPENDICULAR RAMP
SECTION A-A
ELEVATION OF RAMP
PUBLIC PEDESTRIAN CURB RAMP
SI09-C
CROSS WALK STRIPING
TRAFFIC ARROW
SI13
NOTE: ALL TRAFFIC FLOW ARROWS TO BE SOLID WHITE REFLECTIVE TRAFFIC PAINT AS PER DIMENSIONS ABOVE
PAVEMENT SECTIONS
SI19
1.5" MnDOT TYPE SPWEA340E WEARING COURSE
MnDOT SPEC. 2357 BITUMINOUS TACK COAT
2" MnDOT TYPE SPWEA330E BASE COURSE
8" MnDOT SPEC. 3138 CLASS 5, 100% CRUSHED AGGREGATE BASE
COMPACTED SAND SUBGRADE (100% STANDARD PROCTOR)
REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS FOR PAVEMENT SECTIONS IN CLAY FILL SECTIONS.
STANDARD DUTY PAVEMENT SECTION
1.5" MnDOT TYPE SPWEA340E WEARING COURSE
MnDOT SPEC. 2357 BITUMINOUS TACK COAT
3" MnDOT TYPE SPWEA330E BASE COURSE (IN 2 LIFTS)
10" MnDOT SPEC. 3138 CLASS 5, 100% CRUSHED AGGREGATE BASE
COMPACTED SAND SUBGRADE (100% STANDARD PROCTOR)
REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS FOR PAVEMENT SECTIONS IN CLAY FILL SECTIONS.
HEAVY DUTY PAVEMENT SECTION
SIGN POST INSTALLATION
NOTE:
1. SIGN TO BE 2-SIDED WHERE HANDICAP PARKING STALLS FACE ONE ANOTHER
2. PARKING GRADE IS DEFINED AS EITHER FLOW LINE OF CURB OR PAVEMENT SURFACE AT HEAD OF STALL
HANDICAP ACCESSIBLE SIGNAGE AND STRIPING
SI15-C
NO PARKING ACCESS AISLE
VAN ACCESSIBLE
HANDICAP SIGN
HANDICAP SYMBOL
HANDICAP PARKING
CONCRETE STAIR AND RAILING DETAIL
SIXX
NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL. FIELD VERIFY CONDITIONS.
2. RAILING AND STAIRS BOTH SIDES OF STAIRS AND PER ADA REQUIREMENTS.
3. ALL HARDWARE TO BE GALVANIZED OR STAINLESS STEEL AND FINISH TO MATCH RAILING.
4. RAILING FINISH TO BE PRIMED AND PAINTED. COLOR TO PER OWNER.
CURB CUT WITH CONCRETE SWALE
SIXX-C
PERSPECTIVE
SECTION A-A
NOTE: MATCH ENDS INTO CURB & GUTTER OR BEAVER-TAIL AS NECESSARY.
SURMOUNTABLE CURB
SI02-C
CITY OF EDEN PRAIRIE, MINNESOTA
B618 CURB AND GUTTER DETAILS
DEPARTMENT OF ENGINEERING R-10
NOTE: EXPANSION JOINT SPACING: 100'
CITY OF EDEN PRAIRIE, MINNESOTA
TYPICAL HYDRANT DETAIL
DEPARTMENT OF ENGINEERING W-3
CITY OF EDEN PRAIRIE, MINNESOTA
STANDARD CATCH BASIN
DEPARTMENT OF ENGINEERING S-5
CITY OF EDEN PRAIRIE, MINNESOTA
BEDDING FOR ALL PVC, HDPE, SIZES AND 15" AND LARGER RCP AND DIP
DEPARTMENT OF ENGINEERING S-12

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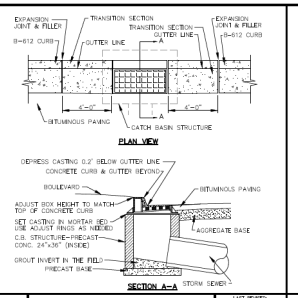
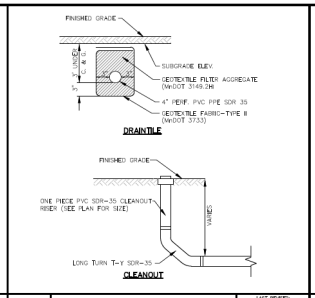
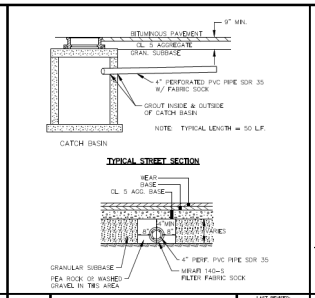


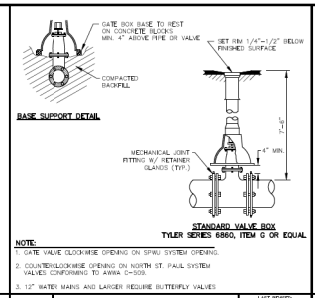
Westwood	RECTANGULAR CATCH BASIN	LAST REVISED: 05/07/21	ST01



Westwood	PERFORATED DRAIN TILE	LAST REVISED: 05/07/21	ST06

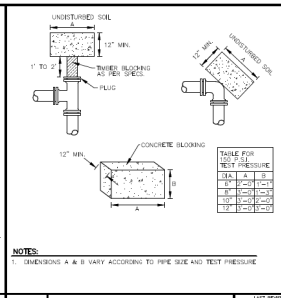


Westwood	FINGER DRAIN	LAST REVISED: 05/07/21	ST08



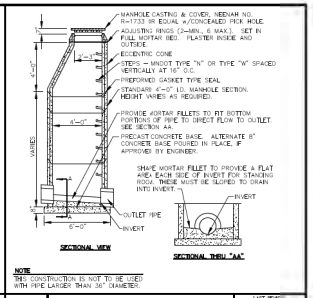
NOTE:
1. GATE VALVE CLOCKWISE OPENING ON SPWU SYSTEM OPENING.
2. COUNTERCLOCKWISE OPENING ON NORTH ST. PAUL SYSTEM VALVES CONFORMING TO AWWA C-509.
3. 12" WATER MAINS AND LARGER REQUIRE BUTTERFLY VALVES

Westwood	GATE VALVE	LAST REVISED: 05/07/21	WM02



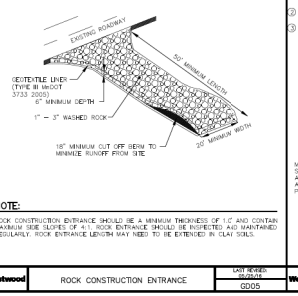
NOTES:
1. DIMENSIONS A & B VARY ACCORDING TO PIPE SIZE AND TEST PRESSURE

Westwood	WATERMAIN BLOCKING	LAST REVISED: 05/07/21	WM04



NOTE
THIS CONSTRUCTION IS NOT TO BE USED WITH PIPE LARGER THAN 36" DIAMETER.

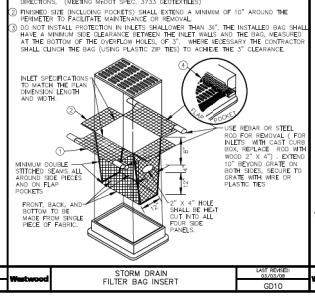
Westwood	SANITARY MANHOLE PRECAST MANHOLE WITH ADJUSTABLE RINGS	LAST REVISED: 05/07/21	SS01



NOTE:
ROCK CONSTRUCTION ENTRANCE SHOULD BE A MINIMUM THICKNESS OF 1.0' AND CONTAIN MAXIMUM SIDE SLOPES OF 4:1. ROCK ENTRANCE SHOULD BE INSPECTED AND MAINTAINED REGULARLY. ROCK ENTRANCE LENGTH MAY NEED TO BE EXTENDED IN CLAY SOILS.

Westwood	ROCK CONSTRUCTION ENTRANCE	LAST REVISED: 05/07/21	GD05

NOTE:
1. ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS. (MEETING MnDOT SPEC. 3733 GEOTEXTILES)
2. FINISHED SIDE (INCLUDING POCKETS) SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
3. DO NOT INSTALL PROTECTION IN INLETS SHALLOWER THAN 36". THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE BETWEEN THE INLET WALLS AND THE BAG MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG (USING PLASTIC ZIP TIES) TO ACHIEVE THE 3" CLEARANCE.

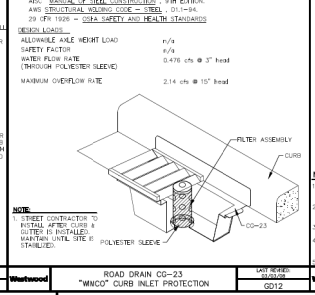


Westwood	STORM DRAIN FILTER BAG INSERT	LAST REVISED: 05/07/21	GD10

SPECIFICATIONS AND STANDARDS
AISC MANUAL OF STEEL CONSTRUCTION | 9TH EDITION.
ANSI STRUCTURAL WELDING CODE - STEEL | D1.1-94.
29 CFR 1926 - OSHA SAFETY AND HEALTH STANDARDS

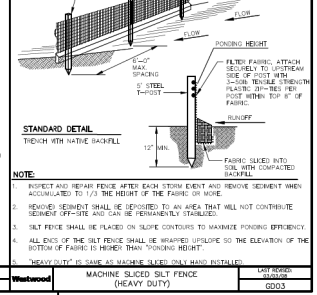
DESIGN LOADS:

ALLOWABLE AXLE HEIGHT LOAD	n/a
SAFETY FACTOR	n/a
WATER FLOW RATE (THROUGH POLYESTER SLEEVE)	0.476 cfs @ 3" head
MAXIMUM OVERFLOW RATE	2.14 cfs @ 15" head



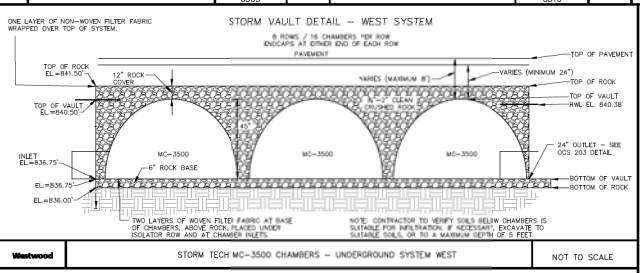
NOTE:
1. STREET CONTRACTOR TO INSTALL AFTER CURB & GUTTER IS INSTALLED. MAINTAIN UNTIL SITE IS STABILIZED.

Westwood	ROAD DRAIN CG-23 "WMCO" CURB INLET PROTECTION	LAST REVISED: 05/07/21	GD12

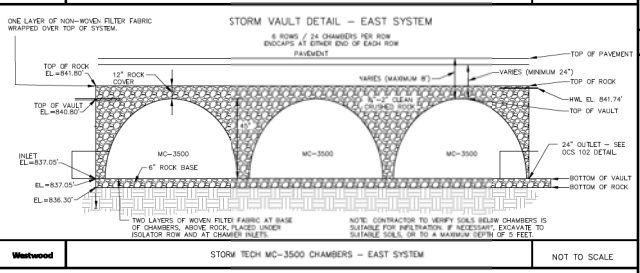


NOTE:
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN ACCUMULATED TO 1/3 THE HEIGHT OF THE FABRIC OR MORE.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
4. ALL ENDS OF THE SILT FENCE SHALL BE WRAPPED UPSLOPE SO THE ELEVATION OF THE BOTTOM OF FABRIC IS HIGHER THAN "PONDING HEIGHT".
5. "HEAVY DUTY" IS SAME AS MACHINE SLICED ONLY HAND INSTALLED.

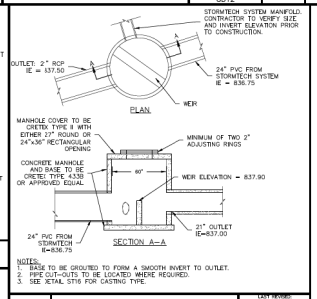
Westwood	MACHINE SLICED SILT FENCE (HEAVY DUTY)	LAST REVISED: 05/07/21	GD03



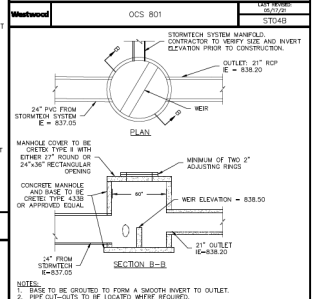
Westwood	STORM TECH MC-3500 CHAMBERS - UNDERGROUND SYSTEM WEST	NOT TO SCALE



Westwood	STORM TECH MC-3500 CHAMBERS - EAST SYSTEM	NOT TO SCALE



Westwood	OCS 801	LAST REVISED: 05/07/21	ST04B



Westwood	OCS 103	LAST REVISED: 05/07/21	ST04

Westwood

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Revisions
07/29/21 — Watermain Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Date: 07/28/21 License No.

Prepared for:

Oppidan

400 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Details

Date: 07/09/21
Sheet C601 19

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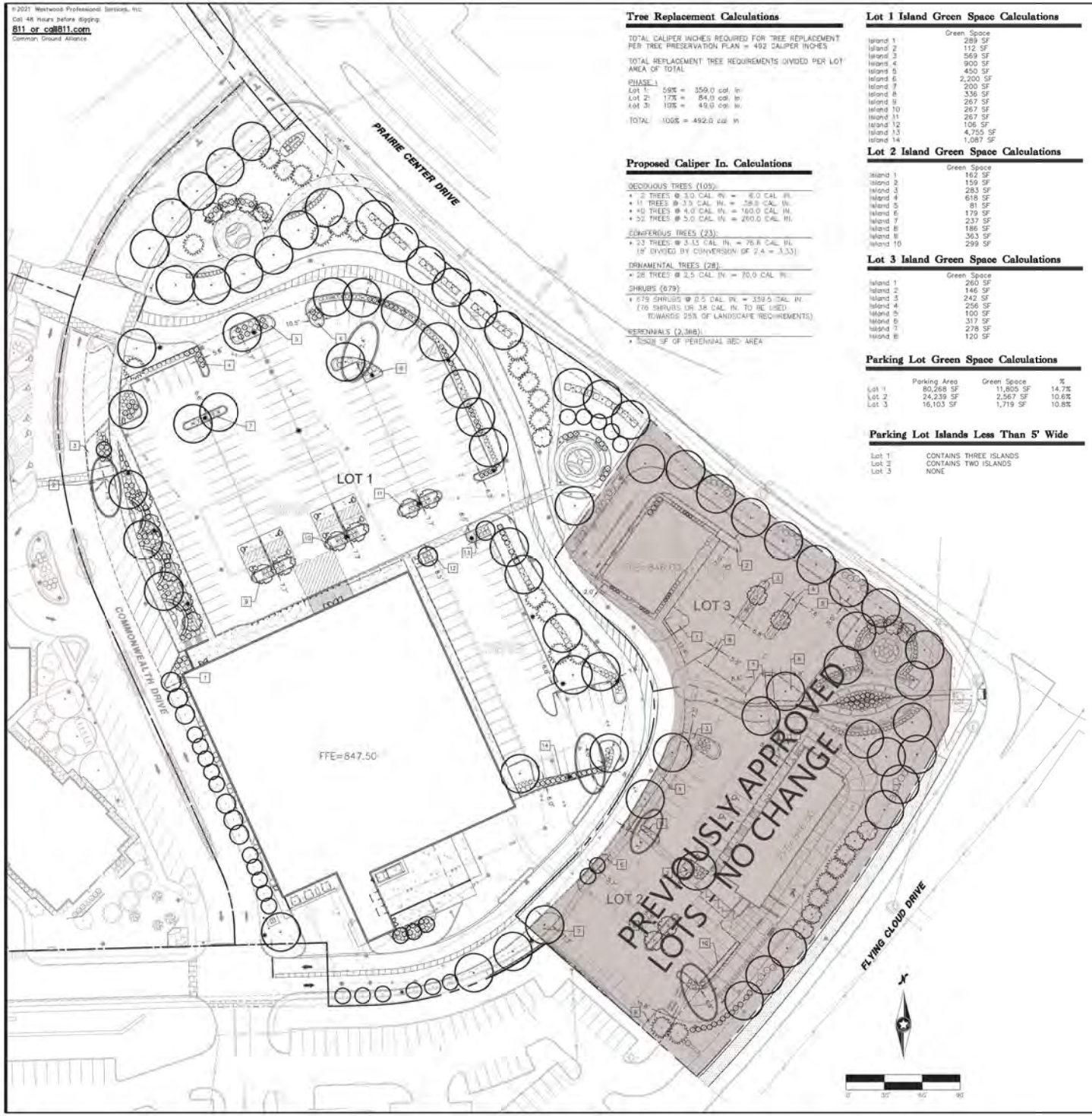

Tree Replacement Calculations

TOTAL CALIPER INCHES REQUIRED FOR TREE REPLACEMENT PER TREE PRESERVATION PLAN = 492 CALIPER INCHES

TOTAL REPLACEMENT TREE REQUIREMENTS DIVIDED PER LOT AREA OF TOTAL

PHASE 1
Lot 1: 59% = 359.0 cal. in
Lot 2: 17% = 84.0 cal. in
Lot 3: 10% = 49.0 cal. in

TOTAL 100% = 492.0 cal. in

Proposed Caliper In. Calculations

DECIDUOUS TREES (105):
- 2 TREES @ 3.0 CAL IN. = 6.0 CAL IN.
- 11 TREES @ 3.5 CAL IN. = 38.5 CAL IN.
- 40 TREES @ 4.0 CAL IN. = 160.0 CAL IN.
- 52 TREES @ 5.0 CAL IN. = 260.0 CAL IN.

CONIFEROUS TREES (23):
- 23 TREES @ 3.33 CAL IN. = 76.6 CAL IN. (8' DIVIDED BY CONVERSION OF 2.4 = 3.33)

ORNAMENTAL TREES (28):
- 28 TREES @ 2.5 CAL IN. = 70.0 CAL IN.

SHRUBS (679):
- 679 SHRUBS @ 2.5 CAL IN. = 339.5 CAL IN. (76 SHRUBS OR 38 CAL IN. TO BE USED TOWARDS 25% OF LANDSCAPE REQUIREMENTS)

PERENNIALS (2,368):
- 1,500 SF OF PERENNIAL BED AREA

Lot 1 Island Green Space Calculations

	Green Space
Island 1	289 SF
Island 2	112 SF
Island 3	569 SF
Island 4	900 SF
Island 5	450 SF
Island 6	2,200 SF
Island 7	200 SF
Island 8	336 SF
Island 9	267 SF
Island 10	267 SF
Island 11	267 SF
Island 12	106 SF
Island 13	4,755 SF
Island 14	1,087 SF

Lot 2 Island Green Space Calculations

	Green Space
Island 1	162 SF
Island 2	159 SF
Island 3	283 SF
Island 4	618 SF
Island 5	81 SF
Island 6	179 SF
Island 7	237 SF
Island 8	186 SF
Island 9	363 SF
Island 10	299 SF

Lot 3 Island Green Space Calculations

	Green Space
Island 1	260 SF
Island 2	146 SF
Island 3	242 SF
Island 4	256 SF
Island 5	100 SF
Island 6	317 SF
Island 7	278 SF
Island 8	120 SF

Parking Lot Green Space Calculations

	Parking Area	Green Space	%
Lot 1	80,268 SF	11,805 SF	14.7%
Lot 2	24,239 SF	2,567 SF	10.6%
Lot 3	16,103 SF	1,719 SF	10.8%

Parking Lot Islands Less Than 5' Wide

Lot 1	CONTAINS THREE ISLANDS
Lot 2	CONTAINS TWO ISLANDS
Lot 3	NONE

Landscape Requirement Calculations

TOTAL CALIPER INCHES REQUIRED: DIVIDE TOTAL GROSS SQUARE FOOTAGE OF ALL FLOORS OF A BUILDING BY 320.

Additional Tree Caliper Requirements

A= Total Gross Building Area (SF)
B= Constant 320
C= # new tree cal. inches

A / B = C

Lot 1: 40,154 SF / 320 = 125.5 cal. in.
Lot 2: 5,000 SF / 320 = 15.6 cal. in.
Lot 3: 3,896 SF / 320 = 12.2 cal. in.

SHRUBS, PERENNIALS OR PLANTING BEDS MAY BE SUBSTITUTED FOR TREES ACCORDING TO THE FOLLOWING LIMIT: NOT MORE THAN 25% OF THE TOTAL TREE CALIPER INCHES REQUIRED SHALL BE REPLACED WITH SHRUBS AND PERENNIALS. REPLACEMENT RATIO: 6 SHRUBS MAY REPLACE 3 CALIPER INCHES OF TREES, OR 2 SHRUBS = 1CAL IN.

Shrub/Perennial Planting Bed Substitutions for Trees:

Total required trees required = 153.3 cal. in.
Max. 25% = 153.3 * .25 = 38 cal. in.

Total number of shrubs on site = 679
679 / 2 = 339 cal. in. (more than max allowed for replacement)

IN ADDITION TO THE SHRUBS PROPOSED ON SITE THE DESIGN IS ALSO PROPOSING PERENNIALS THAT WILL COVER APPROXIMATELY 5,328 SF.

PLANTING BEDS AND/OR DECORATIVE PLANTING CONTAINERS MAY REPLACE UP TO TWENTY-FIVE PERCENT (25%) OF THE REQUIRED CALIPER INCHES FOR TREES AT A RATE OF THREE (3) CALIPER INCHES OF TREES PER FIVE HUNDRED (500) SQUARE FEET OF CUMULATIVE PLANTING BEDS AND/OR DECORATIVE PLANTING CONTAINERS.

- Total Perennial Planting Beds 5,328 SF
- 5,328 SF / 500 SF*3 CAL. IN. = 32 cal. in.
- Total Shrub/Perennial Planting Beds = 371 cal. in. (38 cal. in. max credit)

Landscape Requirements Per Lot

LOT 1	TREE REPLACEMENT REQUIREMENT	359.0 CAL. IN.
	PROPOSED LANDSCAPE REQUIREMENT	125.0 CAL. IN.
	TOTAL REQUIRED	484.0 CAL. IN.
	PROVIDED	485.0 CAL. IN.
LOT 2	TREE REPLACEMENT REQUIREMENT	84.0 CAL. IN.
	PROPOSED LANDSCAPE REQUIREMENT	16.0 CAL. IN.
	TOTAL REQUIRED	100.0 CAL. IN.
	PROVIDED	101.0 CAL. IN.
LOT 3	TREE REPLACEMENT REQUIREMENT	49.0 CAL. IN.
	PROPOSED LANDSCAPE REQUIREMENT	13.0 CAL. IN.
	TOTAL REQUIRED	62.0 CAL. IN.
	PROVIDED	62.0 CAL. IN.
TOTAL TREE REPLACEMENT REQUIRED		492.0 CAL. IN.
TOTAL PROPOSED LANDSCAPE REQUIREMENT		154.0 CAL. IN.
TOTAL LANDSCAPE REQUIREMENTS		646.0 CAL. IN.
TOTAL LANDSCAPE PROVIDED		648.0 CAL. IN.

Landscape Proposed

TOTAL TREE CAL. IN. PROPOSED	608.0 CAL. IN.
TOTAL SHRUBS CAL. IN. PROPOSED	38.0 CAL. IN.

Landscape Legend

- OVERSTORY DECIDUOUS TREE
- EXISTING TREE TO REMAIN
- ORNAMENTAL TREES
- CONIFEROUS TREES
- SHRUBS / VINES
- PERENNIALS
- EDGER
- SOD LIMITS
- SEED/SOD EDGE
- RAIN GARDEN
- 2.72' — LANDSCAPE ISLAND NOT 5' WIDE

Westwood

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Revisions:
07/28/21 – Watershed Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Date: 07/28/21 License No.:

Prepared for:

Oppidan

600 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Overall Landscape Plan

Date: 07/09/21
Sheet: L100 19

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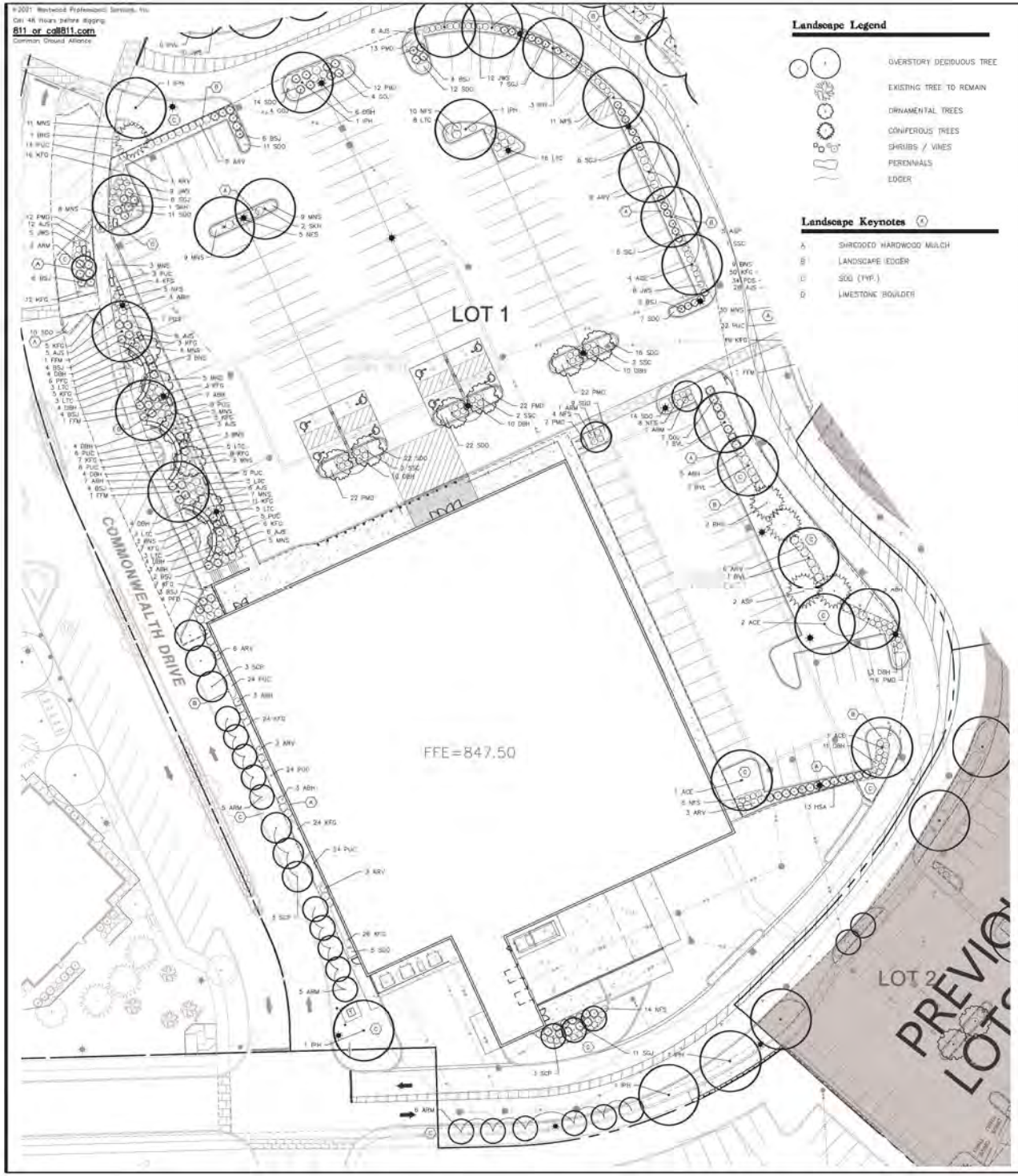

Landscape Legend

- OVERSTORY DECIDUOUS TREE
- EXISTING TREE TO REMAIN
- ORNAMENTAL TREES
- CONIFEROUS TREES
- SHRUBS / VINES
- PERENNIALS
- EDGER

Landscape Keynotes

A	SHREDDED HARDWOOD MULCH
B	LANDSCAPE EDGER
C	SOD (TYP.)
D	LIMESTONE BOULDER

Tree Schedule - Lot 1 South and North

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
OVERSTORY	76			
FFN	7	FALL FIESTA MAPLE / ACER SACCHARUM 'BAILSTA'	5.0" BB	AS SHOWN
ARM	21	ARMSTRONG RED MAPLE / ACER RUBRUM 'ARMSTRONG'	4.0" BB	AS SHOWN
SCP	14	SWEDISH COLUMNAR ASPEN / POPULUS TREMULA 'ERECTA'	5.0" BB	AS SHOWN
NHE	6	NEW HORIZON ELM / ULMUS X 'NEW HORIZON'	5.0" BB	AS SHOWN
ACE	8	ACCOLADE ELM / ULMUS 'MORTON'	5.0" BB	AS SHOWN
BVL	3	BOULEVARD LINDEN / TILIA AMERICANA 'BOULEVARD'	4.0" BB	AS SHOWN
SKH	8	SKYLINE HONEYLOCUST / GLEDITSIA TRIACANTHOS VAR. INERMIS 'SKYCOLE'	5.0" BB	AS SHOWN
IPH	9	IMPERIAL HONEYLOCUST / GLEDITSIA TRIACANTHOS VAR. INERMIS 'IMPCOLE'	5.0" BB	AS SHOWN
ORNAMENTAL	17			
PPC	10	PRAIRIE FIRE CRAB / MALUS 'PRAIRIEFIRE'	2.5" BB	AS SHOWN
SSC	7	SPRING SNOW CRAB / MALUS 'SPRING SNOW'	2.5" BB	AS SHOWN
CONIFER	17			
ASP	10	AUSTRIAN PINE / PINUS NIGRA	8.0' HT., BB	AS SHOWN
BHS	7	BLACK HILLS SPRUCE / PICEA GLAUCA DENSATA	8.0' HT., BB	AS SHOWN

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

Shrub & Perennial Plant Schedule - Lot 1 South and North

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
DECIDUOUS	308			
PRD	14	PRAIRIE FIRE DOGWOOD / CORNUS ALBA 'AUREA'	#5 CONT.	5'-0" O.C.
DBH	66	DWARF BUSH HONEYSUCKLE / DIERVILLA LONICERA	#5 CONT.	3'-0" O.C.
ABH	34	ANNABELLE HYDRANGEA / HYDRANGEA ARBORESCENS 'ANNABELLE'	#5 CONT.	4'-0" O.C.
JWS	42	JAPANESE WHITE SPIREA / SPIREA ALBIFLORA	#5 CONT.	3'-0" O.C.
LDN	21	LITTLE DEVIL NINEBARK / PHYSOCARPUS OPULIFOLIUS 'DONNA MAY' (PP22,634)	#5 CONT.	4'-0" O.C.
NFS	74	NEON FLASH SPIREA / SPIREA JAPONICA 'NEON FLASH'	#5 CONT.	3'-0" O.C.
ARV	57	ARROWWOOD VIBURNUM / VIBURNUM DENTATUM	#5 CONT.	5'-0" O.C.
CONIFER	133			
BSJ	58	BLUE STAR JUNIPER / JUNIPERUS SQUAMATA 'BLUE STAR'	#5 CONT.	4'-0" O.C.
BNS	31	BIRD'S NEST SPRUCE / PICEA ABIES 'NIDIFORMIS'	#5 CONT.	4'-0" O.C.
SGJ	36	SEA GREEN JUNIPER / JUNIPERUS CHINENSIS 'SEA GREEN'	#5 CONT.	5'-0" O.C.
HSA	12	HOLMSTRUP ARBORVITAE / THUJA OCCIDENTALIS 'HOLMSTRUP'	#5 CONT.	4'-0" O.C.
GDJ	15	GREY OWL JUNIPER / JUNIPERUS VIRGINIANA 'GREY OWL'	#5 CONT.	4'-0" O.C.
PERENNIAL	1051			
PMD	130	PARDON ME DAYLILY / HEMEROCALLIS 'PARDON ME'	#1 CONT.	18" O.C.
SDO	153	STELLA DE ORO DAYLILY / HEMEROCALLIS 'STELLA DE ORO'	#1 CONT.	18" O.C.
PUC	148	PURPLE CONEFLOWER / ECHINACEA PURPUREA 'MAGNA'	#1 CONT.	18" O.C.
KFG	255	KARL FOERSTER GRASS / CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER'	#1 CONT.	18" O.C.
LTC	51	LITTLE TRUDY CATMINT / NEPETA X 'PSFINE'	#1 CONT.	18" O.C.
MNS	125	MAY NIGHT SALVIA / SALVIA X NEMOROSA 'MAY NIGHT'	#1 CONT.	18" O.C.
PDS	83	PRAIRIE DROPSEED GRASS / SPOROBOLUS HETEROLEPIS	#1 CONT.	18" O.C.
AJS	106	AUTUMN JOY SEDUM / SEDUM X 'AUTUMN JOY'	#1 CONT.	18" O.C.

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

Landscape Requirements Per Lot (North and South)

LOT 1	TREE REPLACEMENT REQUIREMENT	359.0 CAL IN.
	PROPOSED LANDSCAPE REQUIREMENT	125.0 CAL IN.
	TOTAL	484.0 CAL IN.
	PROVIDED	485.0 CAL IN.
	TREE	454.0 CAL IN.
	SHRUB (25% MAX OF TOTAL 125 / 2 = 31 MAX)	31.0 CAL IN.

Westwood

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Revisions:
07/28/21 – Watershed Resubmittal

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Date: 07/28/21 License No.

Prepared for:

Oppidan

600 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Lot 1 South Landscape Plan

Date: 07/09/21
Sheet: L200 19

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Landscape Legend

- OVERSTORY DECIDUOUS TREE
- EXISTING TREE TO REMAIN
- ORNAMENTAL TREES
- CONIFEROUS TREES
- SHRUBS / VINES
- PERENNIALS
- EDGER

Landscape Keynotes

A	SHREDDED HARDWOOD MULCH
B	LANDSCAPE EDGER
C	SOD (TYP.)

Tree Schedule - Lot 1 See South Plan for Quantities

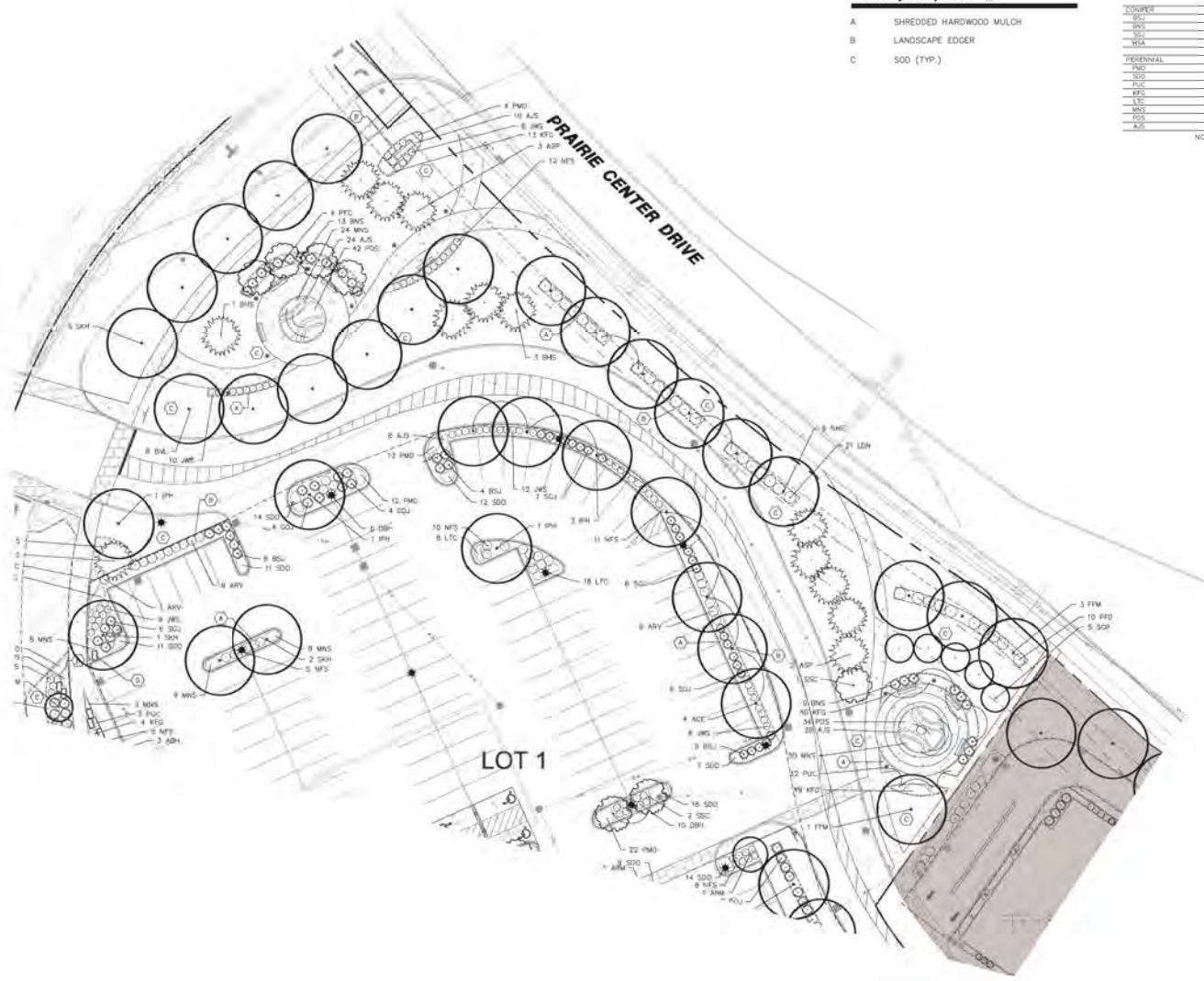
CODE	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
OVERSTORY			
FFM	FALL FIESTA MAPLE / ACER SACCHARUM 'GAILSTA'	3.0" BB	AS SHOWN
ARM	ARMSTRONG RED MAPLE / ACER RUBRUM 'ARMSTRONG'	3.0" BB	AS SHOWN
SOP	SWEDISH COLUMNAR ASPEN / POPULUS TREMULA 'ERECTA'	3.0" BB	AS SHOWN
NHE	NEW HORIZON ELM / ULMUS X 'NEW HORIZON'	3.0" BB	AS SHOWN
ACE	ACCOLADE ELM / ULMUS 'MORTON'	3.0" BB	AS SHOWN
BVL	BOULEVARD LINDEN / TILIA AMERICANA 'BOULEVARD'	3.0" BB	AS SHOWN
SKH	SKYLINE HONEYLOCUST / GLEDITSIA TRIACANTHOS VAR. INERMIS 'SKYCOLE'	3.0" BB	AS SHOWN
IPH	IMPERIAL HONEYLOCUST / GLEDITSIA TRIACANTHOS VAR. INERMIS 'IMPCOLE'	3.0" BB	AS SHOWN
ORNAMENTAL			
PFD	PRAIRIE FIRE CRAB / MALUS 'PRAIRIEFIRE'	2.5" BB	AS SHOWN
SSC	SPRING SNOW CRAB / MALUS 'SPRING SNOW'	2.5" BB	AS SHOWN
CONIFER			
ASP	AUSTRIAN PINE / PINUS NIGRA	8.0' HT. BB	AS SHOWN
BHS	BLACK HILLS SPRUCE / PICEA GLAUCA DENSATA	8.0' HT. BB	AS SHOWN

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

Shrub & Perennial Plant Schedule - Lot 1 See South Plan for Quantities

CODE	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
DECIDUOUS			
PFD	PRAIRIE FIRE DOGWOOD / CORNUS ALBA 'AUREA'	#5 CONT.	5'-0" O.C.
DSH	DWARF BUSH HONEYSUCKLE / DIERVILLA LONICERA	#5 CONT.	3'-0" O.C.
ABM	ANNABELLE HYDRANGEA / HYDRANGEA ARBORESCENS 'ANNABELLE'	#5 CONT.	4'-0" O.C.
JWS	JAPANESE WHITE SPIREA / SPIREA ALBIFLORA	#5 CONT.	3'-0" O.C.
LDN	LITTLE DEVIL NINEBARK / PHYSOCARPUS OPULIFOLIUS 'DONNA MAY' (PP22,634)	#5 CONT.	4'-0" O.C.
NFS	NEON FLASH SPIREA / SPIREA JAPONICA 'NEON FLASH'	#5 CONT.	3'-0" O.C.
ARV	ARROWWOOD VIBURNUM / VIBURNUM DENTATUM	#5 CONT.	5'-0" O.C.
CONIFER			
BSJ	BLUE STAR JUNIPER / JUNIPERUS SQUAMATA 'BLUE STAR'	#5 CONT.	4'-0" O.C.
BNS	BIRD'S NEST SPRUCE / PICEA ABIES 'NIDIFORMIS'	#5 CONT.	4'-0" O.C.
SDJ	SEA GREEN JUNIPER / JUNIPERUS CHINENSIS 'SEA GREEN'	#5 CONT.	4'-0" O.C.
HUA	ROUNDTRUP ARBORVITAE / THUJA OCCIDENTALIS 'ROUNDTRUP'	#5 CONT.	5'-0" O.C.
PERENNIAL			
PMD	PARDON ME DAYLILY / HEMEROCALLIS 'PARDON ME'	#1 CONT.	18" O.C.
SDD	STELLA DE ORO DAYLILY / HEMEROCALLIS 'STELLA DE ORO'	#1 CONT.	18" O.C.
PUC	PURPLE CONEFLOWER / ECHINACEA PURPUREA 'MAGNA'	#1 CONT.	18" O.C.
KFG	KARL FOERSTER GRASS / CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER'	#1 CONT.	18" O.C.
LTC	LITTLE TRUDY CATMINT / NEPETA X 'PSFINE'	#1 CONT.	18" O.C.
MNS	MAY NIGHT SALVIA / SALVIA X NEMOROSA 'MAY NIGHT'	#1 CONT.	18" O.C.
PDS	PRAIRIE DROPSEED GRASS / SPOROBOLUS HETEROLEPIS	#1 CONT.	18" O.C.
AJS	AUTUMN JOY SEDUM / SEDUM X 'AUTUMN JOY'	#1 CONT.	18" O.C.

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.



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Revisions:
07/28/21 – Watershed Resubmittal

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Date: 07/28/21 License No.

Prepared for:

Oppidan

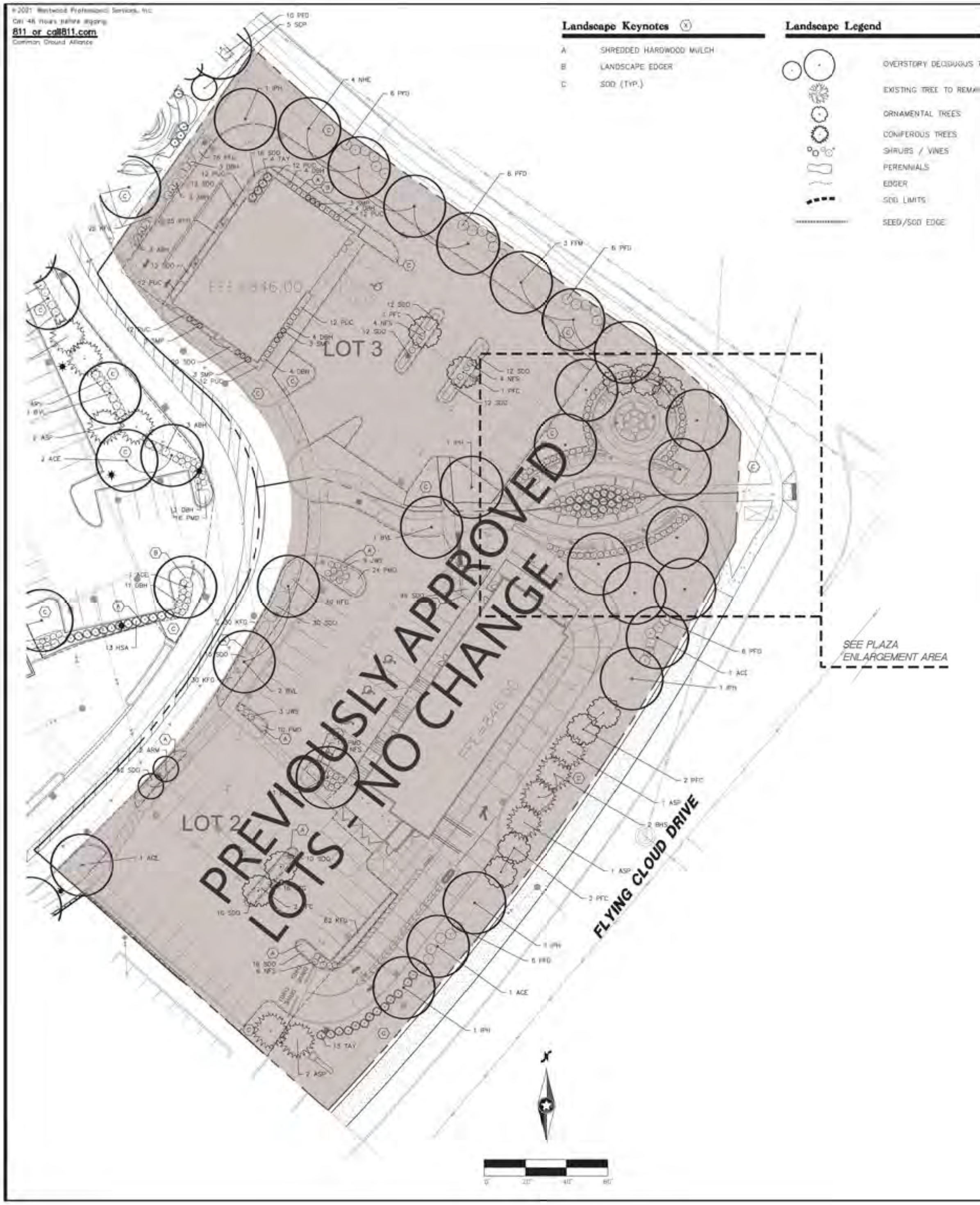
600 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Lot 1 North
Landscape Area

Date: 07/09/21
Sheet: L300 19



Landscape Keynotes

A	SHREDDED HARDWOOD MULCH
B	LANDSCAPE EDGER
C	SOD (TYP.)

Landscape Legend

- OVERSTORY DECIDUOUS TREE
- EXISTING TREE TO REMAIN
- ORNAMENTAL TREES
- CONIFEROUS TREES
- SHRUBS / VINES
- PERENNIALS
- EDGER
- SOD LIMITS
- SEED/SOD EDGE

Tree Schedule - Lot 3 (Excludes Enlargement Area)

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
OVERSTORY	[illegible]			
FFM	3	FALL FIESTA MAPLE / ACER SACCHARUM 'BAILSTA'	3.5" BB	AS SHOWN
NHE	4	NEW HORIZON ELM / ULMUS 'NEW HORIZON'	3.5" BB	AS SHOWN
IPM	2	IMPERIAL HONEYLOCUST / GLEDITSIA TRIACANTHOS VAR. INERMIS 'IMPCOLE'	4" BB	AS SHOWN
ORNAMENTAL	2			
PFC	2	PRAIRIE FIRE CRAB / MALUS 'PRAIRIEFIRE'	2.5" BB	AS SHOWN

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

Shrub & Perennial Plant Schedule - Lot 3 (Excludes Enlargement Area)

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
DECIDUOUS	[illegible]			
PFD	18	PRAIRIE FIRE DOGWOOD / CORNUS ALBA 'AUREA'	#5 CONT.	5'-0" O.C.
DBH	22	DWARF BUSH HONEYSUCKLE / DIERVILLA LONICERA	#5 CONT.	3'-0" O.C.
NFS	[illegible]	NEON FLASH SPIREA / SPIREA 'NEON FLASH'	#5 CONT.	3'-0" O.C.
ABH	[illegible]	ANNABELLE HYDRANGEA / HYDRANGEA ARBORESCENS 'ANNABELLE'	#5 CONT.	3'-0" O.C.
CONIFEROUS	16			
SMP	12	SLOWMOUND MUGO PINE / PINUS MUGO 'SLOWMOUND'	#5 CONT.	3'-0" O.C.
TAY	4	TAUNTON YEW / TAXUS MEDII 'TAUNTON'	#5 CONT.	4'-0" O.C.
PERENNIAL	[illegible]	NEON FLASH SPIREA / SPIREA 'NEON FLASH'	#5 CONT.	3'-0" O.C.
SDO	100	STELLA DE ORO DAYLILY / HEMEROCALLIS 'STELLA DE ORO'	#1 CONT.	18" O.C.
PUC	84	PURPLE CONEFLOWER / ECHINACEA PURPUREA 'MAGNA'	#1 CONT.	18" O.C.
KFG	[illegible]	KARL FOERSTER GRASS / CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	#1 CONT.	18" O.C.

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.
SEE LOT 2 & 3 LANDSCAPE ENLARGEMENT FOR ENLARGEMENT QUANTITIES

Landscape Requirements Per Lot

LOT 3	TREE REPLACEMENT REQUIREMENT	49.0 CAL. IN.
	PROPOSED LANDSCAPE REQUIREMENT	13.0 CAL. IN.
	TOTAL	62.0 CAL. IN.
	PROVIDED	62.0 CAL. IN.
	TREE	59.0 CAL. IN.
	SHRUB	5.0 CAL. IN.

Tree Schedule - Lot 2 (Excludes Enlargement Area)

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
OVERSTORY	12			
ARM	2	ARMSTRONG RED MAPLE / ACER RUBRUM 'ARMSTRONG'	3.0" BB	AS SHOWN
ACE	3	ACCOLADE ELM / ULMUS 'MORTON'	4.0" BB	AS SHOWN
BVL	4	BOULEVARD LINDEN / TILIA AMERICANA 'BOULEVARD'	4.0" BB	AS SHOWN
IPM	3	IMPERIAL HONEYLOCUST / GLEDITSIA TRIACANTHOS VAR. INERMIS 'IMPCOLE'	4.0" BB	AS SHOWN
ORNAMENTAL	6			
PFC	6	PRAIRIE FIRE CRAB / MALUS 'PRAIRIEFIRE'	2.5" BB	AS SHOWN
CONIFER	6			
BHS	2	BLACK HILLS SPRUCE / PICEA GLAUCA DENSATA	8.0' HT. BB	AS SHOWN
ASP	4	AUSTRIAN PINE / PINUS NIGRA	8.0' HT. BB	AS SHOWN

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

Shrub & Perennial Plant Schedule - Lot 2 (Excludes Enlargement Area)

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
DECIDUOUS	33			
PFD	12	PRAIRIE FIRE DOGWOOD / CORNUS ALBA 'AUREA'	#5 CONT.	5'-0" O.C.
NFS	15	NEON FLASH SPIREA / SPIREA 'NEON FLASH'	#5 CONT.	3'-0" O.C.
JWS	6	JAPANESE WHITE SPIREA / SPIREA ALBIFLORA	#5 CONT.	3'-0" O.C.
CONIFER	12			
TAY	12	TAUNTON YEW / TAXUS MEDII 'TAUNTON'	#5 CONT.	4'-0" O.C.
PERENNIAL	360			
PMD	48	PARDON ME DAYLILY / HEMEROCALLIS 'PARDON ME'	#1 CONT.	18" O.C.
SDO	126	STELLA DE ORO DAYLILY / HEMEROCALLIS 'STELLA DE ORO'	#1 CONT.	18" O.C.
KFG	158	KARL FOERSTER GRASS / CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	#1 CONT.	18" O.C.

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.
SEE LOT 2 & 3 LANDSCAPE ENLARGEMENT FOR ENLARGEMENT QUANTITIES

Landscape Requirements Per Lot

LOT 2	TREE REPLACEMENT REQUIREMENT	84.0 CAL. IN.
	PROPOSED LANDSCAPE REQUIREMENT	16.0 CAL. IN.
	TOTAL	100.0 CAL. IN.
	PROVIDED	101.0 CAL. IN.
	TREE	97.0 CAL. IN.
	SHRUB	4.0 CAL. IN.

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Revisions:
07/28/21 – Watershed Resubmittal

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Date: 07/28/21 License No.

Prepared for:

Oppidan

400 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Lot 2 & 3 Landscape Plan

Date: 07/09/21
Sheet: L400 19

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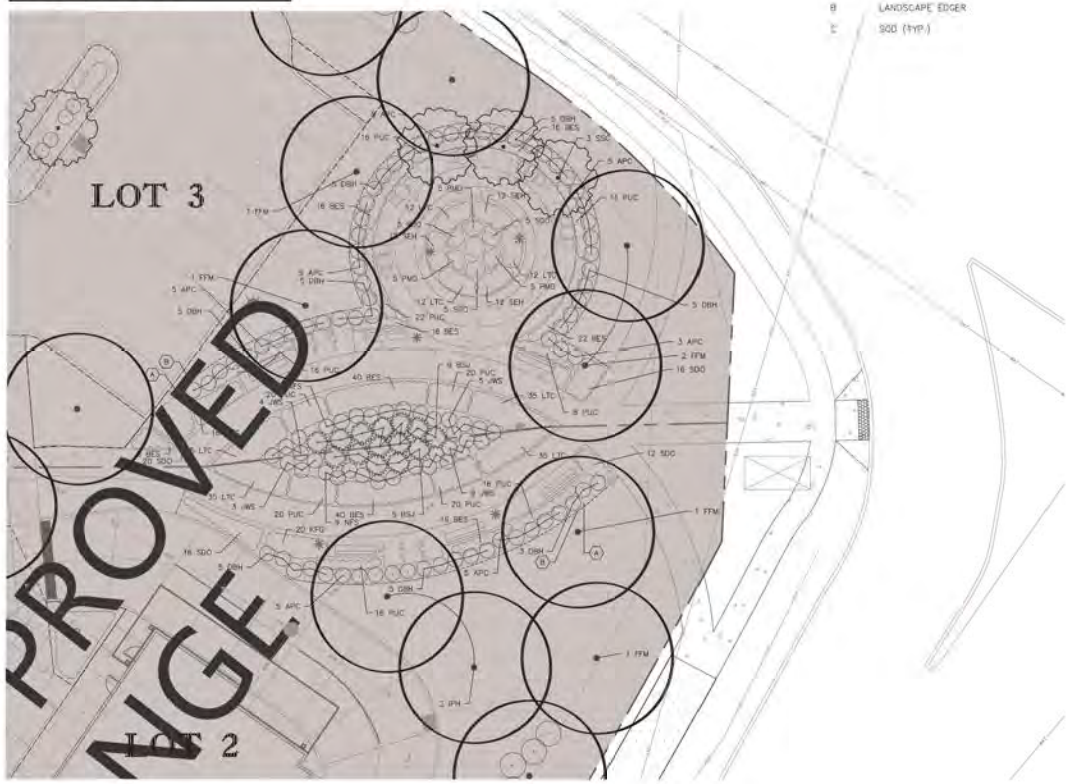
Landscape Legend

- OVERSTORY DECIDUOUS TREE
- EXISTING TREE TO REMAIN
- ORNAMENTAL TREES
- CONIFEROUS TREES
- SHRUBS / VINES
- PERENNIALS
- EDGER
- SOD LIMITS
- SEED/SOD EDGE

Landscape Keynotes

- A SHREDDED HARDWOOD MULCH
- B LANDSCAPE EDGER
- C SOD (TYP.)

Plaza - Enlargement Area



Tree Schedule - Lot 3 (Enlargement Area)

Lot 3

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
OVERSTORY	4			
FFM	4	FALL FIESTA MAPLE / ACER SACCHARUM 'BAILSTA'	2.5" Cal.	As Shown
ORNAMENTAL	3			
SSC	3	SPRING SNOW CRAB / MALUS 'SPRING SNOW'	6' Ht.	As Shown

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

Shrub & Perennial Plant Schedule - Lot 3 (Enlargement Area)

Lot 3

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
DECIDUOUS	65			
APC	23	ALPINE CURRANT / RIBES ALPINUM	#5 CONT.	3'-0" O.C.
DBH	25	DWARF BUSH HONEYSUCKLE / DIERVILLA LONICERA	#3 CONT	3'-0" O.C.
NFS	8	NEON FLASH SPIREA / SPIREA 'NEON FLASH'	#5 CONT	3'-0" O.C.
JWS	9	JAPANESE WHITE SPIREA / SPIREA ALBIFLORA	#3 CONT	3'-0" O.C.
CONIFER	9			
BSJ	9	BLUE STAR JUNIPER / JUNIPERUS SQUAMATA 'BLUE STAR'	#5 CONT	4'-0" O.C.
PERENNIAL	444			
PMD	15	PARDON ME DAYLILY / HEMEROCALLIS 'PARDON ME'	#1 CONT	15" O.C.
SDO	51	STELLA DE ORO DAYLILY / HEMEROCALLIS 'STELLA DE ORO'	#1 CONT	18" O.C.
BES	110	BLACK EYED SUSAN / RUDBECKIA HIRTA	#1 CONT	18" O.C.
PUC	110	PURPLE CONEFLOWER / ECHINACEA PURPUREA 'MAGNA'	#1 CONT	18" O.C.
LTC	108	LITTLE TRUDY CATMINT / NEPETA X 'PSFIKE'	#1 CONT	18" O.C.
KFG	16	KARL FOERSTER GRASS / CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	#1 CONT	18" O.C.
SEH	36	SOLAR ECLIPSE HELICHERELLA / HELICHERELLA 'SOLAR ECLIPSE'	#1 CONT	15" O.C.

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

Tree Schedule - Lot 2 (Enlargement Area)

Lot 2

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
OVERSTORY	4			
FFM	2	FALL FIESTA MAPLE / ACER SACCHARUM 'BAILSTA'	2.5" Cal.	As Shown
IPH	2	IMPERIAL HONEYLOCUST / GLEDITSIA TRIACANTHOS VAR. INERMIS 'IMPERIAL'	2.5" Cal.	As Shown

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

Shrub & Perennial Plant Schedule - Lot 2 (Enlargement Area)

Lot 2

CODE	QTY.	COMMON/BOTANICAL NAME	SIZE	SPACING O.C.
DECIDUOUS	44			
APC	10	ALPINE CURRANT / RIBES ALPINUM	#5 CONT	3'-0" O.C.
DBH	13	DWARF BUSH HONEYSUCKLE / DIERVILLA LONICERA	#3 CONT	3'-0" O.C.
NFS	9	NEON FLASH SPIREA / SPIREA 'NEON FLASH'	#5 CONT	3'-0" O.C.
JWS	12	JAPANESE WHITE SPIREA / SPIREA ALBIFLORA	#3 CONT	3'-0" O.C.
CONIFER	5			
BSJ	5	BLUE STAR JUNIPER / JUNIPERUS SQUAMATA 'BLUE STAR'	#5 CONT	4'-0" O.C.
PERENNIAL	268			
SDO	98	STELLA DE ORO DAYLILY / HEMEROCALLIS 'STELLA DE ORO'	#1 CONT	18" O.C.
BES	36	BLACK EYED SUSAN / RUDBECKIA HIRTA	#1 CONT	18" O.C.
PUC	70	PURPLE CONEFLOWER / ECHINACEA PURPUREA 'MAGNA'	#1 CONT	18" O.C.
LTC	70	LITTLE TRUDY CATMINT / NEPETA X 'PSFIKE'	#1 CONT	18" O.C.
KFG	20	KARL FOERSTER GRASS / CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	#1 CONT	18" O.C.

NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

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Date: 07/28/21 License No.

Prepared for:

Oppidan

600 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Lot 2 & 3 Enlargement Area

Date: 07/09/21
Sheet: L500 19

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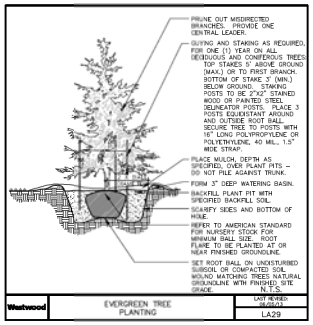
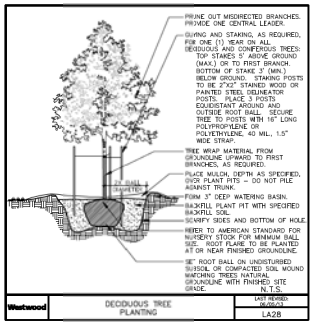
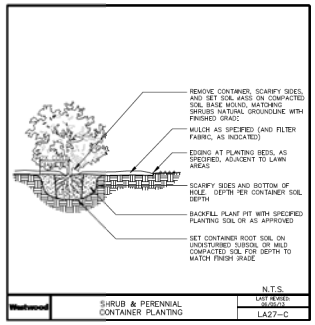
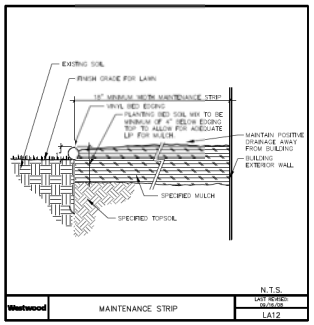
Planting Notes

1. CONTRACTOR SHALL CONTACT COMMON GROUND ALLIANCE AT 811 OR CALL811.COM TO VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY PLANTS OR LANDSCAPE MATERIAL.
2. ACTUAL LOCATION OF PLANT MATERIAL IS SUBJECT TO FIELD AND SITE CONDITIONS.
3. NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
4. ALL SUBSTITUTIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO SUBMISSION OF ANY BID AND/OR QUOTE BY THE LANDSCAPE CONTRACTOR.
5. CONTRACTOR SHALL PROVIDE TWO YEAR GUARANTEE OF ALL PLANT MATERIALS. THE GUARANTEE BEGINS ON THE DATE OF THE LANDSCAPE ARCHITECT'S OR OWNER'S WRITTEN ACCEPTANCE OF THE INITIAL PLANTING. REPLACEMENT PLANT MATERIAL SHALL HAVE A ONE YEAR GUARANTEE COMMENCING UPON PLANTING.
6. ALL PLANTS TO BE SPECIMEN GRADE, MINNESOTA-GROWN AND/OR HARDY. SPECIMEN GRADE SHALL ADHERE TO, BUT IS NOT LIMITED FY, THE FOLLOWING STANDARDS:
   ALL PLANTS SHALL BE FREE FROM DISEASE, PESTS, WOUNDS, SCARS, ETC.
   ALL PLANTS SHALL BE FREE FROM NOTICEABLE GAPS, HOLES, OR DEFORMITIES.
   ALL PLANTS SHALL BE FREE FROM BROKEN OR DEAD BRANCHES.
   ALL PLANTS SHALL HAVE HEAVY, HEALTHY BRANCHING AND LEAFING.
   CONIFEROUS TREES SHALL HAVE AN ESTABLISHED MAIN LEADER AND A HEIGHT TO WIDTH RATIO OF NO LESS THAN 5:3.
7. PLANTS TO MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1–2014 OR MOST CURRENT VERSION) REQUIREMENTS FOR SIZE AND TYPE SPECIFIED.
8. PLANTS TO BE INSTALLED AS PER MNLA & ANSI STANDARD PLANTING PRACTICES.
9. PLANTS SHALL BE IMMEDIATELY PLANTED UPON ARRIVAL AT SITE. PROPERLY HEEL-IN MATERIALS IF NECESSARY; TEMPORARY ONLY.
10. PRIOR TO PLANTING, FIELD VERIFY THAT THE ROOT COLLAR/ROOT FLAIR IS LOCATED AT THE TOP OF THE BALLED & BURLAP TREE. IF THIS IS NOT THE CASE, SOIL SHALL BE REMOVED DOWN TO THE ROOT COLLAR/ROOT FLAIR. WHEN THE BALLED & BURLAP TREE IS PLANTED, THE ROOT COLLAR/ROOT FLAIR SHALL BE EVEN OR SLIGHTLY ABOVE FINISHED GRADE.
11. OPEN TOP OF BURLAP ON BB MATERIALS; REMOVE POT ON POTTED PLANTS; SPLIT AND BREAK APART PEAT POTS.
12. PRUNE PLANTS AS NECESSARY – PER STANDARD NURSERY PRACTICE AND TO CORRECT POOR BRANCHING OF EXISTING AND PROPOSED TREES.
13. WRAP ALL SMOOTH-BARKED TREES – FASTEN TOP AND BOTTOM. REMOVE BY APRIL 1ST.
14. STAKING OF TREES AS REQUIRED; REPOSITION, PLUMB AND STAKE IF NOT PLUMB AFTER ONE YEAR.
15. THE NEED FOR SOIL AMENDMENTS SHALL BE DETERMINED UPON SITE SOIL CONDITIONS PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT FOR THE NEED OF ANY SOIL AMENDMENTS.
16. BACKFILL SOIL AND TOPSOIL TO ADHERE TO MN/DOT STANDARD SPECIFICATION 3877 (SELECT TOPSOIL BORROW) AND TO BE EXISTING TOP SOIL FROM SITE FREE OF ROOTS, ROCKS LARGER THAN ONE INCH, SUBSOIL DEBRIS, AND LARGE WEEDS UNLESS SPECIFIED OTHERWISE. MINIMUM 4" DEPTH TOPSOIL FOR ALL LAWN GRASS AREAS AND 12" DEPTH TOPSOIL FOR TREE, SHRUBS, AND PERENNIALS.
17. MULCH TO BE AT ALL TREE, SHRUB, PERENNIAL, AND MAINTENANCE AREAS. TREE AND SHRUB PLANTING BEDS SHALL HAVE 4" DEPTH OF SHREDDED HARDWOOD MULCH. SHREDDED HARDWOOD MULCH TO BE USED AROUND ALL PLANTS WITHIN TURF AREAS. PERENNIAL AND ORNAMENTAL GRASS BEDS SHALL HAVE 2" DEPTH SHREDDED HARDWOOD MULCH. MULCH TO BE FREE OF DELETERIOUS MATERIAL. ROCK MULCH TO BE BUFF LIMESTONE, 1 1/2" TO 3" DIAMETER, AT MINIMUM 3" DEPTH, OR APPROVED EQUAL. ROCK MULCH TO BE ON COMMERCIAL GRADE FILTER FABRIC, BY TYPAR, OR APPROVED EQUAL WITH NO EXPOSURE. MULCH AND FABRIC TO BE APPROVED BY OWNER PRIOR TO INSTALLATION. MULCH TO MATCH EXISTING CONDITIONS (WHERE APPLICABLE).
18. EDGING TO BE COMMERCIAL GRADE VALLEY-VIEW BLACK DIAMOND (OR EQUAL) POLY EDGING OR SPADED EDGE, AS INDICATED. POLY EDGING SHALL BE PLACED WITH SMOOTH CURVES AND STAKED WITH METAL SPIKES NO GREATER THAN 4 FOOT ON CENTER WITH BASE OF TOP BEAD AT GRADE, FOR MOWERS TO CUT ABOVE WITHOUT DAMAGE. UTILIZE CURBS AND SIDEWALKS FOR EDGING WHERE POSSIBLE. SPADED EDGE TO PROVIDE V-SHAPED DEPTH AND WIDTH TO CREATE SEPARATION BETWEEN MULCH AND GRASS. INDIVIDUAL TREE, SHRUB, OR RAIN-GARDEN BEDS TO BE SPADED EDGE, UNLESS NOTED OTHERWISE. EDGING TO MATCH EXISTING CONDITIONS (WHERE APPLICABLE).
19. ALL DISTURBED AREAS TO BE SODDED OR SEEDED, UNLESS OTHERWISE NOTED. PARKING LOT ISLANDS TO BE SODDED WITH SHREDDED HARDWOOD MULCH AROUND ALL TREES AND SHRUBS. SOD TO BE STANDARD MINNESOTA GROWN AND HARDY BLUEGRASS MIX, FREE OF LAWN WEEDS. ALL TOPSOIL AREAS TO BE RAKED TO REMOVE DEBRIS AND ENSURE DRAINAGE. SLOPES OF 3:1 OR GREATER SHALL BE STAKED. SEED AS SPECIFIED AND PER MN/DOT SPECIFICATIONS. IF NOT INDICATED ON LANDSCAPE PLAN, SEE EROSION CONTROL PLAN.
20. PROVIDE IRRIGATION TO ALL PLANTED AREAS ON SITE. IRRIGATION SYSTEM TO BE DESIGN/BUILD BY LANDSCAPE CONTRACTOR. LANDSCAPE CONTRACTOR TO PROVIDE SHOP DRAWINGS TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF IRRIGATION SYSTEM. CONTRACTOR TO PROVIDE OPERATION MANUALS, AS-BUILT PLANS, AND NORMAL PROGRAMMING. SYSTEM SHALL BE WINTERIZED AND HAVE SPRING STARTUP DURING FIRST YEAR OF OPERATION. SYSTEM SHALL HAVE ONE-YEAR WARRANTY ON ALL PARTS AND LABOR. ALL INFORMATION ABOUT INSTALLATION AND SCHEDULING CAN BE OBTAINED FROM THE GENERAL CONTRACTOR.
21. CONTRACTOR SHALL PROVIDE NECESSARY WATERING OF PLANT MATERIALS UNTIL THE PLANT IS FULLY ESTABLISHED OR IRRIGATION SYSTEM IS OPERATIONAL. OWNER WILL NOT PROVIDE WATER FOR CONTRACTOR.
22. REPAIR, REPLACE, OR PROVIDE SOD/SEED AS REQUIRED FOR ANY ROADWAY BOULEVARD AREAS ADJACENT TO THE SITE DISTURBED DURING CONSTRUCTION.
23. REPAIR ALL DAMAGE TO PROPERTY FROM PLANTING OPERATIONS AT NO COST TO OWNER.









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Revisions
07/28/21 – Watershed Resubmittal

Date: 07/28/21 License No.

Prepared for:

Oppidan

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Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Landscape Details

Date: 07/09/21
Sheet L600 19

002149/LP_M.dwg

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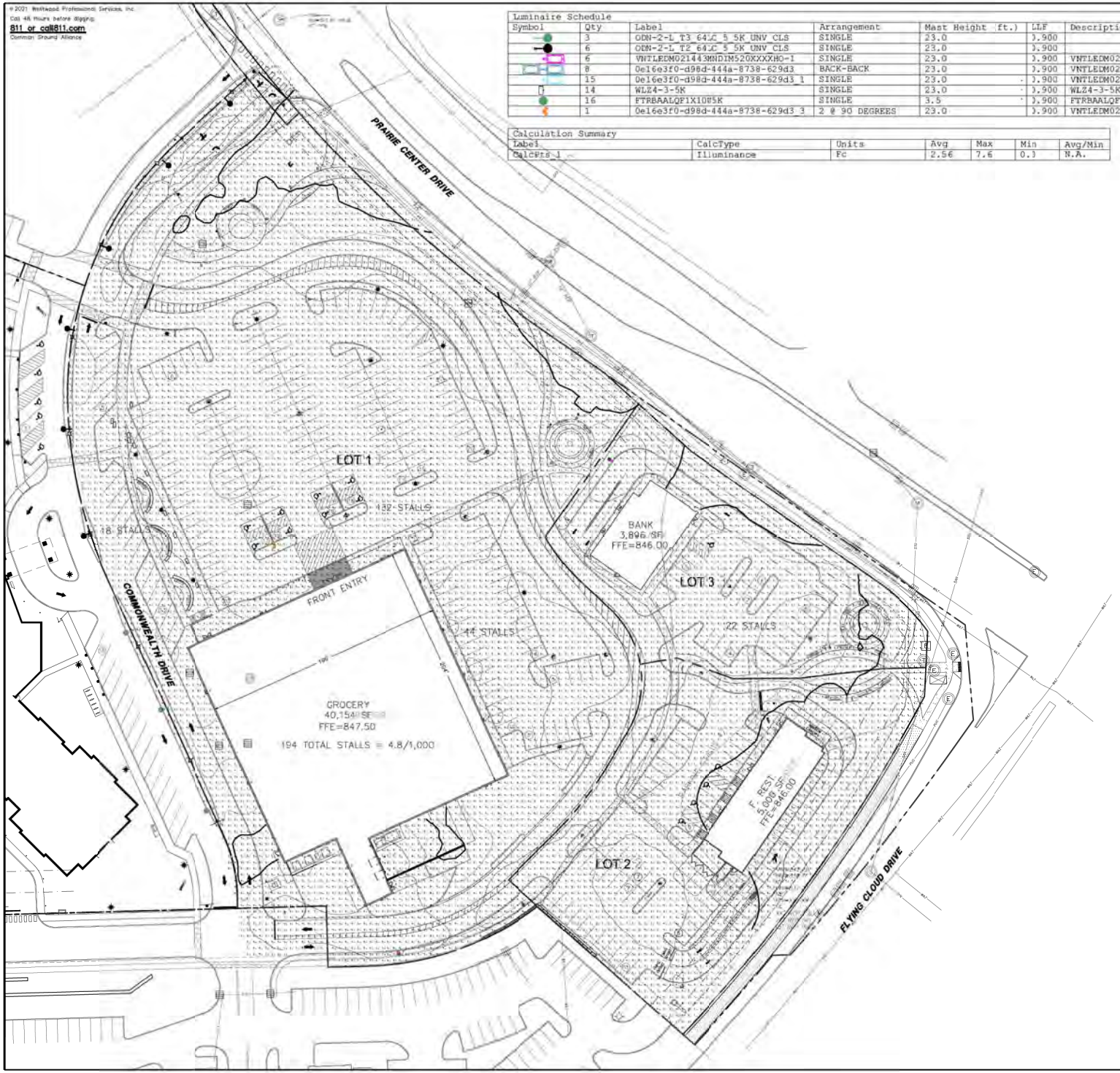
Luminaire Schedule								
Symbol	Qty	Label	Arrangement	Mast Height (ft.)	LLF	Description	Tag	Lum. Watts
	3	ODN-2-L T3 64LC 5 5K UNV CLS	SINGLE	23.0	0.900		B	105
	6	ODN-2-L T2 64LC 5 5K UNV CLS	SINGLE	23.0	0.900		C	105
	6	VNTLEDM021443MNDIM520XXXXHO-1	SINGLE	23.0	0.900	VNTLEDM021443MNDIM520XXXXHO	E	153.4
	8	0e16e3f0-d98d-444a-8738-629d3	BACK-BACK	23.0	0.900	VNTLEDM021445MNUIN510XXBZHO	I	159.2
	15	0e16e3f0-d98d-444a-8738-629d3_1	SINGLE	23.0	0.900	VNTLEDM021445MNUIN510XXBZHO	J	159.2
	14	WLZ4-3-5K	SINGLE	23.0	0.900	WLZ4-3-5K	K	40.9964
	16	FTRBAALQF1X10U5K	SINGLE	3.5	0.900	FTRBAALQF1X10U5K	F-4	11.3
	1	0e16e3f0-d98d-444a-8738-629d3_3	2 @ 90 DEGREES	23.0	0.900	VNTLEDM021445MNUIN510XXBZHO	J-1	159.2

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
CalcPts_1	Illuminance	Fc	2.56	7.6	0.3	N.A.



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Date: 07/28/21 License No.

Prepared for:

Oppidan

400 Water Street, Suite 200
Excelsior, MN 55331

Flying Cloud Commons

Eden Prairie, MN

Lighting Plan

Date: 07/09/21
Sheet E100

0021497LT_M.dwg

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512
www.rpbcwd.org

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2021-049

Considered at Board of Managers Meeting: September 1, 2021

Received complete: July 27, 2021

Applicant: Foxford Road Homeowners Association; Barry Wachter

Consultant: Natural Environments Corp, Paul Liesmaki

Project: Shoreline Stabilization – The applicant proposes maintenance of existing stabilization elements along about 300 feet of Lake Riley shoreline on homeowner association property at 9430 Foxford Road in Chanhassen.

Location: 9430 Foxford Road, Chanhassen, MN

Reviewer: Scott Sobiech, PE, Barr Engineering

Proposed Board Action

Manager _____ moved and Manager _____ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the September 1, 2021 meeting of the managers. Resolved that the application for Permit 2021-049 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval have been met, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2021-049 to the applicant on behalf of RPBCWD.

Upon vote, the resolutions were adopted, _____ [VOTE TALLY].

Rule Conformance Summary

Rule	Issue	Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management and Drainage Alterations**	Yes	
C	**Erosion Prevention and Sediment Control**	See Comment	See Rule Specific Permit Condition C1
F	**Shoreline and Streambank Stabilization**	Yes	
L	**Permit Fee**	See Comment	See Rule Specific Permit Condition L1
M	**Financial Assurance**	See Comment	The financial assurance is calculated at $35,728

Project Background

The project is located on the Foxford Road Homeowners Association property at 9430 Foxford Road in Chanhassen riparian to Lake Riley. The proposed project includes maintenance of existing shoreline stabilization elements shoreline by reinstalling riprap along 140 feet and naturalizing 120 feet of shoreline to stabilize the property shoreline along Lake Riley. The applicant also proposes to install 40 feet of sand blanket along the shoreline. It is the engineer's understanding that the applicant is working with RPBCWD staff on a stewardship grant for the proposed activities. The project site information is summarized below:

Description	Area
Total Site Area	1.54 acres
Length of Shoreline impacted	300 feet
New (Increase) in Site Impervious Area	0
Disturbed impervious surface	0
Total Disturbed Area	0.2 acres

Key exhibits received during the application review include, but not limit to, the following:

- Permit application received June 17, 2021; incomplete notice was sent on July 6, 2021; materials submitted to complete application on July 27, 2021
- Construction drawing dated May 18, 2021 (revised July 27, 2021)
- Engineers opinion of cost received August 16, 2021

Rule Specific Permit Conditions

Rule B: Floodplain Management and Drainage Alterations

Because the project will involve land-disturbing activities below the 100-year floodplain of Lake Riley (866.3 msl) to repair existing riprap and naturalize along 300 feet of shoreline, the project must conform to the requirements in the RPBCWD Floodplain Management and Drainage Alteration rule (Rule B, Subsection 2.1).

Rule B, Subsections 3.1 and 3.4 are not relevant because no buildings will be constructed or reconstructed as part of the project, and the no impervious surface will be created or re-created within 50 feet of a watercourse. Because the cross section information provided on the drawing shows proposed excavation and installation of stabilization measures will be below the existing ground level, the proposed project will not result in loss of flood storage below the 100-year flood elevation and the project conforms to Rule B, Subsection 3.2. Because the applicant has demonstrated and the engineer concurs that the project will preserve the existing 100-year flood level, the project will not alter surface

flows, complying with subsection 3.3. The information on the plan sheet includes a note indicating that activities must be conducted to minimize the potential transfer of aquatic invasive species conforming to Rule B, Subsection 3.6.

The RPBCWD Engineer concurs that the proposed project conforms to the floodplain management and drainage alteration requirements of Rule B.

Rule C: Erosion and Sediment Control

Because the project will alter more than 50 cubic yards of earth, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The drawing prepared by Natural Environments Corp includes installation of floating silt curtain, installation of a construction entrance, placement of a minimum of 6 inches of topsoil, and decompaction of areas compacted during construction. The drawing indicates that Natural Environments Corp will be responsible for erosion prevention and sediment control for the site . To conform to the RPBCWD Rule C requirements the following revisions are needed:

C1. The Applicant must provide the name and contact information of the general contractor (i.e., specific individual) responsible for erosion and sediment control at the site. RPBCWD must be notified if the responsible party changes during the permit term.

Rule F: Shoreline and Streambank Stabilization

Because the proposed project will maintain existing stabilization elements and naturalize Lake Riley shoreline, the project must conform to the requirements in the RPBCWD Shoreline and Streambank Stabilization rule (Rule F, Subsection 2). Because the applicant provided site photographs and construction drawings documenting that the maintenance work will not increase the length of the existing stabilization along the shoreline, the proposed activities qualify as maintenance under Rule F Subsection 3.4 and issuance of a permit is subject to documentation of compliance with all applicable criteria of subsection 3.3. The proposed work falls within the scope of Minnesota Department of Natural Resources General Permit #2015-1192.

Because the proposed activities qualify as maintenance under Rule F Subsection 3.4, Rule F subsections 3.1 and 3.2 do not impose requirements on the proposed maintenance activities.

The design plans, which are certified by a registered landscape architect, call for bioengineering methods (coir logs) and native vegetation along the 120 feet of shoreline naturalization areas, fieldstone riprap along 140 feet of shoreline and the installation of a 40-foot sand blanket. THe project conforms with criteria in subsection 3.3.a.i because the plans indicate the naturalized shoreline areas will be vegetated with native plantings.

Because the proposed slope shown on the design plan is 3:1 (horizontal to vertical) or flatter waterward of the ordinary high water level, the project conforms to Rule F, Subsection 3.3.a.ii. The drawings show

the proposed stabilization will follow the configuration of the existing shoreline and will not encroach horizontally from existing conditions. The design plan indicates no riprap or filter material will be placed more than six (6) feet waterward of the ordinary high water level (OHW) of elevation 865.3. As a result the proposed project conforms to Rule F, Subsection 3.3.a.iii.

The design of the shoreline erosion protection reflects the engineering properties of the underlying soils. The riprap to be used in the shoreline erosion protection has been sized in accordance with the MnDNR guidelines for riprap placement along shorelines and will be natural stone between 12" and 24" in diameter to disperse wave energy and resist movement to meet the requirements of Rule F, Subsection 3.3.b.i. The construction plan and shoreline protection section indicate that the riprap will be placed to conform to the natural alignment of the shoreline to meet the criteria in Rule F, Subsection 3.3.b.ii. Consistent with the requirements in Rule F, Subsection 3.3.b.iii, a filter fabric conforming to Minnesota Department of Transportation (MnDOT) specification 3733 and 6 inches of granular fill conforming to MnDOT specification 3601.B will be provided as a transitional layer between the existing shoreline and the riprap. The riprap section on sheet L103 shows the toe boulders will be at least 50 percent buried. In addition, riprap will not cover emergent vegetation as required by Rule F, Subsection 3.3iv and riprap will extend to approximately the top of bank elevation which conforms to Rule F, Subsection 3.3.b.v. Rule F, Subsection 3.3.b.vi, is not applicable to this project because it is considered maintenance under subsection 3.4. Plan sheet L103 also includes a baseline parallel to the shoreline with 20-foot station and perpendicular offsets, including measurements to the starting and ending points of the baseline (Rule F, subsection 4.2d).

Because the sand blanket section detail on sheet L102 combined with plan view on sheet L101 indicate the proposed sand blanket will be six inches thick, 40 feet width, not extend waterward of the OHW, and calls for the installation of clean sand, the conforms with Rule F, subsection3.3d.

The RPBCWD Engineer finds that the proposed project conforms to the applicable design criteria in Rule F.

Rule L: Permit Fee Deposit:

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit $3,000 to be held in escrow and applied to cover the $10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. Under resolution 2021-004, an applicant for a project that qualifies for cost-share funding is required to pay applicable permit fees. Therefore, the applicant must provide the permit fee deposit to the original amount due before the permit will be issued. Subsequently, if the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that such deposit is due. The

administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished

L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued.

Rule M: Financial Assurance:

Rules C: Floating silt curtain: 692 L.F. x $2.50/L.F. =.....$1,730

Rock Entrance: 1.0 x $250 =.....$250

Restoration: 0.2 acres x $2,500/acre =.....$500

Rule F: Shoreline or Streambank Stabilization:300 L.F. x $100/L.F. =.....$30,000

Contingency (10%).....$3,248

Total Financial Assurance.....$35,728

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction shall be consistent with the plans and specifications approved by the District as a part of the permitting process. The date of the approved plans and specifications is listed on the permit.
3. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
4. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority, except as may be provided under Minnesota Department of Natural Resources General Permit 2015-1192, compliance with which, including payment of any applicable fee, is entirely the responsibility of the permittee.
5. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
6. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
7. RPBCWD's determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or

means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.

8. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

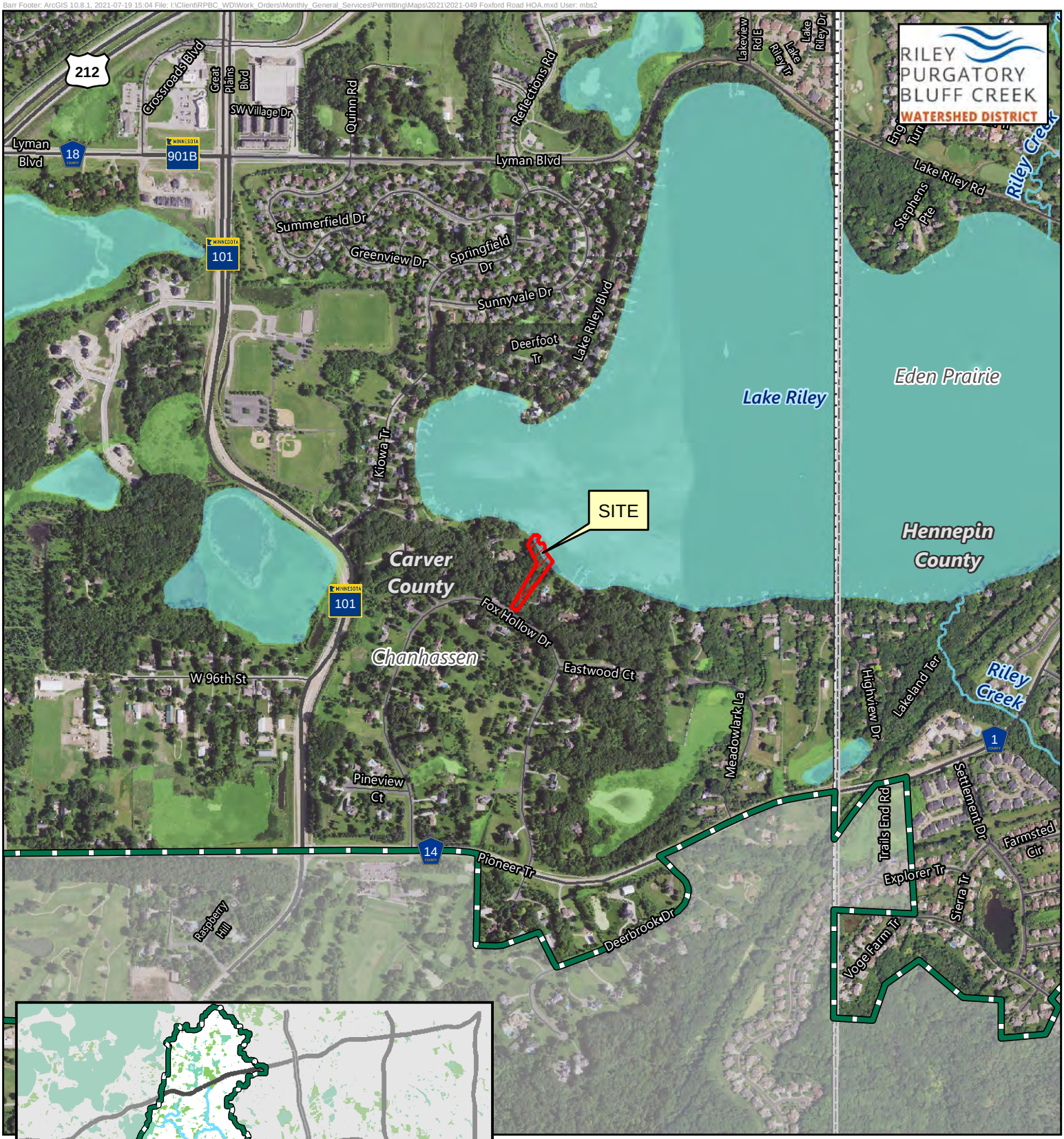
Findings

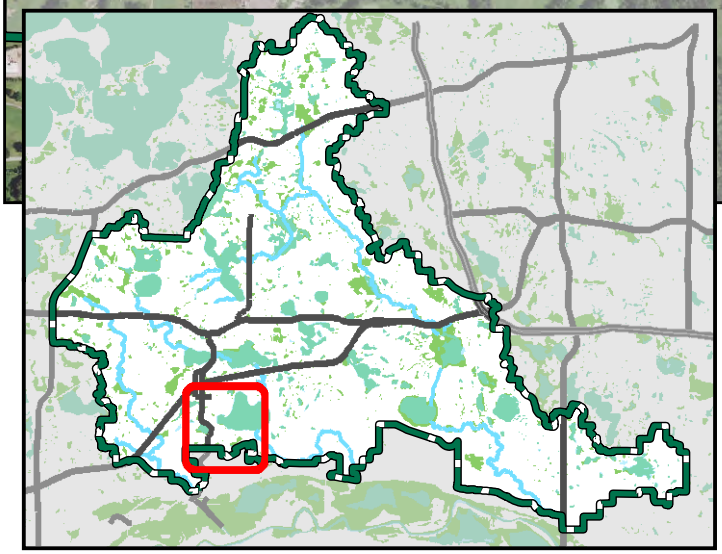
1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project conforms to Rules B and F. The proposed project will conform to Rule C if the Rule Specific Permit Conditions listed above are met.
3. Under Minnesota Department of Natural Resources General Permit 2015-1192 (attached to this report), approval of work under RPBCWD rule(s) F constitutes approval under applicable DNR work in waters rules. Compliance with conditions on approval and payment of applicable fees, if any, are necessary to benefit from general permit approval and are the responsibility of the applicants.

Recommendation:

Approval of the permit contingent upon:

1. Continued compliance with General Requirements.
2. The applicant must provide the name and contact information of the individual responsible for erosion prevention and sediment control at the site. RPBCWD must be notified if the responsible party changes during the permit term.
3. The applicant must provide the permit fee deposit to the original amount due before the permit will be issued.
4. Receipt of a financial assurance in the amount of $35,728.





N

Feet

0 1,000

Permit Location Map

FOXFORD ROAD HOA SHORELINE

Permit 2021-049

Riley Purgatory Bluff Creek Watershed District

EXISTING CONDITIONS

PHOTO FACING SOUTHEAST (2021-07-19)

PHOTO FACING NORTHWEST (2021-07-19)

SHEET INDEX

SHEET NUMBER	SHEET NAME
G000	COVER SHEET
L100	RPBC SHORELINE PLAN
L101	EROSION CONTROL PLAN
L102	CONSTRUCTION ENTRANCE PLAN & DETAILS
L103	RPBC STATIONING PLAN

REVISIONS

NUMBER	DESCRIPTION
1	OHW GEOMETRY BASED ON RECORDED BENCHMARK
2	988 CONTOUR GEOMETRY BASED ON RECORDED BENCHMARK
3	100 YR FLOODPLAIN GEOMETRY BASED ON RECORDED BENCHMARK
4	TYPICAL RIPRAP SECTION BASED ON NEW GEOMETRIES & RIPRAP GEOMETRY

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ISSUANCE

RPBC PERMIT

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Chanhassen, MN 55317

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DATE: 07.08.2020

LICENSE NUMBER: 56704

REVISION DATE

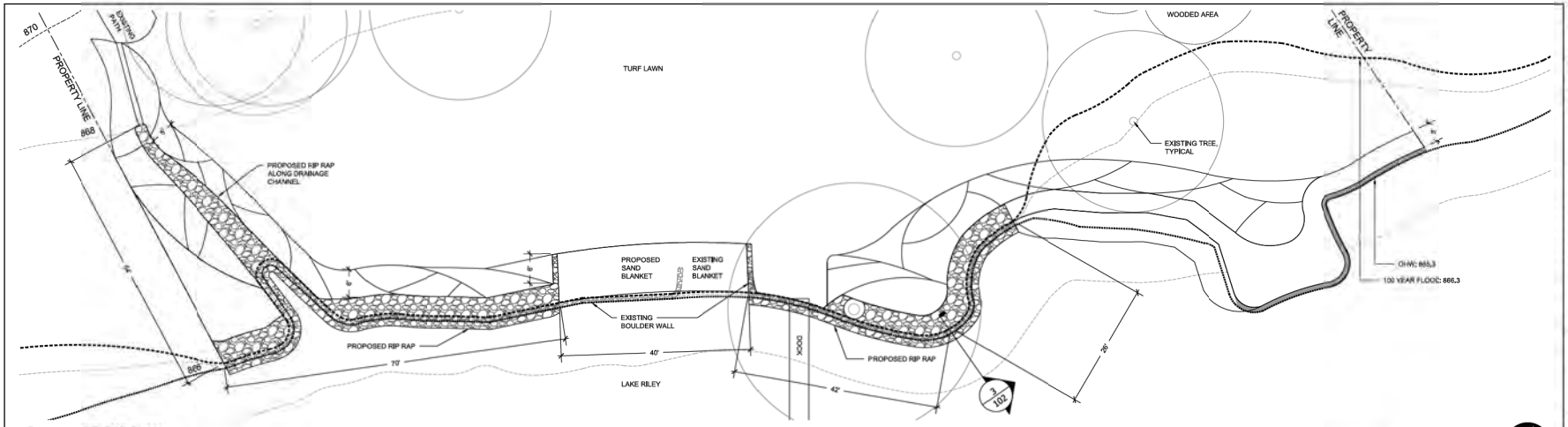
05-18-2021
07-21-2021
07-27-2021
Date
Date

SHEET NAME

COVER SHEET

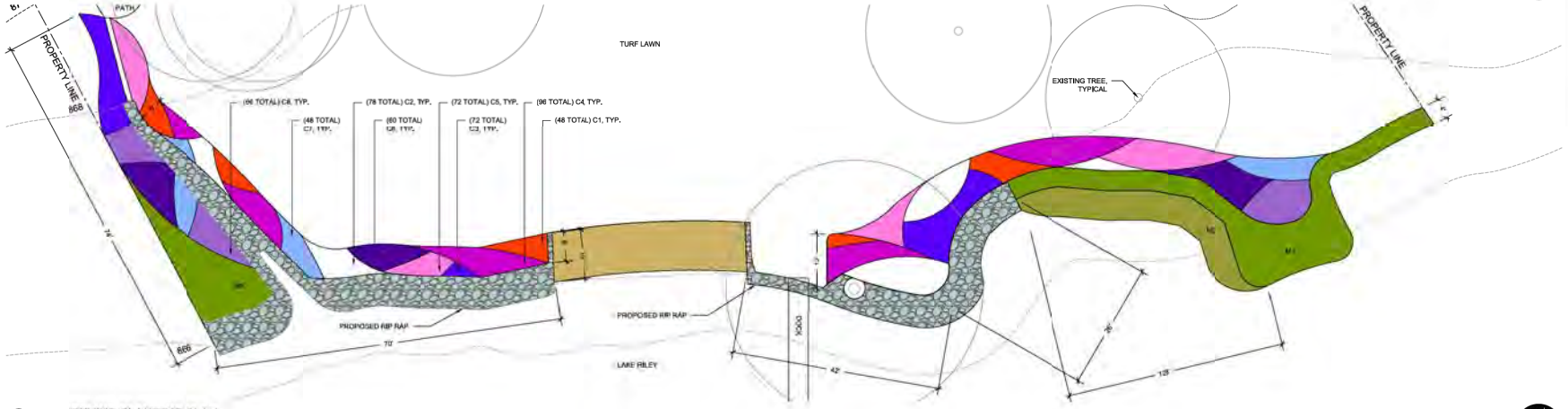
SHEET NUMBER

G000



1 SHORELINE PLAN

Scale: 3/32"=1'



2 SHORELINE PLANTING PLAN

Scale: 3/32"=1'

PLANT SCHEDULE

CODE	COMMON NAME	LATIN NAME	SIZE	QNTY	NOTES	HEIGHT	SPACING
	1. UPLAND PERENNIAL & GRASS COMBINATIONS						
C1	Butterfly Milkweed	Asclepias tuberosa	2" Plugs	24	Dry to Mesic	H: 1-3 ft	2', TYP.
	Junegrass	Koeleria macrantha	2" Plugs	24	Dry to Mesic	H: 1-3 ft	
C2	White Prairie Clover	Dalea candidum	2" Plugs	36	Mesic	H: 1-2 ft	
	Little Bluestem	Schizachyrium scoparium	2" Plugs	42	Dry to Mesic	H: 2-4 ft	
C3	Wild Lupine	Lupine perennis	2" Plugs	36	Mesic	H: 3-4 ft	
	Slideoats Grama	Boutelqua curtipendula	2" Plugs	36	Mesic	H: 2-3 ft	
C4	Pale Purple Coneflower	Echinacea pallida	2" Plugs	48	Dry to Mesic	H: 2-5 ft	
	Prairie Brome	Bromus kalmii	2" Plugs	48	Dry to Mesic	H: 2-4 ft	
C5	Rough Blazingstar	Liatris aspera	2" Plugs	36	Dry to Mesic	H: 2-3 ft	
	Prairie Dropseed	Sporobolus heterolepsis	2" Plugs	36	Mesic to Wet	H: 2-3 ft	
C6	Anise Hyssop	Agastache foeniculum	2" Plugs	30	Mesic to Wet	H: 2-3 ft	
	Virginia Wild Rye	Elymus virginicus	2" Plugs	30	Dry to Mesic	H: 2-5 ft	
C7	Sky Blue Aster	Symphyotrichum oolentangiense	2" Plugs	24	Dry to Mesic	H: 2-4 ft	
	Indiangrass	Sorghastrum nutans	2" Plugs	24	Dry to Mesic	H: 3-5 ft	
C8	Blue Vervain	Verbena hastata	2" Plugs	36	Mesic to Wet	H: 2-8 ft	
	Big Bluestem	Andropogon gerardii	2" Plugs	30	Dry to Mesic	H: 4-6 ft	

CODE	COMMON NAME	LATIN NAME	SIZE	QNTY	NOTES	HEIGHT	SPACING
	2. WET MEADOW						
					Random species of 3 to 15 plants		1'4", TYP.
M1	Lead Plant	Amorpha canescens	2" Plugs	90	Dry to Mesic	H: 2-3 ft	
	Swamp Milkweed	Asclepias incarnata	2" Plugs	84	Mesic to Wet	H: 4-5 ft	
	Longbract Spiderwort	Tradescantia bracteata	4" Cont	84	Dry to Mesic	H: 2-5 ft	
	Blue Monkey Flower	Mimulus ringens	2" Plugs	84	Mesic to Wet	H: 1-3 ft	
	Sky Blue Aster	Symphyotrichum oolentangiense	2" Plugs	90	Mesic to Wet	H: 2-5 ft	
	Common Ironweed	Vernonia fasciculata	2" Plugs	84	Mesic to Wet	H: 2-4 ft	
	Culver's Root	Veronicastrum virginicum	2" Plugs	90	Mesic to Wet	H: 4-7 ft	
	Golden Alexanders	Zizia aurea	2" Plugs	84	Mesic	H: 1-3 ft	
	Long Beaked Sedge	Carex sprengelii	2" Plugs	84	Mesic to Wet	H: 2-3 ft	

CODE	COMMON NAME	LATIN NAME	SIZE	QNTY	NOTES	HEIGHT	SPACING
	2. EMERGENT TO MESIC						
					Random species of 3 to 15 plants		1'4", TYP.
M2	Swamp Marigold	Bidens aristosa	2" Plugs	18	Emergent to Mesic	H: 1-2 ft	
	Joe Pye Weed	Eupatorium maculatum	2" Plugs	15	Emergent to Mesic	H: 5-7 ft	
	Common Boneset	Eupatorium perfoliatum	2" Plugs	18	Emergent to Mesic	H: 2-4 ft	
	Northern Blue Flag	Iris versicolor	4" Cont	18	Emergent to Mesic	H: 1-3 ft	
	Great Blue Lobelia	Lobelia siphilitica	2" Plugs	18	Emergent to Mesic	H: 2-3 ft	
	Obedient Plant	Physostegia virginiana	2" Plugs	18	Mesic	H: 3-4 ft	
	Broad Leaved Arrowhead	Sagittaria latifolia	4" Cont	18	Emergent	H: 2-3 ft	
	Giant Bur-Reed	Sparganium eurycarpum	4" Cont	18	Emergent	H: 3-4 ft	
	Brown Fox Sedge	Carex vulpinoidea	2" Plugs	18	Emergent to Mesic	H: 2-3 ft	

PLANTING NOTES

- INSTALL 3 YEAR COCONUT EROSION CONTROL BLANKET ON ALL DISTURBED PLANTING BEDS
- ALL VEGETATED BANK SLOPES TO BE LESS THAN 3:1 HORIZONTAL TO VERTICAL DISTANCE

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ISSUANCE

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LICENSE NUMBER: 56704

REVISION DATE

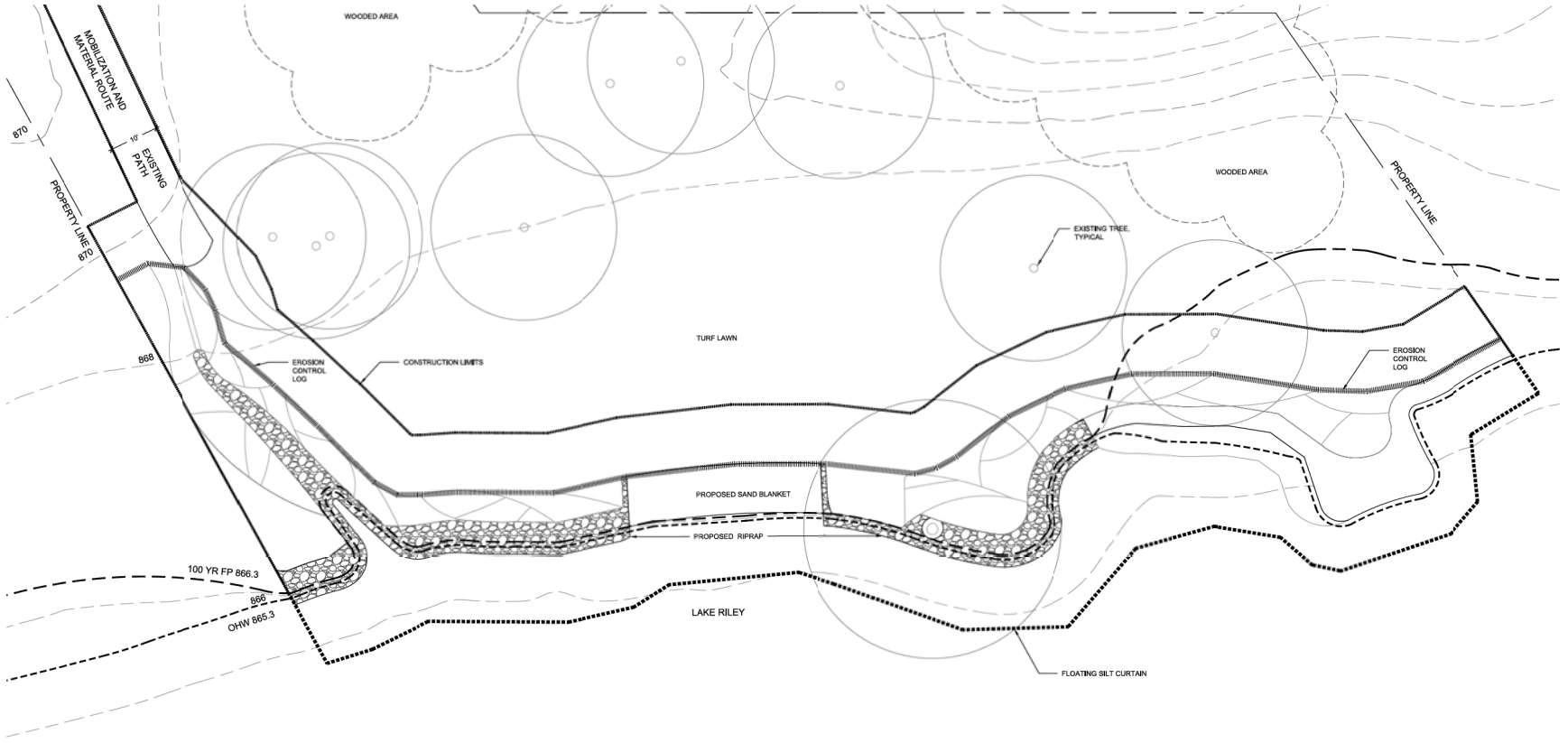
05-18-2021
07-21-2021
07-27-2021
Date
Date

SHEET NAME

RPBC SHORELINE PLAN

SHEET NUMBER

L100



1 RPBC EROSION CONTROL PLAN

Scale: 1/32"=1'

NOTES

- NATURAL TOPOGRAPHY AND SOIL CONDITIONS TO BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE
- HYDRAULIC MULCHING AS SPECIFIED BY THE DISTRICT MUST BE USED ON SLOPES OF 3:1 (H:V) OR STEEPER T0 PROVIDE ADEQUATE STABILIZATION
- SIX INCHES (+) OF TOP SOIL TO BE SPREAD AND INCORPORATED INTO THE UNDERLYING SOILS DURING FINAL SITE TREATMENT WHEREVER TOPSOIL HAS BEEN REMOVED
- CONSTRUCTION SITE WASTE MATERIALS SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE TO BE PROPERLY MANAGED
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S TO BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE DISTRICT
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE REMOVED UPON FINAL STABILIZATION
- SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE: A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 12 INCHES OF SOIL (OR) A BULK DENSITY OF LESS THAN 1.4 GRAMS PER CUBIC CENTIMETER OR 87 POUNDS PER CUBIC FOOT IN THE UPPER 12 INCHES OF SOIL IN ADDITION, UTILITIES, TREE ROOTS ANC OTHER EXISTING VEGETATION MUST BE PROTECTED UNTIL FINAL RE-VEGETATION OR OTHER STABILIZATION OF THE SITE
- ALL DISTURBED AREAS TO BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE
- THE PERMITTEE MUST, AT A MINIMUM, INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERY DAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL LAND DISTURBING ACTIVITY HAS CEASED. THEREAFTER, THE PERMITTEE MUST PERFORM THESE RESPONSIBILITIES AT LEAST WEEKLY UNTIL VEGETATIVE COVER IS ESTABLISHED. THE PERMITTEE WILL MAINTAIN A LOG OF ACTIVITIES UNDER THIS SECTION FOR INSPECTION BY THE DISTRICT ON REQUEST
- ACTIVITIES MUST BE CONDUCTED SO AS TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G., ZEBRA MUSSELS, EURASIAN MILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE
- ALL EXISTING FIELDSTONE RUBBLE TO REMAIN IN PLACE
- NATURAL ENVIRONMENTS CORP TO BE RESPONSIBLE FOR EROSION PREVENTION AND SEDIMENT CONTROL DURING CONSTRUCTION

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Date
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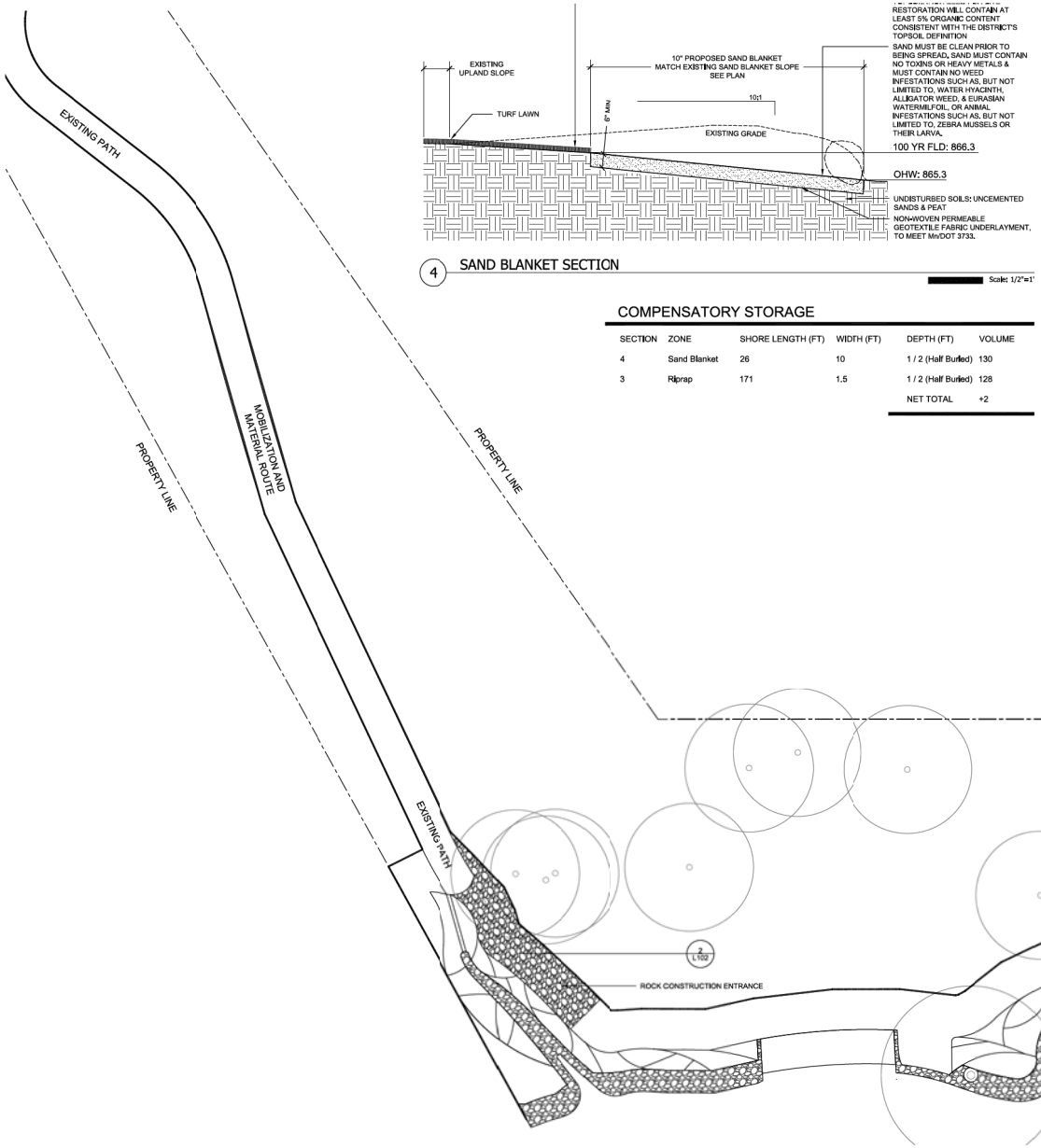
SHEET NAME

EROSION CONTROL PLAN

SHEET NUMBER

L101

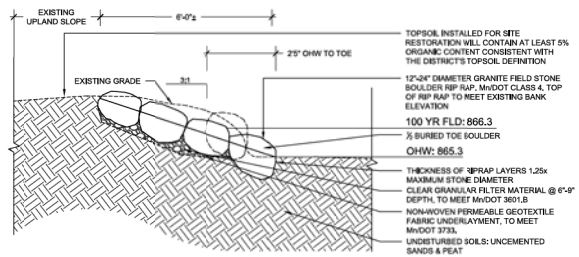


1 CONSTRUCTION ENTRANCE PLAN

Scale: 3/32"=1'

4 SAND BLANKET SECTION

Scale: 1/2"=1'

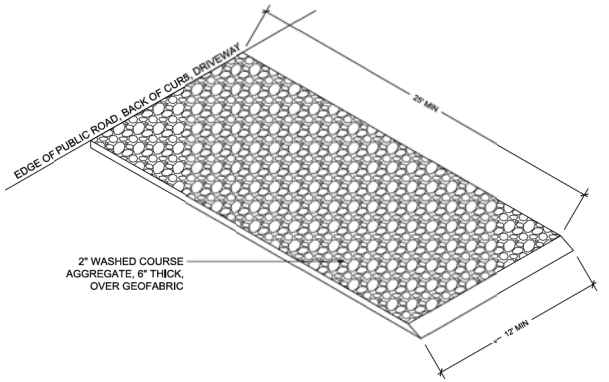


3 RIPRAP SECTION

Scale: 1/2"=1'

COMPENSATORY STORAGE

SECTION	ZONE	SHORE LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	VOLUME
4	Sand Blanket	26	10	1 / 2 (Half Buried)	130
3	Riprap	171	1.5	1 / 2 (Half Buried)	128
				NET TOTAL	+2



2 TEMPORARY ROCK CONSTRUCTION ENTRANCE DETAIL

Scale: 1/4"=1'

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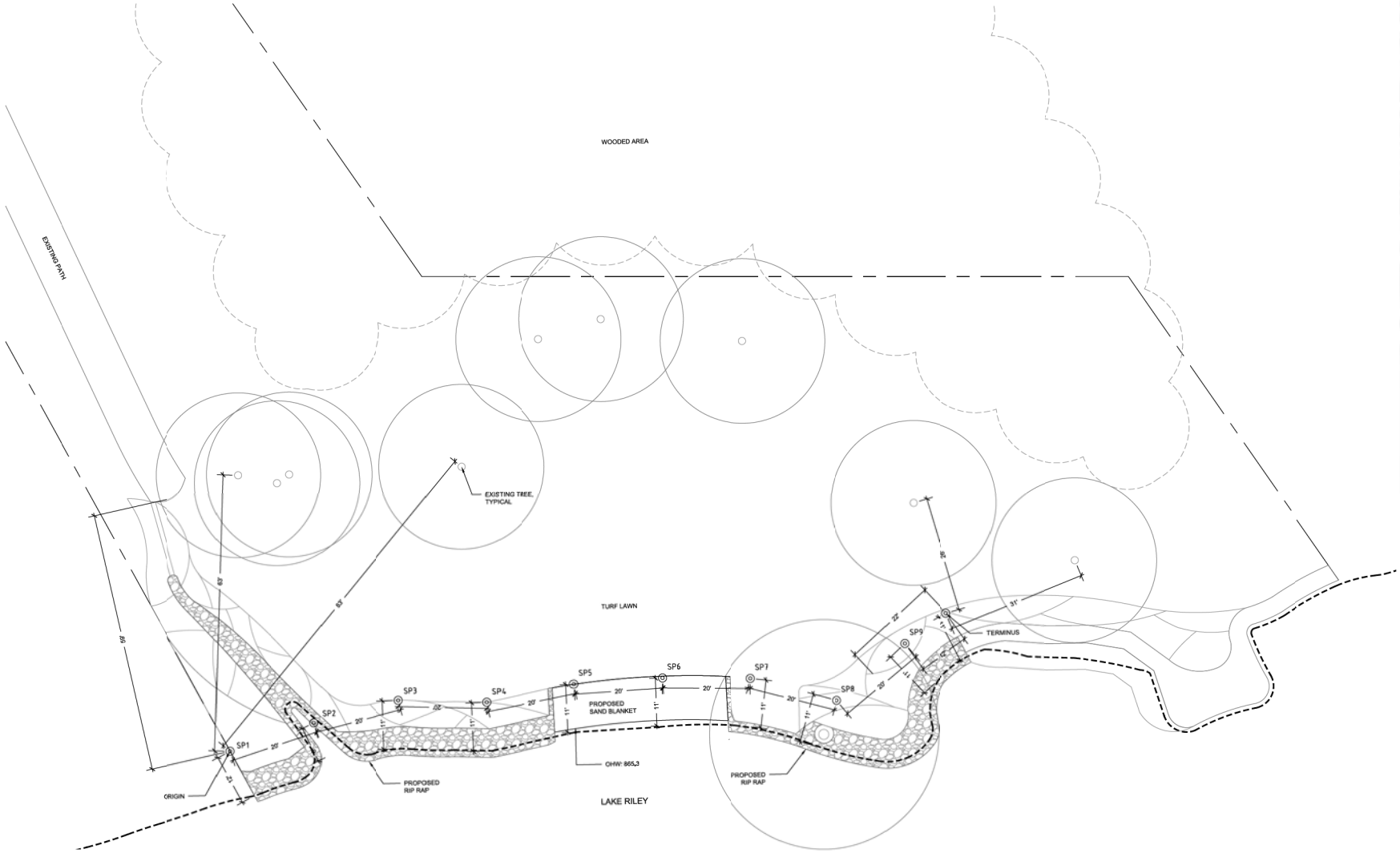
SHEET NAME

CONSTRUCTION ENTRANCE PLAN & DETAILS

SHEET NUMBER

L102



1 RPBC STATIONING PLAN

Scale: 1/32"=1'

NOTES

-BASE LINE STAKING TO BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED THROUGH PROJECT COMPLETION
-FLOATING SILT CURTAIN TO BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED THROUGH PROJECT COMPLETION

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SHEET NAME

RPBC STATIONING PLAN

SHEET NUMBER

L103

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512
www.rpbcwd.org

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2021-054

Considered at Board of Managers Meeting: September 1, 2021

Application Received complete: July 29, 2021

Applicant: Smart Fit Development, Steve Furlong on behalf of the property owner George A Sicheneder

Consultant: Civil Site Group, David Knaeble

Project: Morimoto City Homes – The applicant proposes the construction of 4 new townhome buildings and associated parking. Two subsurface stormwater filtration facilities and a rainwater harvesting system for irrigation will provide water quality treatment, rate control, and volume abstraction.

Location: 9360 Hennepin Town Road, Eden Prairie, MN

Reviewer: Heather Hlavaty, PE, and Scott Sobiech, PE, Barr Engineering

Proposed Board Action

Manager _____ moved and Manager _____ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the September 1, 2021 meeting of the managers:

Resolved that the application for Permit 2021-054 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval have been met, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2021-054 to the applicant on behalf of RPBCWD.

Upon vote, the resolutions were adopted, _____ [VOTE TALLY].

Applicable Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management and Drainage Alterations**		NA	
C	**Erosion Control Plan**		See Comment	See Rule Specific Permit Conditions C1 and C2.
D	**Wetland and Creek Buffer**		See Comment	See Rule Specific Permit Conditions D1 and D2.
J	**Stormwater Management**	Rate	Yes	
		Volume	Yes	
		Water Quality	Yes	
		Low Floor Elev.	See Comment	See Rule Specific Permit Condition J1.
		Maintenance	See Comment	See Rule Specific Permit Conditions J2.
		Chloride Management	See Comment	See stipulation #4.
		Wetland Protection	Yes	
L	**Permit Fee**		Yes	$3,000 permit fee deposit received.
M	**Financial Assurance**		See Comment	The financial assurance has been calculated at $445,440.

Project Description

The proposed work will redevelop a 2.8-acre site into four townhome buildings with associated parking at 9360 Hennepin Town Road in Eden Prairie, Minnesota. The existing site is comprised of a residential lot with one house and the associated drive. This applicant proposes to demolish the existing structures, remove the driveway and septic system, construct four townhome buildings and associated parking and utilities, sanitary sewer tie-in along Clark Circle, and construct stormwater management features. Two wetlands exist on-site but the project will not involve grading within the delineated onsite wetlands. In addition, there is an off-site, downstream wetland that receives runoff from a portion of the applicant's property that will be disturbed for the project. The stormwater management system includes the construction of two subsurface filtration systems, a rainwater harvesting system for on-site irrigation, and wetland buffers to provide water quality treatment, rate control, and volume abstraction.

The project site information is summarized below:

	Area (acres)
Total Site Area (acres)	2.82
Existing Site Impervious Area (acres)	0.20
Post Construction Site Impervious (acres)	1.10
New Site Impervious Area (acres)	1.10
Disturbed Impervious Area(acres)	0.20 (100% disturbed)
Increase in Site Impervious Area (acres)	0.90 (>100% increase)
Total Disturbed Area (acres)	2.01

Exhibits:

1. Permit Application received April 16, 2021 (The applicant was informed on May 7 that the application was incomplete because of missing permit fee and modeling to meet the Wetland Protection criteria. Materials completing the application were received on July 29, 2021)
2. Stormwater Management Report dated March 15, 2021 (revised July 26, 2021)
3. Draft Soil Boring Logs and Boring Map dated February 18, 2020
4. Additional Soil Boring Proposal Map received April 16, 2021
5. Infiltration Testing Report by Chosen Valley Testing dated April 30, 2020
6. Infiltration Testing Map received on April 16, 2021
7. Electronic P8, MIDs, and HydroCAD models received on April 16, 2021 (revised July 29, 2021)
8. Project Plan Set (18 sheets) dated March 15, 2021 (revised July 26, 2021)
9. Geotechnical Evaluation Report by Chosen Valley Testing dated March 9, 2020
10. Wetland Delineation Report by Wenck dated October 2019
11. City of Eden Prairie WCA Application for Review of Wetland Determinations received April 16, 2021
12. City of Eden Prairie WCA Notice of Decision received April 16, 2021
13. Engineer's Opinion of Probable Cost for Stormwater Management features dated May 17, 2021
14. Response to RPBCWD Comments dated May 17, 2021
15. Response to RPBCWD Comments dated June 2, 2021
16. Response to RPBCWD Comments dated July 7, 2021

Rule Specific Permit Conditions

Rule A: Procedural Requirements

Because the proposed project includes undertaking an activity for which a RPBCWD permit is required, the applicant must obtain the required permit prior to commencing the activity that is regulated by the District and must conform to the RPBCWD's Procedural Requirements (Rule A).

Rule A, Subsection 2.3 requires that an application authorized by all property owners be submitted to the District to obtain a permit. Smart Fit Development is in the process of purchasing the property from George A Sicheneder (owner identified on the Hennepin County Online Property information). Because the construction of the proposed sanitary sewer connection on City of Eden Prairie right of way is part of the project, the applicant must provide documentation demonstrating that the necessary land-use rights have been obtained for the proposed activities.

Rule C: Erosion and Sediment Control

Because the project will alter 2.01 acres of land-surface area, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The erosion control plan prepared by Civil Site Group includes installation of silt fence, inlet protection for storm sewer catch basins, daily inspection, rock construction entrance, erosion control blanket, placement of a minimum of 6 inches of topsoil, decompaction of areas compacted during construction, and retention of native topsoil onsite. To conform to the RPBCWD Rule C requirements the following revisions are needed:

C1. The Applicant must provide the name and contact information of the individual responsible for erosion control at the site. RPBCWD must be notified if the responsible individual changes during the permit term.

C2. Identification of staging areas (per Rule C, Subsection 4.3f) must be added to the Plans.

Rule D: Wetland and Creek Buffers

Because the proposed work triggers a permit under RPBCWD Rule J and wetlands protected by the state Wetland Conservation Act are downgradient from the proposed construction activities, Rule D, Subsections 2.1a and 3.1 require buffer on the edges of the wetlands that are downgradient from the land-disturbing activities.

The Wetland Delineation Report and MnRAM analysis submitted indicate that the wetlands onsite are medium and low value wetlands (Appendix E). Rule D, Subsection 3.1.a.iii requires wetland buffer with an average of 40 feet from the delineated edge of the wetland, minimum 20 feet for medium value wetlands. Wetland buffer with an average of 20 feet from the delineated edge of the wetland, minimum 10 feet is required for low value wetlands. The buffer widths are summarized in the table below.

Wetland ID	RPBCWD Wetland Value	Required Minimum Width[1] (ft)	Required Average Width[1] (ft)	Provided Minimum Width (ft)	Provided Average Width (ft)
Wetland 1 (onsite)	Medium	20	40	20	41
Wetland 2 (onsite)	Low	10	20	21	41
Wetland 3 (offsite)	Medium	20	40	20	40

[1] Average and minimum required buffer width under Rule D, Subsection 3.1.a.

A note is included on the plan sheet indicating the project will be constructed so as to minimize the potential transfer of aquatic invasive species (e.g., zebra mussels, Eurasian watermilfoil, etc.) to the maximum extent possible conforming to Rule D, Subsection 3.5.

To conform to RPBCWD Rule D the following revisions are needed:

D1. Buffer areas and maintenance requirements must be documented in a declaration recorded after review and approval by RPBCWD in accordance with Rule D, Subsection 3.4.

D2. Rule D, Subsection 3.3 requires that all areas disturbed within a buffer must be restored with native vegetation. Based on the planting list on sheet L1.0 many of the trees planted within the buffer areas are not native to Minnesota. The restoration plan must be revised to use only native vegetation (including trees) within the buffer areas.

Rule J: Stormwater Management

Because the redevelopment project will alter 2.01 acres of land-surface area, and increase the site imperviousness by more than 50%, the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.3) for all the impervious surface on the site.

The project includes installation of storm sewer to route runoff to two subsurface filtration systems and a rainwater harvesting system for irrigation on site. The reuse system will be used to irrigate 0.67 acres of pervious area on-site. The combination of the stormwater treatment BMPs will provide runoff volume abstraction, water quality treatment, and rate control.

Rate Control

In order to meet the rate control criteria listed in Subsection 3.1.a, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The applicant used a HydroCAD hydrologic model to simulate runoff rates for pre- and post-development conditions for the 2-, 10-, and 100-year frequency storm events using a nested rainfall distribution, and a 100-year frequency, 10-day snowmelt event. The existing and proposed 2-, 10-, and 100-year frequency discharges from the site are summarized in the table below. The proposed project is in conformance with RPBCWD Rule J, Subsection 3.1.a.

Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
To Wetland 1	1.5	1.2	3.4	2.6	7.4	5.7	0.2	0.2
To Wetland 2	2.8	2.1	5.5	5.2	9.7	9.4	0.5	0.5
To Wetland 3	0.3	0.2	0.6	0.5	1.2	1.1	<0.1	<0.1

To Hennepin Town Road	7.0	6.1	14.0	13.9	24.9	24.8	1.6	1.5

Volume Abstraction

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from the impervious surface of the parcel. An abstraction volume of 4,409 cubic feet is required from the 48,097 square feet of regulated impervious area. Soil borings and infiltrometer tests were performed by Chosen Valley Testing show that soils in the project area are typically lean clay. Infiltration testing reveals infiltration rates of 0.0 in/hr beneath the proposed stormwater management features, thus confirming that infiltration is not feasible on this site Because of the low in-situ infiltration measurements, the site is considered restricted.

For restricted sites, subsection 3.3 of Rule J requires rate control in accordance with subsection 3.1.a and that abstraction and water quality protection be provided in accordance with the following sequence:

(a) Abstraction of 0.55 inches of runoff from site impervious surface determined in accordance with paragraphs 2.3, 3.1 or 3.2, as applicable, and treatment of all runoff to the standard in paragraph 3.1c; or

(b) Abstraction of runoff onsite to the maximum extent practicable and treatment of all runoff to the standard in paragraph 3.1c; or

(c) Off-site abstraction and treatment in the watershed to the standards in paragraph 3.1b and 3.1c.

Based on the measured infiltration testing results, the applicant is proposing rainwater harvesting and irrigation of available green space to provide volume abstraction. The abstraction volume provided by the irrigation is 0.21 inches from all regulated impervious area, and the RPBCWD engineer determines that this is the maximum extent practicable for the site.

The designed abstraction performance for the project site is summarized in the table below.

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)[1]	Provided Abstraction Volume (cubic feet)
0.55	2,204	0.21	839

Because the proposed stormwater reuse system requires consistent use at a specified rate to meet District requirements, performance monitoring for the site will be required to ensure that the project provides the proposed volume abstraction.

Plans indicate pretreatment for runoff entering the subsurface stormwater management facilities and rainwater harvesting system is being provided by sump manholes and vegetated strips, thus the proposed project conforms with RPBCWD Rule J, Subsection 3.1b.1.

Water Quality Management

Subsection 3.1.c of Rule J requires the Applicant provide for at least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff, and no net increase in TSS or TP loading leaving the site from existing conditions. The Applicant is proposing to use two subsurface stormwater management facilities and a rainwater harvesting system to achieve the required TP and TSS removals.

Rule J, Subsection 3.5, allows the proposed project to receive credit for the wetland buffers require by Rule D towards compliance with the stormwater management criteria. The engineer concurs with the applicant's assertion that the buffer areas are considered a self-mitigating stormwater feature (i.e., result in natural runoff conditions similar to a native landscape), thus the buffer areas were removed from the P8 water quality modeling for the proposed project.

The P8 modeling results of runoff from impervious areas of the site summarized in tables below show the annual TSS and TP removal requirement is achieved and that there is no net increase in TSS and TP leaving the site. The engineer concurs with the modeling, and finds that the proposed project is in conformance with Rule J, Subsection 3.1.c.

Annual TSS and TP removal summary

Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	832	748.8 (90%)	750.9 (90.3%)
Total Phosphorus (TP)	2.7	1.6 (60%)	1.8 (69.0%)

Summary of net change in TSS and TP leaving the site

Pollutant of Interest	Existing Site Loading (lbs/yr)	Proposed Site Load after Treatment (lbs/yr)	Change (lbs/yr)
Total Suspended Solids (TSS)	316	81	-235
Total Phosphorus (TP)	1.0	0.8	-0.2

Because compliance with the RPBCWD water-quality requirements is dependent on the wetland buffers restoration, the maintenance requirements of the buffer areas must be documented in a declaration recorded after review and approval by RPBCWD. Low Floor Elevation

All new buildings must be constructed such that the lowest floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow of a stormwater-management facility according to Rule J, Subsection 3.6a. In addition, a stormwater-management facility must be constructed at an elevation that ensures that no adjacent habitable building will be brought into noncompliance with this requirement according to Rule J, Subsection 3.6b.

The applicant is proposing to construct four buildings as part of the project with low floor elevations between 884.25-885.25 ft. As shown in the table below, most of the proposed low floor are more than 2

feet above the 100-year flood elevation of the nearest stormwater management facility. The 100-year elevation of the rainwater harvesting tank is less than 2.0 feet below the nearest proposed low floor elevation, therefore, the applicant applied the alternative low floor criteria in Rule J, Appendix J.1 – Low-Floor Elevation Assessment. Groundwater was discovered in soil boring SB-02 at an elevation of 862.0 feet, 22.25 feet below the proposed low floor elevation. According to *Plot 1: Minimum Depth to Water Table for No Further Evaluation*, the minimum permissible depth to water table is 15.0 for the rainwater harvesting tank based on the stormwater facility horizontal separation (see below table). Because the provided separation is greater than the minimum required, the elevation and location of the proposed stormwater facilities meet the existing habitable structure requirements in Rule J, Subsection 3.6.

Structure	Low Floor Elevation of Nearest Building (ft)	Stormwater Facility	100-year Event Flood Elevation of Stormwater Facility (ft)	Freeboard to 100-year Event (ft)	Distance from Building to Adjacent Facility (ft)	Water Table Elevation (ft)	Minimum Permissible Depth to Water Table[1] (ft)	Provided Depth from Low Floor Elevation to Water Table (ft)
9681 Clark Cir	875.0[2]	Wetland 1	881.86	-6.9	116.0	862.0	1.9	13.0
9671 Clark Cir	875.0[2]	Wetland 1	881.86	-6.9	137.0	862.0	1.0	13.0
9340 Hennepin Town Rd	871.36[2]	Subsurface Filtration System 2B	876.75	-5.4	34.5	862.0	9.0	9.4
Block 2 Unit 4	884.25	Subsurface Filtration System 2B	876.75	7.5	Appendix J.1 analysis not required.			
Block 2 Unit 4	884.25	Subsurface Rainwater Harvesting Tank	882.35	1.9	14.0	862.0	15.0	22.3
Block 3 Unit 1	885.25	Wetland 1	881.86	3.4	Appendix J.1 analysis not required.			
Block 1 Unit 1	885.25	Wetland 1	881.86	3.4	Appendix J.1 analysis not required.			
Block 4 Unit 5	884.25	Wetland 2	871.61	12.6	Appendix J.1 analysis not required.			

1- Using Plot 1 in Appendix J1 of RPBCWD Stormwater Management Rule

2- Approximated using topography and assumed basement elevation 10 feet below ground

While the low floor elevations were provided in the stormwater management report narrative to facilitate the review process, the following revision is needed:

J1. The construction drawing must be updated to include the proposed low floor elevations to ensure the structures are constructed consistent with the narrative.

Maintenance

Subsection 3.7 of Rule J requires the submission of a maintenance declaration. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed.

J2. Permit applicant must provide a maintenance and inspection declaration as required by Rule J, Subsection 3.7. A maintenance declaration template is available on the permits page of the RPBCWD website (http://www.rpbcwd.org/permits/). The declaration must also include a stormwater reuse monitoring and reporting plan that includes protection of the greenspace to be irrigated and metering of the volume of reuse. A draft declaration must be provided for District approval prior to recordation and documentation of recordation must be provided to RPBCWD as a condition of issuance of the permit.

Chloride Management

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan. RPBCWD chloride-management plan requirement applies to the streets and common areas of the project site, but not the individual single-family townhome properties. To close out the permit and release the $5,000 in financial assurance held for the purpose, Permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan.

Wetland Protection

Because the proposed activities discharge to two wetlands on the site and one offsite wetland, they must conform to RPBCWD wetland protection criteria (Rule J, subsection 3.10). As shown in the tables below, the applicant has demonstrated that the proposed flow rates from the site discharging to the wetlands are the same or less than the existing flows for the 1, 2, and 10-year events. The second table demonstrates that the peak elevation in the wetlands does not exceed existing conditions, thus the project meets the Bounce and Inundation criterion and is in conformance with Rule J, subsection 3.10a.

Discharge Location	1-Year Discharge (cfs)		2-Year Discharge (cfs)		10-Year Discharge (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop
To Wetland 1	1.1	0.1	1.5	1.2	3.4	2.6
To Wetland 2	2.1	1.4	2.8	2.1	5.5	5.2
To Wetland 3	0.3	0.2	0.3	0.2	0.6	0.5

Wetland	1-Year Peak Elevation		2-Year Peak Elevation		10-Year Peak Elevation	
	Ex	Prop	Ex	Prop	Ex	Prop
Wetland 1	880.7	880.7	880.9	880.8	881.5	881.3
Wetland 2	870.0	869.9	870.0	869.9	870.0	869.9
Wetland 3	872.1	872.1	872.1	872.1	872.2	872.2

Rule J, Subsection 3.10b requires that any discharge to low or medium value wetland be treated to the water quality treatment criteria in Rule J, subsection 3.1c. The engineer concurs with the applicant's assertion that the buffer areas are a self-mitigating stormwater feature (i.e., result in natural runoff conditions similar to a native landscape). The impervious areas of the site are tributary to Wetland 2. As shown in the table below, the computations demonstrate the proposed stormwater facilities provide 92.7% TSS and 70.2% TP removal from runoff prior to discharging to on-site Wetland 2, thus the area tributary to Wetland 2 is in conformance with Rule J, Subsection 3.10b.

Pollutant of Interest	Regulated Disturbed Area Loading (lbs/yr)	Required Load Removal (lbs/yr)	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	822	739.5 (90%)	761.7 (92.7%)
Total Phosphorus (TP)	2.6	1.6 (60%)	1.8 (70.2%)

Because there is a small disturbed, pervious area tributary to wetland 1 which is not shown as native buffer on the drawings the following revisions are needed to conform with Rule J, subsection 3.10b:

J3. The Applicant must provide updated drawing showing that all disturbed area tributary to wetland 1 will be dedicated as wetland buffer or stormwater treatment must be provided in accordance with 3.1c.

Rule L: Permit Fee Deposit:

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit $3,000 to be held in escrow and applied to cover the $10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A permit fee deposit of $3,000 was received on June 30, 2021. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. Subsequently, if the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished.

L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued.

Rule M: Financial Assurance:

Rule C:

Perimeter Control: 1,850 L.F. x $2.50/L.F. = ...$4,625

Restoration: 2.01 acres x $2,500/acre = ...$5,025

Inlet Protection: 9 x $100/each =.....$900

Construction Entrance: 1 x $900/each =.....$900

Rule D:

Wetland and Creek Buffer = ...$5,000

Rule J:

125% of Engineer's Opinion of Cost (1.25*$306,796) = ...$383,495

Chloride Management Plan = ...$5,000

Contingency (10%).....$40,495

Total Financial Assurance.....$445,440

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
4. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
5. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
6. RPBCWD's determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.

7. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

Findings

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project will conform to Rules C, D and J if the Rule Specific Permit Conditions listed above are met.

Recommendation:

Approval of the permit contingent upon:

1. Continued compliance with General Requirements.
2. Financial Assurance in the amount of $445,440.
3. Applicant providing the name and contact information of the individual responsible for erosion and sediment control at the site.
4. Identification of staging areas (per Rule C, Subsection 4.3f) on the Plans.
5. Receiving updated construction drawings showing all the proposed low floor elevations to ensure the structures are constructed consistent with the narrative.
6. Receiving a revised site restoration plan showing that only native vegetation (including trees) will be used within the buffer areas.
7. Receiving a revised updated drawings showing that all disturbed area tributary to wetland 1 will be dedicated as wetland buffer or stormwater treatment must be provided in accordance with 3.1c.
8. Receipt in recordation a maintenance declaration for maintenance of the buffer areas, soil rehabilitated areas restored with native vegetation, and stormwater management facilities. The declaration must also include a stormwater reuse monitoring and reporting plan that includes protection of the greenspace to be irrigated and metering of the volume of reuse, as well as maintenance specifics provided by the manufacturer(s) or installer(s) for the proprietary systems. Drafts of all documents to be recorded must be approved by the District prior to recordation.
9. Written documentation demonstrating that the necessary property rights and permissions to perform the proposed land-disturbing activities within the Clark Circle ROW (reconstruction of 1,472 square feet of impervious pavement) to facilitate sanitary sewer lift station tie-in.
10. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued.

By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization, the pretreatment manholes and subsurface stormwater facility conform to design specifications and function as intended and

approved by the District. As-built/record drawings must be signed by a professional engineer licensed in Minnesota and include, but not limited to:

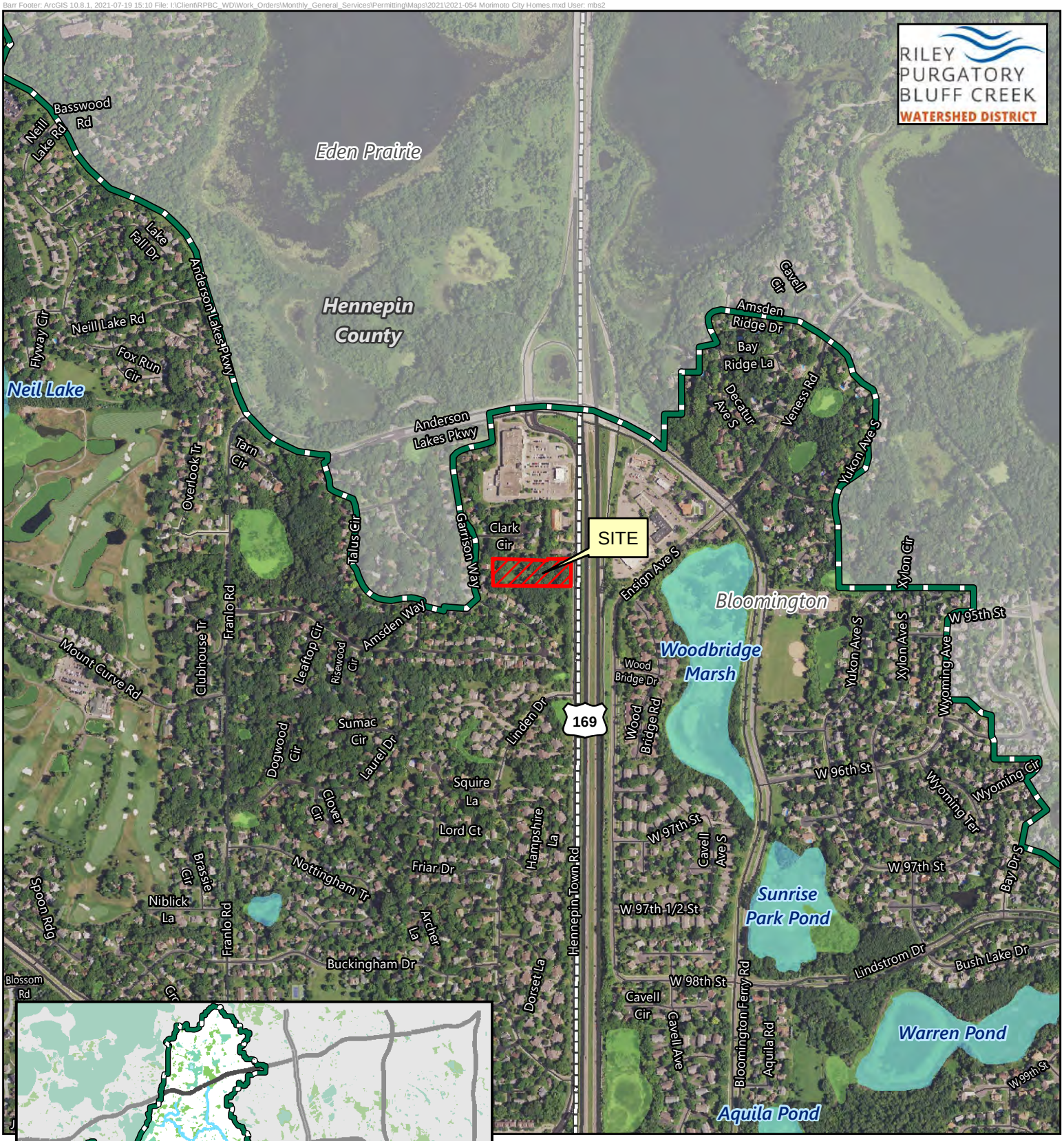
   a. the surveyed bottom elevations, water levels, and general topography of all facilities;
   b. the size, type, and surveyed invert elevations of all stormwater facility inlets and outlets;
   c. the surveyed elevations of all emergency overflows including stormwater facility, street, and other;

2. Providing the following additional close-out materials:

   a. Documentation that disturbed pervious areas remaining pervious have been decompacted per Rule C.2c criteria

3. The work on the Morimoto City Homes development under the terms of permit 2021-054, if issued, must have an impervious surface area and configuration materially consistent with the approved plans. Design that differs materially from the approved plans (e.g., in terms of total impervious area) will need to be the subject of a request for a permit modification or new permit, which will be subject to review for compliance with all applicable regulatory requirements.

4. To close out the permit and release the $5,000 in financial assurance held for the purpose of the chloride management, the permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.



N

Feet

0 1,000

Permit Location Map

MORIMOTO CITY HOMES
Permit 2021-054
Riley Purgatory Bluff Creek Watershed District

MORIMOTO CITYHOMES

EDEN PRAIRIE, MINNESOTA

ISSUED FOR: CONSTRUCTION DOCUMENTS

ARCHITECT:
FIRM GROUND ARCHITECTS & ENGINEERS, INC.
275 MARKET ST #568
MINNEAPOLIS, MN55405
(612) 619-1835

DEVELOPER / PROPERTY OWNER:
STEVE FURLONG
SMART FIT DEVELOPMENT
5123 W 98TH STREET
SUITE 142
BLOOMINGTON, MN 55437
952-314-6067

ENGINEER / LANDSCAPE ARCHITECT / SURVEYOR:
CIVIL SITE GROUP
4931 W 35TH STREET
SUITE 200
ST LOUIS PARK, MN 55416
612-615-0060

GEOTECHNICAL ENGINEER:
CHOSEN VALLEY TESTING, INC.
1410 7TH ST NW
ROCHESTER, MN 55901
507-281-0958

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

SHEET INDEX

SHEET NUMBER	SHEET TITLE
C0.0	TITLE SHEET
V1.0	SITE SURVEY
C1.0	REMOVALS PLAN
C1.1	TREE PRESERVATION PLAN
C1.2	EXISTING CONDITIONS PLAN
C2.0	SITE PLAN
C3.0	GRADING PLAN
C3.1	GRADING PLAN - OVERALL
C4.0	UTILITY PLAN - SANITARY AND WATER
C4.1	UTILITY PLAN - STORM SEWER
C4.2	UTILITY PLAN - DRAINTILE LAYOUT
C4.3	UTILITY PLAN - PLAN AND PROFILE WATER
C4.4	UTILITY PLAN - PLAN AND PROFILE SANITARY
C4.5	UTILITY PLAN - UTILITY SPECIFICATIONS
C5.0	CIVIL DETAILS
C5.1	CIVIL DETAILS
C5.2	CIVIL DETAILS
C5.3	CIVIL DETAILS
L1.0	LANDSCAPE PLAN
L1.1	LANDSCAPE PLAN NOTES & DETAILS
SW1.0	SWPPP - EXISTING CONDITIONS
SW1.1	SWPPP - PROPOSED CONDITIONS
SW1.2	SWPPP - DETAILS
SW1.3	SWPPP - NARRATIVE
SW1.4	SWPPP - ATTACHMENTS
SW1.5	SWPPP - ATTACHMENTS

CivilSite GROUP
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PROJECT
MORIMOTO CITYHOMES
9360 HENNEPIN TOWN ROAD, EDEN PRAIRIE, MN 55347
SMART FIT DEVELOPMENT
5123 W 98TH STREET, SUITE 142, BLOOMINGTON, MN 55437

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

David J. Knoble
DATE 7/26/21 LICENSE NO. 48779

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
2/5/21	CITY SUBMITTAL
4/16/21	WATERSHED SUBMITTAL
4/19/21	CITY RESUBMITTAL
5/17/21	WATERSHED SUBMITTAL
6/2/21	WATERSHED SUBMITTAL
6/4/21	CITY RESUBMITTAL
7/26/21	WATERSHED RESUBMITTAL

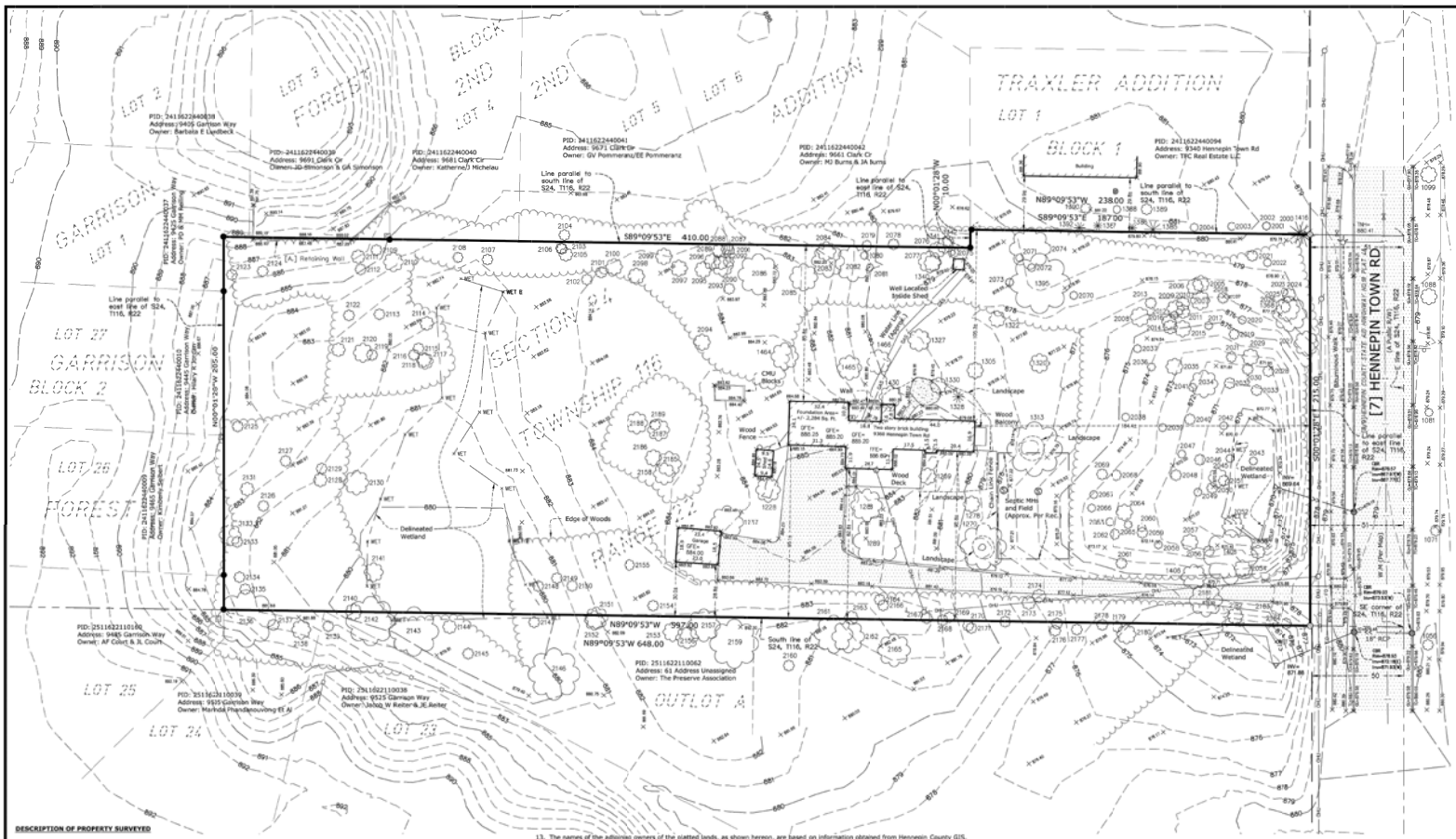
DRAWN BY: SJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

TITLE SHEET

C0.0



DESCRIPTION OF PROPERTY SURVEYED

Real property in the County of Hennepin, State of Minnesota, described as follows:

A tract of land in the Southeast Quarter of Section 24, Township 116, Range 22, Hennepin County, Minnesota, described as follows: Commencing at the southeast corner of said Section 24, and thence West along the south line of said Section a distance of 648.0 feet; thence North and parallel to the east line of said Section a distance of 205.0 feet; thence east and parallel to the south line of described tract a distance of 410.0 feet; thence north and parallel to said east line a distance of 10.0 feet; thence east and parallel to said south line a distance of 238.0 feet to said east line; thence South along said east line a distance of 215.0 feet to the point of beginning,

which lies westerly of a line drawn parallel with and distant 51 feet westerly of the east line of the Southeast Quarter of Section 24, Township 116, Range 22.

(Abstract Property)

ALTA/NSPS Land Title Survey Notes
(numbered per Table A)

1. Bearings are based on the Hennepin County Coordinate System (1986 Adjustment).
2. Site Address: 9360 Hennepin Town Rd, Eden Prairie, MN 55347.
3. This property is contained in Zone X (area determined to be outside the 0.2% annual chance floodplain) per Flood Insurance Rate Map, Community Panel No. 27053C0434F, effective date of November 4, 2016.
4. The Gross land area is 124,240 +/- square feet or 2.852 +/-acres.
5. Elevations are based on the NGVD 29 Datum. Site Benchmark: is the top of nut of fire hydrant located 18 feet to the east of the northeast property corner. Elevation=880.41.
6. The current Zoning for the subject property was not provided.
11. We have shown the location of utilities to the best of our ability based on observed evidence together with evidence from the following sources: plans obtained from utility companies, plans provided by client, markings by utility companies and other appropriate sources. We have used this information to develop a view of the underground utilities for this site. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary. Also, please note that seasonal conditions may inhibit our ability to visibly observe all the utilities located on the subject property.
13. The names of the adjoining owners of the platted lands, as shown hereon, are based on information obtained from Hennepin County GIS.
20. The wetland delineation was performed by WENCK and we located the wetland flags on December 19, 2019.

SURVEY REPORT

1. This map and report was prepared with the benefit of a Commitment for Title Insurance issued by SMB Enterprises, LLC dba Midland Title, as agent for Old Republic National Title Insurance Company, File No. MT21-140236-R, dated January 14, 2021. We note the following with regards to Schedule B of the herein referenced Title Commitment:
   a. Item no.'s 1-6 and 10-13 are not survey related.
   b. The following are numbered per the referenced title Commitment:

   [7] Rights of the public and any governmental unit in any part of the land lying within Hennepin Town Road as presently laid out and traveled. *As shown hereon to the east of subject property.*

   [8] Terms and conditions of Final Certificate, filed September 9, 1997, as Document No. 6780760. *As shown hereon to the east of subject property.*

   [9] Terms and conditions of Hennepin County State Aid Highway No. 18, Plat 48, filed September 26, 1978, as Document No. 4414920. *As shown hereon to the east of subject property.*

18. Conflicts such as (but notlimited to): encroachments, protrusions, access, occupation, and easements and/or servitudes:
   [A.] Please note that there is a retaining wall near the northwest corner of subject property that is over he property line. As shown hereon.

ALTA CERTIFICATION

To: The Trustee(s) of the Trust Agreement of George Anthony Sicheneder and Linda Rae Sicheneder, dated December 22, 2016, as amended; Hennepin CityHomes LLC; Mortgages Unlimited, Inc.; and SMB Enterprises, LLC dba Midland Title, as agent for Old Republic National Title Insurance Company.
This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 6(a), 8, 9, 11, 13 and 20 of Table A thereof. The field work was completedon 3-2-2021.
Dated this 4th day of March, 2021.

Rory L. Synstelien — Minnesota License No. 44565
rory@civilsitegroup.com

Linetype & Symbol Legend

- FIBER OPTIC
- GASMAIN
- WATERMAIN
- SANITARY SEWER
- STORM SEWER
- OVERHEAD UTILITIES
- TELEPHONE LINE
- ELECTRIC LINE
- CABLE LINE
- CHAINLINK FENCELINE
- WOODEN FENCELINE
- GUARDRAIL
- CONCRETE SURFACE
- PAVER SURFACE
- BITUMINOUS SURFACE
- GRAVEL/LANDSCAPE SURFACE
- SIGN
- UTILITY MANHOLE
- SANITARY MANHOLE
- STORM MANHOLE
- CATCH BASIN
- ROOF DRAIN
- TELEPHONE BOX
- TELEPHONE MANHOLE
- ELECTRIC TRANSFORMER
- TRAFFIC SIGNAL
- CABLE TV BOX
- ELECTRICAL METER
- GAS METER
- FOUND IRON MONUMENT
- SET IRON MONUMENT
- CAST IRON MONUMENT
- AIR CONDITIONER
- BOLLARD
- ELECTRIC MANHOLE
- FLAG POLE
- FLARED END SECTION
- GAS VALVE
- HANDICAP SYMBOL
- HYDRANT
- WATER MANHOLE
- WATER VALVE
- POWER POLE
- GUY WIRE
- CONIFEROUS TREE
- DECIDUOUS TREE

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
4931 W. 35th Street, Suite 200
St. Louis Park, MN 55416
civilsitegroup.com 612-615-0060

PROJECT: 9360 Hennepin Town Rd
Eden Prairie, Hennepin County, MN 55347

CLIENT: Hennepin CityHomes, LLC
8201 Normandale Center Dr, Suite 450, Bloomington, MN 55437

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA

RORY L. SYNSTELIEN
Date: 3-4-21 LICENSE NO. 44565

QA/QC

FIELD CREW	BH
DRAWN BY	PJ
REVIEWED BY	CJ
UPDATED BY	JRN

VICINITY MAP

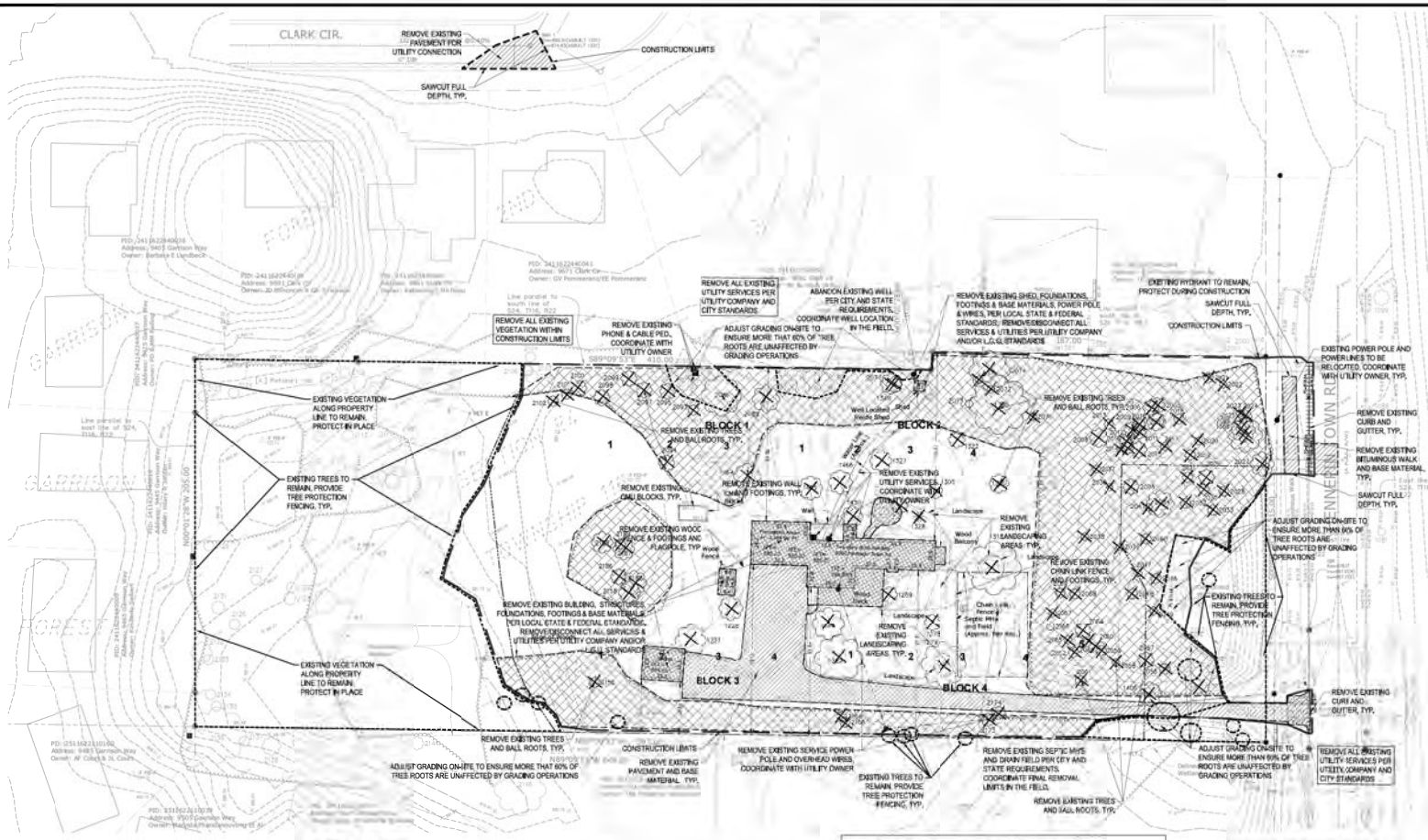
REVISION SUMMARY

DATE	DESCRIPTION

PROJECT NO: 21015

ALTA/NSPS LAND TITLE SURVEY

V1.0



REMOVAL NOTES:

1. SEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PLAN FOR CONSTRUCTION STORM WATER MANAGEMENT PLAN.
2. REMOVAL OF MATERIALS NOTED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH MNDOT, STATE AND LOCAL REGULATIONS.
3. REMOVAL OF PRIVATE UTILITIES SHALL BE COORDINATED WITH UTILITY OWNER PRIOR TO CONSTRUCTION ACTIVITIES.
4. EXISTING PAVEMENTS SHALL BE SAWCUT IN LOCATIONS AS SHOWN ON THE DRAWINGS OR THE NEAREST JOINT FOR PROPOSED PAVEMENT CONNECTIONS.
5. REMOVED MATERIALS SHALL BE DISPOSED OF TO A LEGAL OFF-SITE LOCATION AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
6. ABANDON, REMOVAL, CONNECTION, AND PROTECTION NOTES SHOWN ON THE DRAWINGS ARE APPROXIMATE, COORDINATE WITH PROPOSED PLANS.
7. EXISTING ON-SITE FEATURES NOT NOTED FOR REMOVAL SHALL BE PROTECTED THROUGHOUT THE DURATION OF THE CONTRACT.
8. PROPERTY LINES SHALL BE CONSIDERED GENERAL CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED ON THE DRAWINGS. WORK WITHIN THE GENERAL CONSTRUCTION LIMITS SHALL INCLUDE STAGING, DEMOLITION AND CLEANUP OPERATIONS AS WELL AS CONSTRUCTION SHOWN ON THE DRAWINGS.
9. MINOR WORK OUTSIDE OF THE GENERAL CONSTRUCTION LIMITS SHALL BE ALLOWED AS SHOWN ON THE PLAN AND PER CITY REQUIREMENTS.
10. DAMAGE BEYOND THE PROPERTY LIMITS CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED IN A MANNER APPROVED BY THE ENGINEER/LANDSCAPE ARCHITECT OR IN ACCORDANCE WITH THE CITY.
11. PROPOSED WORK (BUILDING AND CIVIL) SHALL NOT DISTURB EXISTING UTILITIES UNLESS OTHERWISE SHOWN ON THE DRAWINGS AND APPROVED BY THE CITY PRIOR TO CONSTRUCTION.
12. SITE SECURITY MAY BE NECESSARY AND PROVIDED IN A MANNER TO PROHIBIT VANDALISM, AND THEFT, DURING AND AFTER NORMAL WORK HOURS, THROUGHOUT THE DURATION OF THE CONTRACT. SECURITY MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY.
13. VEHICULAR ACCESS TO THE SITE SHALL BE MAINTAINED FOR DELIVERY AND INSPECTION ACCESS DURING NORMAL OPERATING HOURS, AT NO POINT THROUGHOUT THE DURATION OF THE CONTRACT SHALL CIRCULATION OF ADJACENT STREETS BE BLOCKED WITHOUT APPROVAL BY THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
14. ALL TRAFFIC CONTROLS SHALL BE PROVIDED AND ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MNUTCD) AND THE CITY. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
15. SHORING FOR BUILDING EXCAVATION MAY BE USED AT THE DISCRETION OF THE CONTRACTOR AND AS APPROVED BY THE OWNERS REPRESENTATIVE AND THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
16. STAGING, DEMOLITION, AND CLEAN-UP AREAS SHALL BE WITHIN THE PROPERTY LIMITS AS SHOWN ON THE DRAWINGS AND MAINTAINED IN A MANNER AS REQUIRED BY THE CITY.

CITY OF EDEN PRAIRIE REMOVAL NOTES:

1. RESERVED FOR CITY SPECIFIC REMOVAL NOTES.

EROSION CONTROL NOTES:

SEE SWPPP ON SHEETS SW1.0 - SW1.5

REMOVALS LEGEND:

- EX. 1' CONTOUR ELEVATION INTERVAL
- REMOVAL OF PAVEMENT AND ALL BASE MATERIAL, INCLUDING BIT., CONC, AND GRAVEL PVMTS.
- REMOVAL OF STRUCTURE INCLUDING ALL FOOTINGS AND FOUNDATIONS.
- REMOVAL EXISTING VEGETATION
- REMOVE CURB AND GUTTER. IF IN RIGHT-OF-WAY, COORDINATE WITH LOCAL GOVERNING UNIT.
- TREE PROTECTION
- TREE REMOVAL - INCLUDING ROOTS AND STUMPS

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

N

1" = 20'-0"

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
4931 W 35th Street, Suite 200
St. Louis Park, MN 55416
(763) 476-6010
civilsitegroup.com

PROJECT
MORIMOTO CITYHOMES
9360 HENNEPIN TOWN ROAD, EDEN PRAIRIE, MN 55347

SMART FIT DEVELOPMENT
5123 W 98TH STREET, SUITE 142, BLOOMINGTON, MN 55437

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David J. Knoble
DATE: 7/26/21 LICENSE NO.: 48779

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6/4/21	CITY RESUBMITTAL
7/26/21	WATERSHED RESUBMITTAL

DRAWN BY: SJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

REMOVALS PLAN

C1.0

TREE INVENTORY

TREE TAG NO.	SPECIES	TRUNK SIZE 1	2	3	TYPE	REMOVED	SIGNIF.[1]	HERITAGE[2]
1056	ASH	8			D			
1071	ASH	6			D			
1081	ASH	8			D			
1088	ASH	12			D		X	
1099	ASH	12			D		X	
1228	MAPLE	18			D	X	X	
1237	ASH	24			D	X	X	
1269	ASH	12			D	X	X	
1278	ASH	12			D	X	X	
1279	MAPLE	34			D	X		X
1288	ASH	24			D	X	X	
1289	MAPLE	36			D	X		X
1305	ASH	12			D	X	X	
1313	MAPLE	40			D	X		X
1320	MAPLE	14			D	X	X	
1322	MAPLE	12			D	X	X	
1327	ASH	16			D	X	X	
1328	SPRUCE	4			D	X		
1330	MAPLE	12			D	X	X	
1340	ASH	12			D	X	X	
1368	OAK	26			D	X	X	
1385	OAK	44			D	X		X
1406	OAK	18			D	X	X	
1408	COTTONWOOD	40			D		X	
1416	PINE	8			C		X	
1430	ASH	16			D	X	X	
1454	ASH	20			D	X	X	
1465	ASH	18			D	X	X	
1466	ASH	16			D	X	X	
2665	ASH	12			D	X	X	
2666	ASH	12			D	X	X	
2667	OAK	14			D	X	X	
2668	OAK	14			D	X	X	
2669	OAK	12			D	X	X	
2610	OAK	10			D	X		
2611	OAK	10			D	X		
2612	ASH	8			D	X		
2613	MAPLE	8			D	X		
2614	MAPLE	10			D	X		
2615	MAPLE	12			D	X	X	
2616	OAK	10			D	X		
2617	ASH	6			D	X		
2618	OAK	8			D	X		
2619	MAPLE	6			D	X		
2620	OAK	8			D	X		
2621	MAPLE	8			D	X		
2622	ASH	6			D	X		
2623	MAPLE	6			D	X		
2624	OAK	10			D	X		
2625	OAK	18			D	X	X	
2626	OAK	8			D	X		
2627	OAK	18			D	X	X	
2628	OAK	6			D	X		
2629	OAK	12			D	X	X	
2630	OAK	5			D	X		
2631	OAK	8			D	X		
2632	OAK	6			D	X		
2633	ASH	8			D	X		
2634	ELM	20			D	X		
2635	MAPLE	12			D	X	X	
2636	MAPLE	6			D	X		
2637	MAPLE	8			D	X		
2638	ASH	6			D	X		
2639	MAPLE	6			D	X		
2640	BIRCH	8			D	X		
2641	MAPLE	6			D			
2642	BIRCH	6			D			
2643	MAPLE	6			D			
2644	MAPLE	6			D			
2645	ASH	14			D		X	
2646	BIRCH	8			D	X		
2647	ASH	6			D	X		
2648	MAPLE	8			D	X		
2649	OAK	6			D	X		
2650	COTTONWOOD	8			D			
2651	COTTONWOOD	6			D			
2652	COTTONWOOD	18			D		X	
2653	MAPLE	10			D			
2654	MAPLE	12			D		X	
2656	OAK	8			D	X		
2657	MAPLE	12			D	X	X	
2658	MAPLE	6			D	X		
2659	MAPLE	8			D	X		
2660	ASH	6			D	X		
2661	ASH	8			D	X		
2662	ASH	8			D	X		
2663	MAPLE	6			D	X		
2664	MAPLE	13			D	X	X	
2665	ASH	6			D	X		
2666	MAPLE	6			D	X		
2667	ASH	6			D	X		
2668	MAPLE	6			D	X		
2669	MAPLE	8			D	X		
2670	MAPLE	8			D	X		
2671	MAPLE	6			D	X		
2672	MAPLE	6			D	X		
2673	MAPLE	6			D			
2674	MAPLE	30			D	X	X	
2675	MAPLE	8			D			
2676	MAPLE	12			D		X	
2677	MAPLE	16			D	X	X	
2680	ASH	6			D			
2681	ASH	6			D			
2682	ASH	26			D		X	

TREE INVENTORY

TREE TAG NO.	SPECIES	TRUNK SIZE 1	2	3	TYPE	REMOVED	SIGNIF.[1]	HERITAGE[2]
2063	MAPLE	14			D		X	
2064	MAPLE	14			D		X	
2065	ASH	20			D	X	X	
2066	MAPLE	30			D	X	X	
2067	BIRCH	6			D			
2068	BIRCH	6			D			
2089	MAPLE	10			D			
2090	MAPLE	16			D		X	
2091	ASH	6			D			
2092	MAPLE	10			D			
2093	MAPLE	8			D	X		
2094	MAPLE	12			D	X	X	
2095	MAPLE	12			D	X	X	
2096	ASH	12			D		X	
2097	MAPLE	12			D	X	X	
2098	MAPLE	12			D	X	X	
2099	MAPLE	12			D	X	X	
2100	ASH	12			D	X	X	
2101	BIRCH	8			D	X		
2102	BIRCH	8			D	X		
2103	BIRCH	8			D			
2105	LOCUST	10			D			
2106	LOCUST	8			D			
2107	MAPLE	6			D			
2108	MAPLE	8			D			
2109	BIRCH	6			D			
2110	MAPLE	14			D		X	
2111	MAPLE	10			D			
2112	MAPLE	6			D			
2113	ASH	6			D			
2114	MAPLE	10			D			
2115	BIRCH	8			D			
2116	BIRCH	8			D			
2117	MAPLE	12			D		X	
2118	ASH	10			D			
2119	ASH	8			D			
2120	MAPLE	14			D		X	
2121	MAPLE	10			D			
2122	MAPLE	6			D			
2123	ASH	6			D			
2124	ASH	6			D			
2125	MAPLE	6			D			
2126	ASH	6			D			
2127	ASH	6			D			
2128	ASH	10			D			
2129	ASH	8			D			
2130	OAK	16			D		X	
2131	BIRCH	10			D			
2132	OAK	16			D		X	
2133	ASH	8			D			
2134	OAK	6			D			
2135	OAK	6			D			
2148	OAK	6			D			
* 2149	HACKBERRY	8			D	X		
* 2150	BIRCH	6			D	X		
2154	BIRCH	8			D			
2155	OAK	8			D	X		
2163	OAK	10			D			
2164	OAK	8			D			
2166	MAPLE	6			D			
2167	MAPLE	8			D			
2169	BIRCH	8			D			
2173	OAK	10			D			
* 2174	OAK	10			D	X		
* 2181	OAK	24			D		X	
2182	OAK	12			D		X	
2183	MAPLE	10			D			
2184	MAPLE	8			D			
2185	OAK	18			D	X	X	
2186	OAK	12			D	X	X	
2187	OAK	16			D	X	X	
2188	OAK	16			D	X	X	
2189	OAK	8			D	X		

* These trees are shown in the calculation as removed since more than 40% of the root ball area may be affected by grading operations, but will not be removed as part of the demolition plan.

	NUMBER:	CAL INCHES
HERITAGE TREES	4	154
SIGNIFICANT TREES	93	1002
COMMON TREES	110	870
TOTAL ON-SITE	177	2026
HERITAGE REMOVED	4	154
HERITAGE PRESERVED	0	0
SIGNIFICANT REMOVED	43	674
SIGNIFICANT PRESERVED	20	328

HERITAGE TREE REPLACEMENT FORMULA
REPLACE AT 2:1 (CALIPER IN:1 RATIO)[4]

	CAL IN.
HERITAGE REMOVED	154
REQUIRED REPLACEMENT	308

TREE REPLACEMENT FORMULA
((A/B) x C) x A) - H) = D

A = 674 TOTAL SIG. CALIPER INCHES REMOVED
B = 1002 TOTAL SIG. ONLY CALIPER INCHES ON-SITE
C = 0.5 TREE REPLACEMENT CONSTANT
H = 0 HERITAGE CAL. IN. PRESERVED[3]
D = 227 REQUIRED REPLACEMENT CALIPER INCHES

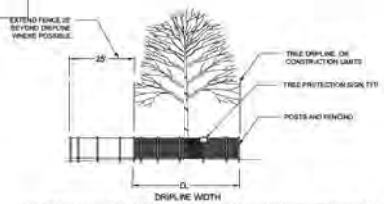
REQUIRED REPLACEMENT CALIPER INCHES (D FROM ABOVE)	227
REQUIRED REPLACEMENT FROM HERITAGE TREES	308
TOTAL REPLACEMENT	535 CAL. IN.
(TOTAL NUMBER OF REQUIRED REPLACEMENT TREES @ 2" cal.)	134 TREES

[1] TREE TYPES: D = DECIDUOUS TREE (SHADE TREE)
C = CONIFEROUS TREE (EVERGREEN TREE)

[2] SIGNIFICANT TREES ARE DEFINED AS THE FOLLOWING, PER CITY OF EDEN PRAIRIE ZONING ORDINANCE, SECTION 13.55, SUBD. 2. DEFINITIONS, iii.:
Significant Tree. Any deciduous hardwood tree (except elm, willow, box elder and aspen) measuring 12 inches in Diameter or greater, or a coniferous tree measuring 8 inches in Diameter or greater.

[3] HERITAGE TREES ARE DEFINED AS THE FOLLOWING, PER CITY OF EDEN PRAIRIE ZONING ORDINANCE, SECTION 13.55, SUBD. 2. DEFINITIONS, f.:
Heritage Tree. Any living deciduous tree (except cottonwood, elm, willow, mountain ash and aspen) measuring 32 inches in Diameter or greater, or a living coniferous tree measuring 24 inches in Diameter or greater.

[4] HERITAGE TREES REPLACEMENT RATIO & PRESERVATION CREDIT, PER CITY OF EDEN PRAIRIE ZONING ORDINANCE, SECTION 13.55, SUBD. 4, C.:
Heritage trees that are lost or damaged are to be replaced at a ratio of 2:1, replaced caliper inches to lost or damaged Diameter Inch. Heritage Tree replacement must include a minimum of 20% replacement trees equal to or greater than 4 caliper inches. In the case one or more Heritage trees are saved, the amount of Diameter inches of said saved Heritage tree(s) may be subtracted from the replacement required by Subd. C. 1 of this Subdivision, provided however in no event shall the amount subtracted beyond 50% of the Replacement Trees (Number of Caliper Inches) as determined by the formula in Subd. C. 1. The not to exceed 50% limitation shall apply to applications deemed to be complete on or after March 7, 2017.



FURNISH & AND INSTALL TEMPORARY FENCE AT THE TREE'S DRIP LINE OR CONSTRUCTION LIMITS AS SHOWN ON PLAN, PRIOR TO ANY CONSTRUCTION. WHERE POSSIBLE PLACE FENCE 25' BEYOND DRIP LINE. PLACE TREE PROTECTION SIGN ON POSTS, ONE PER INDIVIDUAL TREE (FACING CONSTRUCTION ACTIVITY), OR ONE EVERY 100' LF ALONG A GROVE OR MULTI-TREE PROTECTION AREA.

1 TREE PROTECTION
NTS

Know what's below. Call before you dig.

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(612) 615-0060

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David J. Knoble
DATE: 7/26/21 LICENSE NO.: 46778

ISSUE/SUBMITTAL SUMMARY

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7/26/21	WATERSHED RESUBMITTAL

DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

TREE PRESERVATION PLAN

C1.1

EROSION CONTROL NOTES:

SEE SWPPP ON SHEETS SW1.0 - SW1.5

Know what's below. Call before you dig.

1" = 30'-0"

CivilSite GROUP
Civil Engineering * Surveying * Landscape Architecture
4931 W 35th Street, Suite 200
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(612) 615-0060

PROJECT
MORIMOTO CITYHOMES
9360 HENNEPIN TOWN ROAD, EDEN PRAIRIE, MN 55347
SMART FIT DEVELOPMENT
5123 W 98TH STREET, SUITE 142, BLOOMINGTON, MN 55437

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

David J. Knoble
DATE 7/26/21 LICENSE NO. 48776

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
2/5/21	CITY SUBMITTAL
4/15/21	WATERSHED SUBMITTAL
4/19/21	CITY RESUBMITTAL
5/17/21	WATERSHED SUBMITTAL
6/2/21	WATERSHED SUBMITTAL
6/4/21	CITY RESUBMITTAL
7/26/21	WATERSHED RESUBMITTAL

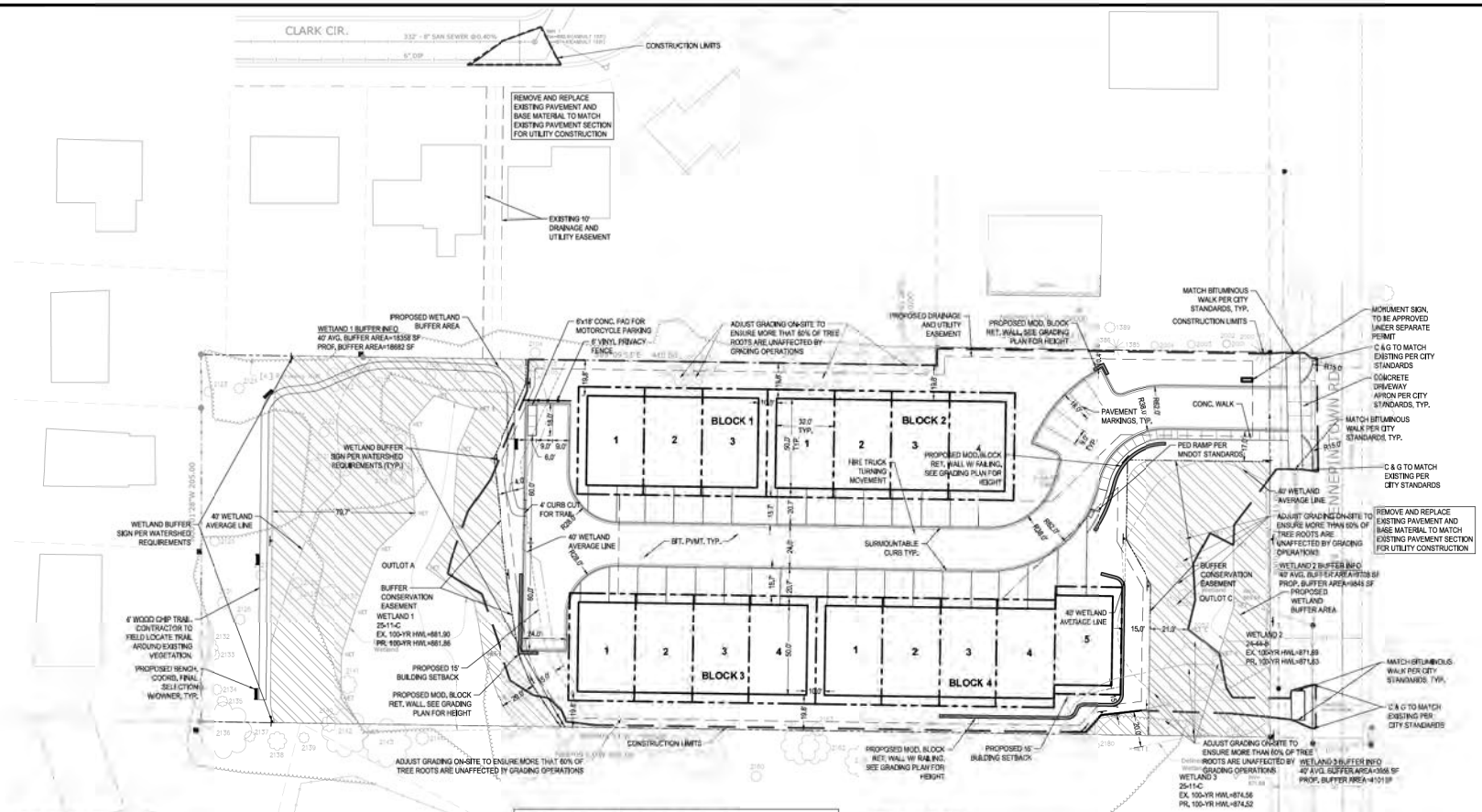
DRAWN BY BJ REVIEWED BY DK
PROJECT NUMBER 21315

REVISION SUMMARY

DATE	DESCRIPTION

EXISTING CONDITIONS PLAN

C1.2



SITE LAYOUT NOTES:

1. CONTRACTOR SHALL VERIFY LOCATIONS AND LAYOUT OF ALL SITE ELEMENTS PRIOR TO BEGINNING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, LOCATIONS OF EXISTING AND PROPOSED PROPERTY LINES, EASEMENTS, SETBACKS, UTILITIES, BUILDINGS AND PAVEMENTS. CONTRACTOR IS RESPONSIBLE FOR FINAL LOCATIONS OF ALL ELEMENTS FOR THE SITE. ANY REVISIONS REQUIRED AFTER COMMENCEMENT OF CONSTRUCTION, DUE TO LOCATIONAL ADJUSTMENTS SHALL BE CORRECTED AT NO ADDITIONAL COST TO OWNER. ADJUSTMENTS TO THE LAYOUT SHALL BE APPROVED BY THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF MATERIALS. STAKE LAYOUT FOR APPROVAL.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, INCLUDING A RIGHT-OF-WAY AND STREET OPENING PERMIT.
3. THE CONTRACTOR SHALL VERIFY RECOMMENDATIONS NOTED IN THE GEO TECHNICAL REPORT PRIOR TO INSTALLATION OF SITE IMPROVEMENT MATERIALS.
4. CONTRACTOR SHALL FIELD VERIFY COORDINATES AND LOCATION DIMENSIONS OF THE BUILDING AND STAKE FOR REVIEW AND APPROVAL BY THE OWNERS REPRESENTATIVE PRIOR TO INSTALLATION OF FOOTING MATERIALS.
5. LOCATIONS OF STRUCTURES, ROADWAY PAVEMENTS, CURBS AND GUTTERS, BOLLARDS, AND WALKS ARE APPROXIMATE AND SHALL BE STAKED IN THE FIELD, PRIOR TO INSTALLATION, FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT.
6. CURB DIMENSIONS SHOWN ARE TO FACE OF CURB. BUILDING DIMENSIONS ARE TO FACE OF CONCRETE FOUNDATION. LOCATION OF BUILDING IS TO BUILDING FOUNDATION AND SHALL BE AS SHOWN ON THE DRAWINGS.
7. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR SAMPLES AS SPECIFIED FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO FABRICATION FOR ALL PREFABRICATED SITE IMPROVEMENT MATERIALS SUCH AS, BUT NOT LIMITED TO THE FOLLOWING: FURNISHINGS, PAVEMENTS, WALLS, RAILINGS, BENCHES, FLAGPOLES, LANDING PADS FOR CURB RAMPS, AND LIGHT AND POLES. THE OWNER RESERVES THE RIGHT TO REJECT INSTALLED MATERIALS NOT PREVIOUSLY APPROVED.
8. PEDESTRIAN CURB RAMPS SHALL BE CONSTRUCTED WITH TRUNCATED DOME LANDING AREAS N ACCORDANCE WITH A.D.A. REQUIREMENTS-SEE DETAIL.
9. CROSSWALK STRIPING SHALL BE 24" WIDE WHITE PAINTED LINE, SPACED 48" ON CENTER PERPENDICULAR TO THE FLOW OF TRAFFIC. WIDTH OF CROSSWALK SHALL BE 5' WIDE. ALL OTHER PAVEMENT MARKINGS SHALL BE WHITE IN COLOR UNLESS OTHERWISE NOTED OR REQUIRED BY ADA OR LOCAL GOVERNING BODIES.
10. SEE SITE PLAN FOR CURB AND GUTTER TYPE. TAPER BETWEEN CURB TYPES-SEE DETAIL.
11. ALL CURB RADII ARE MINIMUM 3' UNLESS OTHERWISE NOTED.
12. CONTRACTOR SHALL REFER TO FINAL PLAT FOR LOT BOUNDARIES, NUMBERS, AREAS AND DIMENSIONS PRIOR TO SITE IMPROVEMENTS.
13. FIELD VERIFY ALL EXISTING SITE CONDITIONS, DIMENSIONS.
14. PARKING IS TO BE SET PARALLEL OR PERPENDICULAR TO EXISTING BUILDING UNLESS NOTED OTHERWISE.
15. ALL PARKING LOT PAINT STRIPPING TO BE WHITE, 4" WIDE TYP.
16. BITUMINOUS PAVING TO BE "LIGHT DUTY" UNLESS OTHERWISE NOTED. SEE DETAIL SHEETS FOR PAVEMENT SECTIONS.
17. ALL TREES THAT ARE TO REMAIN ARE TO BE PROTECTED FROM DAMAGE WITH A CONSTRUCTION FENCE AT THE DRIP LINE. SEE LANDSCAPE DOCUMENTS.

CITY OF EDEN PRAIRIE SITE NOTES:

1. A PERMIT WILL BE REQUIRED FROM THE ENGINEERING DIVISION FOR THE COMMERCIAL DRIVEWAY APRON AT HENNEPIN TOWN ROAD ALONG WITH ANY OTHER WORK ON OR ADJACENT TO HENNEPIN TOWN ROAD.

SITE AREA TABLE:

SITE AREA CALCULATIONS	EXISTING CONDITION		PROPOSED CONDITION	
BUILDING COVERAGE	2,980 SF	2.3%	25,600 SF	20.6%
ALL PAVEMENTS	6,827 SF	4.8%	21,381 SF	17.2%
ALL NON-PAVEMENTS	115,330 SF	92.8%	77,260 SF	62.2%
TOTAL SITE AREA	124,241 SF	100.0%	124,241 SF	100.0%

IMPERVIOUS SURFACE		
EXISTING CONDITION	8,933 SF	7.2%
PROPOSED CONDITION	46,981 SF	37.8%
DIFFERENCE (EX. VS PROP.)	38,000 SF	30.6%

ZONING NOTES:

CURRENT ZONING: RURAL
PROPOSED ZONING: RM-6.5 (6.7 UPA MAX.)
SITE AREA=124241 SF (2.85 AC)
ALLOWABLE UNITS: 19 UNITS
PROPOSED UNITS: 16 UNITS
ALLOWABLE DENSITY PER COMP PLAN = 5-14 UNITS / ACRE
PROPOSED DENSITY = 5.6 UNITS / ACRE

ZONING REGULATIONS
MAX. HEIGHT: 40 FEET
PROPOSED BUILDING HEIGHT: 24 FEET

SETBACKS:
FRONT YARD: 30 FEET
SIDE YARD: 10 FEET
REAR YARD: 20 FEET

PARKING REQUIRED: 2 STALLS/UNIT
PARKING PROVIDED: 2 STALLS/UNIT (GARAGE) + 8 SHARED SPACES

SITE PLAN LEGEND:

- BITUMINOUS PAVEMENT, SEE GEOTECHNICAL REPORT FOR AGGREGATE BASE & WEAR COURSE DEPTH, SEE DETAIL.
- CONCRETE PAVEMENT AS SPECIFIED (PAD OR WALK) SEE GEOTECHNICAL REPORT FOR AGGREGATE BASE & CONCRETE DEPTHS. SEE DETAIL.
- PROPERTY LINE
- CONSTRUCTION LIMITS
- CURB AND GUTTER-SEE NOTES (T.O.) TIP OUT GUTTER WHERE APPLICABLE-SEE PLAN
- TRAFFIC DIRECTIONAL ARROW PAVEMENT MARKINGS

W/SN AND POST ASSEMBLY. SHOP DRAWINGS REQUIRED.
HC = ACCESSIBLE SIGN
VP = NO PARKING FIRE LANE
ST = STOP
CP = COMPACT CAR PARKING ONLY

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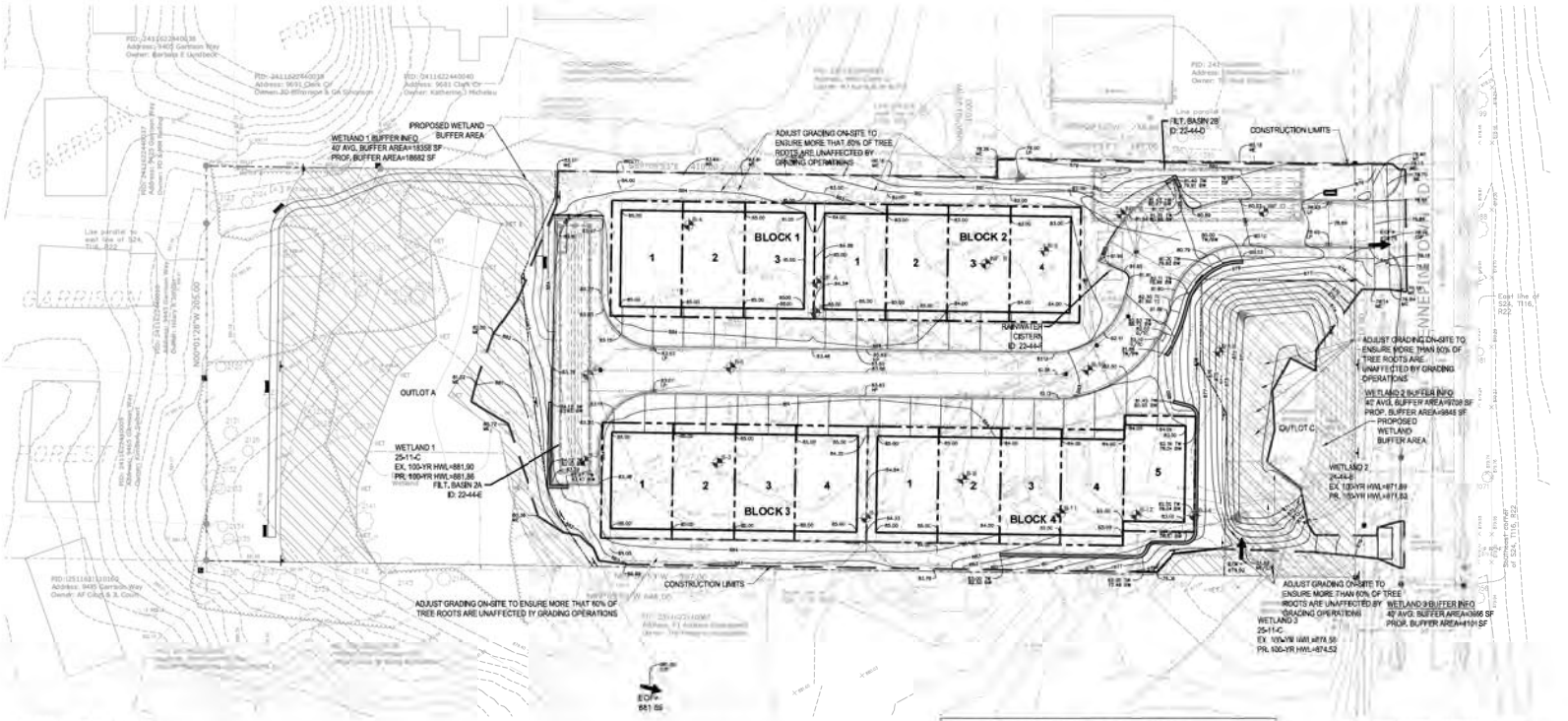
DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

SITE PLAN

C2.0



GENERAL GRADING NOTES:

1. SEE SITE PLAN FOR HORIZONTAL LAYOUT & GENERAL GRADING NOTES.
2. THE CONTRACTOR SHALL COMPLETE THE SITE GRADING CONSTRUCTION (INCLUDING BUT NOT LIMITED TO SITE PREPARATION, SOIL CORRECTION, EXCAVATION, EMBANKMENT, ETC.) IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER'S SOILS ENGINEER. ALL SOIL TESTING SHALL BE COMPLETED BY THE OWNER'S SOILS ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOIL TESTS AND INSPECTIONS WITH THE SOILS ENGINEER.
3. GRADING AND EXCAVATION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS & PERMIT REQUIREMENTS OF THE CITY.
4. PROPOSED SPOT GRADES ARE FLOWLINE FINISHED GRADE ELEVATIONS, UNLESS OTHERWISE NOTED.
5. GRADES OF WALKS SHALL BE INSTALLED WITH 5% MAX. LONGITUDINAL SLOPE AND 1% MIN. AND 2% MAX. CROSS SLOPE, UNLESS OTHERWISE NOTED.
6. PROPOSED SLOPES SHALL NOT EXCEED 3:1 UNLESS INDICATED OTHERWISE ON THE DRAWINGS. MAXIMUM SLOPES IN MAINTAINED AREAS IS 4:1
7. PROPOSED RETAINING WALLS, FREESTANDING WALLS, OR COMBINATION OF WALL TYPES GREATER THAN 4' IN HEIGHT SHALL BE DESIGNED AND ENGINEERED BY A REGISTERED RETAINING WALL ENGINEER. DESIGN DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF GRADE STAKES THROUGHOUT THE DURATION OF CONSTRUCTION TO ESTABLISH PROPER GRADES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR A FINAL FIELD CHECK OF FINISHED GRADES ACCEPTABLE TO THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO TOPSOIL AND SODDING ACTIVITIES.
9. IF EXCESS OR SHORTAGE OF SOIL MATERIAL EXISTS, THE CONTRACTOR SHALL TRANSPORT ALL EXCESS SOIL MATERIAL OFF THE SITE TO AN AREA SELECTED BY THE CONTRACTOR, OR IMPORT SUITABLE MATERIAL TO THE SITE.
10. EXCAVATE TOPSOIL FROM AREAS TO BE FURTHER EXCAVATED OR REGRADED AND STOCKPILE IN AREAS DESIGNATED ON THE SITE. THE CONTRACTOR SHALL SALVAGE ENOUGH TOPSOIL FOR RESPREADING ON THE SITE AS SPECIFIED. EXCESS TOPSOIL SHALL BE PLACED IN EMBANKMENT AREAS, OUTSIDE OF BUILDING PADS, ROADWAYS AND PARKING AREAS. THE CONTRACTOR SHALL SUBCUT CUT AREAS, WHERE TURF IS TO BE ESTABLISHED, TO A DEPTH OF 6 INCHES, RESPREAD TOPSOIL IN AREAS WHERE TURF IS TO BE ESTABLISHED TO A MINIMUM DEPTH OF 6 INCHES.
11. FINISHED GRADING SHALL BE COMPLETED. THE CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING, INCLUDING ADJACENT TRANSITION AREAS, PROVIDE A SMOOTH FINISHED SURFACE WITHIN SPECIFIED TOLERANCES, WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN, OR BETWEEN SUCH POINTS AND EXISTING GRADES. AREAS THAT HAVE BEEN FINISH GRADED SHALL BE PROTECTED FROM SUBSEQUENT CONSTRUCTION OPERATIONS, TRAFFIC AND EROSION. REPAIR ALL AREAS THAT HAVE BECOME RUTTED BY TRAFFIC OR ERODED BY WATER OR HAS SETTLED BELOW THE CORRECT GRADE. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO EQUAL OR BETTER THAN ORIGINAL CONDITION OR TO THE REQUIREMENTS OF THE NEW WORK.
12. PRIOR TO PLACEMENT OF THE AGGREGATE BASE, A TEST ROLL WILL BE REQUIRED ON THE STREET AND/OR PARKING AREA SUBGRADE. THE CONTRACTOR SHALL PROVIDE A LOADED TANDEM AXLE TRUCK WITH A GROSS WEIGHT OF 25 TONS. THE TEST ROLLING SHALL BE AT THE DIRECTION OF THE SOILS ENGINEER AND SHALL BE COMPLETED IN AREAS AS DIRECTED BY THE SOILS ENGINEER. THE SOILS ENGINEER SHALL DETERMINE WHICH SECTIONS OF THE STREET OR PARKING AREA ARE UNSTABLE. CORRECTION OF THE SUBGRADE SOILS SHALL BE COMPLETED IN ACCORDANCE WITH THE RECQUIREMENTS OF THE SOILS ENGINEER. NO TEST ROLL SHALL OCCUR WITHIN 10' OF ANY UNDERGROUND STORM RETENTION/DETENTION SYSTEMS.
13. TOLERANCES
    - 13.1. THE BUILDING SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.30 FOOT ABOVE, OR 0.30 FOOT BELOW, THE PRESCRIBED ELEVATION AT ANY POINT WHERE MEASUREMENT IS MADE.
    - 13.2. THE STREET OR PARKING AREA SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.05 FOOT ABOVE, OR 0.10 FOOT BELOW, THE PRESCRIBED ELEVATION OF ANY POINT WHERE MEASUREMENT IS MADE.
    - 13.3. AREAS WHICH ARE TO RECEIVE TOPSOIL SHALL BE GRADED TO WITHIN 0.50 FOOT ABOVE OR BELOW THE REQUIRED ELEVATION, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
    - 13.4. TOPSOIL SHALL BE GRADED TO FILES OR MINUS 1/2 INCH OF THE SPECIFIED THICKNESS.
14. MAINTENANCE
    - 14.1. THE CONTRACTOR SHALL PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION, AND KEEP AREA FREE OF TRASH AND DEBRIS.
    - 14.2. CONTRACTOR SHALL REPAIR AND REESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS TO SPECIFIED TOLERANCES. DURING THE CONSTRUCTION, IF REQUIRED, AND DURING THE WARRANTY PERIOD, ERODED AREAS WHERE TURF IS TO BE ESTABLISHED SHALL BE RESEEDED AND MULCHED.
    - 14.3. WHERE COMPLETED COMPACTED AREAS ARE DISTURBED BY SUBSEQUENT CONSTRUCTION OPERATIONS OR ADVERSE WEATHER, CONTRACTOR SHALL SCARIFY, SURFACE, RESHAPE, AND COMPACT TO REQUIRED DENSITY PRIOR TO FURTHER CONSTRUCTION.

CITY OF EDEN PRAIRIE GRADING NOTES:

1. RESERVED FOR CITY SPECIFIC GRADING NOTES.

RILEY PURGATORY BLUFF CREEK SITE SPECIFIC NOTES:

1. ALL PERVIOUS AREAS SHALL BE DECOMPACTED WITH SOB RIPPING EQUIPMENT TO 12" PRIOR TO SOD INSTALLATION.
2. TOPSOIL SHALL CONTAIN A MINIMUM OF 5% ORGANIC CONTENT CONSISTENT WITH RPBCWD REQUIREMENTS.

GROUNDWATER INFORMATION:

PER GEOTECHNICAL REPORT BY CHOSEN VALLEY TESTING, INC., DATED 02-16-20 GROUNDWATER WAS OBSERVED AT ELEVATION 862.00

THE BORINGS & GROUNDWATER ARE AS FOLLOWS:
B-40 862.00

EROSION CONTROL NOTES:

SEE SWPPP ON SHEETS SW1.0 - SW1.5

GRADING PLAN LEGEND:

- EXT CONTOUR ELEVATION INTERVAL
- 1137 — 1' CONTOUR ELEVATION INTERVAL
- 41.26 — SPOT GRADE ELEVATION (GUTTER/FLOW LINE UNLESS OTHERWISE NOTED)
- 891.00 G — SPOT GRADE ELEVATION GUTTER
- 891.00 TC — SPOT GRADE ELEVATION TOP OF CURB
- 891.00 BS/TS — SPOT GRADE ELEVATION BOTTOM OF STAIRS/TOP OF STAIRS
- 891.00 ME — SPOT GRADE ELEVATION MATCH EXISTING
- GB — GRADE BREAK - HIGH POINTS
- CURB AND GUTTER (T.O = TIP OUT)
- EOF=1135.52 — EMERGENCY OVERFLOW

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DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

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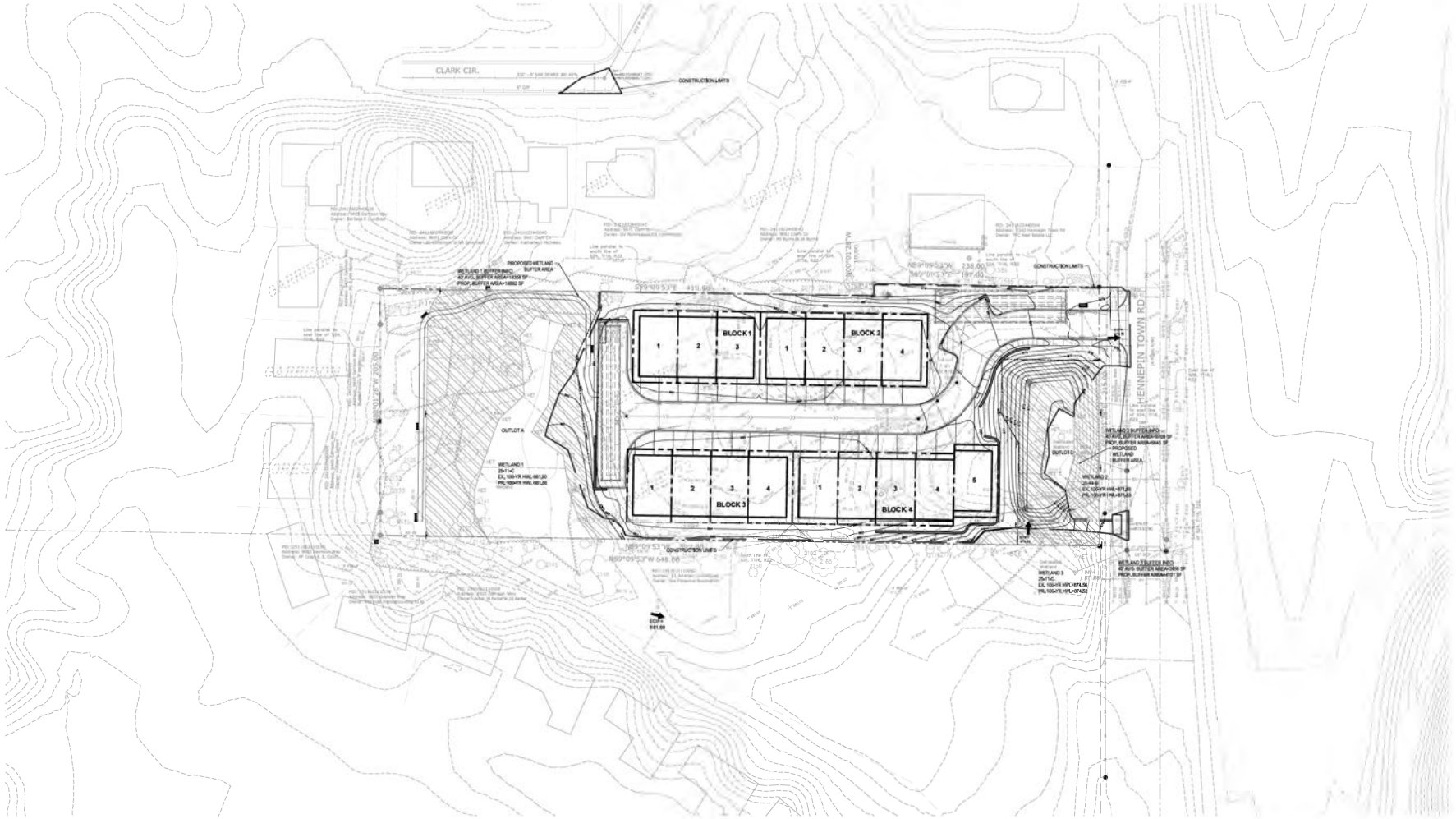
GRADING PLAN

C3.0



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7/29/2021 3:39 PM

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6/8/21	CITY RESUBMITTAL
7/29/21	WATERSHED RESUBMITTAL

DRAWN BY BJ REVIEWED BY DK
PROJECT NUMBER 21015

REVISION SUMMARY

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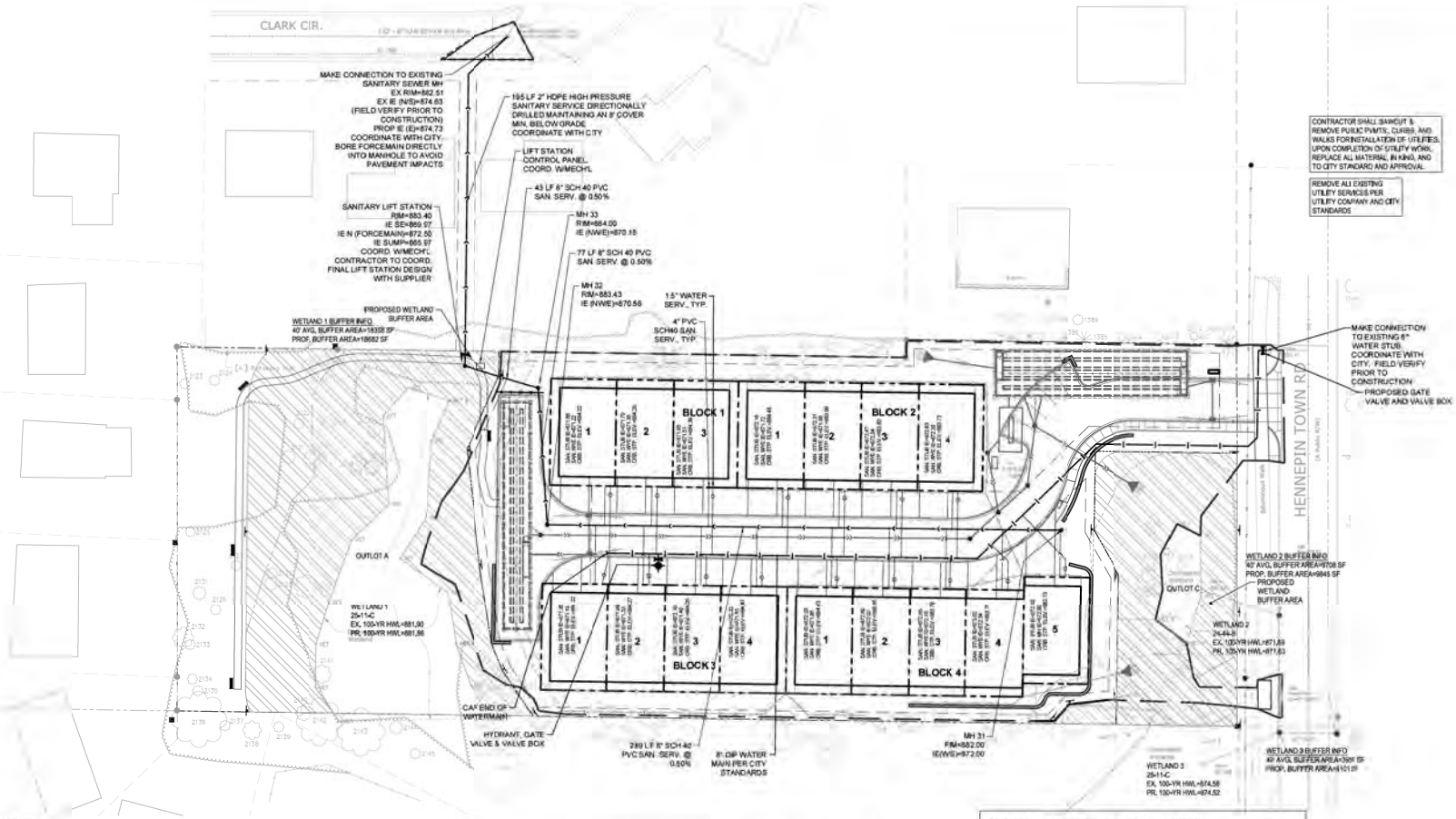
GRADING PLAN - OVERALL

C3.1



GENERAL UTILITY NOTES:

1. SEE SITE PLAN FOR HORIZONTAL DIMENSIONS AND LAYOUT.
2. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF DISCREPANCIES OR VARIATIONS FROM THE PLANS.
3. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
4. UTILITY INSTALLATION SHALL CONFORM TO THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION" AND "SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM) AND SHALL CONFORM WITH THE REQUIREMENTS OF THE CITY AND THE PROJECT SPECIFICATIONS.
5. CASTINGS SHALL BE SALVAGED FROM STRUCTURE REMOVALS AND RE-USED OR PLACED AT THE DIRECTION OF THE OWNER.
6. ALL WATER PIPE SHALL BE CLASS 52 DUCTILE IRON PIPE (DIP) AWWA C151, ASME B16.4, AWWA C110, AWWA C153 UNLESS OTHERWISE NOTED.
7. ALL SANITARY SEWER SHALL BE SDR 26 POLYVINYL CHLORIDE (PVC) ASTM D3034 & F679, OR SCH 40 ASTM D1785, 2665, ASTM F794, 1866) UNLESS OTHERWISE NOTED.
8. ALL STORM SEWER PIPE SHALL BE HDPE ASTM F714 & F2306 WITH ASTM D3212 SPEC FITTINGS UNLESS OTHERWISE NOTED.
9. PIPE LENGTHS SHOWN ARE FROM CENTER TO CENTER OF STRUCTURE OR TO END OF FLARED END SECTION.
10. UTILITIES ON THE PLAN ARE SHOWN TO WITHIN 5' OF THE BUILDING FOOTPRINT. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE FINAL CONNECTION TO BUILDING LINES. COORDINATE WITH ARCHITECTURAL AND MECHANICAL PLANS.
11. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.15 FEET PER DETAILS. RIM ELEVATIONS SHOWN ON THIS PLAN DO NOT REFLECT SUMPED ELEVATIONS.
12. ALL FIRE HYDRANTS SHALL BE LOCATED 5 FEET BEHIND BACK OF CURB UNLESS OTHERWISE NOTED.
13. HYDRANT TYPE, VALVE, AND CONNECTION SHALL BE IN ACCORDANCE WITH CITY REQUIREMENTS. HYDRANT EXTENSIONS ARE INCIDENTAL.
14. A MINIMUM OF 5 FEET OF COVER IS REQUIRED OVER ALL WATERMAIN, UNLESS OTHERWISE NOTED. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM OF 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. EXTRA DEPTH WATERMAIN IS INCIDENTAL.
15. A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FOR ALL UTILITIES, UNLESS OTHERWISE NOTED.
16. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION.
17. CONNECTIONS TO EXISTING STRUCTURES SHALL BE CORE-DRILLED.
18. COORDINATE LOCATIONS AND SIZES OF SERVICE CONNECTIONS WITH THE MECHANICAL DRAWINGS.
19. COORDINATE INSTALLATION AND SCHEDULING OF THE INSTALLATION OF UTILITIES WITH ADJACENT CONTRACTORS AND CITY STAFF.
20. ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. ALL PAVEMENT CONNECTIONS SHALL BE SAWCUT. ALL TRAFFIC CONTROLS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CITY. THIS SHALL INCLUDE BUT NOT BE LIMITED TO SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
21. ALL STRUCTURES, PUBLIC AND PRIVATE, SHALL BE ADJUSTED TO PROPOSED GRADES WHERE REQUIRED. THE REQUIREMENTS OF ALL OWNERS MUST BE COMPLIED WITH. STRUCTURES BEING RESET TO PAVED AREAS MUST MEET OWNERS REQUIREMENTS FOR TRAFFIC LOADING.
22. CONTRACTOR SHALL COORDINATE ALL WORK WITH PRIVATE UTILITY COMPANIES.
23. CONTRACTOR SHALL COORDINATE CONNECTION OF IRRIGATION SERVICE TO UTILITIES. COORDINATE THE INSTALLATION OF IRRIGATION SLEEVES NECESSARY AS TO NOT IMPACT INSTALLATION OF UTILITIES.
24. CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS THROUGHOUT CONSTRUCTION AND SUBMIT THESE PLANS TO ENGINEER UPON COMPLETION OF WORK.
25. ALL JOINTS AND CONNECTIONS IN STORM SEWER SYSTEM SHALL BE GASTIGHT OR WATERTIGHT. APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATERTIGHT CONNECTIONS TO MANHOLES, CATCHBASINS, OR OTHER STRUCTURES.
26. ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED IN ACCORDANCE WITH MN RULES, CHAPTER 4714, SECTION 1100.0.
27. FOR ALL SITES LOCATED IN CLAY SOIL AREAS, DRAIN TILE MUST BE INSTALLED AT ALL LOW POINT CATCH BASINS 25' IN EACH DIRECTION. SEE PLAN AND DETAIL. INSTALL LOW POINT DRAIN TILE PER PLANS AND GEOTECHNICAL REPORT RECOMMENDATIONS AND REQUIREMENTS.

CITY OF EDEN PRAIRIE UTILITY NOTES:

1. THE SANITARY SEWER FORCE MAIN WILL REQUIRE AN ENCROACHMENT AGREEMENT FROM THE CITY OF EDEN PRAIRIE COVERING MAINTENANCE RESPONSIBILITIES.
2. A PERMIT FROM THE ENGINEERING DIVISION FOR INSTALLATION OF THE SERVICE WITHIN THE EXISTING DRAINAGE AND UTILITY EASEMENTS BETWEEN 9671 & 9681 CLARK CIRCLE AND CITY RIGHT-OF-WAY WILL BE REQUIRED.

UTILITY LEGEND:

- MANHOLE
- CATCH BASIN
- GATE VALVE AND VALVE BOX
- PROPOSED FIRE HYDRANT
- WATER MAIN
- SANITARY SEWER
- STORM SEWER
- FES AND RIP RAP

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4931 W 35th Street, Suite 200
St. Louis Park, MN 55416
civilsitegroup.com 612.615.0060

PROJECT
MORIMOTO CITYHOMES
9360 HENNEPIN TOWN ROAD, EDEN PRAIRIE, MN 55347

SMART FIT DEVELOPMENT
5123 W 98TH STREET, SUITE 142, BLOOMINGTON, MN 55437

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

David J. Knoble
DATE 7/26/21 LICENSE NO. 48776

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
3/5/21	CITY SUBMITTAL
4/7/21	WATERSHED SUBMITTAL
4/19/21	CITY RESUBMITTAL
5/17/21	WATERSHED SUBMITTAL
6/2/21	WATERSHED SUBMITTAL
6/4/21	CITY RESUBMITTAL
7/26/21	WATERSHED RESUBMITTAL

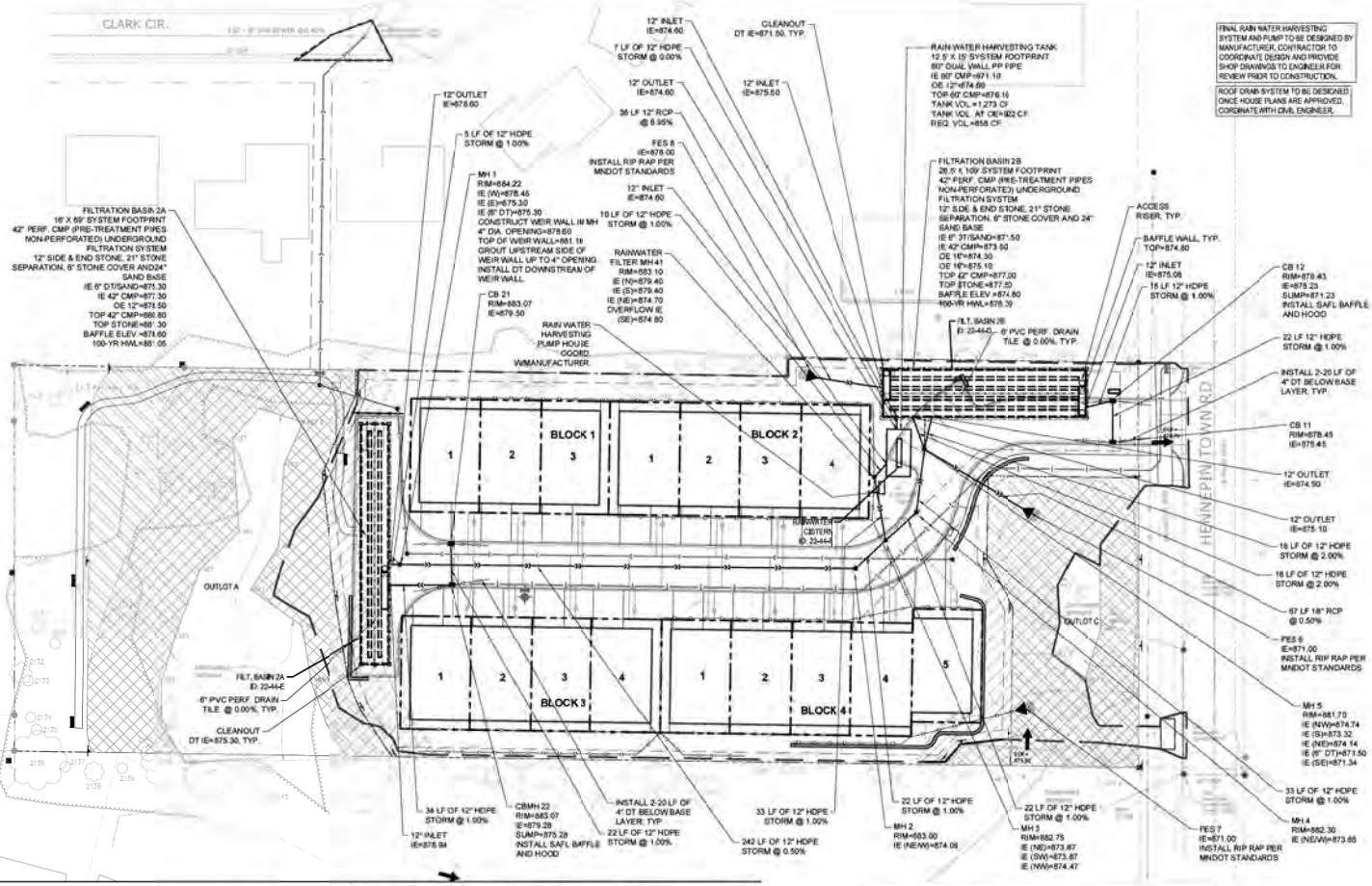
DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

UTILITY PLAN - SANITARY AND WATER

C4.0



GENERAL UTILITY NOTES:

1. SEE SITE PLAN FOR HORIZONTAL DIMENSIONS AND LAYOUT.
2. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF DISCREPANCIES OR VARIATIONS FROM THE PLANS.
3. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
4. UTILITY INSTALLATION SHALL CONFORM TO THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION" AND "SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM) AND SHALL CONFORM WITH THE REQUIREMENTS OF THE CITY AND THE PROJECT SPECIFICATIONS.
5. CASTINGS SHALL BE SALVAGED FROM STRUCTURE REMOVALS AND RE-USED OR PLACED AT THE DIRECTION OF THE OWNER.
6. ALL WATER PIPE SHALL BE CLASS 52 DUCTILE IRON PIPE (DIP) AWWA C151, ASME B16.4, AWWA C110, AWWA C153 UNLESS OTHERWISE NOTED.
7. ALL SANITARY SEWER SHALL BE SDR 26 POLYVINYL CHLORIDE (PVC) ASTM D3034 & F679, OR SCH 40 ASTM D1785, 2665, ASTM F794, 1866) UNLESS OTHERWISE NOTED.
8. ALL STORM SEWER PIPE SHALL BE HDPE ASTM F714 & F2306 WITH ASTM D3212 SPEC FITTINGS UNLESS OTHERWISE NOTED.
9. PIPE LENGTHS SHOWN ARE FROM CENTER TO CENTER OF STRUCTURE OR TO END OF FLARED END SECTION.
10. UTILITIES ON THE PLAN ARE SHOWN TO WITHIN 5' OF THE BUILDING FOOTPRINT. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE FINAL CONNECTION TO BUILDING LINES. COORDINATE WITH ARCHITECTURAL AND MECHANICAL PLANS.
11. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.15 FEET PER DETAILS. RIM ELEVATIONS SHOWN ON THIS PLAN DO NOT REFLECT SUMPED ELEVATIONS.
12. ALL FIRE HYDRANTS SHALL BE LOCATED 5 FEET BEHIND BACK OF CURB UNLESS OTHERWISE NOTED.
13. HYDRANT TYPE, VALVE, AND CONNECTION SHALL BE IN ACCORDANCE WITH CITY REQUIREMENTS. HYDRANT EXTENSIONS ARE INCIDENTAL.
14. A MINIMUM OF 7 FEET OF COVER IS REQUIRED OVER ALL WATERMAIN, UNLESS OTHERWISE NOTED. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM OF 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. EXTRA DEPTH WATERMAIN IS INCIDENTAL.
15. A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FOR ALL UTILITIES, UNLESS OTHERWISE NOTED.
16. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION.
17. CONNECTIONS TO EXISTING STRUCTURES SHALL BE CORE-DRILLED.
18. COORDINATE LOCATIONS AND SIZES OF SERVICE CONNECTIONS WITH THE MECHANICAL DRAWINGS.
19. COORDINATE INSTALLATION AND SCHEDULING OF THE INSTALLATION OF UTILITIES WITH ADJACENT CONTRACTORS AND CITY STAFF.
20. ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. ALL PAVEMENT CONNECTIONS SHALL BE SAWCUT. ALL TRAFFIC CONTROLS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MNUTCD) AND THE CITY. THIS SHALL INCLUDE BUT NOT BE LIMITED TO SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
21. ALL STRUCTURES, PUBLIC AND PRIVATE, SHALL BE ADJUSTED TO PROPOSED GRADES WHERE REQUIRED. THE REQUIREMENTS OF ALL OWNERS MUST BE COMPLIED WITH. STRUCTURES BEING RESET TO PAVED AREAS MUST MEET OWNERS REQUIREMENTS FOR TRAFFIC LOADING.
22. CONTRACTOR SHALL COORDINATE ALL WORK WITH PRIVATE UTILITY COMPANIES.
23. CONTRACTOR SHALL COORDINATE CONNECTION OF IRRIGATION SERVICE TO UTILITIES. COORDINATE THE INSTALLATION OF IRRIGATION SLEEVES NECESSARY AS TO NOT IMPACT INSTALLATION OF UTILITIES.
24. CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS THROUGHOUT CONSTRUCTION AND SUBMIT THESE PLANS TO ENGINEER UPON COMPLETION OF WORK.
25. ALL JOINTS AND CONNECTIONS IN STORM SEWER SYSTEM SHALL BE GASTIGHT OR WATERTIGHT. APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATERTIGHT CONNECTIONS TO MANHOLES, CATCHBASINS, OR OTHER STRUCTURES.
26. ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED IN ACCORDANCE WITH MN RULES, CHAPTER 4714, SECTION 1100.5.

CITY OF EDEN PRAIRIE UTILITY NOTES:

1. RESERVED FOR CITY SPECIFIC UTILITY NOTES.

UTILITY LEGEND:

- MANHOLE
- CATCH BASIN
- GATE VALVE AND VALVE BOX
- PROPOSED FIRE HYDRANT
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7/26/21	WATERSHED RESUBMITTAL

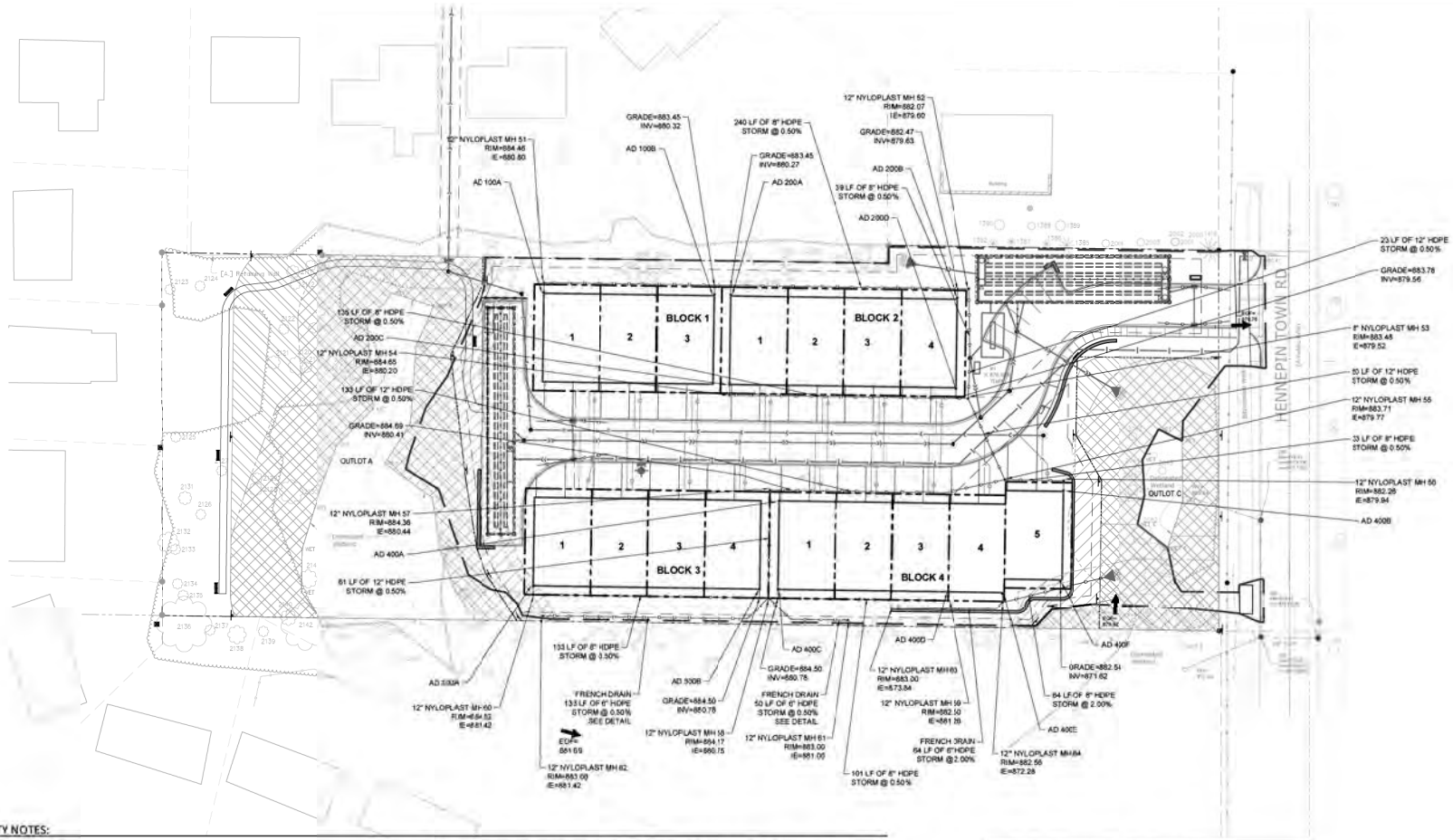
DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

UTILITY PLAN - STORM SEWER

C4.1



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- GATE VALVE AND VALVE BOX
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DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

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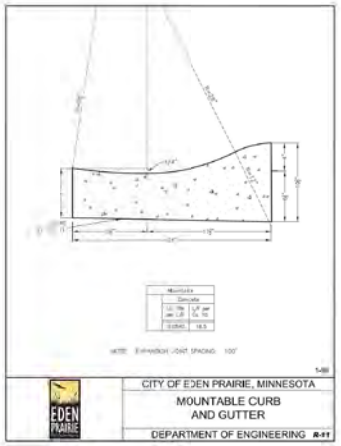
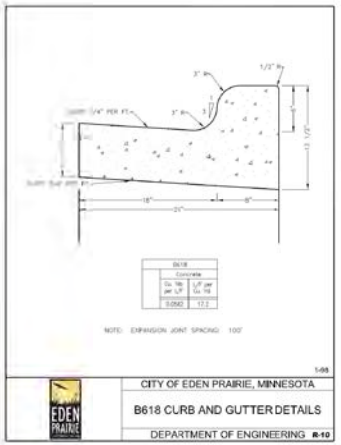
UTILITY PLAN - DRAINTILE LAYOUT

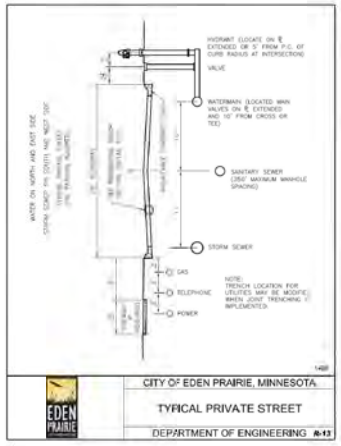
C4.2



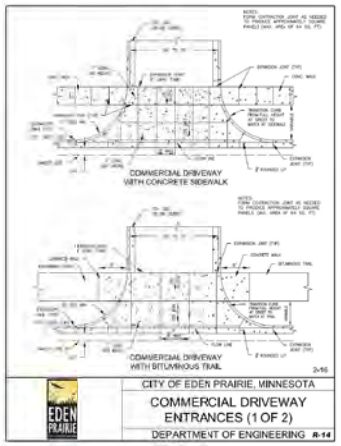
CITY OF EDEN PRAIRIE, MINNESOTA
MOUNTABLE CURB AND GUTTER
DEPARTMENT OF ENGINEERING R-11



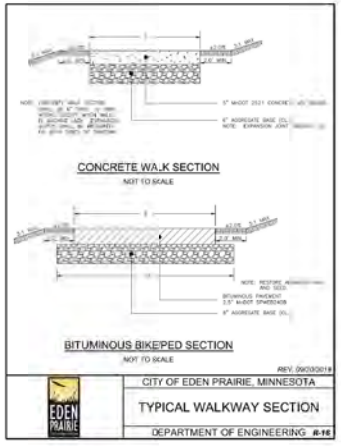
CITY OF EDEN PRAIRIE, MINNESOTA
B618 CURB AND GUTTER DETAILS
DEPARTMENT OF ENGINEERING R-10



CITY OF EDEN PRAIRIE, MINNESOTA
TYPICAL PRIVATE STREET
DEPARTMENT OF ENGINEERING R-13

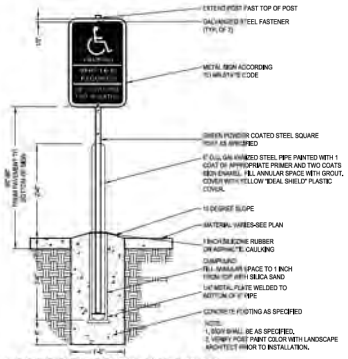


CITY OF EDEN PRAIRIE, MINNESOTA
COMMERCIAL DRIVEWAY ENTRANCES (1 OF 2)
DEPARTMENT OF ENGINEERING R-14

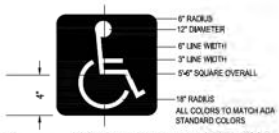


CITY OF EDEN PRAIRIE, MINNESOTA
TYPICAL WALKWAY SECTION
DEPARTMENT OF ENGINEERING R-15

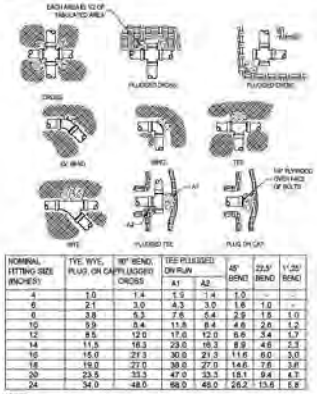
1 BITUMINOUS PAVEMENT
NTS



2 ACCESSIBLE SIGN AND POST
NTS



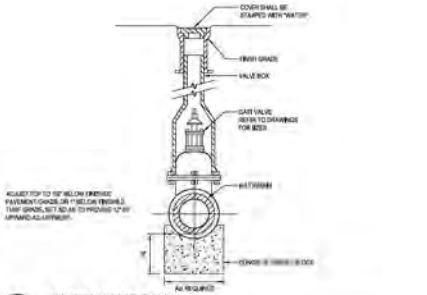
3 ACCESSIBLE PARKING PAVEMENT MARKING
NTS



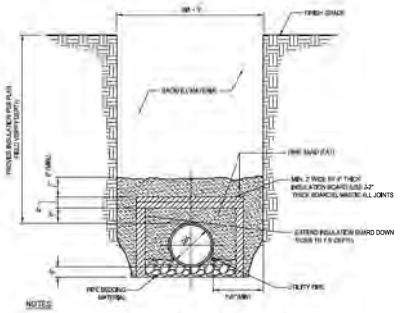
NOMINAL FITTING SIZE (INCHES)	TYE, WYE, PLUG, OR CAP	90° BEND, CROSS	TEE PLUGGED DN RUN A1	TEE PLUGGED DN RUN A2	45° BEND	22.5° BEND	11.25° BEND
4	1.0	1.4	1.3	1.4	1.0	-	-
6	2.1	3.0	4.3	3.0	1.6	1.0	-
8	3.8	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.6	1.2
12	8.5	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	16.3	23.0	16.3	8.9	4.6	2.3
16	15.0	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	27.0	38.0	27.0	14.6	7.6	3.8
20	23.5	33.3	47.0	33.3	18.1	9.4	4.7
24	34.0	48.0	68.0	48.0	26.2	13.6	6.8

NOTES:
1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES.
3. IF NOT SHOWN ON PLANS, REQUIRED BEARING AT FITTING SHALL BE AS INDICATED ABOVE, ADJUSTED IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS(ES).
4. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN THIS STANDARD DETAIL.
5. ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 P.S.I. AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/150) X (2000/SOIL BEARING STRESS) X (TABLE VALUE).

4 THRUST BLOCK
NTS

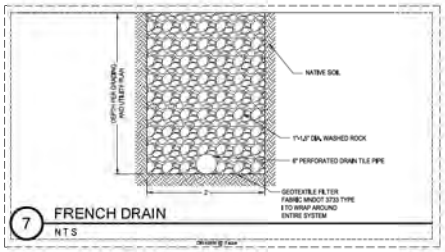


5 GATE VALVE BOX
NTS

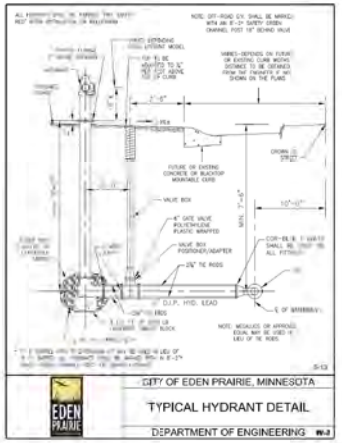


NOTES:
1. INSULATION BOARD TO BE CLOSED CELL, EXTRUDED POLYSTYRENE FOAM MEETING ASTM 578, TYPE VI, 40PSI COMPRESSING STRENGTH (ASTM D1621) 0.1%MAX. WATER ABSORPTION (ASTM C272).
2. BACKFILL MATERIAL AROUND INSULATION MUST BE FINE SAND FREE FROM ROOT, ORGANIC MATERIAL, OR OTHER INJURIOUS MATERIALS.
3. OVERLAP ALL INSULATION BOARD JOINTS.

6 UTILITY PIPE INSULATION DETAIL
NTS



7 FRENCH DRAIN
NTS



CITY OF EDEN PRAIRIE, MINNESOTA
TYPICAL HYDRANT DETAIL
DEPARTMENT OF ENGINEERING W-3

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CIVIL DETAILS

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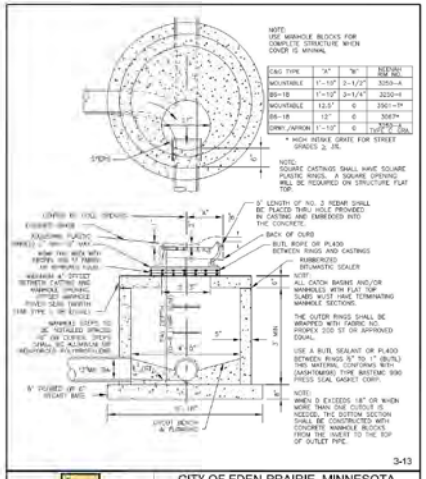
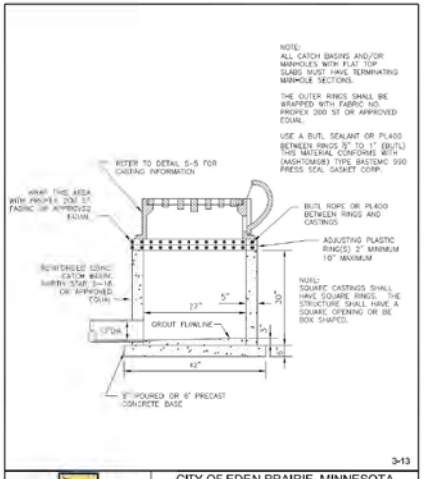


CITY OF EDEN PRAIRIE, MINNESOTA

STANDARD CATCH BASIN

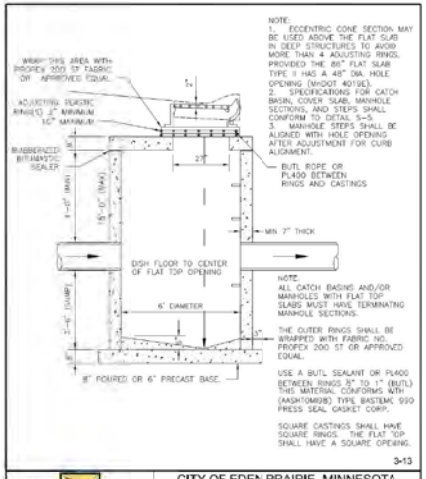
DEPARTMENT OF ENGINEERING S-5



CITY OF EDEN PRAIRIE, MINNESOTA

27" DEAD END CATCH BASIN

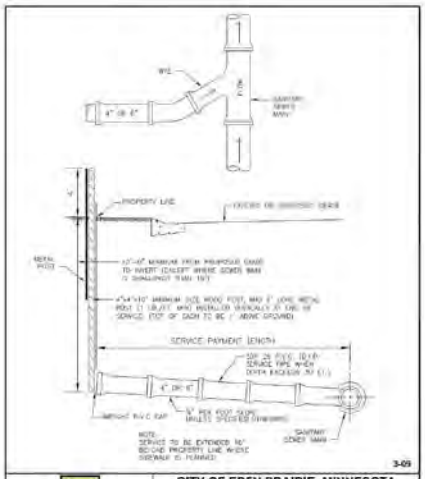
DEPARTMENT OF ENGINEERING S-6



CITY OF EDEN PRAIRIE, MINNESOTA

SUMP MANHOLE OR CATCH BASIN

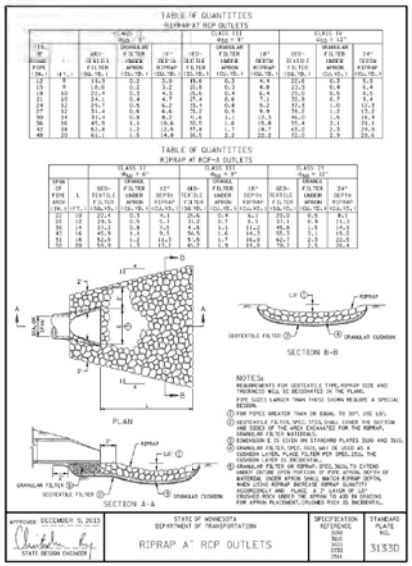
DEPARTMENT OF ENGINEERING S-7



CITY OF EDEN PRAIRIE, MINNESOTA

TYPICAL BUILDING SERVICE

DEPARTMENT OF ENGINEERING S-8

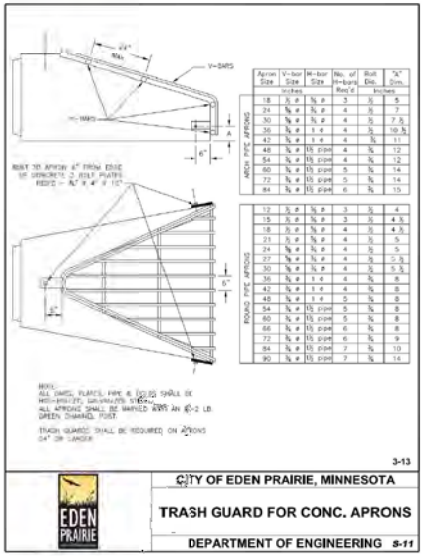


STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

RIPRAP "A" RCP OUTLETS

SPECIFICATION REFERENCE: 3601, 3602, 3603, 3733, 3751

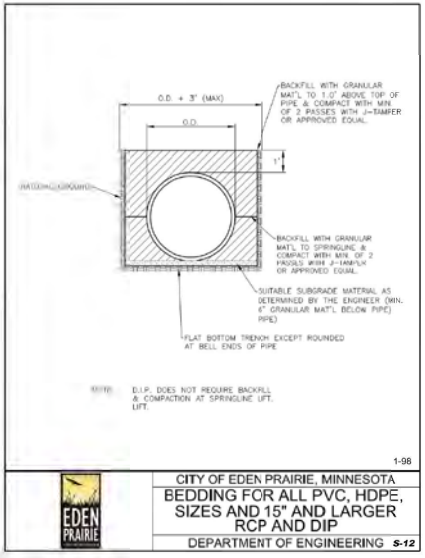
STANDARD PLATE NO.: 3133D



CITY OF EDEN PRAIRIE, MINNESOTA

TRASH GUARD FOR CONC. APRONS

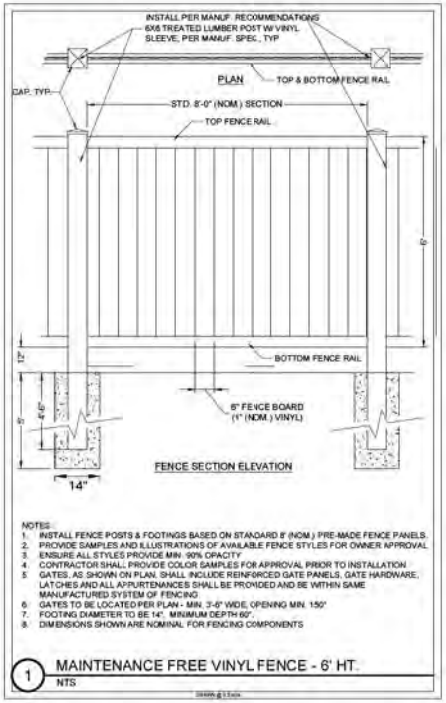
DEPARTMENT OF ENGINEERING S-11



CITY OF EDEN PRAIRIE, MINNESOTA

BEDDING FOR ALL PVC, HDPE, SIZES AND 15" AND LARGER RCP AND DIP

DEPARTMENT OF ENGINEERING S-12



1 MAINTENANCE FREE VINYL FENCE - 6' HT.
NTS

NOTES:
1. INSTALL FENCE POSTS & FOOTINGS BASED ON STANDARD 8' (NOM.) PRE-MADE FENCE PANELS.
2. PROVIDE SAMPLES AND ILLUSTRATIONS OF AVAILABLE FENCE STYLES FOR OWNER APPROVAL
3. ENSURE ALL STYLES PROVIDE MIN. 90% OPACITY
4. CONTRACTOR SHALL PROVIDE COLOR SAMPLES FOR APPROVAL PRIOR TO INSTALLATION
5. GATES, AS SHOWN ON PLAN, SHALL INCLUDE REINFORCED GATE PANELS, GATE HARDWARE, LATCHES AND ALL APPURTENANCES SHALL BE PROVIDED AND BE WITHIN SAME MANUFACTURED SYSTEM OF FENCING
6. GATES TO BE LOCATED PER PLAN - MIN. 3'-6" WIDE, OPENING MIN. 150°
7. FOOTING DIAMETER TO BE 14", MINIMUM DEPTH 60".
8. DIMENSIONS SHOWN ARE NOMINAL FOR FENCING COMPONENTS

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
4931 W 35th Street, Suite 200
St. Louis Park, MN 55416
(763) 476-6010

PROJECT
MORIMOTO CITYHOMES
9360 HENNEPIN TOWN ROAD, EDEN PRAIRIE, MN 55347

SMART FIT DEVELOPMENT
5123 W 98TH STREET, SUITE 142, BLOOMINGTON, MN 55437

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

David J. Knoble
DATE: 7/26/21 LICENSE NO.: 48776

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
3/5/21	CITY SUBMITTAL
4/7/21	WATERSHED SUBMITTAL
4/19/21	CITY RESUBMITTAL
5/17/21	WATERSHED SUBMITTAL
6/2/21	WATERSHED SUBMITTAL
6/4/21	CITY RESUBMITTAL
7/26/21	WATERSHED RESUBMITTAL

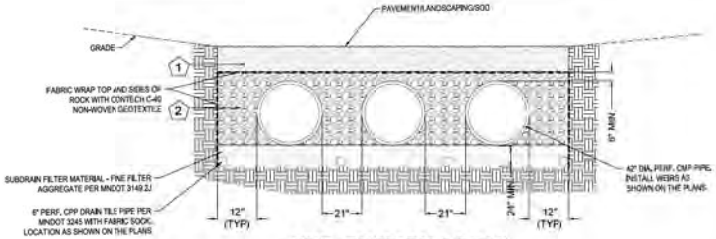
DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

CIVIL DETAILS

C5.1



TYP. SECTION DETAIL

NTS

KEY
1. TOPSOIL
2. FREE DRAINING ANGULAR WASHED STONE 3/4" - 2" PARTICLE SIZE (NON LIMESTONE MATERIAL THAT CONTAINS LESS THAN 5% DELETERIOUS MATERIALS). INSTALL TO MIN. 95% STANDARD DENSITY PER AASHTO T99

CONSTRUCTION SEQUENCING

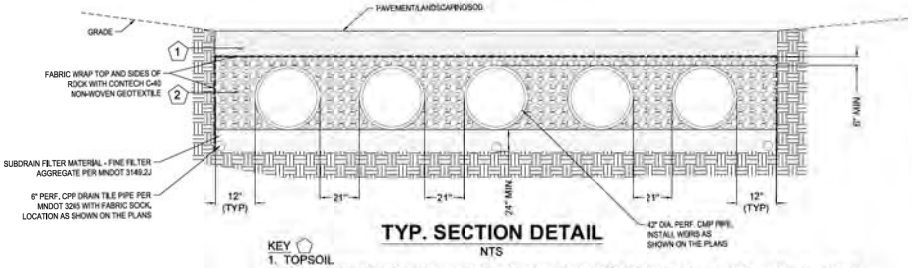
1. INSTALL SILT FENCE AND/OR OTHER APPROPRIATE TEMPORARY EROSION CONTROL DEVICES TO PREVENT SEDIMENT FROM LEAVING OR ENTERING THE PRACTICE DURING CONSTRUCTION.
2. ALL DOWN-GRADIENT PERIMETER SEDIMENT CONTROL BMP'S MUST BE IN PLACE BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITY BEGINS.
3. PERFORM CONTINUOUS INSPECTIONS OF EROSION CONTROL PRACTICES.
4. INSTALL UTILITIES (WATER, SANITARY SEWER, ELECTRIC, PHONE, FIBER OPTIC, ETC) PRIOR TO SETTING FINAL GRADE OF BIORETENTION DEVICE.
5. PERFORM ALL OTHER SITE IMPROVEMENTS.
6. SEED AND MULCH ALL AREAS AFTER DISTURBANCE.
7. CONSTRUCT RETENTION DEVICE UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA.
8. IMPLEMENT TEMPORARY AND PERMANENT EROSION CONTROL PRACTICES.
9. PLANT AND MULCH SITE.
10. REMOVE TEMPORARY EROSION CONTROL DEVICES AFTER THE CONTRIBUTING DRAINAGE AREA IS ADEQUATELY VEGETATED.

GENERAL NOTES

1. IN THE EVENT THAT SEDIMENT IS INTRODUCED INTO THE BMP DURING OR IMMEDIATELY FOLLOWING EXCAVATION, THIS MATERIAL SHALL BE REMOVED FROM THE PRACTICE PRIOR TO CONTINUING CONSTRUCTION.
2. GRADING OF RETENTION DEVICES SHALL BE ACCOMPLISHED USING LOW-COMPACTION EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF UNDERLYING SOILS.
3. ALL SUB MATERIALS BELOW THE SPECIFIED RETENTION DEPTH (ELEVATION) SHALL BE UNDISTURBED, UNLESS OTHERWISE NOTED.

1 UNDERGROUND FILTRATION SYSTEM - 2A

NTS



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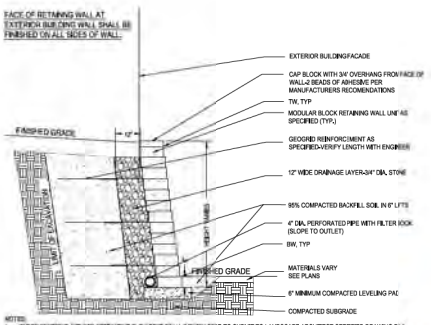
2 UNDERGROUND FILTRATION SYSTEM - 2B

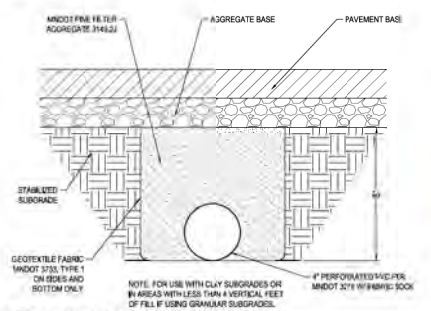
NTS



NOTES:
1. THESE SECTIONS ARE FOR ESTIMATING PURPOSES ONLY. CONTRACTOR TO SUBMIT TO LANDSCAPE ARCHITECT CERTIFIED DRAWING BY A MINNESOTA PROFESSIONAL ENGINEER ON STAFF WITH RETAINING WALL MANUFACTURE PRIOR TO WALL INSTALLATION. PREPARATION AND CERTIFICATION TO BE PAID FOR BY THE CONTRACTOR. SECTION AND ELEVATION OF EACH WALL REQUIRED.
2. ALL SOIL PARAMETERS SHALL BE VERIFIED BY A GEOTECHNICAL CONSULTANT OR SITE ENGINEER PRIOR TO CONSTRUCTION, IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE ASSUMED, NOTIFY MANUFACTURER OF C.M.U. RETAINING WALL 72 HOURS PRIOR TO INSTALLATION.
3.
4. RAILING IS REQUIRED ON RETAINING WALLS IN LOCATIONS WHERE DIFFERENCES IN GRADE ON EITHER SIDE OF THE WALL ARE IN EXCESS OF 5'-0" AND ARE LOCATED CLOSER THAN 4'-0" TO A WALK, PATH, PARKING AREA, OR DRIVE ACCESS ON THE HIGH SIDE-SEE PLANS.
5. COORDINATE LOCATION AND INSTALLATION OF RAILING POSTS AND FOOTINGS DURING THE INSTALLATION OF WALL MATERIALS.
6. COORDINATE INSTALLATION OF RAIL POSTS AND FOOTINGS WITH INSTALLATION AND LOCATION OF GEOGRID REINFORCEMENT. AT NO POINT THROUGHOUT THE DURATION OF THE CONTRACT SHALL CONTRACTOR ALTER THE INTEGRITY OF THE GEOGRID OR WALL MATERIALS.
7. ANY DRIVE RAILING FOOTINGS AS SPECIFIED AND IN A MANNER TO NOT DISTURB THE WALL GEOGRID AS RECOMMENDED BY THE WALL MANUFACTURER. COORDINATE INSTALLATION AND SCHEDULING OF RAILING FOOTING WITH WALL MANUFACTURER TO OBSERVE INSTALLATION OF RAILING FOOTINGS.

3 RETAINING WALL

NTS

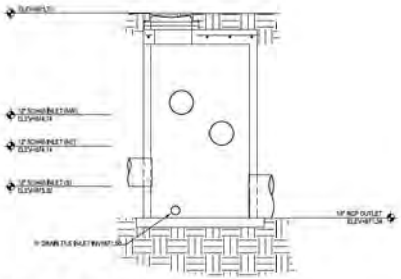


4 4" PVC DRAIN TILE DETAIL

NTS

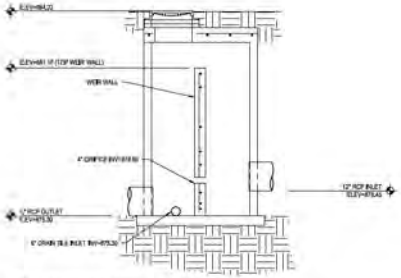
7 WETLAND BUFFER SIGN

NTS



5 OUTLET STRUCTURE - MH 5

NTS



6 OUTLET STRUCTURE - MH 1

NTS

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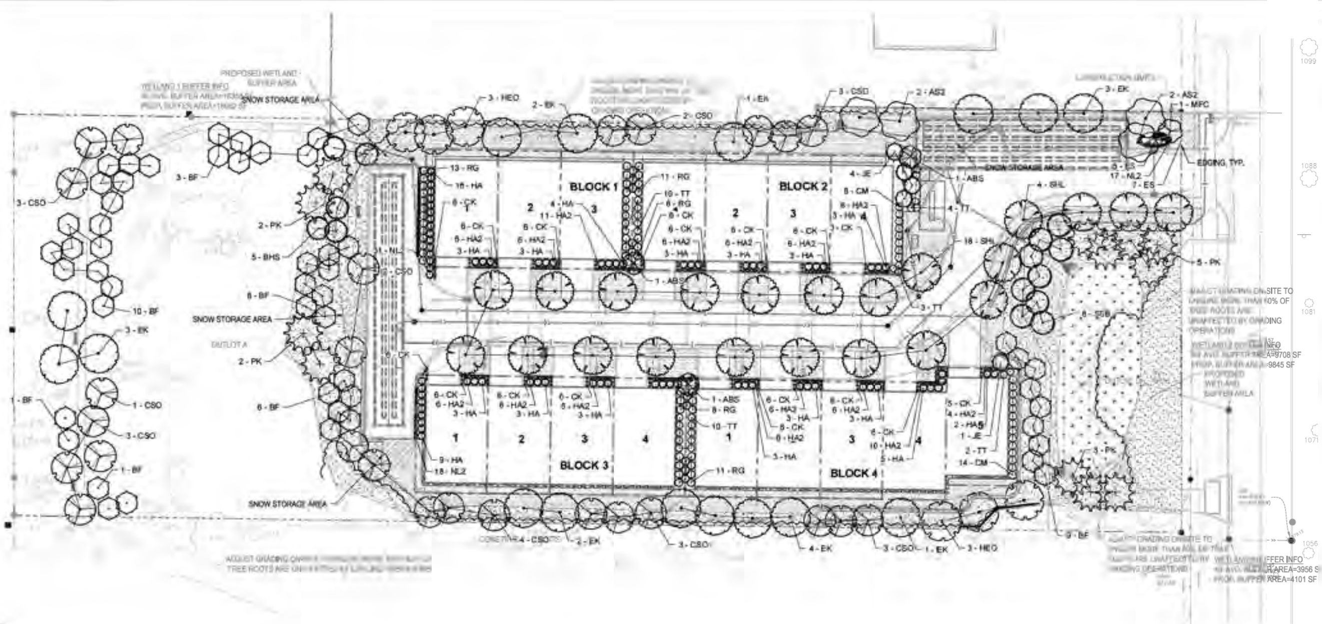
DRAWN BY BJ REVIEWED BY DK
PROJECT NUMBER 21015

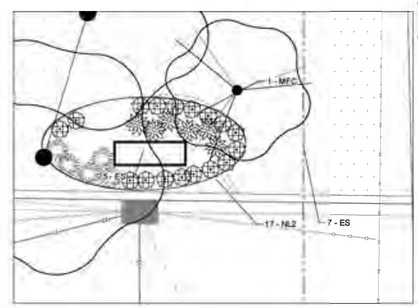
REVISION SUMMARY

DATE	DESCRIPTION

CIVIL DETAILS

C5.2





1 MONUMENT SIGN ENLARGEMENT

LANDSCAPE NOTES:

1. WHERE SHOWN, SHRUB & PERENNIAL BEDS SHALL BE MULCHED WITH 4" DEPTH (MINIMUM AFTER INSTALLATION AND/OR TOP DRESSING OPERATIONS) OF SHREDDED CYPRESS MULCH.
2. ALL TREES SHALL BE MULCHED WITH SHREDDED CYPRESS MULCH TO OUTER EDGE OF SAUCER OR TO EDGE OF PLANTING BED, IF APPLICABLE. ALL MULCH SHALL BE KEPT WITHIN A MINIMUM OF 2" FROM TREE TRUNK.
3. PLANT MATERIALS SHALL CONFORM WITH THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS AND SHALL BE OF HARDY STOCK, FREE FROM DISEASE, DAMAGE AND DISFIGURATION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PLUMPNESS OF PLANT MATERIAL FOR DURATION OF ACCEPTANCE PERIOD.
4. UPON DISCOVERY OF A DISCREPANCY BETWEEN THE QUANTITY OF PLANTS SHOWN ON THE SCHEDULE AND THE QUANTITY SHOWN ON THE PLAN, THE PLAN SHALL GOVERN.
5. CONDITION OF VEGETATION SHALL BE MONITORED BY THE LANDSCAPE ARCHITECT THROUGHOUT THE DURATION OF THE CONTRACT. LANDSCAPE MATERIALS PART OF THE CONTRACT SHALL BE WARRANTED FOR ONE (1) FULL GROWING SEASONS FROM SUBSTANTIAL COMPLETION DATE.
6. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL RECEIVE 4" LAYER TOPSOIL AND SOD AS SPECIFIED UNLESS OTHERWISE NOTED ON THE DRAWINGS.
7. COORDINATE LOCATION OF VEGETATION WITH UNDERGROUND AND OVERHEAD UTILITIES, LIGHTING FIXTURES, DOORS AND WINDOWS. CONTRACTOR SHALL STAKE IN THE FIELD FINAL LOCATION OF TREES AND SHRUBS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
8. ALL PLANT MATERIALS SHALL BE WATERED AND MAINTAINED UNTIL ACCEPTANCE.
9. REPAIR AT NO COST TO OWNER ALL DAMAGE RESULTING FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.
10. SWEEP AND MAINTAIN ALL PAVED SURFACES FREE OF DEBRIS GENERATED FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.
11. PROVIDE SITE WIDE IRRIGATION SYSTEM DESIGN AND INSTALLATION. SYSTEM SHALL BE FULLY PROGRAMMABLE AND CAPABLE OF ALTERNATE DATE WATERING. THE SYSTEM SHALL PROVIDE HEAD TO HEAD OR DRIP COVERAGE AND BE CAPABLE OF DELIVERING ONE INCH OF PRECIPITATION PER WEEK. SYSTEM SHALL EXTEND INTO THE PUBLIC RIGHT-OF-WAY TO THE EDGE OF PAVEMENT/BACK OF CURB.
12. CONTRACTOR SHALL SECURE APPROVAL OF PROPOSED IRRIGATION SYSTEM INCLUDING PRICING FROM OWNER, PRIOR TO INSTALLATION.

POLLINATOR SAFE PLANT MATERIAL:

1. THE CONTRACTOR SHALL PROVIDE ONLY PLANT MATERIAL FREE OF NEONICOTINOID BASED INSECTICIDES AND/OR TREATMENTS OF ANY KIND, INCLUDING BY NOT LIMITED TO IMIDACLOPRID (CONFIDOR, ADMIRE, GAUCHO, ADVOCATE), THIAMETHOXAM (ACTARA, PLATINUM, CRUISER), CLOTHIANIDIN (PONCHO, DANTOSU, DANTOP), ACETAMIPRID (MOSPILAN, ASSAIL, CHIPCOTRISTAR), THIACLOPRID (CALYPSO), DINOTEFURAN (STARKLE, SAFARI, VENOM), AND NITENPYRAM (CAPSTAR, GUARDIAN).
2. CONTRACTOR SHALL CERTIFY, THROUGH SUPPLIERS POLICY STATEMENT OR AFFIDAVIT, THAT NO NEONICOTINOID BASED INSECTICIDES HAVE BEEN USED ON SITE OR DIRECTLY ADJACENT TO THE GROWING OR STORAGE PLOTS OF THE SUPPLIED PLANT MATERIAL, INCLUDING THE PLANTING OF AGRICULTURAL (OR OTHER) SEED TREATED WITH NEONICS.

LANDSCAPE CALCULATIONS:

- REQUIRED DEVELOPMENT TREES (36,396 SF / 320): 28 TREES @ 4" CAL. / 112 CAL. IN
- REQUIRED REPLACEMENT TREES: 134 TREES @ 4" CAL. IN / 536 CAL. IN
- HERITAGE TREES PRESERVED: 0 TREES / (0" CAL.)
- SIGNIFICANT TREES PRESERVED: 20 TREES / 328 CAL. IN
- TOTAL TREES REQUIRED: 162 (@ 4" CAL.) OR 648 CAL. IN
- TOTAL TREES PROVIDED: 134 (@ 4" CAL.) OR 536 CAL. IN DECIDUOUS TREES; 22 (@ 5" CAL.) OR 110 CAL. IN EVERGREEN TREES; TOTAL 156 = 974 CAL. IN
- DEFICIT: 0 CAL. IN

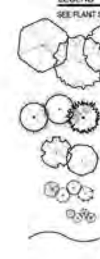
PLANT SCHEDULE

134 TREES @ 4" = 536 CAL. IN. + 22 EVERGREENS @ 5" = 110 CAL. IN.

TREES	QTY	COMMON / BOTANICAL NAME	CONT
AS2	4	Sienna Glen Maple / Acer x freemanii 'Sienna' TM	4" Cal. B&B
SSB	9	Shiloh Splash Birch / Betula nigra 'Shiloh Splash'	4" Cal. B&B
BF	51	Dakota Pinnacle Birch / Betula platyphylla 'Fargo' TM	4" Cal. B&B
SHL	22	Skyline Thornless Honey Locust / Gleditsia triacanthos inermis 'Skycole' TM	4" Cal. B&B
EK	16	Espresso Kentucky Coffeetree / Gymnocladus dioica 'Espresso'	4" Cal. B&B
CSO	26	Crimson Spire Oak / Quercus robur x alba 'Crimschmidt' TM	4" Cal. B&B
HEO	6	Heritage Oak / Quercus x macdanielii 'Clemons' TM	4" Cal. B&B
EVERGREEN TREES	**QTY**	**COMMON / BOTANICAL NAME**	**CONT**
JE	5	Eastern Red Cedar / Juniperus virginiana	12' B&B
BHS	5	Black Hills Spruce / Picea glauca 'Densata'	12' B&B
PK	12	Golden Larch / Pseudolarix kaempferi 'Gold'	12' B&B
ORNAMENTAL TREES	**QTY**	**COMMON / BOTANICAL NAME**	**CONT**
ABS	3	Autumn Brilliance Serviceberry / Amelanchier x grandiflora 'Autumn Brilliance'	1.5" Cal. B&B
MFC	1	Prairifire Crabapple / Malus x 'Prairifire'	1.5" Cal. B&B
SHRUBS	**QTY**	**COMMON / BOTANICAL NAME**	**SIZE**
CM	22	Muskingham Gray Dogwood / Cornus racemosa 'Muskingham'	#2 CONT
HA	78	Annabelle Hydrangea / Hydrangea arborescens 'Annabelle'	#5 CONT
RG	51	Gro-Low Fragrant Sumac / Rhus aromatica 'Gro-Low'	#5 CONT
TT	30	Taunton's Yew / Taxus x media 'Tauntonii'	#5 CONT
GRASSES	**QTY**	**COMMON / BOTANICAL NAME**	**SIZE**
CK	102	Feather Reed Grass / Calamagrostis x acutiflora 'Karl Foerster'	#1 CONT
PERENNIALS	**QTY**	**COMMON / BOTANICAL NAME**	**SIZE**
ES	11	Sombrero Salsa Red Coneflower / Echinacea x 'Balsomsed' TM	#1 CONT
HA2	108	Daylily / Hemerocallis x 'Chicago Apache'	#1 CONT
NL2	66	Catmint / Nepeta racemosa 'Little Titch'	#1 CONT
GROUND COVERS	**QTY**	**COMMON / BOTANICAL NAME**	**SIZE**
	17,849 sf	LOW MAINT. NATIVE MNDOT 35-241 MESIC PRAIRIE (NATIVE), PER MNDOT SEEDING MANUAL SPECIFICATIONS (2014)	Seed Mix
	4,068 sf	Lower Basin Native Seed Mix MNDOT 34-262 WET PRAIRIE, PER MNDOT SEEDING MANUAL SPECIFICATIONS (2014)	Seed Mix
	479 sf	Rock Maintanence Strip / Rock Maintanence Strip 1" River rock over filter fabric, include edging as shown & needed. See detail.	Mulch
	17,154 sf	Blue Grass Based / Sod Commercial grade, locally grown, "Big Roll" preferred	Sod

LEGEND

SEE PLANT SCHEDULE FOR GROUND COVER TYPES



PROPOSED CANOPY TREE SYMBOLS - SEE PLANT SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES

PROPOSED EVERGREEN TREE SYMBOLS - SEE PLANT SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES

PROPOSED ORNAMENTAL TREE SYMBOLS - SEE PLANT SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES

PROPOSED DECIDUOUS AND EVERGREEN SHRUB SYMBOLS - SEE PLANT SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES

PROPOSED PERENNIAL PLANT SYMBOLS - SEE PLANT SCHEDULE AND PLAN FOR SPECIES AND PLANTING SIZES

EDGING - COMMERCIAL GRADE 4" ALUMINUM, PROVIDE ALL CONNECTORS AND STAKES PER MANUF. INSTRUCT./SPECS., INSTALL PER MANUF. INSTRUCT./SPECS.

Know what's below. Call before you dig.

1" = 30'-0"

CivilSite GROUP
Civil Engineering * Surveying * Landscape Architecture

PROJECT
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9360 HENNEPIN TOWN ROAD, EDEN PRAIRIE, MN 55347

SMART FIT DEVELOPMENT
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[illegible]	WATERSHED RESUBMITTAL

DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

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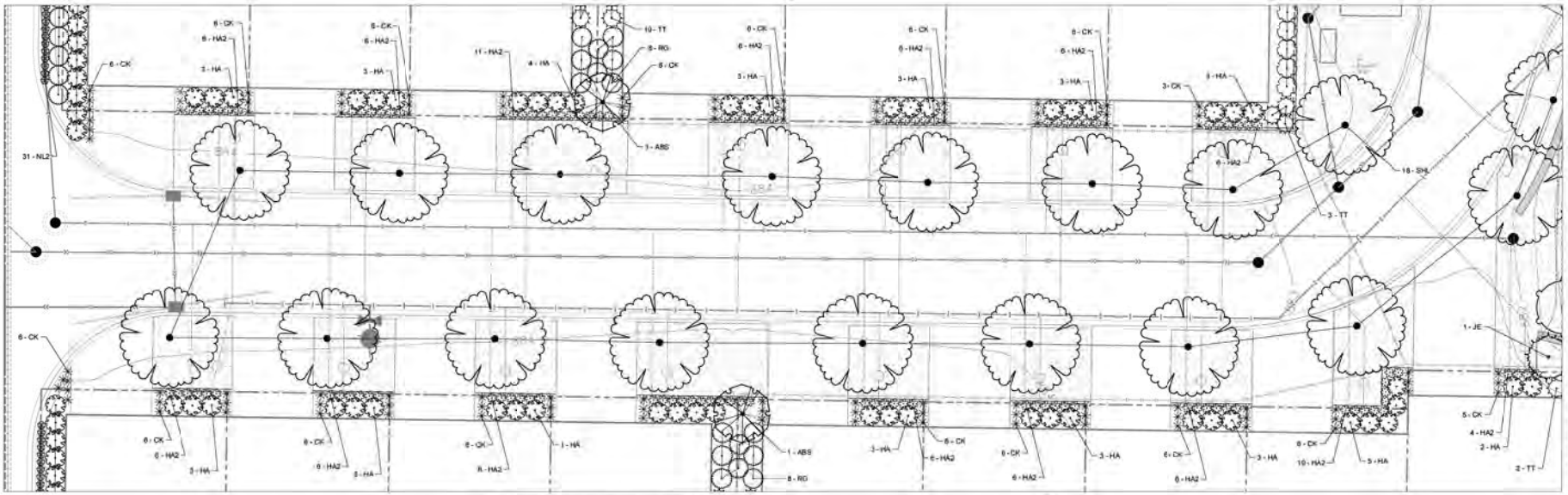
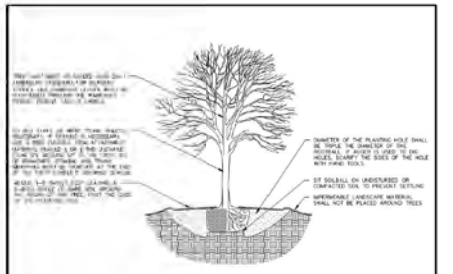
LANDSCAPE PLAN

L1.0



1 FOUNDATION PLANTING ENLARGEMENT

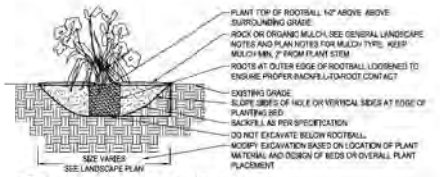


CITY OF EDEN PRAIRIE, MINNESOTA

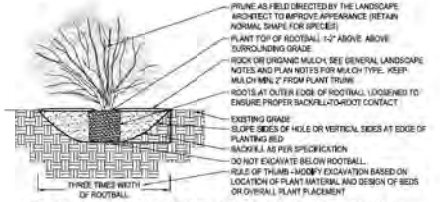
TREE PLANTING DETAIL

DEPARTMENT OF ENGINEERING R-21

1 AGGREGATE MAINTANENCE STRIP
NTS



4 PERENNIAL BED PLANTING
NTS



3 DECIDUOUS & CONIFEROUS SHRUB PLANTING
NTS

IRRIGATION NOTES:

1. ENTIRE SITE SHALL BE FULLY IRRIGATED. THE CONTRACTOR SHALL SUBMIT IRRIGATION SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. SEE MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS FOR IRRIGATION WATER, METER, AND POWER CONNECTIONS.
3. CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND/ABOVE GROUND FACILITIES PRIOR TO ANY EXCAVATION/INSTALLATION. ANY DAMAGE TO UNDERGROUND/ABOVE GROUND FACILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND COSTS ASSOCIATED WITH CORRECTING DAMAGES SHALL BE BORNE ENTIRELY BY THE CONTRACTOR.
4. SERVICE EQUIPMENT AND INSTALLATION SHALL BE PER LOCAL UTILITY COMPANY STANDARDS AND SHALL BE PER NATIONAL AND LOCAL CODES. EXACT LOCATION OF SERVICE EQUIPMENT SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT OR EQUIVALENT AT THE JOB SITE.
5. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR THE PROPOSED ELECTRICAL SERVICE AND METERING FACILITIES.
6. IRRIGATION WATER LINE CONNECTION SIZE IS 1-½" AT BUILDING. VERIFY WITH MECHANICAL PLANS.COVAGE.
7. ALL MAIN LINES SHALL BE 18" BELOW FINISHED GRADE.
8. ALL LATERAL LINES SHALL BE 12" BELLOW FINISHED GRADE.
9. ALL EXPOSED PVC RISERS, IF ANY, SHALL BE GRAY IN COLOR.
10. CONTRACTOR SHALL LAY ALL SLEEVES AND CONDUIT AT 2'-0" BELOW THE FINISHED GRADE OF THE TOP OF PAVEMENT, EXTEND SLEEVES TO 2'-0" BEYOND PAVEMENT.
11. CONTRACTOR SHALL MARK THE LOCATION OF ALL SLEEVES AND CONDUIT WITH THE SLEEVING MATERIAL "ELLED" TO 2'-0" ABOVE FINISHED GRADE AND CAPPED.
12. FABRICATE ALL PIPE TO MANUFACTURE'S SPECIFICATIONS WITH CLEAN AND SQUARE CUT JOINTS. USE QUALITY GRADE PRIMER AND SOLVENT CEMENT FORMULATED FOR INTENDED TYPE OF CONNECTION.
13. BACKFILL ALL TRENCHES WITH SOIL FREE OF SHARP OBJECTS AND DEBRIS.
14. ALL VALVE BOXES AND COVERS SHALL BE BLACK IN COLOR.
15. GROUP VALVE BOXES TOGETHER FOR EASE WHEN SERVICE IS REQUIRED. LOCATE IN PLANT BED AREAS WHENEVER POSSIBLE.
16. IRRIGATION CONTROLLER LOCATION SHALL BE VERIFIED ON-SITE WITH OWNER'S REPRESENTATIVE.
17. CONTROL WIRES: 14 GAUGE DIRECT BURIAL, SOLID COPPER IRRIGATION WIRE. RUN UNDER MAIN LINE. USE MOISTURE-PROOF SPLICES AND SPLICE ONLY AT VALVES OR PULL BOXES. RUN SEPARATE HOT AND COMMON WIRE TO EACH VALVE AND ONE (1) SPARE WIRE AND GROUND TO FURTHEST VALVE FROM CONTROLLER. LABEL OR COLOR CODE ALL WIRES.
18. AVOID OVER SPRAY ON BUILDINGS, PAVEMENT, WALLS AND ROADWAYS BY INDIVIDUALLY ADJUSTING RADIUS OR ARC ON SPRINKLER HEADS AND FLOW CONTROL ON AUTOMATIC VALVE.
19. ADJUST PRESSURE REGULATING VALVES FOR OPTIMUM PRESSURE ON SITE.
20. USE SCREENS ON ALL HEADS.
21. A SET OF AS-BUILT DRAWINGS SHALL BE MAINTAINED ON-SITE AT ALL TIMES IN AN UPDATED CONDITION.
22. ALL PIPE 3" AND OVER SHALL HAVE THRUST BLOCKING AT EACH TURN.
23. ALL AUTOMATIC REMOTE CONTROL VALVES WILL HAVE 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL UNDERNEATH VALVE AND VALVE BOX. GRAVEL SHALL EXTENT 3" BEYOND PERIMETER OF VALVE BOX.
24. THERE SHALL BE 3" MINIMUM SPACE BETWEEN BOTTOM OF VALVE BOX COVER AND TOP OF VALVE STRUCTURE.

LEGEND

SEE SHEET L1.0 FOR LEGEND AND PLANT SCHEDULE

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(612) 615-0060

PROJECT
MORIMOTO CITYHOMES
9360 HENNEPIN TOWN ROAD, EDEN PRAIRIE, MN 55347

SMART FIT DEVELOPMENT
5123 W 98TH STREET, SUITE 142, BLOOMINGTON, MN 55437

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

Robert L. Binder
DATE: 7/26/21 LICENSE NO. 25821

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
3/5/21	CITY SUBMITTAL
4/15/21	WATERSHED SUBMITTAL
4/19/21	CITY RESUBMITTAL
5/17/21	WATERSHED SUBMITTAL
6/1/21	WATERSHED SUBMITTAL
6/4/21	CITY RESUBMITTAL
7/26/21	WATERSHED RESUBMITTAL

DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

LANDSCAPE DETAILS & ENLARGEMENTS

L1.1

SWPPP NOTES:

1. THIS PROJECT IS GREATER THAN ONE ACRE AND WILL REQUIRE AN MPCA NPDES PERMIT. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY EROSION CONTROL PERMITS REQUIRED BY THE CITY.

2. SEE SHEETS SW1.0 - SW1.5 FOR ALL EROSION CONTROL NOTES, DESCRIPTIONS, AND PRACTICES.

3. SEE GRADING PLAN FOR ADDITIONAL GRADING AND EROSION CONTROL NOTES.

4. CONTRACTOR IS RESPONSIBLE FOR SWPPP IMPLEMENTATION, INSPECTIONS, AND COMPLIANCE WITH NPDES PERMIT.

CITY OF EDEN PRAIRIE EROSION CONTROL NOTES:

1. RESERVED FOR CITY SPECIFIC EROSION CONTROL NOTES.

ALL SPECIFIED EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES CONTAINED IN THIS SWPPP ARE THE MINIMUM REQUIREMENTS. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION

RPBCWD EROSION CONTROL NOTES:

1. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED THROUGH SOIL AMENDMENT AND/OR RIPPING TO A DEPTH OF 18 INCHES TAKING CARE TO AVOID UTILITIES, TREE ROOTS AND OTHER EXISTING VEGETATION PRIOR TO FINAL REVEGETATION OR OTHER STABILIZATION.

2. THE CONTRACTOR MUST INSPECT, MAINTAIN AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERYDAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL LAND-DISTURBING ACTIVITY IS CEASED, THEREAFTER, THE CONTRACTOR MUST PERFORM THESE RESPONSIBILITIES AT LEAST WEEKLY UNTIL VEGETATIVE COVER IS ESTABLISHED. THE CONTRACTOR SHALL MAINTAIN A LOG OF ACTIVITIES UNDER THIS SECTION FOR INSPECTION BY THE DISTRICT ON REQUEST.

3. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT PRACTICABLE.

4. FINAL SITE STABILIZATION MEASURES MUST INCLUDE PERMANENT STABILIZATION OF ALL AREAS SUBJECT TO DISTURBANCE, SPECIFYING THAT AT LEAST SIX INCHES OF TOPSOIL OR ORGANIC MATTER BE SPREAD AND INCORPORATED INTO THE UNDERLYING SOIL DURING FINAL SITE TREATMENT WHENEVER TOPSOIL HAS BEEN REMOVED.

5. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE.

LEGEND:

- EX. 1' CONTOUR ELEVATION INTERVAL
- 1.0' CONTOUR ELEVATION INTERVAL
- DRAINAGE ARROW
- SILT FENCE / BIOROLL - GRADING LIMIT
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET

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1" = 30'-0"

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David J. Knoble
DATE: 7/26/21 LICENSE NO. 48778

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
3/5/21	CITY SUBMITTAL
4/15/21	WATERSHED SUBMITTAL
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6/1/21	WATERSHED SUBMITTAL
6/4/21	CITY RESUBMITTAL
7/26/21	WATERSHED RESUBMITTAL

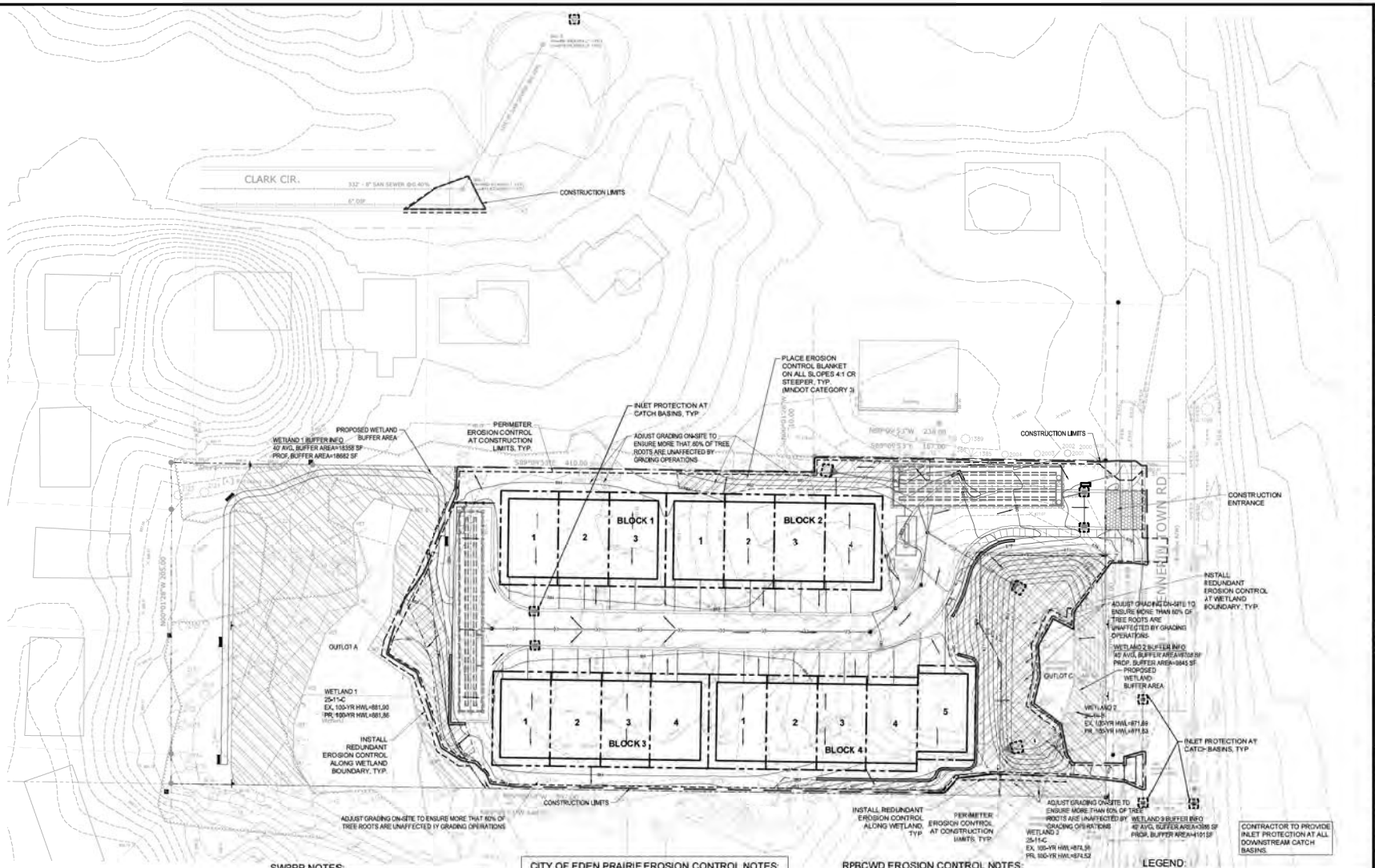
DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

SWPPP - EXISTING CONDITIONS

SW1.0



SWPPP NOTES:

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2. SEE SHEETS SW1.0 - SW1.5 FOR ALL EROSION CONTROL NOTES, DESCRIPTIONS, AND PRACTICES.

3. SEE GRADING PLAN FOR ADDITIONAL GRADING AND EROSION CONTROL NOTES.

4. CONTRACTOR IS RESPONSIBLE FOR SWPPP IMPLEMENTATION, INSPECTIONS, AND COMPLIANCE WITH NPDES PERMIT.

CITY OF EDEN PRAIRIE EROSION CONTROL NOTES:

1. RESERVED FOR CITY SPECIFIC EROSION CONTROL NOTES.

ALL SPECIFIED EROSION AND SEDIMENT CONTROL PRACTICES, AND MEASURES CONTAINED IN THIS SWPPP ARE THE MINIMUM REQUIREMENTS. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION.

RPBCWD EROSION CONTROL NOTES:

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5. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE.

LEGEND:

- EX. 1' CONTOUR ELEVATION INTERVAL
- 1137 — 1.0' CONTOUR ELEVATION INTERVAL
- DRAINAGE ARROW
- SILT FENCE / BIOROLL - GRADING LIMIT
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET

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1" = 30'-0"
15'-0" 0 30'-0"

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David J. Knoble
DATE: 7/26/21 LICENSE NO. 48779

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
3/5/21	CITY SUBMITTAL
4/15/21	WATERSHED SUBMITTAL
4/19/21	CITY RESUBMITTAL
5/17/21	WATERSHED SUBMITTAL
6/1/21	WATERSHED SUBMITTAL
6/4/21	CITY RESUBMITTAL
7/26/21	WATERSHED RESUBMITTAL

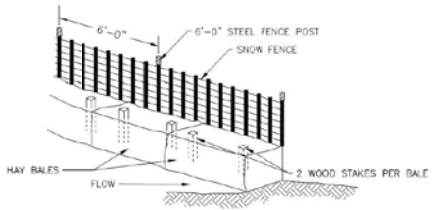
DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

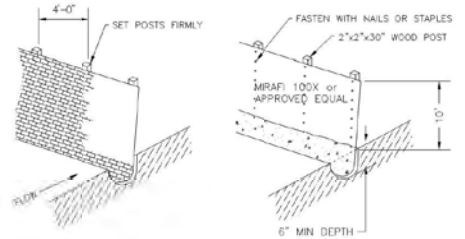
REVISION SUMMARY

DATE	DESCRIPTION

SWPPP - PROPOSED CONDITIONS

SW1.1





A. DIG TRENCH

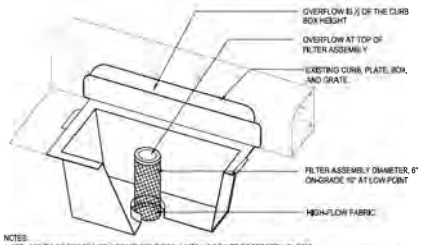
B. LAY IN FABRIC AND BACKFILL

1-96

CITY OF EDEN PRAIRIE, MINNESOTA

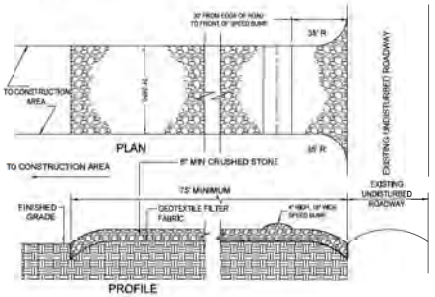
EROSION CONTROL

DEPARTMENT OF ENGINEERING **R-17**



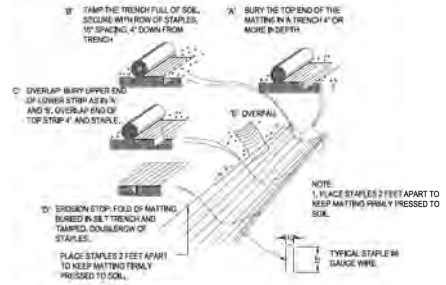
NOTES:
1. REPLACE INLET GRATE UPON COMPLETE INSTALLATION OF INLET PROTECTION FABRIC.
2. CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM THE SURFACE OF THE SYSTEM AFTER EACH STORM EVENT AND AT THE COMPLETION OF THE CONTRACT.
3. REFERENCE APPLE VALLEY STANDARD PLATE ERO-4C.

1 CURB INLET FILTER
NTS

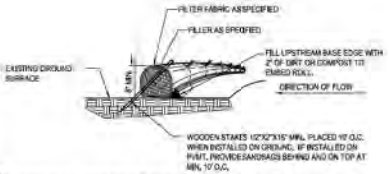


NOTES:
1. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND UNDISTURBED ROADWAY.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO UNDISTURBED ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDING STONE TO THE LENGTH OF THE ENTRANCE.
3. REPAIR AND CLEANOUT MEASURES USED TO TRAP SEDIMENT.
4. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO UNDISTURBED ROADWAY SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
5. FINAL LOCATION AND INSTALLATION SHALL BE COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
6. CRUSHED STONE SHALL BE 1-1/2" DIA. CLOSE GRADED, AND IN ACCORDANCE TO MNDOT SECTION 2118.

2 STABILIZED CONSTRUCTION ACCESS
NTS

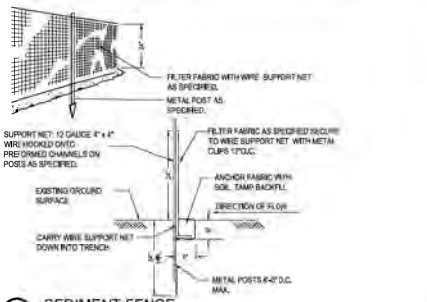


3 EROSION BLANKET
N.T.S.



NOTE:
1. COMPOST FILTER LOGS (BIO ROLLS) SHALL BE FILTREXX EROSION CONTROL SOXX OR APPROVED EQUAL.
2. COMPOST FILLER TO BE MADE FROM A COMPOST BLEND 30%-40% GRADE 2 (SPEC 3890) AND 60%-70% PARTIALLY DECOMPOSED WOOD CHIPS, PER MNDOT SPEC 3882.
3. FILTER FABRIC SHALL BE GEOTEXTILE KNITTED MATERIAL WITH MAX. OPENINGS OF 3/8".
4. IF MULTIPLE ROLLS NEEDED, OVERLAP BY MIN. 12" AT ENDS AND STAKE.
5. SILT SHALL BE REMOVED ONCE IT REACHES 50% OF THE HEIGHT OF THE ROLL ON AS DEEMED NECESSARY BY SITE CONTRACTOR TO MAINTAIN PROPER FUNCTION.

4 SEDIMENT BIO-ROLL / COMPOST FILTER LOG
NTS



5 SEDIMENT FENCE
NTS

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civilsitegroup.com 612.615.0060

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David J. Knoble
DATE 7/26/21 LICENSE NO. 48776

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
2/5/21	CITY SUBMITTAL
4/7/21	WATERSHED SUBMITTAL
4/19/21	CITY RESUBMITTAL
5/17/21	WATERSHED SUBMITTAL
6/1/21	WATERSHED SUBMITTAL
6/4/21	CITY RESUBMITTAL
7/26/21	WATERSHED RESUBMITTAL

DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

SWPPP - DETAILS

SW1.2

THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED WITH A CONSTRUCTION ACTIVITY THAT DISTURBS SITE SOIL OR WHO IMPLEMENT A POLLUTANT CONTROL MEASURE IDENTIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT (DATED AUGUST 1, 2018 # MNR100001) AND ANY LOCAL GOVERNING AGENCY HAVING JURISDICTION CONCERNING EROSION AND SEDIMENTATION CONTROL.

STORMWATER DISCHARGE DESIGN REQUIREMENTS

SWPPP

THE NATURE OF THIS PROJECT WILL BE CONSISTENT WITH WHAT IS REPRESENTED IN THIS SET OF CONSTRUCTION PLANS AND SPECIFICATIONS. SEE THE SWPPP PLAN SHEETS AND SWPPP NARRATIVE (ATTACHMENT A: CONSTRUCTION SWPPP TEMPLATE) FOR ADDITIONAL SITE SPECIFIC SWPPP INFORMATION. THE PLANS SHOW LOCATIONS AND TYPES OF ALL TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL BMP'S. STANDARD DETAILS ARE ATTACHED TO THIS SWPPP DOCUMENT.

THE INTENDED SEQUENCING OF MAJOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS:
1. INSTALL STABILIZED ROCK CONSTRUCTION ENTRANCE
2. INSTALLATION OF SILT FENCE AROUND SITE
3. INSTALL ORANGE CONSTRUCTION FENCING AROUND INFILTRATION AREAS.
4. CLEAR AND GRUB FOR TEMPORARY SEDIMENT BASIN / POND INSTALL
5. CONSTRUCT TEMPORARY SEDIMENT BASIN / POND (SECTION 14)
6. CLEAR AND GRUB REMAINDER OF SITE
7. STRIP AND STOCKPILE TOPSOIL
8. ROUGH GRADING OF SITE
9. STABILIZE DENUDED AREAS AND STOCKPILES
10. INSTALL SANITARY SEWER, WATER MAIN STORM SEWER AND SERVICES
11. INSTALL SILT FENCE / INLET PROTECTION AROUND CB'S
12. INSTALL STREET SECTION
13. INSTALL CURB AND GUTTER
14. BITUMINOUS ON STREETS
15. FINAL GRADE BOULEVARD, INSTALL SEED AND MULCH
16. REMOVE ACCUMULATED SEDIMENT FROM BASIN / POND
17. FINAL GRADE POND / INFILTRATION BASINS (DO NOT COMPACT SOILS IN INFILTRATION AREAS.)
18. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED BY EITHER SEED OR SOD/LANDSCAPING, REMOVE SILT FENCE AND RESEED ANY AREAS DISTURBED BY THE REMOVAL.

RECORDS RETENTION:

THE SWPPP (ORIGINAL OR COPIES) INCLUDING, ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION BY THE PERMITTEE WHO HAS OPERATIONAL CONTROL OF THAT PORTION OF THE SITE. THE SWPPP CAN BE KEPT IN EITHER THE FIELD OFFICE OR IN AN ON SITE VEHICLE DURING NORMAL WORKING HOURS.

ALL OWNER(S) MUST KEEP THE SWPPP, ALONG WITH THE FOLLOWING ADDITIONAL RECORDS, ON FILE FOR THREE (3) YEARS AFTER SUBMITTAL OF THE NOT AS OUTLINED IN SECTION 4. THIS DOES NOT INCLUDE ANY RECORDS AFTER SUBMITTAL OF THE NOT.

1. THE FINAL SWPPP;
2. ANY OTHER STORMWATER RELATED PERMITS REQUIRED FOR THE PROJECT;
3. RECORDS OF ALL INSPECTION AND MAINTENANCE CONDUCTED DURING CONSTRUCTION (SEE SECTION 11, INSPECTIONS AND MAINTENANCE);
4. ALL PERMANENT OPERATION AND MAINTENANCE AGREEMENTS THAT HAVE BEEN IMPLEMENTED, INCLUDING ALL RIGHT OF WAY, CONTRACTS, COVENANTS AND OTHER BINDING REQUIREMENTS REGARDING PERPETUAL MAINTENANCE; AND
5. ALL REQUIRED CALCULATIONS FOR DESIGN OF THE TEMPORARY AND PERMANENT STORMWATER MANAGEMENT SYSTEMS.

SWPPP IMPLEMENTATION RESPONSIBILITIES:

1. THE OWNER AND CONTRACTOR ARE PERMITTEE(S) AS IDENTIFIED BY THE NPDES PERMIT.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE IMPLEMENTATION OF THE SWPPP, INCLUDING THE ACTIVITIES OF ALL OF THE CONTRACTOR'S SUBCONTRACTORS.
3. CONTRACTOR SHALL PROVIDE A PERSON(S) KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS TO OVERSEE ALL INSTALLATION AND MAINTENANCE OF BMPS AND IMPLEMENTATION OF THE SWPPP.
4. CONTRACTOR SHALL PROVIDE PERSON(S) MEETING THE TRAINING REQUIREMENTS OF THE NPDES PERMIT TO CONDUCT INSPECTION AND MAINTENANCE OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT. ONE OF THESE INDIVIDUAL(S) MUST BE AVAILABLE FOR AN ONSITE INSPECTION WITHIN 72 HOURS UPON REQUEST BY MPCA. CONTRACTOR SHALL PROVIDE TRAINING DOCUMENTATION FOR THESE INDIVIDUAL(S) AS REQUIRED BY THE NPDES PERMIT. THIS TRAINING DOCUMENTATION SHALL BE RECORDED IN OR WITH THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS THE PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED. DOCUMENTATION SHALL INCLUDE:
   - 4.1. NAMES OF THE PERSONNEL ASSOCIATED WITH THE PROJECT THAT ARE REQUIRED TO BE TRAINED PER SECTION 21 OF THE PERMIT.
   - 4.2. DATES OF TRAINING AND NAME OF INSTRUCTOR AND ENTITY PROVIDING TRAINING.
   - 4.3. CONTENT OF TRAINING COURSE OR WORKSHOP INCLUDING THE NUMBER OF HOURS OF TRAINING.
5. FOLLOWING FINAL STABILIZATION AND THE TERMINATION OF COVERAGE FOR THE NPDES PERMIT, THE OWNER IS EXPECTED TO FURNISH LONG TERM OPERATION AND MAINTENANCE (O & M) OF THE PERMANENT STORM WATER MANAGEMENT SYSTEM.

CONSTRUCTION ACTIVITY REQUIREMENTS

SWPPP AMENDMENTS (SECTION 6):

1. ONE OF THE INDIVIDUALS DESCRIBED IN ITEM 21.2.A OR ITEM 21.2.B OR ANOTHER QUALIFIED INDIVIDUAL MUST COMPLETE ALL SWPPP CHANGES. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.
2. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER.
3. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER INSPECTIONS OR INVESTIGATIONS BY THE SITE OWNER OR OPERATOR, USEPA OR MPCA OFFICIALS INDICATE THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER OR THE DISCHARGES ARE CAUSING WATER QUALITY STANDARD EXCEEDANCES (E.G., NUISANCE CONDITIONS AS DEFINED IN MINN. R. 7050.0210, SUBP. 2) OR THE SWPPP IS NOT CONSISTENT WITH THE OBJECTIVES OF A USEPA APPROVED TMDL.

BMP SELECTION AND INSTALLATION (SECTION 7):

1. PERMITTEES MUST SELECT, INSTALL, AND MAINTAIN THE BMPS IDENTIFIED IN THE SWPPP AND IN THIS PERMIT IN AN APPROPRIATE AND FUNCTIONAL MANNER AND IN ACCORDANCE WITH RELEVANT MANUFACTURER SPECIFICATIONS AND ACCEPTED ENGINEERING PRACTICES.

EROSION PREVENTION (SECTION 8):

1. BEFORE WORK BEGINS, PERMITTEES MUST DELINEATE THE LOCATION OF AREAS NOT TO BE DISTURBED.
2. PERMITTEES MUST MINIMIZE THE NEED FOR DISTURBANCE OF PORTIONS OF THE PROJECT WITH STEEP SLOPES. WHEN STEEP SLOPES MUST BE DISTURBED, PERMITTEES MUST USE TECHNIQUES SUCH AS PHASING AND STABILIZATION PRACTICES DESIGNED FOR STEEP SLOPES (E.G., SLOPE DRAINING AND TERRACING).
3. PERMITTEES MUST STABILIZE ALL EXPOSED SOIL AREAS, INCLUDING STOCKPILES. STABILIZATION MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION WHEN CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. STABILIZATION MUST BE COMPLETED NO LATER THAN 14 CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY HAS CEASED. STABILIZATION IS NOT REQUIRED ON CONSTRUCTED BASE COMPONENTS OF ROADS, PARKING LOTS AND SIMILAR SURFACES. STABILIZATION IS NOT REQUIRED ON TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS (E.G., CLEAN AGGREGATE STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) BUT PERMITTEES MUST PROVIDE SEDIMENT CONTROLS AT THE BASE OF THE STOCKPILE.
4. FOR PUBLIC WATERS THAT THE MINNESOTA DNR HAS PROMULGATED "WORK IN WATER RESTRICTIONS" DURING SPECIFIED FISH SPAWNING TIME FRAMES, PERMITTEES MUST COMPLETE STABILIZATION OF ALL EXPOSED SOIL AREAS WITHIN 200 FEET OF THE WATER'S EDGE, AND THAT DRAIN TO THESE WATERS, WITHIN 24 HOURS DURING THE RESTRICTION PERIOD.
5. PERMITTEES MUST STABILIZE THE NORMAL WETTED PERIMETER OF THE LAST 200 LINEAR FEET OF TEMPORARY OR PERMANENT DRAINAGE DITCHES OR SWALES THAT DRAIN WATER FROM THE SITE WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE. PERMITTEES MUST COMPLETE STABILIZATION OF REMAINING PORTIONS OF TEMPORARY OR PERMANENT DITCHES OR SWALES WITHIN 14 CALENDAR DAYS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE AND CONSTRUCTION IN THAT PORTION OF THE DITCH TEMPORARILY OR PERMANENTLY CEASES.
6. TEMPORARY OR PERMANENT DITCHES OR SWALES BEING USED AS A SEDIMENT CONTAINMENT SYSTEM DURING CONSTRUCTION (WITH PROPERLY DESIGNED ROCK-DITCH CHECKS, BIO ROLLS, SILT DIKES, ETC.) DO NOT NEED TO BE STABILIZED. PERMITTEES MUST STABILIZE THESE AREAS WITHIN 24 HOURS AFTER THEIR USE AS A SEDIMENT CONTAINMENT SYSTEM CEASES
7. PERMITTEES MUST NOT USE MULCH, HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR EROSION PREVENTION PRACTICES WITHIN ANY PORTION OF THE NORMAL WETTED PERIMETER OF A TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE SECTION WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT.
8. PERMITTEES MUST PROVIDE TEMPORARY OR PERMANENT ENERGY DISSIPATION AT ALL PIPE OUTLETS WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER OR PERMANENT STORMWATER TREATMENT SYSTEM.
9. PERMITTEES MUST NOT DISTURB MORE LAND (I.E., PHASING) THAN CAN BE EFFECTIVELY INSPECTED AND MAINTAINED IN ACCORDANCE WITH SECTION 11.

SEDIMENT CONTROL (SECTION 9):

1. PERMITTEES MUST ESTABLISH SEDIMENT CONTROL BMPS ON ALL DOWNGRADIENT PERIMETERS OF THE SITE AND DOWNGRADIENT AREAS OF THE SITE THAT DRAIN TO ANY SURFACE WATER, INCLUDING CURB AND GUTTER SYSTEMS. PERMITTEES MUST LOCATE SEDIMENT CONTROL PRACTICES UPGRADIENT OF ANY BUFFER ZONES. PERMITTEES MUST INSTALL SEDIMENT CONTROL PRACTICES BEFORE ANY UPGRADIENT LAND-DISTURBING ACTIVITIES BEGIN AND MUST KEEP THE SEDIMENT CONTROL PRACTICES IN PLACE UNTIL THEY ESTABLISH PERMANENT COVER.
2. IF DOWNGRADIENT SEDIMENT CONTROLS ARE OVERLOADED, BASED ON FREQUENT FAILURE OR EXCESSIVE MAINTENANCE REQUIREMENTS, PERMITTEES MUST INSTALL ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPS TO ELIMINATE THE OVERLOADING AND AMEND THE SWPPP TO IDENTIFY THESE ADDITIONAL PRACTICES AS REQUIRED IN ITEM 6.3.
3. TEMPORARY OR PERMANENT DRAINAGE DITCHES AND SEDIMENT BASINS DESIGNED AS PART OF A SEDIMENT CONTAINMENT SYSTEM (E.G., DITCHES WITH ROCK-CHECK DAMS) REQUIRE SEDIMENT CONTROL PRACTICES ONLY AS APPROPRIATE FOR SITE CONDITIONS.
4. A FLOATING SILT CURTAIN PLACED IN THE WATER IS NOT A SEDIMENT CONTROL BMP TO SATISFY ITEM 9.2 EXCEPT WHEN WORKING ON A SHORELINE OR BELOW THE WATERLINE. IMMEDIATELY AFTER THE SHORT TERM CONSTRUCTION ACTIVITY (E.G., INSTALLATION OF RIP RAP ALONG THE SHORELINE) IN THAT AREA IS COMPLETE, PERMITTEES MUST INSTALL AN UPLAND PERIMETER CONTROL PRACTICE IF EXPOSED SOILS STILL DRAIN TO A SURFACE WATER.
5. PERMITTEES MUST RE-INSTALL ALL SEDIMENT CONTROL PRACTICES ADJUSTED OR REMOVED TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES, IMMEDIATELY AFTER THE SHORT-TERM ACTIVITY IS COMPLETED. PERMITTEES MUST RE-INSTALL SEDIMENT CONTROL PRACTICES BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE SHORT-TERM ACTIVITY IS NOT COMPLETE.
6. PERMITTEES MUST PROTECT ALL STORM DRAIN INLETS USING APPROPRIATE BMPS DURING CONSTRUCTION UNTIL THEY ESTABLISH PERMANENT COVER ON ALL AREAS WITH POTENTIAL FOR DISCHARGING TO THE INLET.
7. PERMITTEES MAY REMOVE INLET PROTECTION FOR A PARTICULAR INLET IF A SPECIFIC SAFETY CONCERN (E.G. STREET FLOODING/FREEZING) IS IDENTIFIED BY THE PERMITTEES OR THE JURISDICTIONAL AUTHORITY (E.G., CITY/COUNTY/TOWNSHIP/MINNESOTA DEPARTMENT OF TRANSPORTATION ENGINEER). PERMITTEES MUST DOCUMENT THE NEED FOR REMOVAL IN THE SWPPP.
8. PERMITTEES MUST PROVIDE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS AT THE BASE OF STOCKPILES ON THE DOWNGRADIENT PERIMETER.
9. PERMITTEES MUST LOCATE STOCKPILES OUTSIDE OF NATURAL BUFFERS OR SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER.
10. PERMITTEES MUST INSTALL A VEHICLE TRACKING BMP TO MINIMIZE THE TRACK OUT OF SEDIMENT FROM THE CONSTRUCTION SITE OR ONTO PAVED ROADS WITHIN THE SITE.
11. PERMITTEES MUST USE STREET SWEEPING IF VEHICLE TRACKING BMPS ARE NOT ADEQUATE TO PREVENT SEDIMENT TRACKING ONTO THE STREET.
12. PERMITTEES MUST INSTALL TEMPORARY SEDIMENT BASINS AS REQUIRED IN SECTION 14.
13. IN ANY AREAS OF THE SITE WHERE FINAL VEGETATIVE STABILIZATION WILL OCCUR, PERMITTEES MUST RESTRICT VEHICLE AND EQUIPMENT USE TO MINIMIZE SOIL COMPACTION.
14. PERMITTEES MUST PRESERVE TOPSOIL ON THE SITE, UNLESS INFEASIBLE.
15. PERMITTEES MUST DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS UNLESS INFEASIBLE.
16. PERMITTEES MUST PRESERVE A 50 FOOT NATURAL BUFFER OR, IF A BUFFER IS INFEASIBLE ON THE SITE, PROVIDE REDUNDANT (DOUBLE) PERIMETER SEDIMENT CONTROLS WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET OF THE PROJECT'S EARTH DISTURBANCES AND STORMWATER FLOWS TO THE SURFACE WATER. PERMITTEES MUST INSTALL PERIMETER SEDIMENT CONTROLS AT LEAST 5 FEET APART UNLESS LIMITED BY LACK OF AVAILABLE SPACE. NATURAL BUFFERS ARE NOT REQUIRED ADJACENT TO ROAD DITCHES, JUDICIAL DITCHES, COUNTY DITCHES, STORMWATER CONVEYANCE CHANNELS, STORM DRAIN INLETS, AND SEDIMENT BASINS. IF PRESERVING THE BUFFER IS INFEASIBLE, PERMITTEES MUST DOCUMENT THE REASONS IN THE SWPPP. SHEET PILING IS A REDUNDANT PERIMETER CONTROL IF INSTALLED IN A MANNER THAT RETAINS ALL STORMWATER.
17. PERMITTEES MUST USE POLYMERS, FLOCCULANTS, OR OTHER SEDIMENTATION TREATMENT CHEMICALS IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES, DOSING SPECIFICATIONS AND SEDIMENT REMOVAL DESIGN SPECIFICATIONS PROVIDED BY THE MANUFACTURER OR SUPPLIER. THE PERMITTEES MUST USE CONVENTIONAL EROSION AND SEDIMENT CONTROLS PRIOR TO CHEMICAL ADDITION AND MUST DIRECT TREATED STORMWATER TO A SEDIMENT CONTROL SYSTEM FOR FILTRATION OR SETTLEMENT OF THE FLOC PRIOR TO DISCHARGE.

DEWATERING AND BASIN DRAINING (SECTION 10):

1. PERMITTEES MUST DISCHARGE TURBID OR SEDIMENT-LADEN WATERS RELATED TO DEWATERING OR BASIN DRAINING (E.G., PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) TO A TEMPORARY OR PERMANENT SEDIMENT BASIN ON THE PROJECT SITE UNLESS INFEASIBLE. PERMITTEES MAY DEWATER TO SURFACE WATERS IF THEY VISUALLY CHECK TO ENSURE ADEQUATE TREATMENT HAS BEEN OBTAINED AND NUISANCE CONDITIONS (SEE MINN. R. 7050.0210, SUBP. 2) WILL NOT RESULT FROM THE DISCHARGE. IF PERMITTEES CANNOT DISCHARGE THE WATER TO A SEDIMENTATION BASIN PRIOR TO ENTERING A SURFACE WATER, PERMITTEES MUST TREAT IT WITH APPROPRIATE BMPS SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE SURFACE WATER OR DOWNSTREAM PROPERTIES.
2. IF PERMITTEES MUST DISCHARGE WATER CONTAINING OIL OR GREASE, THEY MUST USE AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE (E.G., CARTRIDGE FILTERS, ABSORBENTS PADS) PRIOR TO DISCHARGE.
3. PERMITTEES MUST DISCHARGE ALL WATER FROM DEWATERING OR BASIN-DRAINING ACTIVITIES IN A MANNER THAT DOES NOT CAUSE EROSION OR SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS OR INUNDATION OF WETLANDS IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS THAT CAUSES SIGNIFICANT ADVERSE IMPACT TO THE WETLAND.
4. IF PERMITTEES USE FILTERS WITH BACKWASH WATER, THEY MUST HAUL THE BACKWASH WATER AWAY FOR DISPOSAL, RETURN THE BACKWASH WATER TO THE BEGINNING OF THE TREATMENT PROCESS, OR INCORPORATE THE BACKWASH WATER INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION.

INSPECTIONS AND MAINTENANCE (SECTION 11):

1. PERMITTEES MUST ENSURE A TRAINED PERSON, AS IDENTIFIED IN ITEM 21.2.B, WILL INSPECT THE ENTIRE CONSTRUCTION SITE AT LEAST ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 1/2 INCH IN 24 HOURS.
2. PERMITTEES MUST INSPECT AND MAINTAIN ALL PERMANENT STORMWATER TREATMENT BMPS.
3. PERMITTEES MUST INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS AND POLLUTION PREVENTION MANAGEMENT MEASURES TO ENSURE INTEGRITY AND EFFECTIVENESS. PERMITTEES MUST REPAIR, REPLACE OR SUPPLEMENT ALL NONFUNCTIONAL BMPS WITH FUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY UNLESS ANOTHER TIME FRAME IS SPECIFIED IN ITEM 11.5 OR 11.6. PERMITTEES MAY TAKE ADDITIONAL TIME IF FIELD CONDITIONS PREVENT ACCESS TO THE AREA.
4. DURING EACH INSPECTION, PERMITTEES MUST INSPECT SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS BUT NOT CURB AND GUTTER SYSTEMS, FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. PERMITTEES MUST REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS AND RESTABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. PERMITTEES MUST COMPLETE REMOVAL AND STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. PERMITTEES MUST USE ALL REASONABLE EFFORTS TO OBTAIN ACCESS. IF PRECLUDED, REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF OBTAINING ACCESS. PERMITTEES ARE RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK IN SURFACE WATERS.
5. PERMITTEES MUST INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS, STREETS AND CURB AND GUTTER SYSTEMS WITHIN AND ADJACENT TO THE PROJECT FOR SEDIMENTATION FROM EROSION OR TRACKED SEDIMENT FROM VEHICLES. PERMITTEES MUST REMOVE SEDIMENT FROM ALL PAVED SURFACES WITHIN ONE (1) CALENDAR DAY OF DISCOVERY OR, IF APPLICABLE, WITHIN A SHORTER TIME TO AVOID A SAFETY HAZARD TO USERS OF PUBLIC STREETS.
6. PERMITTEES MUST REPAIR, REPLACE OR SUPPLEMENT ALL PERIMETER CONTROL DEVICES WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE DEVICE.
7. PERMITTEES MUST DRAIN TEMPORARY AND PERMANENT SEDIMENTATION BASINS AND REMOVE THE SEDIMENT WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 THE STORAGE VOLUME.
8. PERMITTEES MUST ENSURE THAT AT LEAST ONE INDIVIDUAL PRESENT ON THE SITE (OR AVAILABLE TO THE PROJECT SITE IN THREE (3) CALENDAR DAYS) IS TRAINED IN THE JOB DUTIES DESCRIBED IN ITEM 21.2.B.
9. PERMITTEES MAY ADJUST THE INSPECTION SCHEDULE DESCRIBED IN ITEM 11.2 AS FOLLOWS:
   - a. INSPECTIONS OF AREAS WITH PERMANENT COVER CAN BE REDUCED TO ONCE PER MONTH, EVEN IF CONSTRUCTION ACTIVITY CONTINUES ON OTHER PORTIONS OF THE SITE; OR
   - b. WHERE SITES HAVE PERMANENT COVER ON ALL EXPOSED SOIL AND NO CONSTRUCTION ACTIVITY IS OCCURRING ANYWHERE ON THE SITE, INSPECTIONS CAN BE REDUCED TO ONCE PER MONTH AND, AFTER 12 MONTHS, MAY BE SUSPENDED COMPLETELY UNTIL CONSTRUCTION ACTIVITY RESUMES. THE MPCA MAY REQUIRE INSPECTIONS TO RESUME IF CONDITIONS WARRANT; OR
   - c. WHERE CONSTRUCTION ACTIVITY HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, INSPECTIONS MAY BE SUSPENDED. INSPECTIONS MUST RESUME WITHIN 24 HOURS OF RUNOFF OCCURRING, OR UPON RESUMING CONSTRUCTION, WHICHEVER COMES FIRST.
10. PERMITTEES MUST RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES WITHIN 24 HOURS OF BEING CONDUCTED AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP. THESE RECORDS MUST INCLUDE:
    - a. DATE AND TIME OF INSPECTIONS; AND
    - b. NAME OF PERSONS CONDUCTING INSPECTIONS; AND
    - c. ACCURATE FINDINGS OF INSPECTIONS, INCLUDING THE SPECIFIC LOCATION WHERE CORRECTIVE ACTIONS ARE NEEDED; AND
    - d. CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES); AND
    - e. DATE OF ALL RAINFALL EVENTS GREATER THAN 1/2 INCHES IN 24 HOURS, AND THE AMOUNT OF RAINFALL FOR EACH EVENT. PERMITTEES MUST OBTAIN RAINFALL AMOUNTS BY EITHER A PROPERLY MAINTAINED RAIN GAUGE INSTALLED ONSITE, A WEATHER STATION THAT IS WITHIN ONE (1) MILE OF YOUR LOCATION, OR A WEATHER REPORTING SYSTEM THAT PROVIDES SITE SPECIFIC RAINFALL DATA FROM RADAR SUMMARIES; AND
    - f. IF PERMITTEES OBSERVE A DISCHARGE DURING THE INSPECTION, THEY MUST RECORD AND SHOULD PHOTOGRAPH AND DESCRIBE THE LOCATION OF THE DISCHARGE (I.E., COLOR, ODOR, SETTLED OR SUSPENDED SOLIDS, OIL SHEEN, AND OTHER OBVIOUS INDICATORS OF POLLUTANTS); AND
    - g. ANY AMENDMENTS TO THE SWPPP PROPOSED AS A RESULT OF THE INSPECTION MUST BE DOCUMENTED AS REQUIRED IN SECTION 6 WITHIN SEVEN (7) CALENDAR DAYS.

POLLUTION PREVENTION MANAGEMENT (SECTION 12):

1. PERMITTEES MUST PLACE BUILDING PRODUCTS AND LANDSCAPE MATERIALS UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) OR PROTECT THEM BY SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER. PERMITTEES ARE NOT REQUIRED TO COVER OR PROTECT PRODUCTS WHICH ARE EITHER NOT A SOURCE OF CONTAMINATION TO STORMWATER OR ARE DESIGNED TO BE EXPOSED TO STORMWATER.
2. PERMITTEES MUST PLACE PESTICIDES, FERTILIZERS AND TREATMENT CHEMICALS UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) OR PROTECT THEM BY SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER.
3. PERMITTEES MUST STORE HAZARDOUS MATERIALS AND TOXIC WASTE, (INCLUDING OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT SOLVENTS, PETROLEUM-BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) IN SEALED CONTAINERS TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MATERIALS MUST BE IN COMPLIANCE WITH MINN. R. CH. 7045 INCLUDING SECONDARY CONTAINMENT AS APPLICABLE.
4. PERMITTEES MUST PROPERLY STORE, COLLECT AND DISPOSE SOLID WASTE IN COMPLIANCE WITH MINN. R. CH. 7035.
5. PERMITTEES MUST POSITION PORTABLE TOILETS SO THEY ARE SECURE AND WILL NOT TIP OR BE KNOCKED OVER. PERMITTEES MUST PROPERLY DISPOSE SANITARY WASTE IN ACCORDANCE WITH MINN. R. CH. 7041.
6. PERMITTEES MUST TAKE REASONABLE STEPS TO PREVENT THE DISCHARGE OF SPILLED OR LEAKED CHEMICALS, INCLUDING FUEL, FROM ANY AREA WHERE CHEMICALS OR FUEL WILL BE LOADED OR UNLOADED INCLUDING THE USE OF DRIP PANS OR ABSORBENTS UNLESS INFEASIBLE. PERMITTEES MUST ENSURE ADEQUATE SUPPLIES ARE AVAILABLE AT ALL TIMES TO CLEAN UP DISCHARGED MATERIALS AND THAT AN APPROPRIATE DISPOSAL METHOD IS AVAILABLE FOR RECOVERED SPILLED MATERIALS. PERMITTEES MUST REPORT AND CLEAN UP SPILLS IMMEDIATELY AS REQUIRED BY MINN. STAT. 115.061, USING DRY CLEAN UP MEASURES WHERE POSSIBLE.
7. PERMITTEES MUST LIMIT VEHICLE EXTERIOR WASHING AND EQUIPMENT TO A DEFINED AREA OF THE SITE. PERMITTEES MUST CONTAIN RUNOFF FROM THE WASHING AREA IN A SEDIMENT BASIN OR OTHER SIMILARLY EFFECTIVE CONTROLS AND MUST DISPOSE WASTE FROM THE WASHING ACTIVITY PROPERLY. PERMITTEES MUST PROPERLY USE AND STORE SOAPS, DETERGENTS, OR SOLVENTS.
8. PERMITTEES MUST PROVIDE EFFECTIVE CONTAINMENT FOR ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OPERATIONS (E.G., CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS) RELATED TO THE CONSTRUCTION ACTIVITY. PERMITTEES MUST PREVENT LIQUID AND SOLID WASHOUT WASTES FROM CONTACTING THE GROUND AND MUST DESIGN THE CONTAINMENT SO IT DOES NOT RESULT IN RUNOFF FROM THE WASHOUT OPERATIONS OR AREAS. PERMITTEES MUST PROPERLY DISPOSE LIQUID AND SOLID WASTES IN COMPLIANCE WITH MPCA RULES. PERMITTEES MUST INSTALL A SIGN INDICATING THE LOCATION OF THE WASHOUT FACILITY.

PERMIT TERMINATION (SECTION 4 AND SECTION 13):

1. PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER ALL TERMINATION CONDITIONS LISTED IN SECTION 13 ARE COMPLETE.
2. PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER SELLING OR OTHERWISE LEGALLY TRANSFERRING THE ENTIRE SITE, INCLUDING PERMIT RESPONSIBILITY FOR ROADS (E.G., STREET SWEEPING) AND STORMWATER INFRASTRUCTURE FINAL CLEAN OUT, OR TRANSFERRING PORTIONS OF A SITE TO ANOTHER PARTY. THE PERMITTEES' COVERAGE UNDER THIS PERMIT TERMINATES AT MIDNIGHT ON THE SUBMISSION DATE OF THE NOT.
3. PERMITTEES MUST COMPLETE ALL CONSTRUCTION ACTIVITY AND MUST INSTALL PERMANENT COVER OVER ALL AREAS PRIOR TO SUBMITTING THE NOT. VEGETATIVE COVER MUST CONSIST OF A UNIFORM PERENNIAL VEGETATION WITH A DENSITY OF 70 PERCENT OF ITS EXPECTED FINAL GROWTH. VEGETATION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA DICTATES NO VEGETATION, SUCH AS IMPERVIOUS SURFACES OR THE BASE OF A SAND FILTER.
4. PERMITTEES MUST CLEAN THE PERMANENT STORMWATER TREATMENT SYSTEM OF ANY ACCUMULATED SEDIMENT AND MUST ENSURE THE SYSTEM MEETS ALL APPLICABLE REQUIREMENTS IN SECTION 15 THROUGH 19 AND IS OPERATING AS DESIGNED.
5. PERMITTEES MUST REMOVE ALL SEDIMENT FROM CONVEYANCE SYSTEMS PRIOR TO SUBMITTING THE NOT.
6. PERMITTEES MUST REMOVE ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPS PRIOR TO SUBMITTING THE NOT. PERMITTEES MAY LEAVE BMPS DESIGNED TO DECOMPOSE ON-SITE IN PLACE.
7. FOR RESIDENTIAL CONSTRUCTION ONLY, PERMIT COVERAGE TERMINATES ON INDIVIDUAL LOTS IF THE STRUCTURES ARE FINISHED AND TEMPORARY EROSION PREVENTION AND DOWNGRADIENT PERIMETER CONTROL IS COMPLETE, THE RESIDENCE SELLS TO THE HOMEOWNER, AND THE PERMITTEE DISTRIBUTES THE MPCA'S "HOMEOWNER FACT SHEET" TO THE HOMEOWNER.
8. FOR CONSTRUCTION PROJECTS ON AGRICULTURAL LAND (E.G., PIPELINES ACROSS CROPLAND), PERMITTEES MUST RETURN THE DISTURBED LAND TO ITS PRECONSTRUCTION AGRICULTURAL USE PRIOR TO SUBMITTING THE NOT.

SEED NOTES:

ALL SEED MIXES AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MNDOT SEEDING MANUAL.

GENERAL RECOMMENDATIONS:
THE CONTRACTOR IS RESPONSIBLE TO SALVAGE AND PRESERVE EXISTING TOPSOIL NECESSARY FOR FINAL STABILIZATION AND TO ALSO MINIMIZE COMPACTION IN ALL LANDSCAPE AREAS. IMMEDIATELY BEFORE SEEDING THE SOIL SHALL BE TILLED TO A MINIMUM DEPTH OF 3 INCHES.

TEMPORARY EROSION CONTROL SEEDING, MULCHING & BLANKET.

SEED
- TEMPORARY SEED SHALL BE MNDOT SEED MIX 21-112 (WINTER WHEAT COVER CROP) FOR WINTER AND 21-111 (OATS COVER CROP) FOR SPRING/SUMMER APPLICATIONS. BOTH SEED MIXES SHALL BE APPLIED AT A SEEDING RATE OF 100 LBS/ACRE.

MULCH
- IMMEDIATELY AFTER SEEDING, WITHIN 24 HOURS, MNDOT TYPE 1 MULCH SHOULD BE APPLIED TO PROTECT AND ENHANCE SEED GERMINATION. MULCH SHALL BE APPLIED AT 90% COVERAGE (2 TONS PER ACRE OF STRAW MULCH)

SLOPES
- 3:1 (HORIZ/VERT.) OR FLATTER MUCH SHALL BE COVERED WITH MULCH
- SLOPES STEEPER THAN 3:1 OR DITCH BOTTOMS SHALL BE COVERED WITH EROSION CONTROL BLANKET.
- SEE PLAN FOR MORE DETAILED DITCH AND STEEP SLOPE EROSION CONTROL TREATMENTS.

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT SITE SPECIFIC:

A. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE.
B. ADDITIONAL MEASURES, SUCH AS HYDRAULIC MULCHING AND OTHER PRACTICES AS SPECIFIED BY THE DISTRICT MUST BE USED ON SLOPES OF 3:1 (H:V) OR STEEPER TO PROVIDE ADEQUATE STABILIZATION.
C. CONSTRUCTION SITE WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE MUST BE PROPERLY MANAGED.
D. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE DISTRICT.
E. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE REMOVED UPON FINAL STABILIZATION.
F. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
G. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE:
   - i. A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 12 NCHES OF SOIL OR
   - ii. A BULK DENSITY OF LESS THAN 1.4 GRAMS PER CUBIC CENTIMETER OR 87 POUNDS PER CUBIC FOOT IN THE UPPER 12 INCHES OF SOIL.
   - iii IN ADDITION, UTILITIES, TREE ROOTS AND OTHER EXISTING VEGETATION MUST BE PROTECTED UNDER FINAL REVEGETATION OR OTHER STABILIZATION OF THE SITE.

H. THE PERMITTEE MUST INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURE TO ENSURE INTEGRITY AND EFFECTIVENESS. THE PERMITTEE MUST REPAIR, REPLACE OR SUPPLEMENT ALL NONFUNCTIONAL BMPS WITH FUNCTIONAL BMPS WITHIN 48 HOURS OF DISCOVERY AND PRIOR TO THE NEXT PRECIPITATION EVENT UNLESS ADVERSE CONDITIONS PRECLUDE ACCESS TO THE RELEVANT AREA OF THE SITE, IN WHICH CASE REPAIR MUST BE COMPLETE AS SOON AS CONDITIONS ALLOW. WHEN ACTIVE LAND-DISTURBING ACTIVITIES ARE NOT UNDER WAY, THE PERMITTEE MUST PERFORM THESE RESPONSIBILITIES AT LEAST WEEKLY UNTIL VEGETATIVE COVER IS ESTABLISHED. THE PERMITTEE WILL MAINTAIN A LOG OF ACTIVITIES UNDER THIS SECTION FOR INSPECTION BY THE DISTRICT ON REQUEST.

TRAINING SECTION 21

DESIGN ENGINEER: DAVID J. KNAEBLE P.E.
TRAINING COURSE: DESIGN OF SWPPP
TRAINING ENTITY: UNIVERSITY OF MINNESOTA
INSTRUCTOR: JOHN CHAPMAN
DATES OF TRAINING COURSE: 8/22/2012- 8/23/2012
TOTAL TRAINING HOURS: 12
DATE OF RECERTIFICATION: 4/19/19
EXPIRATION: 5/31/2022

OWNER INFORMATION

OWNER:
STEVE FURLONG
SMART FIT DEVELOPMENT
5123 W 98TH STREET
SUITE 142
BLOOMINGTON, MN 55437
952-314-6087
CONTACT:

AREAS AND QUANTITIES:

SITE AREA CALCULATIONS	EXISTING CONDITION		PROPOSED CONDITION	
BUILDING COVERAGE	2,890 SF	2.3%	25,600 SF	20.6%
ALL PAVEMENTS	6,021 SF	4.8%	21,381 SF	17.2%
ALL NON-PAVEMENTS	115,330 SF	92.8%	77,260 SF	62.2%
TOTAL SITE AREA	124,241 SF	100.0%	124,241 SF	100.0%

IMPERVIOUS SURFACE		
EXISTING CONDITION	8,911 SF	7.2%
PROPOSED CONDITION	46,981 SF	37.8%
DIFFERENCE (EX. VS PROP.)	38,070 SF	30.6%

EROSION CONTROL QUANTITIES		
DISTURBED AREA	87,453 SF	2.01 AC
SILT FENCE/BIO-ROLL	±1850 LF	
EROSION CONTROL BLANKET	0 SF	
INLET PROTECTION DEVICES	±9 EA	

NOTE: QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL DETERMINE FOR THEMSELVES THE EXACT QUANTITIES FOR BIDDING AND CONSTRUCTION.

SWPPP CONTACT PERSON

CONTRACTOR:

SWPPP INSPECTOR TRAINING:
ALL SWPPP INSPECTIONS MUST BE PERFORMED BY A PERSON THAT MEETS THE TRAINING REQUIREMENTS OF THE NPDES CONSTRUCTION SITE PERMIT.
TRAINING CREDENTIALS SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON SITE WITH THE SWPPP.

PARTY RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF PERMANENT STORM WATER MANAGEMENT SYSTEM

PERMANENT STORMWATER MANAGEMENT IS NOT REQUIRED AS PART OF THIS PROJECT TO MEET NPDES PERMIT REQUIREMENTS. THE PROPERTY OWNER IS RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PROPOSED STORMWATER SYSTEM.

SWPPP ATTACHMENTS (ONLY APPLICABLE IF SITE IS 1 ACRE OR GREATER):

CONTRACTOR SHALL OBTAIN A COPY OF THE FOLLOWING SWPPP ATTACHMENTS WHICH ARE A PART OF THE OVERALL SWPPP PACKAGE:
ATTACHMENT A: CONSTRUCTION SWPPP TEMPLATE - SITE SPECIFIC SWPPP DOCUMENT
ATTACHMENT B: CONSTRUCTION STORMWATER INSPECTION CHECKLIST
ATTACHMENT C: MAINTENANCE PLAN FOR PERMANENT STORM WATER TREATMENT SYSTEMS
ATTACHMENT D: STORMWATER MANAGEMENT REPORT - ON FILE AT THE OFFICE OF PROJECT ENGINEER, AVAILABLE UPON REQUEST.
ATTACHMENT E: GEOTECHNICAL EVALUATION REPORT - ON FILE AT THE OFFICE OF PROJECT ENGINEER, AVAILABLE UPON REQUEST.

SUPPLEMENTARY SITE SPECIFIC EROSION CONTROL NOTES:

THESE NOTES SUPERCEDE ANY GENERAL SWPPP NOTES.

THIS PROJECT IS GREATER THAN 1.0 ACRES SO AN NPDES PERMIT IS REQUIRED AND NEEDS TO BE SUBMITTED TO THE MPCA. THE CONTRACTOR IS REQUIRED TO FOLLOW THE GUIDELINES IN THE NPDES PERMIT THROUGHOUT CONSTRUCTION.

PROJECT NARRATIVE:

PROJECT IS A REDEVELOPMENT OF AN EXISTING RESIDENTIAL SITE INTO A NEW TOWNHOME DEVELOPMENT. SITE AND LANDSCAPE IMPROVEMENTS WILL OCCUR.

NATIVE BUFFER NARRATIVE:

PRESERVING A 50 FEET NATURAL BUFFER AROUND WATER BODIES IS NOT PROVIDED IN THESE PLANS DUE TO GRADING REQUIRED ADJACENT TO THE EXISTING WATER BODY. REDUNDANT PERIMETER EROSION CONTROL WILL BE PROVIDED WHEN A SURFACE WATER BODY IS LOCATED WITHIN 50 FEET OF THE PROJECT'S DISTURBANCE.

INFILTRATION NARRATIVE:

INFILTRATION IS NOT PROVIDED AS PART OF THE PROJECT'S PERMANENT STORM WATER MANAGEMENT SYSTEM DUE TO THE TYPES OF SOILS PRESENT. THE SOILS PRESENT ARE CONSIDERED HYDROLOGIC SOIL GROUP "D" AND ARE NOT CONDUCIVE TO INFILTRATION. FILTRATION WILL BE PROVIDED IN LIEU OF INFILTRATION.

SOIL CONTAMINATION NARRATIVE:

SOILS ONSITE HAVE NOT BEEN IDENTIFIED AS CONTAMINATED.

SPECIAL TMDL BMP REQUIREMENTS SITE SPECIFIC (IF REQUIRED):

THIS PROJECT IS WITHIN ONE MILE OF AND DISCHARGES TO WOODBRIDGE MARSH, SE & SW ANDERSON LAKES, AND BUSH LAKE. WOODBRIDGE MARSH, SW & SW ANDERSON LAKES WATER ARE NOT IDENTIFIED AS AN IMPAIRED WATER, HOWEVER, BUSH LAKE IS AN IMPAIRED WATER ON THE MPCA'S 303(D) IMPAIRED WATERS LIST. BECAUSE ONE OF THESE WATERS ARE LOCATED WITHIN ONE MILE OF THE SITE, BMPS AS DEFINED IN THE NPDES PERMIT ITEMS 23.9 AND 23.11 APPLY. THESE ARE AS FOLLOWS:

1. DURING CONSTRUCTION
   A. STABILIZATION OF ALL EXPOSED SOIL AREAS MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION BUT IN NO CASE COMPLETED LATER THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
   B. TEMPORARY SEDIMENT BASIN REQUIREMENTS DESCRIBED IN SECTION 14 MUST BE USED FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OR MORE ACRES DISTURBED AT ONE TIME.

PERMANENT STABILIZATION NOTES SITE SPECIFIC:

PERMANENT SEED MIX:
- FOR THIS PROJECT ALL AREAS THAT ARE NOT TO BE SODDED OR LANDSCAPED SHALL RECEIVE A NATIVE PERMANENT SEED MIX.
  - ** AREAS IN BUFFERS AND ADJACENT TO OR IN WET AREAS MNDOT SEED MIX 33-261 (STORMWATER SOUTH AND WEST) AT 35 LBS PER ACRE.
  - ** DRY AREAS MNDOT SEED MIX 35-221 (DRY PRAIRIE GENERAL) AT 40 LBS PER ACRE.
- MAINTENANCE SHALL BE IN ACCORDANCE TO THE MNDOT SEEDING MANUAL.

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
4931 W. 35th Street, Suite 200
St. Louis Park, MN 55416
civilsitegroup.com

PROJECT
MORIMOTO CITYHOMES
9360 HENNEPIN TOWN ROAD, EDEN PRAIRIE, MN 55347

SMART FIT DEVELOPMENT
5123 W 98TH STREET, SUITE 142, BLOOMINGTON, MN 55437

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

David J. Knaeble
DATE 7/26/21 LICENSE NO. 48776

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
3/5/21	CITY SUBMITTAL
4/15/21	WATERSHED SUBMITTAL
4/19/21	CITY RESUBMITTAL
5/17/21	WATERSHED SUBMITTAL
6/2/21	WATERSHED SUBMITTAL
8/4/21	CITY RESUBMITTAL
7/26/21	WATERSHED RESUBMITTAL

DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

SWPPP - NARRATIVE

SW1.3

ATTACHMENT A: SITE SPECIFIC SWPPP DOCUMENT

PROJECT NAME: 9360 HENNEPIN TOWN ROAD
PROJECT LOCATION (BRIEFLY DESCRIBE WHERE CONSTRUCTION ACTIVITY OCCURS. INCLUDE ADDRESS IF AVAILABLE.)
ADDRESS: 9360 HENNEPIN TOWN RD
CITY OR TOWNSHIP: EDEN PRAIRIE
STATE: MN
ZIP CODE: 55347
LATITUDE/LOGITUDE OF APPROXIMATE CENTROID OF PROJECT: 44°52'48"N, 93°23'55"W
METHOD OF LAT/LONG COLLECTION (CIRCLE ONE): GPS <ONLINE TOOL> USGS TOPOGRAPHIC
ALL CITIES WHERE CONSTRUCTION WILL OCCUR: EDEN PRAIRIE
ALL COUNTIES WHERE CONSTRUCTION WILL OCCUR: HENNEPIN
ALL TOWNSHIPS WHERE CONSTRUCTION WILL OCCUR: NA

PROJECT SIZE (NUMBER OF ACRES TO BE DISTURBED): ~9

PROJECT TYPE (CIRCLE ONE) <RESIDENTIAL> COMMERCIAL/INDUSTRIAL ROAD CONSTRUCTION
RESIDENTIAL & RD CONTRUCTION OTHER (DESCRIBE) XXXXX

CUMULATIVE IMPERVIOUS SURFACE (TO THE NEAREST "ENTH ACRE)
EXISTING AREA OF IMPERVIOUS SURFACE : 0.2
POST CONSTRUCTION AREA OF IMPERVIOUS SURFACE: 1.0
TOTAL NEW AREA OF IMPERVIOUS SURFACE: 0.8

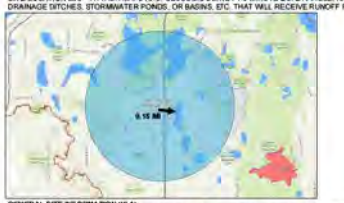
RECEIVING WATERS

WATER BODY ID	NAME OF WATER BODY	WATER BODY TYPE	SPECIAL WATER? (Y/N)	IMPARIED WATER (Y/N)
27-1023-00	WOODBRIDGE MARSH	MARSH	N	N
27-0062-03	SW ANDERSON LAKE	LAKE	N	N
27-0062-02	SE ANDERSON LAKE	LAKE	N	N
27-0047-00	BUSH LAKE	LAKE	N	Y

DATES OF CONSTRUCTION
CONSTRUCTION START DATE: 09/21
ESTIMATED COMPLETION DATE: 09/23

GENERAL CONSTRUCTION PROJECT INFORMATION
DESCRIBE THE CONSTRUCTION ACTIVITY (WHAT WILL BE BUILT, GENERAL TIMELINE, ETC): REDEVELOPMENT OF A RESIDENTIAL SITE INTO A 52-UNIT APARTMENT COMPLEX WITH SITE PARKING, LANDSCAPING, AND STORM INFILTRATION CONSTRUCTION.
DESCRIBE SOIL TYPES FOUND AT THE PROJECT. SOIL TYPES INCLUDE VERY SANDY LOAM, SANDY LEAN CLAY, CLAYEY SAND, SILTY SAND, AND SOME POORLY-GRADED SAND WITH SILT.

SITE LOCATION MAP – ATTACH MAPS (U.S. GEOLOGIC SURVEY 7.5 MINUTE QUADRANGLE, NATIONAL WETLAND INVENTORY MAPS OR EQUIVALENT) SHOWING THE LOCATION AND TYPE OF ALL RECEIVING WATERS, INCLUDING WETLANDS, DRAINAGE DITCHES, STORMWATER PONDS, OR BASINS, ETC. THAT WILL RECEIVE RUNOFF FROM THE PROJECT. USE ARROWS SHOWING THE DIRECTION OF FLOW AND DISTANCE TO THE WATER BODY.



GENERAL SITE INFORMATION (II.A)
1. DESCRIBE THE LOCATION AND TYPE OF ALL TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S). INCLUDE THE TIMING FOR INSTALLATION AND PROCEDURES USED TO ESTABLISH ADDITIONAL TEMPORARY BMP'S AS NECESSARY. (III.A.4.A)
THE PROJECT IS PROTECTED BY TWO (W) MAIN BMP'S. SILT FENCE AND INLET PROTECTION DEVICES. THE SILT FENCE WILL BE INSTALLED AT THE DOWNHILL LOCATIONS OF THE SITE AND MONITORED AS NECESSARY. INLET PROTECTION DEVICES WILL BE INSTALLED IN ALL CATCH BASINS ON THE SITE AND ANY OFF SITE THAT WILL RECEIVE STORMWATER RUNOFF FROM THIS SITE. AS THE PROJECT PROGRESSES ADDITIONAL BMP'S SUCH AS EROSION CONTROL BLANKET MAY BE UTILIZED.
2. ATTACH TO THIS SWPPP A TABLE WITH THE ANTICIPATED QUANTITIES FOR THE LIFE OF THE PROJECT FOR ALL EROSION PREVENTION AND SEDIMENT CONTROL BMP'S (III.A.4.B)SEE PAGE SW1.3
3.ATTACH TO THIS SWPPP A SITE MAP THAT INCLUDES THE FOLLOWING FEATURES (III.A.3.B-F):
EXIST AND FINAL GRADES: INCLUDING DIVIDING LINES AND DIRECTION OF FLOW FOR ALL PRE AND POST-CONSTRUCTION STORMWATER RUNOFF DRAINAGE AREAS LOCATED WITHIN THE PROJECT LIMITS.

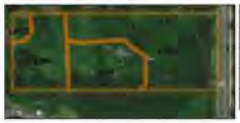
LOCATIONS OF IMPERVIOUS SURFACES AND SOIL TYPES.
- EXISTING AND FINAL GRADES. INCLUDING DIVIDING LINES AND DIRECTION OF FLOW FOR ALL PRE AND POST-CONSTRUCTION STORMWATER RUNOFF DRAINAGE AREAS LOCATED WITHIN PROJECT LIMITS.
- LOCATIONS OF AREAS NOT TO BE DISTURBED.
- LOCATION OF AREAS OF PHASED CONSTRUCTION.
- ALL SURFACE WATERS AND EXISTING WETLANDS WITHIN ONE MILE FROM THE PROJECT BOUNDARIES THAT WILL RECEIVE STORMWATER RUNOFF FROM THE SITE (IDENTIFIABLE ON MAPS SUCH AS USGS 7.5 MINUTE QUADRANGLE MAPS OR EQUIVALENT. WHERE SURFACE WATERS RECEIVING RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY WILL NOT FIT ON THE PLAN SHEET. THEY MUST BE IDENTIFIED WITH AN ARROW INDICATING BOTH DIRECTION AND DISTANCE TO THE SURFACE WATER.
- METHODS TO BE USED FOR FINAL STABILIZATION OF ALL EXPOSED SOIL AREA

4. WERE STORMWATER MITIGATION MEASURES REQUIRED AS THE RESULT OF AN ENVIRONMENTAL, ARCHAEOLOGICAL, OR OTHER REQUIRED LOCAL, STATE OR FEDERAL REVIEW OF THE PROJECT? NO
IF YES, DESCRIBE HOW THESE MEASURES WERE ADDRESSED IN THE SWPPP. (III.A.6)
N/A
5. IS THE PROJECT LOCATED IN A KARST AREA SUCH THA" ADDITIONAL MEASURES WOULD BE NECESSARY TO PROJECT DRINKING WATER SUPPLY MANAGEMENT AREAS AS DESCRIBED IN MINN. R. CHAPTERS 7050 AND 7060? NO
IF YES, DESCRIBE THE ADDITIONAL MEASURES TO BE USED. (III.A.7)
N/A
6. DOES THE SITE DISCHARGE TO A CALCEREOUS FEN LISTED IN MINN. R. 7050.0180, SUBP. 6 B? NO
IF YES, A LETTER OF APPROVAL FROM THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES MUST BE OBTAINED PRIOR TO APPLICATION FOR THIS PERMIT. (PART I.B.6 AND PART III.A.8)
7. DOES THE SITE DISCHARGE TO A WATER THAT IS LISTED AS IMPAIRED FOR THE FOLLOWING POLLUTANT(S) OR STRESSOR(S): PHOSPHORUS, TURBIDITY, DISSOLVED OXYGEN OR BIOTIC IMPAIRMENT? USE THE SPECIAL AND IMPAIRED WATERS SEARCH TOOL AT: WWW.PCA.STATE.MN.US/WATER/STORMWATER/STORMWATER-C.HTML
N/A
IF NO, SKIP TO TRAINING
DOES THE IMPAIRED WATER HAVE AN APPROVED TOTAL MAXIMUM DAILY LOADS (TMDL) WITH AN APPROVED WASTE LOAD ALLOCATION FOR CONSTRUCTION ACTIVITY? NO
IF YES:
A. LIST THE RECEIVING WATER, THE AREAS OF THE SITE DISCHARGING TO IT, AND THE POLLUTANT(S) IDENTIFIED IN THE TMDL.
B. LIST THE BMPS AND ANY OTHER SPECIFIC CONSTRUCTION STORMWATER RELATED IMPLEMENTATION ACTIVITIES IDENTIFIED IN THE TMDL.
IF THE SITE HAS A DISCHARGE POINT WITHIN ONE MILE OF THE IMPAIRED WATER AND THE WATER FLOWS TO THE IMPAIRED WATER BUT NO SPECIFIC BMPS FOR CONSTRUCTION ARE IDENTIFIED IN THE TMDL, THE ADDITIONAL BMPS IN APPENDIX A (C.1, C.2, C.3 & (C.4-TROUT STREAM)MUST BE ADDED TO THE SWPPP AND IMPLEMENTED. (III.A.7). THE ADDITIONAL BMPS ONLY APPLY TO THOSE PORTIONS OF THE PROJECT THAT DRAIN TO ONE OF THE IDENTIFIED DISCHARGE POINTS.
N/A
8. IDENTIFY ADJACENT PUBLIC WATERS WHERE THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES (DNR) HAS DECLARED 'WORK IN WATER RESTRICTIONS" DURING FISH SPAWNING TIMEFRAMES
N/A.

SELECTION OF A PERMANENT STORMWATER MANAGEMENT SYSTEM (III.D.)
1. WILL THE PROJECT CREATE A NEW CUMULATIVE IMPERVIOUS SURFACE GREATER THAN OR EQUAL TO ONE ACRE? YES
IF YES, A WATER QUALITY VOLUME OF ONE INCH OF RUNOFF FROM THE CUMULATIVE NEW IMPERVIOUS SURFACES MUST BE RETAINED ON SITE (SEE PART III.D OF THE PERMIT) THROUGH INFILTRATION UNLESS PROHIBITED DUE TO ONE OF THE REASONS IN PART III.D.1.J. IF INFILTRATION IS PROHIBITED IDENTIFY OTHER METHOD OF OTHER VOLUME REDUCTION (E.G., FILTRATION SYSTEM, WET SEDIMENTATION BASIN, REGIONAL PONDING OR EQUIVALENT METHOD.
2. DESCRIBE WHICH METHOD WILL BE USED TO TREAT RUNOFF FROM THE NEW IMPERVIOUS SURFACES CREATED BY THE PROJECT (III.D).
- WET SEDIMENTATION BASIN
- INFILTRATION/FILTRATION
- REGIONAL PONDS
- COMBINATION OF PRACTICES

INCLUDE ALL CALCULATIONS AND DESIGN INFORMATION FOR THE METHOD SELECTED. SEE PART III.D OF THE PERMIT FOR SPECIFIC REQUIREMENTS ASSOCIATED WITH EACH METHOD.
INFILTRATION / FILTRATION / REGIONAL PONDING
CALCULATIONS ARE WITHIN THE SITE STORM WATER MANAGEMENT REPORT AND PART OF THIS SWPPP AS ATTACHMENT D.
3. IF IT IS NOT FEASIBLE TO MEET THE TREATMENT REQUIREMENT FOR THE WATER QUALITY VOLUME, DESCRIBE WHY. THIS CAN INCLUDE PROXIMITY TO BEDROCK OR ROAD PROJECTS WHERE THE LACK OF RIGHT OF WAY PRECLUDES THE INSTALLATION OF ANY PERMANENT STORMWATER MANAGEMENT PRACTICES. DESCRIBE WHAT OTHER TREATMENT, SUCH AS GRASSED SWALES, SMALLER PONDS, OR GRIT CHAMBERS, WILL BE IMPLEMENTED TO TREAT RUNOFF PRIOR TO DISCHARGE TO SURFACE WATERS. (III.C).
IT IS FEASIBLE TO MEET REQUIREMENT FOR WATER QUALITY VOLUME.
4. FOR PROJECTS THAT DISCHARGE TO TROUT STREAMS, INCLUDING TRIBUTARIES TO TROUT STREAMS, IDENTIFY METHOD OF INCORPORATING TEMPERATURE CONTROLS INTO THE PERMANENT STORMWATER MANAGEMENT SYSTEM.
N/A

SOILS INFORMATION



MAP UNIT SYMBOL	MAP UNIT NAME
L11B	GRAYS VERY FINE SANDY LOAM, 2 TO 6 PERCENT SLOPES
L35A	LERDAL LOAM, 1 TO 3 PERCENT SLOPES
L36A	KAMEL, OVERWASHED HAMEL COMPLEX, 0 TO 3 PERCENT SLOPE
L41C2	LESTER-KILKENNY COMPLEX, 6 TO 10 PERCENT SLOPES, MOD ERODED

EROSION PREVENTION PRACTICES (IV.B)
DESCRIBE THE TYPES OF TEMPORARY EROSION PREVENTION/BMP'S EXPECTED TO BE IMPLEMENTED ON THIS SITE DURING CONSTRUCTION:
1. DESCRIBE CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, HORIZONTAL SLOPE GRADING, AND OTHER CONSTRUCTION PRACTICES TO MINIMIZE EROSION. DELINEATE AREAS NOT TO BE DISTURBED (E.G., WITH FLAGS, STAKES, SIGNS, SILT FENCE, ETC.) BEFORE WORK BEGINS.
SILT FENCE WILL BE INSTALLED AT ATHE DOWNHILL LOCATIONS OF THE SITE.
2. DESCRIBE METHODS OF TEMPORARILY STABILIZING SOILS AND SOIL STOCKPILES (E.G., MULCHES, HYDRAULIC TACKIFIERS, EROSION BLANKETS, ETC.):
TEMPORARY EROSION PROTECTION WILL BE SEED AND MULCH AND EROSION BLANKETS WHERE REQUIRED. WITH PERMANENT COVER BEING EITHER SOD OR LANDSCAPE FEATURES
3. DESCRIBE METHODS OF DISSIPATING VELOCITY ALONG STORMWATER CONVEYANCE CHANNELS AND AT CHANNEL OUTLETS (E.G., CHECK DAMS, SEDIMENT TRAPS, RIP RAP, ETC.):
SOD WILL BE UTILIZED ALONG CHANNELS AND RIP RAP AT CHANNEL
4. DESCRIBE METHODS TO BE USED FOR STABILIZATION OF DITCH AND SWALE WETTED PERIMETERS (NOTE THAT MULCH, HYDRAULIC SOIL TACKIFIERS, HYDROMULCHES, ETC. ARE NOT ACCEPTABLE SOIL STABILIZATION METHODS FOR ANY PART OF A DRAINAGE DITCH OR SWALE):
FINAL STABILIZATION OF SWALES WILL BE SOD
5. DESCRIBE METHODS TO BE USED FOR ENERGY DISSIPATION AT PIPE OUTLETS (E.G., RIP RAP, SPLASH PADS, GABIONS, ETC.)
RIP RAP WILL BE UTILIZED AT PIPE OUTLETS
6. DESCRIBE METHODS TO BE USED TO PROMOTE INFILTRATION AND SEDIMENT REMOVAL ON THI SITE PRIOR TO OFFSITE DISCHARGE, UNLESS INFEASIBLE (E.G., DIRECT STORMWATER FLOW TO VEGETATED AREAS):
DISCONNECTED IMPERVIOUS AREA AND INFILTRATION AREAS WILL BE UTILIZED
7. FOR DRAINAGE OR DIVERSION DITCHES, DESCRIBE PRACTICES TO STABILIZE THE NORMAL WETTED PERIMETER WITHIN 200 LINEAL FEET OF THE PROPERTY EDGE OR POINT OF DISCHARGE TO SURFACE WATER. THE LAST 200 LINEAL FEET MUST BE STABILIZED WITHIN **24 HOURS** AFTER CONNECTING TO SURFACE WATERS AND CONSTRUCTION IN THAT PORTION OF THE DITCH HAS TEMPORARILY OR PERMANENTLY CEASED FOR ALL DISCHARGES TO SPECIAL, IMPAIRED OR "WORK IN WATER RESTRICTIONS". ALL OTHER REMAINING PORTIONS OF THE TEMPORARY OR PERMANENT DITCHES OR SWALES WITHIN 14 CALENDAR DAYS AFTER CONNECTING TO A SURFACE WATER, PROPERTY EDGE AND CONSTRUCTION IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED.
N/A, NO DITCHES ON SITE
8. DESCRIBE ADDITIONAL EROSION PREVENTION MEASURES THAT WILL BE IMPLEMENTED AT THE SITE DURING CONSTRUCTION (E.G., CONSTRUCTION PHASING, MINIMIZING SOIL DISTURBANCE, VEGETATIVE BUFFERS, HORIZONTAL SLOPE GRADING, SLOPE DRAINING/TERRACING, ETC.):
OTHER EROSION CONTROL PRACTICES INCLUDE BUT ARE NOT LIMITED TO; MINIMIZING SITE EXPOSURE WHEN POSSIBLE
9. IF APPLICABLE, INCLUDE ADDITIONAL REQUIREMENTS IN APPENDIX A PART C.3 REGARDING MAINTAINING A 160-FOOT BUFFER ZONE OR INSTALLING REDUNDANT BMPS FOR PORTIONS OF THE SITE THAT DRAIN TO SPECIAL WATERS):
N/A
10. IF APPLICABLE, DESCRIBE ADDITIONAL EROSION PREVENTION BMPS TO BE IMPLEMENTED AT THE SITE TO PROTECT PLANNED INFILTRATION AREAS MINIMIZE SITE EXPOSURE IN AREAS ADJACENT TO INFILTRATION AREAS.

SEDIMENT CONTROL PRACTICES (IV.C)
DESCRIBE THE METHODS OF SEDIMENT CONTROL BMPS TO BE IMPLEMENTED AT THIS SITE DURING CONSTRUCTION TO MINIMIZE SEDIMENT IMPACTS TO SURFACE WATERS, INCLUDING CURB AND GUTTER SYSTEMS
1. DESCRIBE METHODS TO BE USED FOR DOWN GRADIENT PERIMETER CONTROL
SILT FENCE WILL BE INSTALLED AROUND THE ENTIRE PERIMETER OF THE SITE
2. DESCRIBE METHODS TO BE USED TO CONTAIN SOIL STOCKPILES
SEED AND MULCH AS WELL AS EROSION CONTROL BLANKETS WILL BE UTILIZED AS NECESSARY
3. DESCRIBE METHODS TO BE USED FOR STORM DRAIN INLET PROTECTION
SEE INLET PROTECTION DETAILS
4. DESCRIBE METHODS TO MINIMIZE VEHICLE TRACKING AT CONSTRUCTION EXITS AND STREET SWEEPING ACTIVITIES
THE PROJECT WILL UTILIZE A ROCK CONSTRUCTION ENTRANCE
5. DESCRIBE METHODS, IF APPLICABLE, ADDITIONAL SEDIMENT CONTROLS (E.G., DIVERSION BERMS) TO BE INSTALLED TO KEEP RUNOFF AWAY FROM PLANNED INFILTRATION AREAS WHEN EXCAVATED PRIOR TO FINAL STABILIZATION OF THE CONTRIBUTING DRAINAGE AREA.
SILT FENCE TO BE INSTALLED IMMEDIATELY AFTER GRADING TO PROTECT INFILTRATION AREAS.
6. DESCRIBE METHODS TO BE USED TO MINIMIZE SOIL COMPACTION AND PRESERVE TOP SOIL (UNLESS INFEASIBLE) AT THIS SITE
LIGHT TRACKED EQUIPMENT WILL BE USED, TOPSOIL WILL BE STRIPPED AND STOCKPILED
7. DESCRIBE PLANS TO PRESERVE A 50-FOOT NATURAL BUFFER BETWEEN THE PROJECT'S SOIL DISTURBANCE AND A SURFACE WATER OR PLANS FOR REDUNDANT SEDIMENT CONTROLS IF A BUFFER IS INFEASIBLE:
DOUBLE ROW OF SILT FENCE WILL BE INSTALLED ALONG WETLAND. PROJECT WILL NOT DISTURB WITHIN 200 FEET OF WETLAND
8. DESCRIBE PLANS FOR USE OF SEDIMENTATION TREATMENT CHEMICALS (E.G., POLYMERS, FLOCCULANTS, ETC.) SEE PART IV.C.10 OF THE PERMIT:
N/A
9. IS THE PROJECT REQUIRED TO INSTALL A TEMPORARY SEDIMENT BASIN DUE TO 10 OR MORE ACRES DRAINING TO A COMMON LOCATION OR 5 ACRES OR MORE IF THE SITE IS WITHIN 1 MILE OF A SPECIAL OR IMPAIRED WATER?
NO
IF YES, DESCRIBE (OR ATTACH PLANS) SHOWING HOW THE BASIN WILL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH PART III.C OF THE PERMIT.
N/A

DEWATERING AND BASIN DRAINING (IV.D)
1. WILL THE PROJECT INCLUDE DEWATERING OR BASIN DRAINING? NO
IF YES, DESCRIBE MEASURES TO BE USED TO TREAT/DISPOSE OF TURBID OR SEDIMENT-LADEN WATER AND METHOD TO PREVENT EROSION OR SCOUR OF DISCHARGE POINTS (SEE PART IV. D OF THE PERMIT):
N/A
2. WILL THE PROJECT INCLUDE USE OF FILTERS FOR BACKWASH WATER? NO
IF YES, DESCRIBE HOW FILTER BACKWASH WATER WILL BE MANAGED ON THE SITE OR PROPERLY DISPOSED (SEE PART III.D.3. OF THE PERMIT):
N/A

ADDITIONAL BMP'S FOR SPECIAL WATERS AND DISCHARGES TO WETLANDS (APPENDIX A, PARTS C AND D)
1. SPECIAL WATERS. DOES YOUR PROJECT DISCHARGE TO SPECIAL WATERS? NO
2. IF PROXIMITY TO BEDROCK OR ROAD PROJECTS WHERE THE LACK OF RIGHT OF WAY PRECLUDES THE INSTALLATION OF ANY OF THE PERMANENT STORMWATER MANAGEMENT PRACTICES, THEN OTHER TREATMENT SUCH AS GRASSED SWALES, SMALLER PONDS, OR GRIT CHAMBERS IS REQUIRED PRIOR TO DISCHARGE TO SURFACE WATERS. DESCRIBE WHAT OTHER TREATMENT WILL BE PROVIDED.
N/A
3. DESCRIBE EROSION AND SEDIMENT CONTROLS FOR EXPOSED SOIL AREAS WITH A CONTINUOUS POSITIVE SLOPE TO A SPECIAL WATERS, AND TEMPORARY SEDIMENT BASINS FOR AREAS THAT DRAIN FIVE OR MORE ACRES DISTURBED AT ONE TIME
N/A
4. DESCRIBE THE UNDISTURBED BUFFER ZONE TO BE USED (NOT LESS THAN 100 LINEAR FEET FROM THE SPECIAL WATER).
N/A
5. DESCRIBE HOW THE "PERMANENT STORMWATER MANAGEMENT SYSTEM WILL ENSURE THAT THE PRE AND POST PROJECT RUNOFF RATE AND VOLUME FROM THE 1, AND 2-YEAR 24-HOUR PRECIPITATION EVENTS REMAINS THE SAME.
N/A
6. DESCRIBE HOW THE PERMANENT STORMWATER MANAGEMENT SYSTEM WILL MINIMIZE ANY INCREASE IN THE TEMPERATURE OF TROUT STREAM RECEIVING WATERS RESULTING IN THE 1, AND 2-YEAR 24-HOUR PRECIPITATION EVENTS.
N/A
7. **WETLANDS.** DOES YOUR PROJECT DISCHARGE STORMWATER WITH THE POTENTIAL FOR SIGNIFICANT ADVERSE IMPACTS TO A WETLAND (E.G., CONVERSION OF A NATURAL WETLAND TO A STORMWATER POND)? YES OR NO
IF YES, DESCRIBE THE WETLAND MITIGATION SEQUENCE THAT WILL BE FOLLOWED IN ACCORDANCE WITH PART D OF APPENDIX A.
N/A

INSPECTIONS AND MAINTENANCE (IV.E)
DESCRIBE PROCEDURES TO ROUTINELY INSPECT THE CONSTRUCTION SITE:
- ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND
- WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS, AND WITHIN (7) DAYS AFTER THAT

INSPECTIONS MUST INCLUDE STABILIZED AREAS, EROSION PREVENTION AND SEDIMENT CONTROL BMP'S AND INFILTRATION AREAS.
INSPECTOR WILL FOLLOW REQUIREMENTS SPECIFIED ABOVE AND FILL OUT "ATTACHMENT B - CONSTRUCTION STORMWATER INSPECTION CHECKLIST"
1. Describe practices for storage of building products with a potential to wash pollutants to minimize exposure to stormwater:
ALL BUILDING PRODUCTS WILL BE SEALED AND STORED IN A MANNER TO MINIMIZE EXPOSURE
2. Describe practices for storage of pesticides, herbicides, insecticides, fertilizers, treatment chemical, and landscape materials:
ALL LANDSCAPE TREATMENT CHEMICALS WILL BE BE SEALED AND STORED IN A MANNER TO MINIMIZED EXPOSURE
3. Describe practices for storage and disposal of hazardous materials or toxic waste (e.g., oil, fuel, hydraulic fluids, paint solvents, petroleum-based products, wood preservative, additives, curing compounds, and acids) according to Minn. R. ch. 7045, including restricted access and secondary containment:
ALL HAZARDOUS WASTE WILL BE APPROPRIATELY DISPOSED OF OFF SITE ACCORDING TO LOCAL AND STATE LAWS
4. Describe collection, storage and disposal of solid waste in compliance with Minn. R. ch. 7035:
ALL CONSTRUCTION DEBRIS AND SOLID WASTES WILL BE APPROPRIATELY DISPOSED OF OFF SITE ACCORDING TO LOCAL AND STATE LAWS
5. Describe management of portable toilets to prevent tipping and disposal of sanitary wastes in accordance with Minn. R. ch. 7040:
SANITARY AND SEPTIC SERVICES WILL BE PROVIDED TO WORKERS WITH PORTABLE FACILITIES MAINTAINED AS NEEDED BY THE PROVIDER.
6. Describe spill prevention and response for fueling and equipment or vehicle maintenance:
EMPLOYEES WILL BE TRAINED IN TECHNIQUES DESIGNED TO MINIMIZE SPILLS. VEHICLES AND EQUIPMENT SHALL BE CHECKED FOR LEAKS.
7. Describe containment and disposal of vehicle and equipment wash water and prohibiting engine degreasing on the site:
ALL CONSTRUCTION VEHICLES SHALL BE WASHED OFF SITE
8. Describe storage and disposal of concrete and other washout wastes so that wastes do not contact the ground:
ALL CONCRETE WASHOUT SHALL OCCUR OFF SITE.

FINAL STABILIZATION (IV.G)
1. DESCRIBE METHOD OF FINAL STABILIZATION (PERMANENT COVER) OF ALL DISTURBED AREAS:
FINAL STABILIZATION WILL BE ACCOMPLISHED WITH PAVEMENT, SOD AND LANDSCAPE MATERIALS
2. DESCRIBE PROCEDURES FOR COMPLETING FINAL STABILIZATION AND TERMINATING PERMIT COVERAGE (SEE PART IV.G.1-5):
UPON STABILIZATION DESCRIBED ABOVE, THE CONTRCTOR AND OWNER SHALL MUTUALLY TRANSFER THE NPDES PERMIT TO THE NEXT OWNER WITH DOCUMENTS DESCRIBING THE NATURE OF TERMINATION PROCEDURE.

DOCUMENTATION OF INFEASIBILITY (IF APPLICABLE)

7/29/2021 3:39 PM

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9360 HENNEPIN TOWN ROAD, EDEN PRAIRIE, MN 55347

SMART FIT DEVELOPMENT
5123 W 98TH STREET, SUITE 142, BLOOMINGTON, MN 55437

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

David J. Knoble
DATE: 7/29/21 LICENSE NO.: 46779

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
3/5/21	CITY SUBMITTAL
4/7/21	WATERSHED SUBMITTAL
4/19/21	CITY RESUBMITTAL
5/17/21	WATERSHED SUBMITTAL
6/7/21	WATERSHED SUBMITTAL
6/8/21	CITY RESUBMITTAL
7/29/21	WATERSHED RESUBMITTAL

DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: 21015

REVISION SUMMARY

DATE	DESCRIPTION

SWPPP - ATTACHMENTS

SW1.4

ATTACHMENT B: SWPPP INSPECTION FORM

NOTE: THIS INSPECTION REPORT DOES NOT ADDRESS ALL ASPECTS OF THE NATIONAL APOLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM (NPDES/SDS) CONSTRUCTION STORMWATER PERMIT ISSUED ON AUGUST 1, 2013. THE COMPLETION OF THIS CHECKLIST DOES NOT GUARANTEE THAT ALL PERMIT REQUIREMENTS ARE IN COMPLIANCE. IT IS THE RESPONSIBILITY OF THE PERMITTEE(S) TO READ AND UNDERSTAND THE PERMIT REQUIREMENTS.

FACILITY INFORMATION
SITE NAME:
FACILITY ADDRESS: PERMIT NUMBER:
CITY: STATE: ZIP CODE:

INSPECTION INFORMATION
INSPECTOR NAME: _____ PHONE NUMBER: _____
DATE (MM/DD/YYYY): _____ TIME: _____ AM / PM
IS THE INSPECTOR CERTIFIED IN SEDIMENT AND EROSION CONTROL AND IS IT DOCUMENTED IN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP)?
IS THIS INSPECTION ROUTINE OR IN RESPONSE TO A STORM EVENT?
RAINFALL AMOUNT (IF APPLICABLE): _____
IS THE SITE WITHIN ONE AERIAL MILE OF A SPECIAL OR IMPAIRED WATER?
IF YES, FOLLOW APPENDIX A AND OTHER APPLICABLE PERMIT REQUIREMENTS

NOTE: IF N/A IS SELECTED AT ANY TIME, SPECIFY WHY IN THE COMMENT AREA FOR THAT SECTION

EROSION CONTROL REQUIREMENT (PART IV.B)

	Y	N	N/A
1. SOIL STABILIZATION WHERE NO CONSTRUCTION ACTIVITY FOR 14 DAYS? (7 DAYS WHERE APPLICABLE)	☐	☐	☐
2. HAS THE NEED TO DISTURB STEEP SLOPES BEEN MINIMIZED?	☐	☐	☐
3. ALL DITCHES STABILIZED 200' BACK FROM POINT OF DISCHARGE WITHIN 24 HOURS? (NOT MULCH)	☐	☐	☐
4. ARE THERE BMPS FOR ON-SITE STOCKPILES?	☐	☐	☐
5. ARE APPROPRIATE BMPS INSTALLED PROTECTING INLETS/OUTLETS?	☐	☐	☐
6. DO PIPE OUTLETS HAVE ENERGY DISSIPATION?	☐	☐	☐

COMMENTS:

SEDIMENT CONTROL REQUIREMENT (PART IV.C)

	Y	N	N/A
1. PERIMETER CONTROL INSTALLED ON ALL DOWN GRADIENT PERIMETERS?	☐	☐	☐
2. PERIMETER CONTROL TRENCHED IN WHERE APPROPRIATE?	☐	☐	☐
3. 50 FOOT NATURAL BUFFER MAINTAINED AROUND ALL SURFACE WATERS?	☐	☐	☐
3.1. IF NO, HAVE REDUNDANT SEDIMENT CONTROLS BEEN INSTALLED?	☐	☐	☐
4. INLET PROTECTION ON ALL CATCH BASINS AND DAYLIGHT INLETS?	☐	☐	☐
5. VEHICLE TRACKING BEST MANAGEMENT PRACTICES (BMPS) AT ALL SITE EXITS?	☐	☐	☐
6. ALL TRACKED SEDIMENT REMOVED WITHIN 24 HOURS?	☐	☐	☐
7. ARE ALL INFILTRATION SYSTEMS STAKED AND MARKED TO AVOID COMPACTION?	☐	☐	☐
8. ARE ALL INFILTRATION AREAS PROTECTED WITH A PRETREATMENT DEVICE?	☐	☐	☐
9. DO ALL STOCKPILES HAVE PERIMETER CONTROL?	☐	☐	☐

COMMENTS:

MAINTENANCE/EROSION AND SEDIMENT CONTROL BMP'S (PART IV.E.)

	Y	N	N/A
1. ARE ALL PREVIOUSLY STABILIZED AREAS MAINTAINING 90% GROUND COVER?	☐	☐	☐
2. ANY DITCH EROSION OBSERVED?	☐	☐	☐
3. PERIMETER CONTROL--HAS SEDIMENT REACHED ONE HALF THE HEIGHT OF THE DEVICE?	☐	☐	☐
4. ARE INLET PROTECTION DEVICES MAINTAINED AND FUNCTIONING PROPERLY?	☐	☐	☐

COMMENTS:

OTHER

	Y	N	N/A
1. ARE ALL MATERIALS THAT CAN LEACH POLLUTANTS UNDER COVER?	☐	☐	☐
2. HAS ACCESS BEEN RESTRICTED TO ONSITE HAZARDOUS MATERIALS?	☐	☐	☐
3. DOES ON-SITE FUELING ONLY OCCUR IN A CONTAINED AREA?	☐	☐	☐
4. ARE ALL SOLID WASTES BEING PROPERLY DISPOSED OF?	☐	☐	☐
5. IS THE CONCRETE WASHOUT AREA COMPLETELY CONTAINED?	☐	☐	☐
6. IS THE CONCRETE WASHOUT AREA MARKED WITH SIGN?	☐	☐	☐

COMMENTS:

	Y	N	N/A
7. WERE ANY DISCHARGES SEEN DURING THIS INSPECTION, SEDIMENT, WATER, OR OTHERWISE?	☐	☐	☐

7.1. IF YES, STATE THE EXACT LOCATION OF ALL POINTS OF DISCHARGE. PHOTOGRAPH THE DISCHARGE AND DESCRIBE THE DISCHARGE (COLOR, ODOR, FOAM, OIL SHEEN, ETC). HOW WILL IT BE REMOVED? HOW DID THE DISCHARGE HAPPEN? HOW MUCH WAS DISCHARGED? HOW WILL IT BE STOPPED, AND HOW LONG WILL IT TAKE TO STOP? IS THE DISCHARGE GOING INTO AN ADJACENT SITE? WAS THE DISCHARGE A SEDIMENT DELTA? IF YES, WILL THE DELTA BE RECOVERED WITHIN 7 DAYS?

8. WILL A PERMANENT STORMWATER MANAGEMENT SYSTEM BE UTILIZED IN THIS PROJECT AS REQUIRED AND IN ACCORDANCE WITH PART I.H.D OF THE PERMIT? DESCRIBE:

	Y	N	N/A
9. IS ANY DEWATERING OCCURRING ON SITE?	☐	☐	☐

9.1. IF YES, WHERE? WHAT BMP IS BEING USED? HOW MUCH WATER IS BEING DEWATERED? IS THE WATER CLEAR? WHERE IS THE WATER BEING DISCHARGED TO?

	Y	N	N/A
10. IS A COPY OF THE SWPPP LOCATED ON THE CONSTRUCTION SITE?	☐	☐	☐
11. HAS THE SWPPP BEEN FOLLOWED AND IMPLEMENTED ON SITE?	☐	☐	☐
12. IS A SEDIMENTATION BASIN REQUIRED FOR THIS PROJECT AS SPECIFIED IN THE PERMIT?	☐	☐	☐
12.1. IF YES, ARE THEY MAINTAINED AS SPECIFIED IN THE PERMIT?	☐	☐	☐
13. IS THE TOPSOIL ON THIS PROJECT BEING PRESERVED?	☐	☐	☐

13.1 IF YES, EXPLAIN HOW THE TOP SOIL IS BEING PRESERVED. IF NO, EXPLAIN WHY IT WAS INFEASIBLE.

	Y	N	N/A
14. ARE ALL INFILTRATION SYSTEMS MARKED TO AVOID COMPACTION?	☐	☐	☐
14.1. DO ALL INFILTRATION AREAS HAVE PRETREATMENT DEVICES?	☐	☐	☐

15. DESCRIPTION OF AREAS OF NON-COMPLIANCE NOTED DURING THE INSPECTION, REQUIRED CORRECTIVE ACTIONS, AND RECOMMENDED DATE OF COMPLETION OF CORRECTIVE ACTIONS:

16. PROPOSED AMENDMENTS TO THE SWPPP:

17. POTENTIAL AREAS OF FUTURE CONCERN:

18. ADDITIONAL COMMENTS:

DISCLOSURES:
- AFTER DISCOVERY, THE PERMIT REQUIRES MANY OF THE DEFICIENCIES THAT MAY BE FOUND IN THIS CHECKLIST BE CORRECTED WITHIN A SPECIFIED PERIOD OF TIME. SEE PERMIT FOR MORE DETAILS.
- THIS INSPECTION CHECKLIST IS AN OPTION FOR SMALL CONSTRUCTION SITES. LARGE CONSTRUCTION SITES AND LINEAR PROJECTS REQUIRE MORE EXTENSIVE/MORE LOCATION SPECIFIC INSPECTION REQUIREMENTS.
- THE PERMITTEE(S) IS/ARE RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT BMPS AS WELL AS EROSION PREVENTION AND SEDIMENT CONTROL BMPS UNTIL ANOTHER PERMITTEE HAS OBTAINED COVERAGE UNDER THIS PERMIT ACCORDING TO PART II.B.5., OR THE PROJECT HAS UNDERGONE FINAL STABILIZATION AND A NOTICE OF TERMINATION HAS BEEN SUBMITTED TO THE MPCA.

ATTACHMENT C: MAINTENANCE PLAN FOR PERMANENT STORM WATER TREATMENT SYSTEM

ATTACHMENT C - CHAMBER
FACILITY MANAGEMENT SCHEDULE

1. ALL GRIT CHAMBERS, SUMP CATCH BASINS, SUMP MANHOLES, OUTLET STRUCTURES, CULVERTS, OUTFALL STRUCTURES AND OTHER STORMWATER FACILITIES FOR WHICH MAINTENANCE REQUIREMENTS ARE NOT OTHERWISE SPECIFIED HEREIN MUST BE INSPECTED IN THE SPRING, SUMMER AND FALL OF EACH YEAR, WITHIN 30 DAYS OF THE INSPECTION DATE, ALL ACCUMULATED SEDIMENT AND DEBRIS MUST BE REMOVED SUCH THAT EACH STORMWATER FACILITY OPERATES AS DESIGNED AND PERMITTED. CONTRIBUTING DRAINAGE AREAS MUST BE KEPT CLEAR OF LITTER AND VEGETATIVE DEBRIS. INFLOW PIPES AND OVERFLOW SPILLWAYS KEPT CLEAR. INLET AREAS KEPT CLEAN, AND UNDESIRABLE VEGETATION REMOVED. EROSION IMPAIRING THE FUNCTION OR INTEGRITY OF THE FACILITIES. IF ANY, WILL BE CORRECTED, AND ANY STRUCTURAL DAMAGE IMPAIRING OR THREATENING TO IMPAIR THE FUNCTION OF THE FACILITIES MUST BE REPAIRED.
2. VOLUME CONTROL FACILITIES AND CONTRIBUTING DRAINAGE AREAS MUST BE INSPECTED EVERY THREE MONTHS DURING THE OPERATIONAL PERIOD (BETWEEN SPRING SNOWMELT AND FIRST SUBSTANTIAL SNOWFALL) AND MONITORED AFTER RAINFALL EVENTS OF 1 INCH OR MORE TO ENSURE THAT THE CONTRIBUTING DRAINAGE AREA IS CLEAR OF LITTER AND DEBRIS, INFLOW PIPES AND OVERFLOW SPILLWAYS ARE CLEAR, INLET AREAS ARE CLEAN, UNDESIRABLE VEGETATION IS REMOVED AND THERE IS NO EROSION IMPAIRING OR THREATENING TO IMPAIR THE FUNCTION OF A FACILITY. IF SEDIMENT HAS ACCUMULATED IN A INFILTRATION FEATURE, WITHIN 30 DAYS OF INSPECTION DEPOSITED SEDIMENTS MUST BE REMOVED. THE INFILTRATION CAPACITY OF THE UNDERLYING SOILS MUST BE RESTORED, AND ANY SURFACE DISTURBANCE MUST BE STABILIZED. INSPECTION MUST ENSURE THAT SEDIMENT TRAPS AND FOREBAYS ARE TRAPPING SEDIMENT AND THAT MORE THAN 50 PERCENT OF THE STORAGE VOLUME REMAINS. THE CONTRIBUTING DRAINAGE AREA IS STABLE (I.E., NO EROSION IS OBSERVED), AND INLETS AND OUTLET/OVERFLOW SPILLWAYS ARE IN GOOD CONDITIONS WITH NO EROSION. MAINTENANCE TECHNIQUES USED MUST PROTECT THE INFILTRATION CAPACITY OF THE PRACTICE BY LIMITING SOIL COMPACTION TO THE GREATEST EXTENT POSSIBLE (E.G. BY USING LOW-IMPACT EARTH-MOVING EQUIPMENT).
3. UNDERGROUND STORAGE CHAMBERS MUST BE INSPECTED AT LEAST ONCE A YEAR TO ENSURE THAT ADEQUATE STORAGE CAPACITY REMAINS. CAPACITY WILL BE CONSIDERED INADEQUATE IF SEDIMENT HAS DECREASED THE STORAGE VOLUME BY 50 PERCENT OF ITS ORIGINAL DESIGN VOLUME. ACCUMULATED DEBRIS AND SEDIMENT WILL BE REMOVED, AND INLET AND OUTLET STRUCTURES WILL BE CLEARED OF ANY FLOW IMPEDIMENTS.

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9360 HENNEPIN TOWN ROAD, EDEN PRAIRIE, MN 55347

SMART FIT DEVELOPMENT
5123 W 98TH STREET, SUITE 142, BLOOMINGTON, MN 55437

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

David J. Knoble
DATE: 7/26/21 LICENSE NO.: 48776

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
3/5/21	CITY SUBMITTAL
4/15/21	WATERSHED SUBMITTAL
4/19/21	CITY RESUBMITTAL
5/17/21	WATERSHED SUBMITTAL
6/1/21	WATERSHED SUBMITTAL
6/4/21	CITY RESUBMITTAL
7/26/21	WATERSHED RESUBMITTAL

DRAWN BY: BJ REVIEWED BY: DK
PROJECT NUMBER: J1315

REVISION SUMMARY

DATE	DESCRIPTION

SWPPP - ATTACHMENTS

SW1.5

7/26/2021 3:39 PM

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512
www.rpbcwd.org

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2021-061

Considered at Board of Managers Meeting: September 1, 2021

Received complete: August 21, 2021

Applicant: Steven Youngsedt
Consultant: Westwood, Shari Ahrens
Project: Goddard School Redevelopment –The proposed redevelopment includes removal of existing bituminous, concrete walk, and sections of the existing building, and the construction of a parking lot and play areas. Stormwater management will be provided by a subsurface stormwater management system to provide volume control, water quality, and rate control.
Location: 14900 Hwy 7 Frontage Road, Minnetonka, MN
Reviewer: Scott Sobiech P.E., Barr Engineering

Board Action

Manager _____ moved and Manager _____ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the September 1, 2021 meeting of the managers:

Resolved that the application for Permit 2021-061 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report.

Resolved that on determination by the RPBCWD administrator that the conditions of approval have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2021-061 to the applicant on behalf of RPBCWD.

Upon roll call vote, the resolutions were adopted, _____.

Applicable Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
C	**Erosion Control Plan**		See Comment.	See Rule Specific Permit Condition C1
J	**Stormwater Management**	Rate	Yes	
		Volume	See Comment	See stipulation #4.
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See Comment	See Rule Specific Permit Condition J1
		Chloride Management	See Comment	See Stipulation #3
L	**Permit Fee Deposit**		Yes	$3,000 received July 20, 2021

Rule	Issue	Conforms to RBPCWD Rules?	Comments
M	**Financial Assurances**	See Comment	The financial assurance is calculated at $64,958

Background

The existing project site is developed with vacant commercial building sited north of Highway 7 North Frontage Road and south of Highwood Drive. Most of the project site is within Riley Purgatory Bluff Creek Watershed District's jurisdiction; the rest is within Minnehaha Creek Watershed District (MCWD), as summarized in the following table. The applicant proposes to redevelop the site by removal of existing bituminous, concrete walk, and sections of the existing building, and the construction of a parking lot and play areas. Stormwater management will be provided by a subsurface stormwater management system to provide volume control, water quality, and rate control. Relevant project site information is provided below.

	Total Project	MCWD Area	RPBCWD Area
Total Site Area (acres)	0.82	0.10	0.72
Existing Site Impervious (acres)	0.44	0.00	0.44
Post Construction Site Impervious (acres)	0.56	0.06	0.50
New (Increase) in Site Impervious Area (acres)	0.12	0.06	0.06 (13.6% increase)
Disturbed impervious surface (acres)	0.06	0.00	0.06 (13.6% disturbed)
Total Disturbed Area (acres)	0.29	0.09	0.20

The remainder of this report pertains only to application of RPBCWD's regulatory requirements to that portion of the project within RPBCWD's jurisdiction. Permit 2021-061, if issued, will authorize only activity within RPBCWD's jurisdiction. The following materials were reviewed in support of the permit request:

1. Permit Application received July 19, 2021 Notified applicant of incomplete application submittal on July 29, 2021. August 21, 2021 submittal completed the application.
2. Stormwater Management narrative received June 24, 2021 (revised July 20, 2021, and August 21, 2021)
3. Project Plan Set (11 sheets) dated June 24, 2021 (revised August 23, 2021)
4. Alta survey data September 25, 2015
5. Report of Geotechnical Exploration by American Engineering Testing, Inc. dated May 14, 2021
6. Electronic HydroCAD models received on August 21, 2021
7. Response to review comments received August 21, 2021
8. Opinion of Probable Costs for stormwater received on June 28, 2021

Rule Specific Permit Conditions

Rule C: Erosion Prevention and Sediment Control

Because the project will involve 0.29 acres of land-disturbing activity, the project must conform to the requirements in the RPBCWD Erosion Prevention and Sediment Control rule (Rule C, Subsection 2.1). The erosion and sediment control plan prepared by Westwood includes installation of silt fence, inlet protection for storm sewer catch basins, a stabilized rock construction entrance, decompaction of areas compacted during construction, six inches of topsoil, and retention of native topsoil onsite. To conform to RPBCWD Rule C requirements, the following revisions are needed:

C1. The Applicant must provide the name and contact information of the individual responsible for erosion prevention and sediment control at the site. RPBCWD must be notified if the responsible person changes during the permit term.

Rule J: Stormwater Management

Because the project will involve 0.29 acres of land-disturbing activity, the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.1). The criteria listed in Subsection 3.1 will apply to only to the disturbed and additional impervious area because the project will disturb less than 50% of the existing impervious surface on the parcel and will not increase imperviousness of the parcel by more than 50 percent (Rule J, Subsection 2.3).

The applicant proposes construction of an subsurface stormwater management system to provide volume control, water quality, and rate control. Pretreatment of runoff will be provided by sump catch basins and an isolator row dedicated for runoff pretreatment.

Rate Control

In order to meet the rate control criteria listed in Subsection 3.1.a, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The Applicant used a HydroCAD hydrologic model to simulate runoff rates for pre- and post-development conditions for the 2-, 10-, and 100-year frequency storm events using a nested rainfall distribution, and a 100-year frequency, 10-day snowmelt event. The existing and proposed 2-, 10-, and 100-year frequency discharges from the site are summarized in the table below.

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
North	1.0	1.0	1.7	1.7	3.0	2.9	<0.1	<0.1
Southeast	0.2	0.2	0.4	0.3	0.8	0.7	<0.1	<0.1
Southwest	0.8	0.8	1.2	1.2	2.1	1.9	<0.1	<0.1
East	0.6	0.1	1.0	0.3	1.9	0.9	<0.1	<0.1

The proposed stormwater management plan will provide rate control in compliance with the RPBCWD requirements for the 2-, 10-, and 100-year events. Thus, the proposed project meets the rate control requirements in Rule J, Subsection 3.1a.

Volume Abstraction

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from the new and disturbed impervious surface of the parcel. An abstraction volume of 719 cubic feet is required from the 0.18 acres of regulated impervious area for volume retention. The Applicant proposes an subsurface stormwater management system to provide volume abstraction. Pretreatment is provided a sump catch basins and an isolator row (a row in the subsurface system dedicated to pretreating runoff prior to distributing to the rest of the system) (Rule J, Subsection 3.1.b.1).

Four soil borings were collected on the site and show surface soils at the proposed stormwater facility are sand. The MN Stormwater Manual indicates an infiltration rate of 0.8 inches per hour (in/hr) for sand. The geotechnical report estimated the hydraulic conductivity values for the soils at the site to range between 0.3 – 43.5 in/hr. Groundwater was not encountered in the soil boring located at the proposed subsurface stormwater management system which stopped at elevation 1031.2 feet. The bottom of the proposed subsurface stormwater management system is at an elevation of 1039.0 feet. This indicates that groundwater is at least 3 feet below the bottom of the proposed stormwater management systems (Rule J, Subsection 3.1.b.ii.2). With this presumed infiltration rate, the infiltration BMP will drawdown within the required 48 hours.

The table below summarizes the volume abstraction for the site. The proposed project is in conformance with Rule J, Subsection 3.1.b.

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
1.1	719	1.3	884

While the geotechnical report lists a suggested infiltration rate of 0.8 in/hr based on soil classification, it does not contain infiltration or hydraulic conductivity testing results at the bottom of the stormwater management system as required by Rule J, Subsection 3.1.b.ii.c. The applicant must submit documentation verifying the infiltration capacity of the soils and that the volume control capacity is calculated using the measured infiltration rate prior to project close-out. If infiltration capacity is less than needed to conform with the volume abstraction requirement in subsection 3.1b, design modifications to achieve compliance with RPBCWD requirements will need to be submitted (in the form of an application for a permit modification or new permit).

Water Quality Management

Subsection 3.1.c of Rule J requires the Applicant provide volume abstraction in accordance with 3.1b or least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff, and no net increase in TSS or TP loading leaving the site from existing conditions. Because the BMP proposed by the applicant provides abstraction meeting 3.1b and the engineer concurs with the modeling, the engineer finds that the proposed project is in conformance with Rule J, Subsection 3.1.c.

Low floor Elevation

All new buildings must be constructed such that the lowest floor is at least two feet above the 100-year high-water elevation or one foot above the emergency overflow of a stormwater-management facility according to Rule J, Subsection 3.6a. In addition, a stormwater-management facility must be constructed at an elevation that ensures that no adjacent habitable building will be brought into noncompliance with this requirement according to Rule J, Subsection 3.6b.

The low floor elevation of the existing building as well as the 100-year flood elevation of the proposed subsurface stormwater management system is summarized below. Because the low floor elevations of the existing structures are more than one foot above the proposed 100-year flood elevation of the proposed stormwater management facility, the proposed project is in conformance with Rule J, Subsection 3.6.

Structure Location	Low Floor Elevation of Existing Building (feet)	100-year Event Flood Elevation of Stormwater Facility (feet)	Freeboard to 100-year (feet)
Goddard School	1048	1040.84	7.16

Maintenance

Subsection 3.7 of Rule J requires the submission of a maintenance plan. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed. To conform to the RPBCWD Rule J the following revisions are needed:

J1. Permit applicant must provide a maintenance and inspection declaration as required by Rule J, Subsection 3.7. The declaration must also include an Exhibit A, a scaled site plan, showing the subsurface stormwater management system and all pretreatment features. In addition, the exhibit must show a cross section of the proposed BMP with elevations listed. A draft declaration must be provided for District approval prior to recordation as a condition of issuance of the permit.

Chloride Management

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan. To close out the permit and release the $5,000 in financial assurance held for the purpose of chloride management, the permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.

Wetland Protection

Because runoff from this site is directly tributary to a downstream stormwater pond and is not tributary to any wetland, the proposed project does not trigger analysis under Rule J, subsection 3.10.

Rule L: Permit Fee Deposit:

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit $3,000 to be held in escrow and applied to cover the $10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A permit fee deposit of $3,000 was received on July 20, 2020.

Rule M: Financial Assurance:

Rules C: Silt fence and silt dikes: 581 L.F. x $2.50/L.F. = ... $1,253

Inlet protection: 6 x $100 = ... $600

Rock Entrance: 1 x $250 = ... $250

Restoration: 0.29 acres x $2,500/acre = ... $725

Rules J: Stormwater Management Facility: $40,980 x 125% of engineer's opinion of cost= $51,225

Chloride Management Plan: $5,000

Contingency (10%) $5,905

Total Financial Assurance..... $64,958

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction shall be consistent with the plans and specifications approved by the District as a part of the permitting process. The date of the approved plans and specifications is listed on the permit.

3. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
4. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
5. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
6. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
7. RPBCWD's determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.
8. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

Findings

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project will conform to Rules C and J if the Rule Specific Permit Conditions listed above are met.

Recommendation:

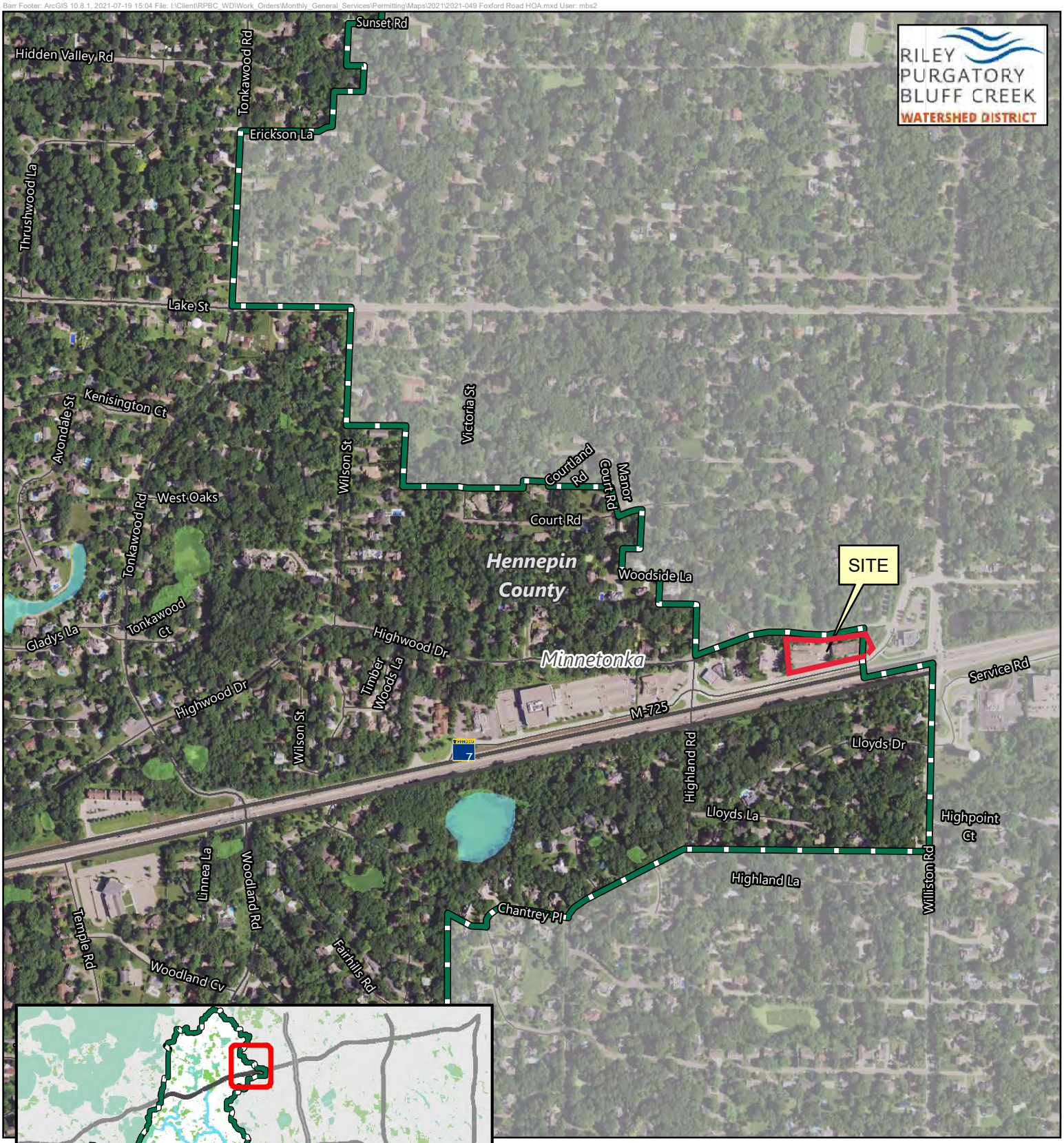
Approval, contingent upon:

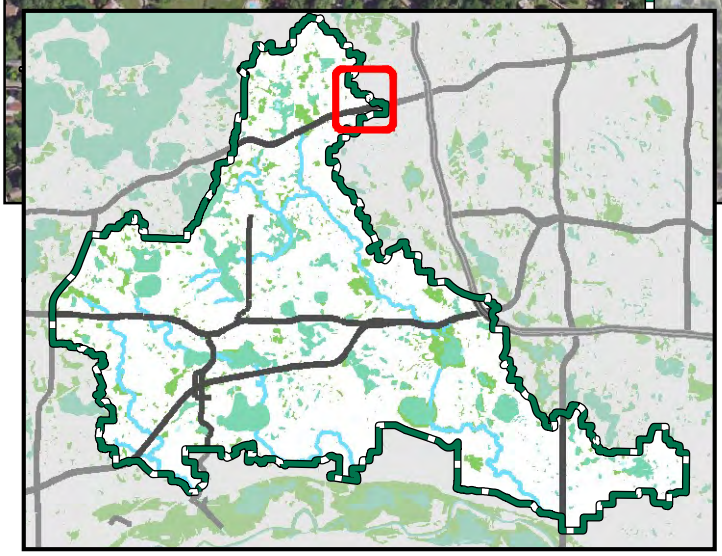
1. Continued compliance with General Requirements
2. Financial Assurance in the amount of $64,958.
3. Receipt in recordation a maintenance declaration for the stormwater management facility. Drafts of all documents to be recorded must be approved by the District prior to recordation.

By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization, the subsurface stormwater management system conform to design specifications and function as intended and approved by the District. As-built/record drawings must be signed by a professional engineer licensed in Minnesota and include, but not limited to:
    a. the surveyed bottom elevations, water levels, and general topography of all facilities;
    b. the size, type, and surveyed invert elevations of all stormwater facility inlets and outlets;
    c. the surveyed elevations of all emergency overflows including stormwater facility, street, and other;
    d. other important features to show that the project was constructed as approved by the Managers and protects the public health, welfare, and safety.
2. Providing the following additional close-out materials:
    a. Documentation that constructed infiltration facility perform as designed. This may include infiltration testing, flood testing, or other with prior approval from RPBCWD.
    b. Documentation that disturbed pervious areas remaining pervious have been decompacted per Rule C.2c criteria.
3. To close out the permit and release the $5,000 in financial assurance held for the purpose of the chloride management, the permit applicant must provide a signed chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.

4. Per Rule J, Subsection 3.1.b.2 measured infiltration capacity of the soils at the bottom of the infiltration systems must be provided. The applicant must submit documentation verifying the infiltration capacity of the soils and that the volume control capacity is calculated using the measured infiltration rate. If infiltration capacity is less than needed to conform with the volume abstraction requirement in subsection 3.1b, design modifications to achieve compliance with RPBCWD requirements will need to be submitted (in the form of an application for a permit modification or new permit).





N

Feet

0 1,000

Permit Location Map

GODDARD SCHOOL

Permit 2021-049

Riley Purgatory Bluff Creek Watershed District

PRELIMINARY PLANS

FOR

THE GODDARD SCHOOL

MINNETONKA, MN

Vicinity Map
(NOT TO SCALE)

PREPARED FOR:

DBS GROUP

2700 NATIONAL DRIVE, SUITE 100
ONALASKA, WI 54650
CONTACT: CHRIS WALTERS
PHONE: 608-881-6007
EMAIL: CWALTERS@DBSG.COM

PREPARED BY:

Westwood

Phone (952) 937-5150 12701 Whitewater Drive, Suite #300
Fax (952) 937-5822 Minnetonka, MN 55343
Toll Free (888) 937-5150 westwoodps.com

Westwood Professional Services, Inc.

PROJECT NUMBER: 0031849.00
CONTACT: SHARI LYNN S. AHRENS

SHEET INDEX

SHEET NUMBER	SHEET TITLE
C0.1	COVER
C1.0	EXISTING CONDITIONS, TREE PRESERVATION & REMOVALS PLAN
C2.0	SITE PLAN
C3.0	GRADING & EROSION CONTROL PLAN
C4.0	UTILITY PLAN
C5.0	SITE DETAILS I
C5.1	SITE DETAILS II
C5.2	SITE DETAILS III
C5.3	UTILITY DETAILS
C6.0	PHOTOMETRIC PLAN
L1.0	LANDSCAPE PLAN
L1.1	LANDSCAPE DETAILS

BENCHMARKS

BM-1
½" IRON PIPE
ELEV. = 1046.47

NO.	DATE	REVISION	SHEETS
1	06/02/21	PROGRESS SET	ALL
2	06/10/21	CLIENT REVIEW	ALL
3	06/24/21	CITY SUBMITTAL	ALL
4	07/12/21	CLIENT REVIEW	ALL
	08/20/2021	CITY AND WATERSHED COMMENTS	

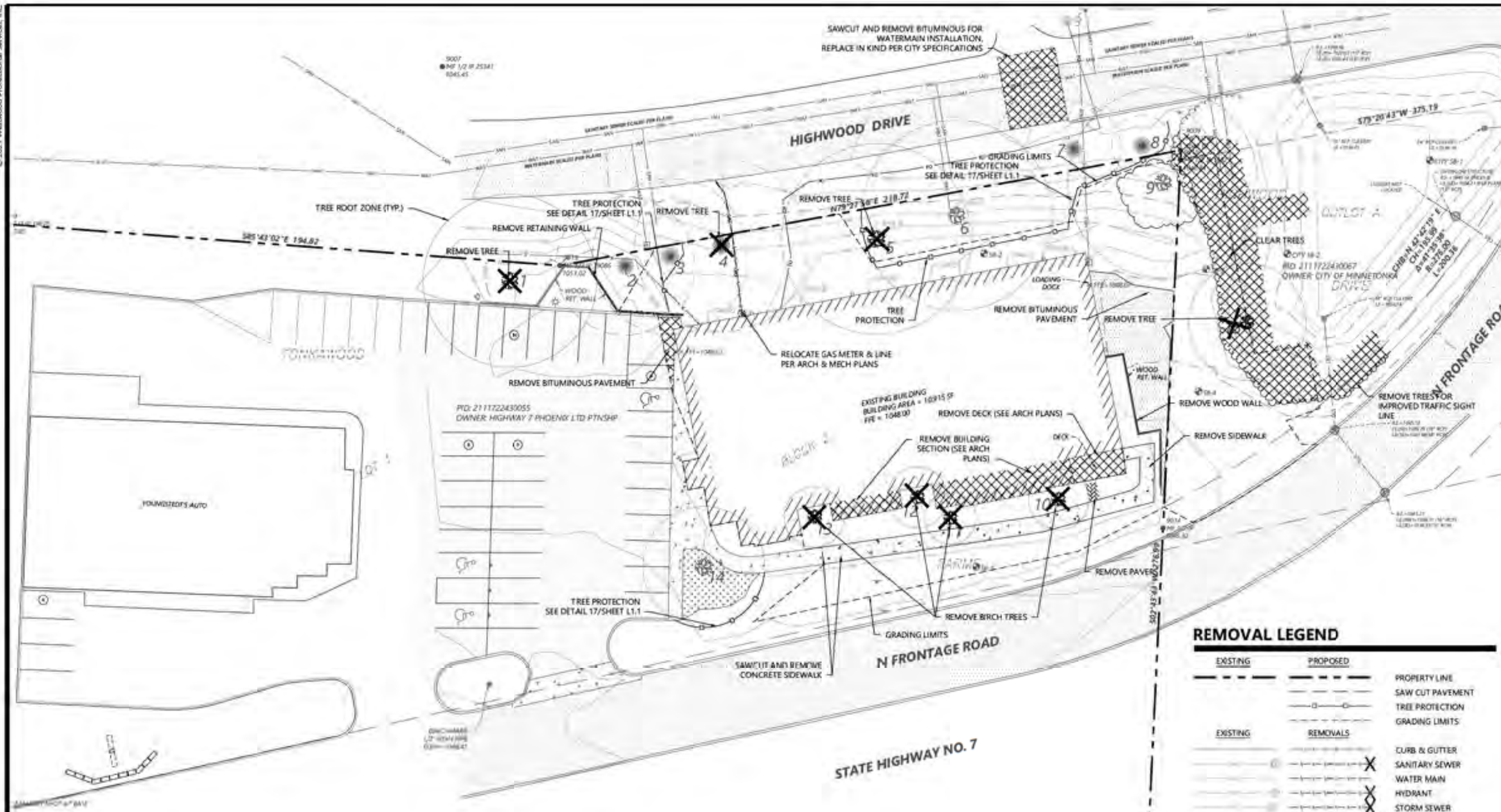
PRELIMINARY PLANS
FOR
THE GODDARD SCHOOL
MINNETONKA, MN

INITIAL SUBMITTAL DATE: 06/02/21 SHEET: 1 OF 12

PROJECT NUMBER: 0031849.00

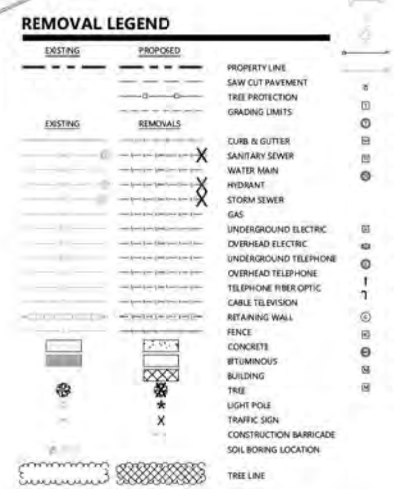
THE GODDARD SCHOOL

N:\0031849.00\DWG\CIVIL\0031849CV01.DWG


SAWCUT AND REMOVE BITUMINOUS FOR WATERMAIN INSTALLATION. REPLACE IN KIND PER CITY SPECIFICATIONS
HIGHWOOD DRIVE
TREE ROOT ZONE (TYP.)
TREE PROTECTION SEE DETAIL 17/SHEET L1.1
REMOVE RETAINING WALL
REMOVE TREE
GRADING LIMITS
RELOCATE GAS METER & LINE PER ARCH & MECH PLANS
REMOVE BITUMINOUS PAVEMENT
REMOVE DECK (SEE ARCH PLANS)
REMOVE BUILDING SECTION (SEE ARCH PLANS)
CLEAR TREES
OUTLOT A
REMOVE WOOD WALL
REMOVE SIDEWALK
REMOVE TREES FOR IMPROVED TRAFFIC SIGHT LINE
N FRONTAGE ROAD
REMOVE BIRCH TREES
SAWCUT AND REMOVE CONCRETE SIDEWALK
STATE HIGHWAY NO. 7
YOUNGSTEDT'S AUTO

TREE INVENTORY					
TREE #	SPECIES	HEIGHT	SIZE	HEALTH	STATUS
1	BOXELDER		20"	GOOD	REMOVE
2	SPRUCE	32'	16"	GOOD	REMAIN
3	SPRUCE	45'	18"	GOOD	REMAIN
4	SPRUCE	48'	20"	GOOD	REMOVE
5	OAK		22"	GOOD	REMOVE
6	OAK		22"	GOOD	REMAIN
7	SPRUCE	30'	11"	GOOD	REMAIN
8	SPRUCE	23'	7"	GOOD	REMAIN
9	OAK		22"	GOOD	REMAIN
10	BIRCH		7"	GOOD	REMOVE
11	BIRCH		6"	GOOD	REMOVE
12	BIRCH		7"	GOOD	REMOVE
13	BIRCH DOUBLE		7"/7"	GOOD	REMOVE
14	RIVER BIRCH TRIPLE		12"/10"/14"	GOOD	REMAIN
15	COTTONWOOD		13.5"	GOOD	REMOVE

REMOVAL LEGEND

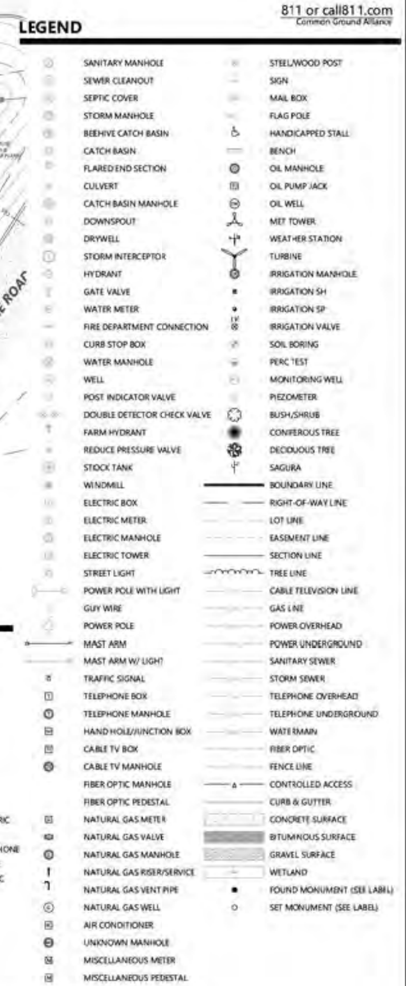

EXISTING
PROPOSED
PROPERTY LINE
SAW CUT PAVEMENT
TREE PROTECTION
GRADING LIMITS
REMOVALS
CURB & GUTTER
SANITARY SEWER
WATER MAIN
HYDRANT
STORM SEWER
GAS
UNDERGROUND ELECTRIC
OVERHEAD ELECTRIC
UNDERGROUND TELEPHONE
OVERHEAD TELEPHONE
TELEPHONE FIBER OPTIC
CABLE TELEVISION
RETAINING WALL
FENCE
CONCRETE
BITUMINOUS
BUILDING
TREE
LIGHT POLE
TRAFFIC SIGN
CONSTRUCTION BARRICADE
SOIL BORING LOCATION
TREE LINE

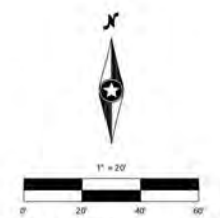
REMOVAL NOTES

1. LOCATIONS AND ELEVATIONS OF EXISTING TOPOGRAPHY AND UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AND UTILITY LOCATIONS PRIOR TO EXCAVATION/CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND.
2. CONTRACTOR SHALL COORDINATE LIMITS OF REMOVALS WITH PROPOSED IMPROVEMENTS AND FIELD VERIFY CONDITION OF EXISTING APPURTENANCES TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING OR REPLACING MISCELLANEOUS ITEMS (SUCH AS FENCES, SIGNS, IRRIGATION HEADS, ETC.) THAT MAY BE DAMAGED BY CONSTRUCTION.
3. CONTRACTOR SHALL PLACE ALL NECESSARY EROSION CONTROL MEASURES REQUIRED TO MAINTAIN SITE STABILITY PRIOR TO EXECUTING ANY SITE REMOVALS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITY PROVIDERS FOR REMOVAL AND/OR RELOCATION OF EXISTING UTILITIES AFFECTED BY SITE DEVELOPMENT. ALL PERMITS, APPLICATIONS AND FEES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance

LEGEND


SANITARY MANHOLE
SEWER CLEANOUT
SEPTIC COVER
STORM MANHOLE
BEEHIVE CATCH BASIN
CATCH BASIN
FLARED END SECTION
CULVERT
CATCH BASIN MANHOLE
DOWNSPOUT
DRYWELL
STORM INTERCEPTOR
HYDRANT
GATE VALVE
WATER METER
FIRE DEPARTMENT CONNECTION
CURB STOP BOX
WATER MANHOLE
WELL
POST INDICATOR VALVE
DOUBLE DETECTOR CHECK VALVE
FARM HYDRANT
REDUCE PRESSURE VALVE
STOCK TANK
WINDMILL
ELECTRIC BOX
ELECTRIC METER
ELECTRIC MANHOLE
ELECTRIC TOWER
STREET LIGHT
POWER POLE WITH LIGHT
GUY WIRE
POWER POLE
MAST ARM
MAST ARM W/ LIGHT
TRAFFIC SIGNAL
TELEPHONE BOX
TELEPHONE MANHOLE
HAND HOLE/JUNCTION BOX
CABLE TV BOX
CABLE TV MANHOLE
FIBER OPTIC MANHOLE
FIBER OPTIC PEDESTAL
NATURAL GAS METER
NATURAL GAS VALVE
NATURAL GAS MANHOLE
NATURAL GAS RISER/SERVICE
NATURAL GAS VENT PIPE
NATURAL GAS WELL
AIR CONDITIONER
UNKNOWN MANHOLE
MISCELLANEOUS METER
MISCELLANEOUS PEDESTAL
STEEL/WOOD POST
SIGN
MAIL BOX
FLAG POLE
HANDICAPPED STALL
BENCH
OIL MANHOLE
OIL PUMP JACK
OIL WELL
MET TOWER
WEATHER STATION
TURBINE
IRRIGATION MANHOLE
IRRIGATION SH
IRRIGATION SP
IRRIGATION VALVE
SOIL BORING
PERC TEST
MONITORING WELL
PIEZOMETER
BUSH/SHRUB
CONIFEROUS TREE
DECIDUOUS TREE
SAGURA
BOUNDARY LINE
RIGHT-OF-WAY LINE
LOT LINE
EASEMENT LINE
SECTION LINE
TREE LINE
CABLE TELEVISION LINE
GAS LINE
POWER OVERHEAD
POWER UNDERGROUND
SANITARY SEWER
STORM SEWER
TELEPHONE OVERHEAD
TELEPHONE UNDERGROUND
WATERMAIN
FIBER OPTIC
FENCE LINE
CONTROLLED ACCESS
CURB & GUTTER
CONCRETE SURFACE
BITUMINOUS SURFACE
GRAVEL SURFACE
WETLAND
FOUND MONUMENT (SEE LABEL)
SET MONUMENT (SEE LABEL)



NOT FOR CONSTRUCTION

PREPARED FOR:
DBS GROUP
2700 NATIONAL DRIVE, SUITE 100
ONALASKA, WI 54650

THE GODDARD SCHOOL
MINNETONKA, MN

Westwood

EXISTING CONDITIONS, TREE PRESERVATION & REMOVALS PLAN

SHEET NUMBER:
C1.0

DATE: 06/24/21

INITIAL ISSUE: 06/02/21

PROJECT NUMBER: 0031849.00

THE GODDARD SCHOOL

SITE DETAILS (SI-0XX)

1 B612 CURB AND GUTTER
8 PRIVATE CONCRETE SIDEWALK
14 SIGN INSTALLATION
15 HANDICAP ACCESSIBLE SIGNAGE AND STRIPING
18 BOLLARD
19 PAVEMENT SECTIONS
36 SIGN POST WITH BOLLARD
43 RETAINING WALL WITH FENCE USING SLEEVE-IT SYSTEM
43A LARGE FORMAT RETAINING WALL
48 CONCRETE STAIR AND RAILING DETAIL

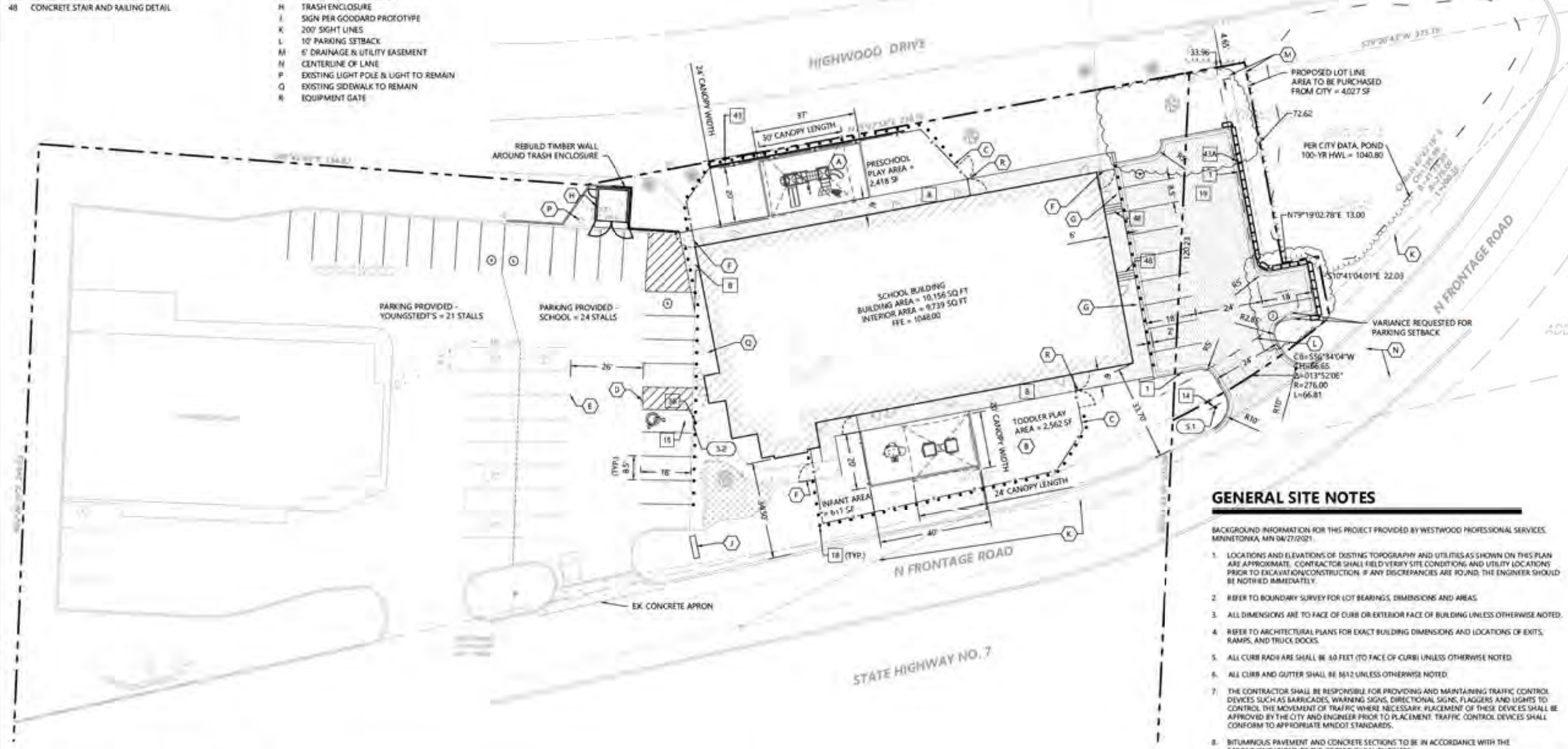
SITE KEYNOTES

A PRESCHOOL PLAYGROUND EQUIPMENT - BY OTHERS, PER PROTOTYPE. COLOR CONFIRMATION REQUIRED.
B TODDLER PLAYGROUND EQUIPMENT - BY OTHERS, PER PROTOTYPE. COLOR CONFIRMATION REQUIRED.
C 6' HIGH STEEL PERIMETER PLAYGROUND FENCING
D PROPOSED STRIPING
E EXISTING STRIPING
F SECURITY GATE WITH PANIC BAR & ALARM
G SIDEWALK WITH RAILING
H TRASH ENCLOSURE
J SIGN PER GOODARD PROTOTYPE
K 200' SIGHT LINES
L 10' PARKING SETBACK
M 6' DRAINAGE & UTILITY EASEMENT
N CENTERLINE OF LANE
P EXISTING LIGHT POLE & LIGHT TO REMAIN
Q EXISTING SIDEWALK TO REMAIN
R EQUIPMENT GATE

SIGN LEGEND

REFERENCE		SIZE	MnDOT DESIGNATION
S.1	STOP SIGN	30" X 30"	R1-1
S.2	HANDICAP ACCESSIBLE	12" X 18"	R7-8M

Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance



GSI PLAYGROUND RESPONSIBILITIES

1. PLAYGROUND STRUCTURE AND SHADE STRUCTURE APPROVALS OR PERMITS IF REQUIRED. APPROVALS AND PERMITTING MAY BE REQUIRED FOR COLOR SCHEME, HEIGHT, MANUFACTURER DESIGN METHODS, ETC.
2. UTILITIES CANNOT BE LOCATED UNDER OR OVER PLAYGROUND BOXES.
3. ELECTRIC AND WATER ARE NEEDED ON SITE, FOR THE PLAYGROUND INSTALLERS USE. IF NOT, OTHER PRIOR ARRANGEMENTS SHALL BE MADE.
4. SOILS WITHIN THE PLAYGROUND BOX DIMENSIONS SHOULD BE SUITABLE FOR SLAB AT GRADE INSTALLATIONS. SOILS SHOULD NOT CONTAIN DEBRIS AND COMPACTED TO 97% IN ACCEPTED INCREMENTS CONTAINING SUITABLE SOIL.
5. PROVIDE GODDARD SYSTEM INC.'S PROJECT MANAGER WITH A TIMELINE FOR PLAYGROUND INSTALLATION. ROUGH GRADE IS REQUIRED AND SIDEWALKS SHALL BE INSTALLED PRIOR TO PLAYGROUND INSTALLATION, SOD, FENCE AND PARKING LOT TOP COAT.
6. LOCATE PLAYGROUND BOXES PER SITE PLAN, EXCAVATED 7" DEEP. PLAYGROUND BOXES CANNOT EXCEED A MAXIMUM 2% GRADE. (DTL. 2/C3.1)
7. SUB-GRADE BACKFILL MUST BE COMPACTED TO AT LEAST 97% AND SHOULD NOT CONTAIN MATERIALS SUCH AS LARGE ROCKS, SCRAP WOOD, CONCRETE SPOILS, ETC. PLAYGROUND INSTALLERS NEED TO DRILL ACCURATE HOLES FOR PLAYGROUND POLE INSTALLATION.
8. INSTALL DRAINAGE SYSTEM TO EXCAVATED PLAYGROUND BOXES PER SITE PLAN. (DTL. 13/C3.1)
9. ENSURE ADEQUATE AREA FOR PLAYGROUND INSTALLERS. STAGING AREA NEEDED TO UNLOAD AND PRE-ASSEMBLE APPROX. 1,000 CUBIC FOOT SHIPMENT OF PLAYGROUND EQUIPMENT. HOLDING AREA NEEDED TO RECEIVE DELIVERY OF APPROXIMATELY 40-50 TONS OF CRUSHED STONE. PARKING AREA NEEDED FOR TWO TRUCKS AND ONE 30' TRAILER OF EXCAVATING EQUIPMENT.
10. IN ORDER TO AVOID POSSIBLE DAMAGE, PARKING LOTS SHOULD NOT HAVE TOPCOAT APPLIED AND FENCING SHOULD NOT BE INSTALLED UNTIL PLAYGROUND IS COMPLETE. IF FENCING IS INSTALLED, LEAVE OUT NECESSARY SECTIONS TO PROVIDE ACCESS TO PLAYGROUND AREA.
11. ONCE COMPACTED CRUSH STONE BASE, BORDER, AND EQUIPMENT ARE IN PLACE, THEY SHOULD NOT BE DRIVEN OR WALKED ON AND SHOULD NOT BE USED FOR STORAGE AREA.
12. PLAYGROUND INSTALLATION DESCRIBED ABOVE SHOULD TAKE APPROXIMATELY ONE TO FIVE DAYS, DEPENDING ON SITE CONDITIONS, WEATHER, INSTALLER CREW SIZE, ETC.
13. INSTALLATION OF POUR-IN-PLACE SURFACING USUALLY TAKES PLACE ONE TO TWO WEEKS AFTER PLAYGROUND IS INSTALLED, DEPENDING MAINLY ON WEATHER CONDITIONS.
14. GENERALLY ONLY THREE OR FOUR PARKING SPACES ARE NEEDED FOR SURFACING INSTALLERS. (ONE OR TWO VEHICLES AND A MIXER STAGING AREA)
15. TYPICALLY, TWO MEN MIX THE SURFACING PRODUCT IN THE PARKING LOT AND TRANSPORT BY WHEELBARROW TO PLAYGROUNDS WHERE IT IS POURED AND TROWELED. THEREFORE, NO SPECIAL ALLOWANCES ARE NECESSARY (FENCING CAN BE INSTALLED AND FINISH LANDSCAPING CAN BE COMPLETED)
16. THIS IS USUALLY A TWO-DAY INSTALLATION, DEPENDING MAINLY ON WEATHER CONDITIONS. IMPACT COURSE APPLIED ON DAY ONE, AND TOPCOAT (COLOR) APPLIED ON DAY TWO.
17. ONCE THE TOPCOAT APPLICATION IS COMPLETE, THE BINDING AGENTS WILL TAKE A MINIMUM 24 HOURS TO CURE. DURING THAT TIME THERE IS TO BE ABSOLUTELY NO WALKING ON, PLACING OBJECTS ON, OR ALLOWING ANY DUST TO ACCUMULATE ON THE TOPCOAT SURFACE.
18. FINISH GRADING AND LANDSCAPING MUST BE THE SAME ELEVATION AT THE PLAYGROUND BORDERS.
19. ENSURE THAT THE SITE IS SECURE AND THAT OTHER CONTRACTORS WILL NOT BE STORING, WORKING, WALKING, ETC. ON FINISHED PLAYGROUNDS, SURFACES OR BORDERS.

GENERAL NOTES:
DEVELOPER/GENERAL CONTRACTOR SHOULD BE IN CONSTANT COMMUNICATION WITH GSI TO SCHEDULE DELIVERY AND INSTALLATION OF THE PLAYGROUND STRUCTURES. PLAYGROUND INSTALLERS TRAVEL LONG DISTANCES AND IT IS IMPERATIVE THE SITE IS PROPERLY PREPARED AS SPECIFIED TO AVOID COSTLY MOBILIZATION, SHIPPING AND STORAGE FEES.

GSI'S PLAYGROUND INSTALLERS TRAVEL GREAT DISTANCES, INCURRING EXPENSES FOR BOTH TRANSPORTATION AND LODGING. IN ADDITION THEY ARE REQUIRED TO RESERVE RENTAL MACHINERY. IF THEY ARE TURNED AWAY BECAUSE THE SITE IS NOT READY, A TRAVEL CHARGE WILL APPLY. THIS CHARGE COULD BE SIGNIFICANT ($50.00 PER MAN-HOUR FOR A CREW OF FIVE, LODGING AT $175 PER ROOM PER NIGHT, AND EQUIPMENT RENTAL DEPOSITS). THEREFORE, FOLLOWING ALL OF THE ABOVE GUIDELINES, ESPECIALLY WITH RESPECT TO DISCLOSING EXCESSIVELY ROCKY CONDITIONS, PROHIBITING THE USE OF LARGE ROCKS, CEMENT, ETC. IN BACKFILL MATERIALS, AND PROVIDING THE PROJECT MANAGER AN ACCURATE TIMELINE, WILL SAVE BOTH MONEY AND TIME.

SITE DEVELOPMENT SUMMARY

• EXISTING ZONING:	PUD, ZONING DISTRICT B-2	
• PROPOSED ZONING:	PUD, ZONING DISTRICT B-2	
• PARCEL DESCRIPTION:	LOT 1 BLOCK 2 - TONKAWOOD FARMS	
• PROPERTY AREA:	35,463 SF (0.84 AC)	
• PERVIOUS SURFACE: • IMPERVIOUS SURFACE(RATIO):	11,174 SF (31.6%) 24,186 SF (68.4%)	
• BUILDING GROSS SIZE:	10,156 SF	
• FLOOR-AREA-RATIO(FAR):	0.29	
• BUILDING SETBACK PER CODE:	50'=FRONT 35'=SIDE/REAR	
• PARKING SETBACK:	10'=FRONT AND ROW 10'=SIDE AND REAR	
• PARKING SPACE/DRIVE AISLE:	8.5' WIDE X 18' LONG, 24' AISLE	
• PARKING RATIO REQUIREMENT	CITY OF MINNETONKA REQUIREMENTS	PARKING REQUIREMENTS
DAYCARE:	1 SPACE / 6 CHILDREN IN FACILITY	142 CHILDREN/6 = 24 REQUIRED
AUTO SERVICE:	4 SPACES, PLUS: 3 SPACES / SERVICE STALL 1 SPACE / 250 SF OF RETAIL SPACE	4 + 12 + 5 = 21 REQUIRED
TOTAL SPACES REQUIRED:	45 SPACES REQUIRED	
• PARKING PROVIDED:	DAYCARE:	35 SPACES
	AUTO SERVICE:	21 SPACES
	TOTAL SPACES PROVIDED:	56 SPACES

GENERAL SITE NOTES

BACKGROUND INFORMATION FOR THIS PROJECT PROVIDED BY WESTWOOD PROFESSIONAL SERVICES, MINNETONKA, MN 04/27/2021.

1. LOCATIONS AND ELEVATIONS OF EXISTING TOPOGRAPHY AND UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AND UTILITY LOCATIONS PRIOR TO EXCAVATION/CONSTRUCTION. IF ANY DISCREPANCIES ARE FOUND, THE ENGINEER SHOULD BE NOTIFIED IMMEDIATELY.
2. REFER TO BOUNDARY SURVEY FOR LOT BEARINGS, DIMENSIONS AND AREAS.
3. ALL DIMENSIONS ARE TO FACE OF CURB OR EXTERIOR FACE OF BUILDING UNLESS OTHERWISE NOTED.
4. REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS AND LOCATIONS OF EXITS, RAMPS, AND TRUCK DOCKS.
5. ALL CURB RADII ARE SHALL BE 3.0 FEET (TO FACE OF CURB) UNLESS OTHERWISE NOTED.
6. ALL CURB AND GUTTER SHALL BE B612 UNLESS OTHERWISE NOTED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGGERS AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE CITY AND ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE MNDOT STANDARDS.
8. BITUMINOUS PAVEMENT AND CONCRETE SECTIONS TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
9. CONTRACTOR SHALL MAINTAIN FULL ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES.
10. SITE LIGHTING SHOWN ON PLAN IS FOR REFERENCE ONLY. REFER TO LIGHTING PLAN PREPARED BY OTHERS FOR SITE LIGHTING DETAILS AND PHOTOMETRICS.

SITE LEGEND

EXISTING / PROPOSED

- PROPERTY LINE
- LOT LINE
- SETBACK LINE
- EASEMENT LINE
- CURB AND GUTTER
- TIP-OUT CURB AND GUTTER
- POND NORMAL WATER LEVEL
- RETAINING WALL
- LARGE BLOCK RETAINING WALL
- FENCE
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- HEAVY DUTY BITUMINOUS PAVEMENT
- NORMAL DUTY BITUMINOUS PAVEMENT
- NUMBER OF PARKING STALLS
- TRANSFORMER
- SITE LIGHTING
- TRAFFIC SIGN
- POWER POLE
- BOLLARD / POST

GSI SITE NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", AS APPLICABLE.
2. THE BUILDING AND PARKING FACILITIES ARE PARALLEL WITH OR PERPENDICULAR TO THE EXISTING BUILDING.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS AND SHALL REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS TO THE OWNER OR OWNER'S REPRESENTATIVE IMMEDIATELY.
4. CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.
5. CONTRACTOR SHALL REPAIR, RESURFACE, RECONSTRUCT OR REFURBISH ANY AREAS DAMAGED DURING CONSTRUCTION BY THE CONTRACTOR, HIS SUBCONTRACTORS OR SUPPLIERS AT NO ADDITIONAL COST TO THE OWNER.
6. CONTRACTOR SHALL COMPLETELY FILL ALL TRENCHES WITHIN 5 FEET OF PLAYGROUND BOXES, PAVEMENT EDGES WITH GRANULAR BACKFILL. REFER TO GEOTECHNICAL REPORT FOR TYPE OF FILL TO ACHIEVE DESIRED COMPACTION. EG. 2A OR EQUIVALENT.
7. ALL PAINT STRIPING SHALL BE 4" TRAFFIC PAINT IN ACCORDANCE WITH THE STATES DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND SHALL BE YELLOW.
8. CONTRACTOR TO CONFIRM WITH LOCAL CODES AND BUILDING INSPECTOR FOR SPECIFIC DISABLED PARKING SIZES, STRIPING AND SIGNAGE REQUIREMENTS.
9. PRIMARY COLORED PLAYGROUND EQUIPMENT WILL BE INSTALLED UNLESS THE LOCAL JURISDICTION, HOA OR COVENANTS AND RESTRICTIONS REQUIRE EARTHTONE.
10. GATES TO BE HARD WIRED; CONNECTED TO SEPARATE ALARM SYSTEM. CHIME BACK AT OFFICE WHEN OPENED. PUSH BARS TO HAVE MINIMUM 12" DEPTH 16 GAUGE EXPANDED METAL BACKING ALONG WIDTH OF GATE WITH LOCKABLE HANDLES ON EXTERIOR.
11. G.C. SHALL INSTALL GSI'S STANDARD 'COMING SOON' TEMPORARY SIGN PER AHJ STANDARDS. RE:02/CS.2
12. G.C. TO PROVIDE QTY. 3 MIN. SELF CLOSING HINGE SETS TO ALL EXTERIOR GATES, DUE TO 4FT WIDTH AND TO PREVENT POSSIBLE SAGGING.
13. G.C. TO INSTALL & LOCATE CLEAN OUTS PER PLUMBING PLANS AND SPECIFICATIONS.

1" = 20'
0' 20' 40' 60'

NOT FOR CONSTRUCTION

INITIAL ISSUE: 06/02/21

PREPARED FOR:
DBS GROUP
2700 NATIONAL DRIVE, SUITE 100
ONALASKA, WI 54650

DATE: 06/24/21 LICENSE NO. 42797

THE GODDARD SCHOOL
MINNETONKA, MN

Westwood
Westwood Professional Services, Inc.

SITE PLAN

SHEET NUMBER:
C2.0

DATE: 06/24/21

PROJECT NUMBER: 0031849.00

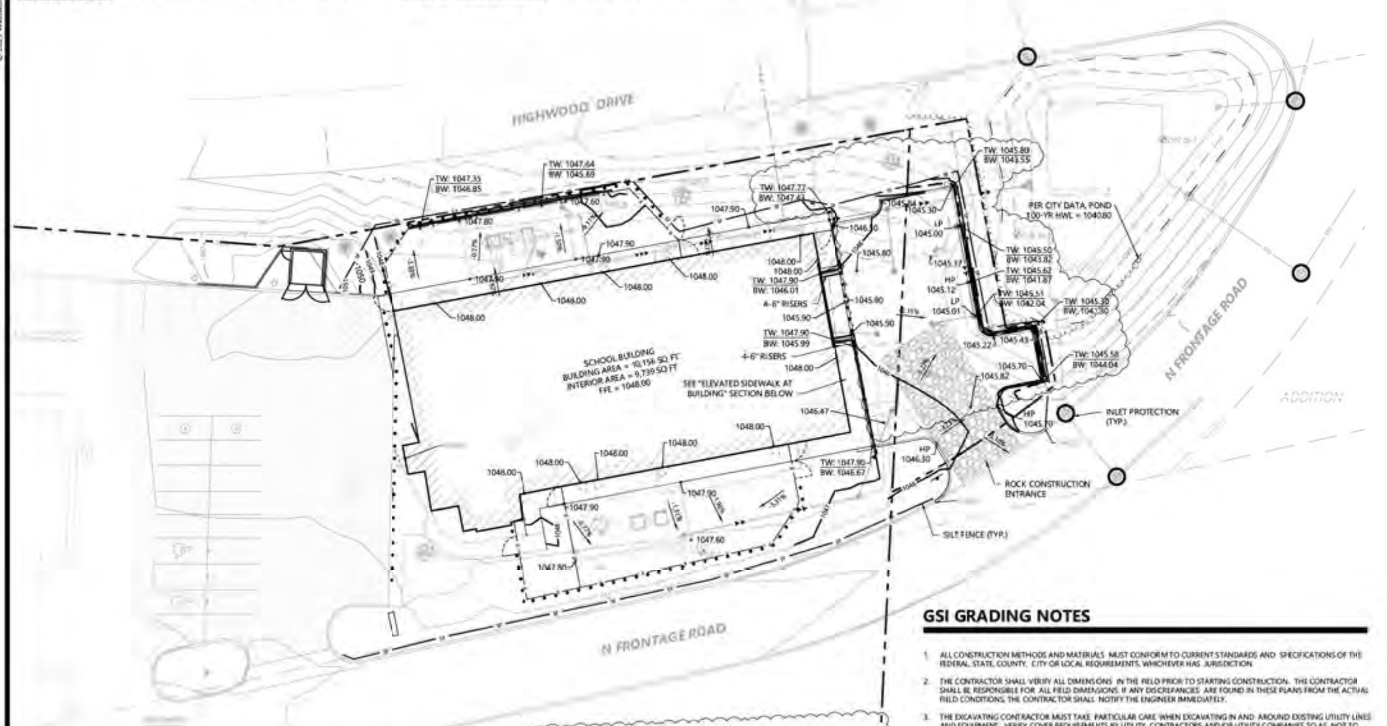
THE GODDARD SCHOOL

GSI CAUTIONARY NOTE

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE BASED ON ABOVE GROUND EVIDENCE OR INFORMATION GATHERED DURING THE FIELD SURVEY PORTION OF THIS PROJECT. AS SUCH, THIS INFORMATION IS SPECULATIVE IN NATURE ONLY AND SHOULD NOT BE CONSTRUED AS FACT. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF THE UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY AND ALL CONSTRUCTION.

GSI UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.



GRADING & EROSION CONTROL LEGEND

Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance

EXISTING	PROPOSED	
		PROPERTY LINE
	980	INDEX CONTOUR
	982	INTERVAL CONTOUR
		CURB AND GUTTER
		POND NORMAL WATER LEVEL
		STORM SEWER
		FLARED END SECTION (WITH RIPRAP)
		WATER MAIN
		SANITARY SEWER
		RETAINING WALL
		DRAIN TILE
		RIDGE LINE
		GRADING LIMITS
	• 900.00	SPOT ELEVATION
		FLOW DIRECTION
	TW=XXX.XX BW=XXX.XX	TOP AND BOTTOM OF RETAINING WALL
	E.O.F.	EMERGENCY OVERFLOW
		SOIL BORING LOCATION
		SILT FENCE
		HEAVY DUTY SILT FENCE
		REDUNDANT SILT CONTROL
		ROCK CONSTRUCTION ENTRANCE
		EROSION CONTROL BLANKET
		TURF REINFORCEMENT MAT
		INLET PROTECTION

GRADING NOTES

1. LOCATIONS AND ELEVATIONS OF EXISTING TOPOGRAPHY AND UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS AND UTILITY LOCATIONS PRIOR TO EXCAVATION/CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND.
2. CONTRACTORS SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULE, SLOPED PAVEMENT, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY ENTRANCE LOCATIONS, AND EXACT LOCATIONS AND NUMBER OF DOWNSPOUTS.
3. ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR TRENCH EXCAVATION AND BACKFILL/SURFACE RESTORATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
4. ALL DISTURBED UNPAVED AREAS ARE TO RECEIVE SIX INCHES OF TOPSOIL AND SOD OR SEED. THESE AREAS SHALL BE WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. SEE LANDSCAPE PLAN FOR PLANTING AND TURF ESTABLISHMENT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGMEN AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE MNDOT STANDARDS.
6. ALL SLOPES SHALL BE GRADED TO 3:1 OR FLATTER, UNLESS OTHERWISE INDICATED ON THIS SHEET.
7. CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING AND PROVIDE A SMOOTH FINISHED SURFACE WITH UNIFORM SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN OR BETWEEN SUCH POINTS AND EXISTING GRADES.
8. SPOT ELEVATIONS SHOWN INDICATE FINISHED PAVEMENT ELEVATIONS & GUTTER FLOW LINE UNLESS OTHERWISE NOTED. PROPOSED CONTOURS ARE TO FINISHED SURFACE GRADE.
9. SEE SOILS REPORT FOR PAVEMENT THICKNESSES AND HOLD DOWNS.
10. CONTRACTOR SHALL DISPOSE OF ANY EXCESS SOIL MATERIAL THAT EXISTS AFTER THE SITE GRADING AND UTILITY CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS SOIL MATERIAL IN A MANNER ACCEPTABLE TO THE OWNER AND THE REGULATING AGENCIES.
11. CONTRACTOR SHALL PROVIDE A STRUCTURAL RETAINING WALL DESIGN CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.
12. ALL CONSTRUCTION SHALL CONFORM TO LOCAL, STATE AND FEDERAL RULES INCLUDING THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS.
13. PRIOR TO PLACEMENT OF ANY STRUCTURE OR PAVEMENT, A PROOF ROLL, AT MINIMUM, WILL BE REQUIRED ON THE SUBGRADE. PROOF ROLLING SHALL BE ACCOMPLISHED BY MAKING MINIMUM OF 2 COMPLETE PASSES WITH FULLY-LOADED TANDEM-AXLE DUMP TRUCK, OR APPROVED EQUAL, IN EACH OF 2 PERPENDICULAR DIRECTIONS WHILE UNDER SUPERVISION AND DIRECTION OF THE INDEPENDENT TESTING LABORATORY. AREAS OF FAILURE SHALL BE EXCAVATED AND RE-COMPACTED AS SPECIFIED HEREIN.
14. EMBANKMENT MATERIAL PLACED BENEATH BUILDINGS AND STREET OR PARKING AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFIED DENSITY METHOD AS OUTLINED IN MNDOT 2105.3F1 AND THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEER.
15. EMBANKMENT MATERIAL NOT PLACED IN THE BUILDING PAD, STREETS OR PARKING AREA, SHALL BE COMPACTED IN ACCORDANCE WITH REQUIREMENTS OF THE ORDINARY COMPACTION METHOD AS OUTLINED IN MNDOT 2105.3F2.
16. ALL SOILS AND MATERIALS TESTING SHALL BE COMPLETED BY AN INDEPENDENT GEOTECHNICAL ENGINEER. EXCAVATION FOR THE PURPOSE OF REMOVING UNSTABLE OR UNSUITABLE SOILS SHALL BE COMPLETED AS REQUIRED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOILS TESTS AND INSPECTIONS WITH THE GEOTECHNICAL ENGINEER.

GSI GRADING NOTES

1. ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS. IF ANY DISCREPANCIES ARE FOUND IN THESE PLANS FROM THE ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
3. THE EXCAVATING CONTRACTOR MUST TAKE PARTICULAR CARE WHEN EXCAVATING IN AND AROUND EXISTING UTILITY LINES AND EQUIPMENT. VERIFY COVER REQUIREMENTS BY UTILITY CONTRACTORS AND/OR UTILITY COMPANIES SO AS NOT TO CAUSE DAMAGE.
4. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 72 HOURS BEFORE CONSTRUCTION IS TO START, TO VERIFY IF ANY UTILITIES ARE PRESENT ON SITE. ALL VERIFICATIONS (LOCATION, SIZE AND DEPTH) SHALL BE MADE BY THE APPROPRIATE UTILITY COMPANIES. WHEN EXCAVATING IS AROUND OR OVER EXISTING UTILITIES THE CONTRACTOR MUST NOTIFY THE UTILITY COMPANY SO A REPRESENTATIVE OF THAT UTILITY COMPANY CAN BE PRESENT TO INSTRUCT AND OBSERVE DURING CONSTRUCTION.
5. TRENCHES FOR ALL STORM DRAIN LINES SHALL BE BACKFILLED COMPLETELY WITH ENGINEERED GRANULAR MATERIAL IF WITHIN 5 FEET OF PAVEMENT.
6. AFTER STRIPPING TOPSOIL MATERIAL, PROOFROLL WITH A MEDIUM WEIGHT ROLLER TO DETERMINE LOCATIONS OF ANY POCKETS OF UNSUITABLE MATERIAL. THE NECESSITY FOR SUBDRAINS AND/OR REMOVAL OF ANY UNSUITABLE MATERIAL WITHIN THE PROPOSED PARKING AREAS WILL BE DETERMINED AT THE TIME OF CONSTRUCTION.
7. PROVIDE POSITIVE DRAINAGE (4%-6% IN YARD AREAS AND 2% MAX, 1% PREFERRED AT THE PLAYGROUND PADS) WITHOUT PONDING. AFTER INSTALLATION, CONTRACTOR TO TEST FOR, AND CORRECT, IF ANY, "BIRD BATH" CONDITIONS.
8. ALL PROPOSED SPOT ELEVATIONS ARE THE FINAL PAVEMENT AND FINAL GRADE ELEVATIONS.
9. SEE APPROPRIATE DETAILS TO DETERMINE SUBGRADE ELEVATIONS BELOW FINISH GRADE ELEVATIONS INDICATED. EXCAVATE 7" BELOW SPOT ELEVATIONS AT PLAYGROUND PADS (7" AROUND PERIMETER), COMPACT TO 97% AND MAKE SURE OF NO UTILITIES. IF UNDERGROUND RAIN LEADERS CROSS UNDER PLAYGROUNDS, BACKFILL WITH STONE AND COMPACT TRENCH TO 97%.
10. COMPACT TOP SOIL AROUND PLAYGROUND PAD PERIMETER AND ALONG SIDEWALKS BEFORE INSTALLING SOD.
11. FLOW LINE ELEVATIONS GIVEN AT END OF CONCRETE END SECTIONS.
12. ENSURE SUITABLE SOILS FOR AT GRADE SLAB ARE USED WITHIN THE PLAYGROUND BOX DIMENSIONS.

CONSTRUCTION IMPLEMENTATION SCHDULE

FALL 2021
1. INSTALL EROSION AND SEDIMENT CONTROL DEVICES.
2. BUILDING INTERIOR AND EXTERIOR REMODEL EFFORTS WILL COMMENCE FALL 2021.
3. BUILDING INTERIOR EFFORTS WILL CONTINUE THROUGH THE WINTER WITH ANTICIPATED COMPLETION IN SPRING OF 2021.
4. SITE WORK WILL BE LIMITED TO CONSTRUCTION OF CONCRETE SIDEWALK INSTALLATION ON THE NORTH AND SOUTH SIDES OF THE BUILDING TO FACILITY ADDITIONAL BUILDING EXITS.
5. THE EAST SIDE OF THE BUILDING WILL BE USE FOR SHORT TERM STAGING AREA AS NEEDED.

SPRING 2021
6. SITE WORK WILL COMMENCE IN SPRING OF 2021.
7. INSTALL OR REPAIR EROSION AND SEDIMENT CONTROL DEVICES.
8. SITE CLEARING.
9. CONSTRUCT UNDERGROUND STORMWATER INFILTRATION SYSTEM.
10. INSTALL UTILITIES.
11. SITE GRADING AND TEMPORARY SITE STABILIZATON
12. INSTALL CURB AND GUTTER AND SITE PAVEMENT.
13. FINAL SITE STABILIZATION.
14. CONTACT RPBCWD FOR FINAL INSPECTION AND APPROVAL PRIOR TO REMOVAL OF EROSION CONTROL MEASURES.
15. REMOVE EROSION CONTROL MEASURES.

GENERAL EROSION CONTROL NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND LIMITED MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION SHALL NOT BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY THE OWNER OR ENGINEER OF DISCREPANCIES.
2. ALL SILT FENCE AND OTHER EROSION CONTROL FEATURES SHALL BE IN-PLACE PRIOR TO ANY EXCAVATION/CONSTRUCTION AND SHALL BE MAINTAINED UNTIL VIABLE TURF OR GROUND COVER HAS BEEN ESTABLISHED. EXISTING SILT FENCE ON-SITE SHALL BE MAINTAINED AND OR REMOVED AND SHALL BE CONSIDERED INCIDENTAL TO THE GRADING CONTRACT. IT IS OF EXTREME IMPORTANCE TO BE AWARE OF CURRENT FIELD CONDITIONS WITH RESPECT TO EROSION CONTROL. TEMPORARY PONDING, DIKES, HAYBALES, ETC., REQUIRED BY THE CITY SHALL BE INCIDENTAL TO THE GRADING CONTRACT.
3. EROSION AND SILTATION CONTROL (ESC): THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE WHATEVER MEANS NECESSARY TO CONTROL THE EROSION AND SILTATION INCLUDING BUT NOT LIMITED TO: CATCH BASIN INSERTS, CONSTRUCTION ENTRANCES, EROSION CONTROL BLANKET, AND SILT FENCE. ESC SHALL COMMENCE WITH GRADING AND CONTINUE THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER. THE CONTRACTORS RESPONSIBILITY INCLUDES ALL IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE OWNER MAY DIRECT THE CONTRACTOR'S METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITION OF SILT OR MUD ON NEW OR EXISTING PAVEMENT OR IN EXISTING STORM SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN EVENT. AFFECTED AREAS SHALL BE CLEANED TO THE SATISFACTION OF THE OWNER, ALL AT THE EXPENSE OF THE CONTRACTOR. ALL TEMPORARY EROSION CONTROL SHALL BE REMOVED BY THE CONTRACTOR AFTER THE TURF IS ESTABLISHED.
4. ALL STREETS DISTURBED DURING WORKING HOURS MUST BE CLEANED AT THE END OF EACH WORKING DAY. A CONSTRUCTION ENTRANCE TO THE SITE MUST BE PROVIDED ACCORDING TO DETAILS TO REDUCE TRACKING OF DIRT ONTO PUBLIC STREETS.
5. WHEN INSTALLING END-OF-LINE FLARED END SECTIONS, BRING THE SILT FENCE UP & OVER THE FLARED END SECTIONS & COVER DISTURBED AREAS WITH RIP RAP. THE UPSTREAM FLARED END SECTIONS SHALL HAVE WOOD FIBER BLANKET INSTALLED ON THE DISTURBED SOILS.
6. ALL UNPAVED AREAS ALTERED DUE TO CONSTRUCTION ACTIVITIES MUST BE RESTORED WITH SEED AND MULCH, SOD, EROSION CONTROL BLANKET OR BE HARD SURFACE WITHIN 2 WEEKS OF COMPLETION OF CONSTRUCTION.
7. THE SITE MUST BE STABILIZED PER THE REQUIREMENTS OF THE MPCA, NPDES, MNDOT, AND CITY.
   - A. TEMPORARY (GREATER THAN 1-YEAR) SEED SHALL BE MNDOT SEED MIX 22-111 AT 30.5-POUNDS PER ACRE.
   - B. TEMPORARY (LESS THAN 1-YEAR) SEED SHALL BE MNDOT SEED MIX 21-112 (FALL) OR 21-111 (SPRING/SUMMER) AT 100-POUNDS PER ACRE.
   - C. POND SLOPES SHALL BE MNDOT SEED MIX 33-261 AT 35-POUNDS PER ACRE.
   - D. GENERAL SEEDING SHALL BE MNDOT SEED MIX 25-151 AT 70-POUNDS PER ACRE.
   - E. MULCH SHALL BE MNDOT TYPE 1 APPLIED AT 2-TONS PER ACRE.
9. FOR AREAS WITH SLOPE OF 3:1 OR GREATER, RESTORATION WITH SOD OR EROSION CONTROL BLANKET IS REQUIRED.
10. ALL TEMPORARY STOCKPILES MUST HAVE SILT FENCE INSTALLED AROUND THEM TO TRAP SEDIMENT.
11. ALL CONSTRUCTION SHALL CONFORM TO LOCAL AND STATE RULES INCLUDING THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS.
12. THE SITE MUST BE KEPT IN A WELL-DRAINED CONDITION AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY DITCHES, PIPING OR OTHER MEANS REQUIRED TO INSURE PROPER DRAINAGE DURING CONSTRUCTION. LOW POINTS IN ROADWAYS OR BUILDING PADS MUST BE PROVIDED WITH A POSITIVE OUTFLOW.
13. PUBLIC STREETS USED FOR HAULING SHALL BE KEPT FREE OF SOIL AND DEBRIS. STREET SWEEPING SHALL BE CONCURRENT WITH SITE WORK.

RPBCWD STANDARD EROSION CONTROL NOTES

1. CONSTRUCTION SHOULD INCLUDE MINIMIZATION OF THE DISTURBANCE INTENSITY AND DURATION, INCLUDING PHASING OF DISTURBANCE TO MINIMIZE QUANTITY OF DISTURBED AREA AT ANY ONE TIME.
2. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE:
   - 2.a. A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 12 INCHES OF SOIL OR
   - 2.b. A BULK DENSITY OF LESS THAN 1.4 GRAMS PER CUBIC CENTIMETER OR 87 POUNDS PER CUBIC FOOT IN THE UPPER 12 INCHES OF SOIL.
3. IN ADDITION, UTILITIES, TREE ROOTS AND OTHER EXISTING VEGETATION MUST BE PROTECTED UNTIL FINAL RE-VEGETATION OR OTHER STABILIZATION OF THE SITE.
4. PROTECTION OF NATURAL TOPOGRAPHY AND SOILS CONDITIONS, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE (PER RULE C, SUBSECTION 3.1A).
5. PROPER MANAGEMENT OF ALL CONSTRUCTION SITE WASTE, SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE AT THE CONSTRUCTION SITE (PER RULE C, SUBSECTION 3.1G)
6. STAKING OFF AND MARKING OF PROPOSED INFILTRATION FACILITIES TO PREVENT SOIL COMPACTION BY HEAVY EQUIPMENT, STOCKPILING OF MATERIALS, AND TRAFFIC. IF INFILTRATION FACILITIES ARE IN PLACE DURING CONSTRUCTION ACTIVITIES, BEST PRACTICES MUST BE DEPLOYED TO PREVENT SEDIMENT AND OTHER MATERIAL FROM ENTERING THE PRACTICE. INFILTRATION FACILITIES MUST NOT BE EXCAVATED TO WITHIN 3 FEET FINAL GRADE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED. ANY ACCUMULATED SEDIMENT IN AN INFILTRATION FACILITY MUST BE REMOVED IN MANNER THAT PREVENTS COMPACTION OF THE FACILITY BOTTOM. (PER RULE C, SUBSECTION 3.1H).
7. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE DISTRICT.
8. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE REMOVED UPON FINAL STABILIZATION.
9. TOPSOIL TO BE INSTALLED AS PART OF THE SITE RESTORATION SHALL CONTAIN AT LEAST 5% ORGANIC CONTENT CONSISTENT WITH THE WATERSHED DISTRICTS TOPSOIL DEFINITION.

1" = 20'
0 20' 40' 60'

NOT FOR CONSTRUCTION

INITIAL ISSUE: 06/02/21

PREPARED FOR:
DBS GROUP
2700 NATIONAL DRIVE, SUITE 100
ONALASKA, WI 54650

DATE: 06/24/21 LICENSE NO. 42797

THE GODDARD SCHOOL
MINNETONKA, MN

Westwood
Westwood Professional Services, Inc.

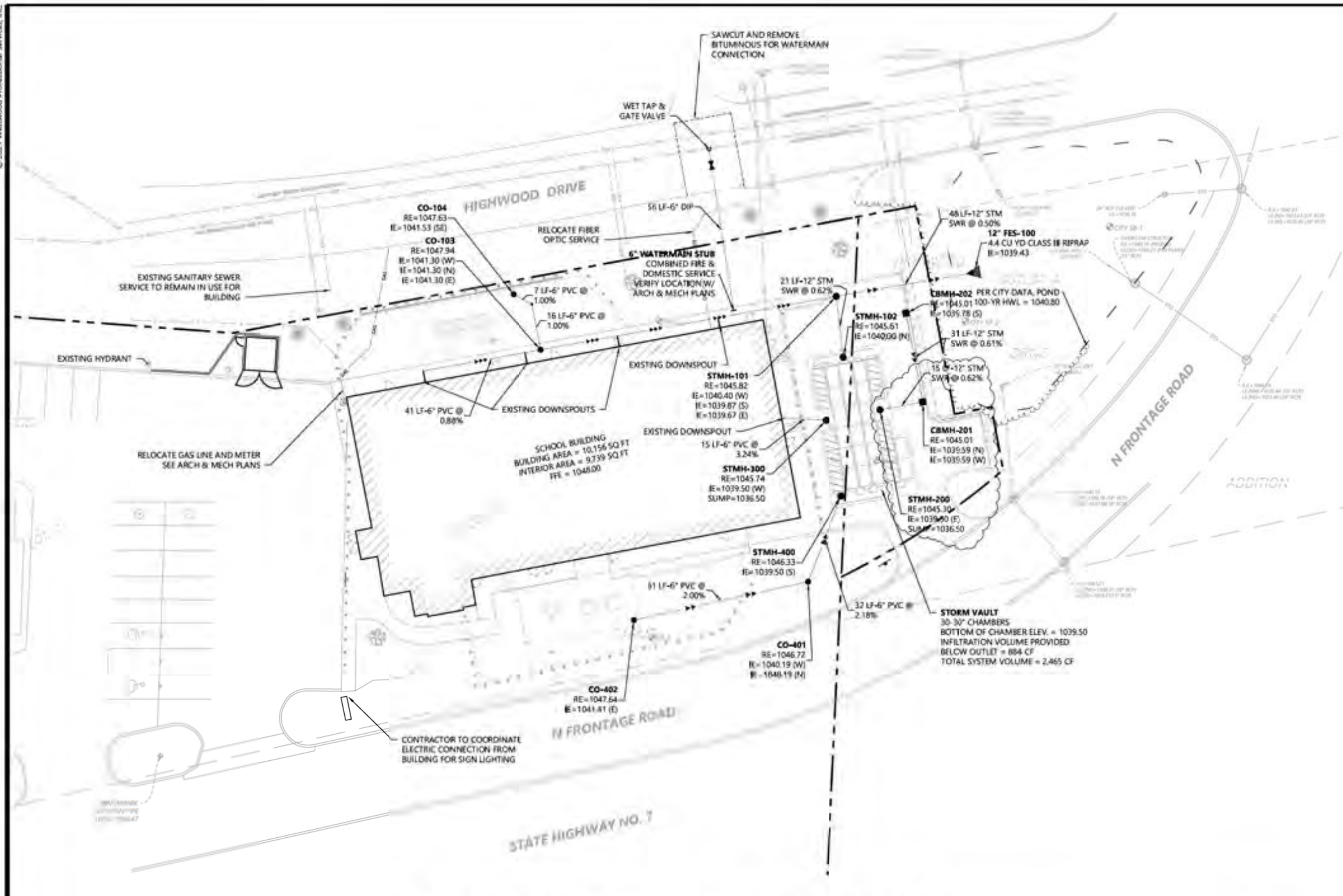
GRADING & EROSION CONTROL PLAN

SHEET NUMBER: C3.0

DATE: 06/24/21

PROJECT NUMBER: 0031849.00

THE GODDARD SCHOOL



GSI UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

GSI CAUTIONARY NOTE

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE BASED ON ABOVE GROUND EVIDENCE OR INFORMATION GATHERED DURING THE FIELD SURVEY PORTION OF THIS PROJECT. AS SUCH, THIS INFORMATION IS SPECULATIVE IN NATURE ONLY AND SHOULD NOT BE CONSTRUED AS FACT. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF THE UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY AND ALL CONSTRUCTION.

GSI UTILITY NOTES

1. THERE SHALL BE NO UTILITIES RUN UNDER PLAYGROUND AREAS.
2. THE UTILITIES INDICATED ON THESE PLANS AND ON THE SURVEY MAY NOT BE A COMPLETE INVENTORY OF ALL THE EXISTING UTILITIES PRESENT ON AND AROUND THE SITE. THE LOCATION AND SIZE OF THESE UTILITIES MAY BE APPROXIMATE. THE ENGINEER SHALL NOT BE HELD LIABLE FOR ANY INACCURATE UTILITY INFORMATION INDICATED, IMPLIED, OR NOT INDICATED ON THESE PLANS.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND ORDER ALL NEW SERVICES, LOCATE AND MAINTAIN IN SERVICE ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR, AT HIS EXPENSE WITH THE PERMISSION OF THE OWNER.
4. BEFORE WORKING WITH OR AROUND EXISTING UTILITIES, THE APPLICABLE UTILITY COMPANY SHALL BE CONTACTED BY THE CONTRACTOR.
5. WHEN CONNECTIONS ARE TO BE MADE TO EXISTING PIPING AND STRUCTURES OR WHERE CONSTRUCTION IS IN THE VICINITY OF EXISTING PIPING, THE LOCATION AND ELEVATION OF THE EXISTING PIPING SHALL BE FIELD VERIFIED. NOTIFICATION SHALL BE GIVEN TO THE OWNER IF THE EXISTING PIPING IS FOUND TO BE DIFFERENT THAN THAT SHOWN ON THE DRAWINGS.
6. FOR CLARITY OF THESE DRAWINGS, PIPES MAY NOT BE DRAWN TO SCALE OR EXACTLY LOCATED.
7. MINIMUM OF 18 INCHES OF VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN NEW WATER AND SANITARY SEWER LINES. IF 18 INCHES OF CLEARANCE IS NOT PROVIDED THEN THE SEWER MUST BE CONSTRUCTED OF WATER WORKS GRADE DUCTILE IRON PIPE WITH MECHANICAL JOINTS OR PVC (SDR-26) PIPE WITH GASKETTED, COMPRESSION-TYPE JOINTS WITHIN TEN FEET OF THE WATER LINE.
8. ALL INLET COVER GRATES LOCATED IN PLAYGROUND AREA TO BE EXTERIOR GRADE RIDGED PVC (NO CAST IRON).
9. CONTRACTOR TO PROVIDE SURFACE MOUNT EXTERIOR GRADE PHONE CABINET AND PHONE, 48" MIN. TO 60" MAX. AFF, TO PROTRUDE 4" MAX. FROM FACE OF WALL. SEE HOFFMAN ATC121245 TYPE 1 STEEL CABINET. PAINT TO MATCH ADJACENT WALL COLOR.
10. CONTRACTOR TO COORDINATE INTERNET SERVICE AND COAX INSTALL AND LOCATIONS WITH OWNER AND GSI REPRESENTATIVE.

UTILITY LEGEND

Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
		CURB AND GUTTER
		SANITARY SEWER
		SANITARY SEWER FORCE MAIN
		STORM SEWER
		WATER MAIN
		HYDRANT
		GAS
		UNDERGROUND ELECTRIC
		OVERHEAD ELECTRIC
		UNDERGROUND TELEPHONE
		OVERHEAD TELEPHONE
		TELEPHONE FIBER OPTIC
		CABLE TELEVISION
		DRAIN TILE
		GATE VALVE
		FLARED END SECTION (WITH RIPRAP)
		LIGHT POLE

GENERAL UTILITY NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND LIMITED MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION SHALL NOT BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY THE OWNER OR ENGINEER OF DISCREPANCIES.
2. ALL SANITARY SEWER, STORM SEWER AND WATER MAIN MATERIAL AND INSTALLATIONS SHALL BE PER CITY REQUIREMENTS, MINNESOTA PLUMBING CODE, AND IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION AND SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN THE NECESSARY FEDERAL, STATE AND LOCAL PERMITS FOR THE PROPOSED WORK OR VERIFY WITH THE OWNER OR ENGINEER THAT PERMITS HAVE BEEN OBTAINED. PERMIT FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS OTHERWISE ARRANGED WITH THE OWNER.
4. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DIMENSIONS OF DOORWAYS, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY CONNECTION LOCATIONS.
5. ALL PRIVATE UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL COORDINATE THE SERVICE LINE CONSTRUCTION WITH THE UTILITY COMPANIES.
6. CONTRACTOR SHALL OBTAIN ALL NECESSARY CITY PERMITS FOR UTILITY CONNECTIONS, AND UTILITIES SHALL BE INSPECTED AND APPROVED BY THE CITY. THE CITY SHALL BE NOTIFIED 48-HOURS PRIOR TO COMMENCING WITH THE UTILITY CONSTRUCTION OR ANY REQUIRED TESTING. CONTRACTOR SHALL NOT OPERATE, INTERFERE WITH, CONNECT ANY PIPE OR HOSE TO, OR TAP ANY WATER MAIN BELONGING TO THE CITY UNLESS DULY AUTHORIZED TO DO SO BY THE CITY. ANY ADVERSE CONSEQUENCES OF SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. WATER MAIN LENGTHS AS SHOWN ARE APPROXIMATE HORIZONTAL LENGTHS. ALLOW FOR ADDITIONAL PIPE WHEN INSTALLING ON SLOPES OR WHEN DEFLECTIONS ARE REQUIRED. THE JOINT DEFLECTIONS SHALL NOT EXCEED THE MAXIMUM RECOMMENDED BY THE PIPE MANUFACTURER OR BY LOCAL GOVERNING SPECIFICATIONS. FITTINGS REQUIRED TO CONSTRUCT WATER MAIN SHALL BE INCLUDED IN WATER MAIN CONSTRUCTION.
8. PROVIDE WATER MAIN THRUST RESTRAINTS PER CITY STANDARD REQUIREMENTS.
9. A MINIMUM VERTICAL SEPARATION OF 18 INCHES IS REQUIRED AT ALL WATER LINE CROSSINGS WITH SANITARY SEWER OR STORM SEWER. THE WATER LINE SHALL NOT HAVE JOINTS OR CONNECTION WITHIN 10-FEET OF THE CROSSING. INSULATE CROSSINGS WITH STORM SEWER.
10. UTILITY SERVICES TYPICALLY TERMINATE 5' OUTSIDE BUILDING WALL UNLESS OTHERWISE SHOWN OR NOTED.
11. DUCTILE IRON WATER LINES SHALL BE CLASS 52, PER AWWA C115 OR C151. COPPER WATER LINES SHALL BE TYPE K PER ASTM B88. PVC WATER LINES SHALL BE PER AWWA C900 AND INSTALLED PER AWWA C605 IF ALLOWED BY CITY.
12. ALL WATER LINES SHALL HAVE 8' MINIMUM COVER. INSULATE WATER MAIN IF LESS THAN 8' OF COVER. INSULATION SHALL BE DOW STYROFOAM HI BRAND 35 OR EQUIVALENT, WITH 4 INCHES OF THICKNESS.
13. STORM SEWER PIPE:
    - A. RCP AND HDPE PIPE MAY BE INSTALLED WITH APPROVAL OF LOCAL GOVERNING AGENCY.
    - B. REINFORCED CONCRETE PIPE SHALL BE CLASS 5 FOR PIPE DIAMETERS 18" AND SMALLER, CLASS 3 FOR PIPE DIAMETERS 21" AND LARGER UNLESS OTHERWISE NOTED, PER ASTM C76 WITH R-4 GASKETS.
    - C. HDPE STORM PIPE 4- TO 10-INCHES IN DIAMETER SHALL MEET REQUIREMENTS OF AASHTO M252. HDPE STORM PIPE 12- TO 60-INCHES IN DIAMETER SHALL MEET REQUIREMENTS OF ASTM F2306. FITTINGS SHALL BE PER ASTM D3212 AND INSTALLED PER ASTM D2321.
    - D. PVC STORM SEWER PIPE AND FITTINGS SHALL BE SCHEDULE 40 PIPE PER ASTM D2665 AND INSTALLED PER ASTM D2321.
    - E. ALL STORM SEWER JOINTS AND STRUCTURE CONNECTIONS SHALL BE GASTIGHT OR WATERTIGHT AS REQUIRED BY MINNESOTA PLUMBING CODE, PART 707.3. STORM SEWER LOCATED WITHIN 10-FEET OF A BUILDING AND/OR WATER LINE SHALL BE TESTED PER MINNESOTA PLUMBING CODE, PART 712.

15. ALL NONCONDUCTIVE PIPE SHALL BE INSTALLED WITH A LOCATE (TRACER) WIRE PER MINNESOTA RULES, PART 7560.0150.
16. ALL MANHOLE CASTINGS IN PAVED AREAS SHALL BE SUMPED 0.05 FEET. RIM ELEVATIONS ON PLAN REFLECT THE SUMPED ELEVATIONS.
17. ALL CATCH BASIN CASTINGS IN CURB SHALL BE SUMPED 0.15 FEET AND MANHOLE CASTINGS IN PAVED AREAS SHALL BE SUMPED 0.05 FEET. RIM ELEVATIONS ON PLAN REFLECT THE SUMPED ELEVATIONS.

UNDERGROUND STORMWATER INFILTRATION CHAMBER SYSTEM

18. UNDERGROUND STORMWATER CHAMBER SYSTEM TO BE STORMTECH SC-740 OR APPROVED EQUAL.
19. SUPPLIER TO PROVIDE DOCUMENTATION THAT UNDERGROUND CHAMBER SYSTEM WILL SUPPORT 83,000 LBS VEHICLE LOADS AND 10,000 PER SQUARE FOOT OF FIRE TRUCK OUTRIGGER LOAD, PER CITY OF MINNETONKA STANDARDS.
20. THE UNDERGROUND CHAMBER SYSTEM IS TO BE INSPECTED BY A QUALIFIED THIRD PARTY DURING INSTALLATION TO ENSURE THAT THE PRESSURE REQUIREMENTS ARE ADEQUATELY MET.

N

1" = 20'

0' 20' 40' 60'

NOT FOR CONSTRUCTION

INITIAL ISSUE: 06/02/21

REVISIONS: 06/10/21 WISDALESS SET; 06/15/21 CLIENT REVIEW; 06/14/21 CITY SUBMITTAL; 06/24/21 CLIENT REVIEW; 08/10/2021 CITY AND WATERSHED COMMENTS

DESIGNED: | CHECKED: | DRAWN: | HORIZONTAL SCALE IN: | VERTICAL SCALE IN:

PREPARED FOR:

DBS GROUP

2700 NATIONAL DRIVE, SUITE 100
ONALASKA, WI 54650

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SHARI LYNN S. JAHRENS

DATE: 06/24/21 LICENSE NO. 42797

THE GODDARD SCHOOL

MINNETONKA, MN

Westwood

Phone (952) 937-5150 | Fax (952) 937-5822 | Toll Free (888) 937-5150
12701 Whitewater Drive, Suite #300, Minnetonka, MN 55343
westwoodps.com
Westwood Professional Services, Inc.

UTILITY PLAN

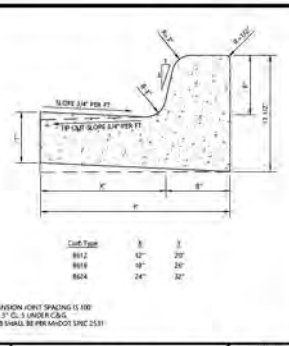
SHEET NUMBER: C4.0

DATE: 06/24/21

THE GODDARD SCHOOL

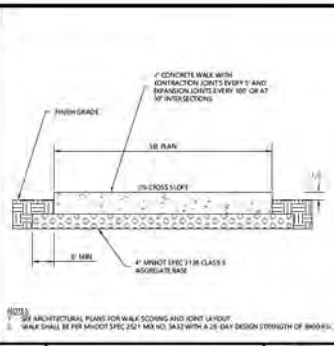
PROJECT NUMBER: 0031849.00

N:\0031849.00\DWG\CIVIL\0031849UT01.DWG



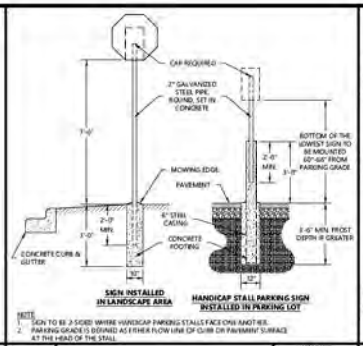
NOTES:
1. EXPANSION JOINT SPACING IS 100'
2. MIN. 3" CL. 5 UNDER C&G.
3. CURB SHALL BE PER MnDOT SPEC 2531

Westwood | B6.12STYLE CURB AND GUTTER | SI101



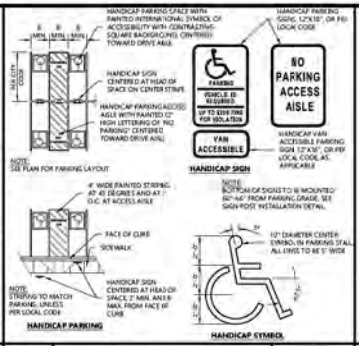
NOTES:
1. SEE ARCHITECTURAL PLANS FOR WALK SCORING AND JOINT LAYOUT.
2. WALK SHALL BE PER MnDOT SPEC 2521 MIX NO. 3A32 WITH A 28-DAY DESIGN STRENGTH OF 3900 PSI.

Westwood | PRIVATE CONCRETE SIDEWALK | SI108

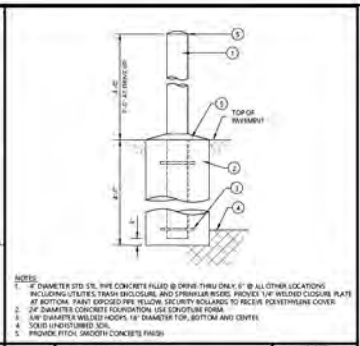


NOTES:
1. SIGN TO BE 2-SIDED WHERE HANDICAP PARKING STALLS FACE ONE ANOTHER.
2. PARKING GRADE IS DEFINED AS EITHER FLOW LINE OF CURB OR PAVEMENT SURFACE AT THE HEAD OF THE STALL.

Westwood | SIGN POST INSTALLATION | SI114

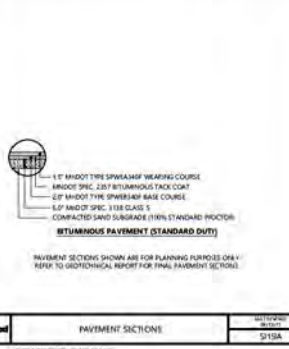


Westwood | HANDICAP ACCESSIBLE SIGNAGE AND STRIPING | SI115



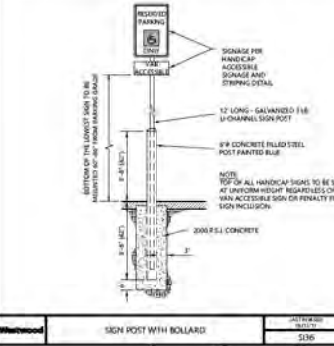
NOTES:
1. 4" DIAMETER STD STL PIPE CONCRETE FILLED @ DRIVE THRU ONLY, 6" @ ALL OTHER LOCATIONS INCLUDING UTILITIES, TRASH ENCLOSURE, AND SPRINKLER RISERS. PROVIDE 1/4" WELDED CLOSURE PLATE AT BOTTOM. PAINT EXPOSED PIPE YELLOW. SECURITY BOLLARDS TO RECEIVE POLYETHYLENE COVER.
2. 24" DIAMETER CONCRETE FOUNDATION. USE CONCRETE FORMS
3. 3/8" DIAMETER WELDED HOOPS, 18" DIAMETER TOP, BOTTOM AND CENTER.
4. SOLID UNDISTURBED SOIL.
5. PROVIDE PITCH SMOOTH CONCRETE FINISH

Westwood | BOLLARD | SI118

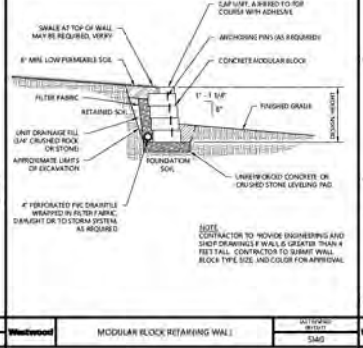


PAVEMENT SECTIONS SHOWN ARE FOR PLANNING PURPOSES ONLY. REFER TO GEOTECHNICAL REPORT FOR FINAL PAVEMENT SECTIONS.

Westwood | PAVEMENT SECTIONS | SI119A

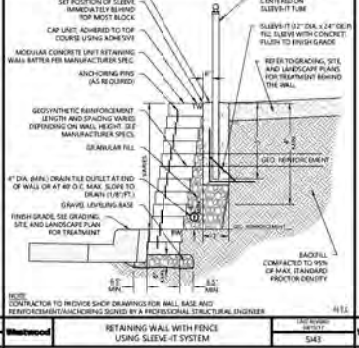


Westwood | SIGN POST WITH BOLLARD | SI136



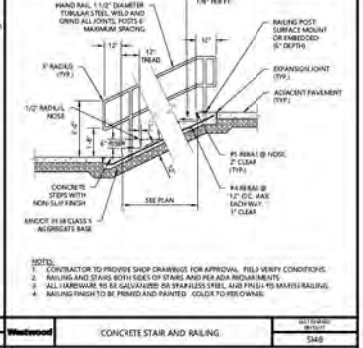
NOTE: CONTRACTOR TO PROVIDE ENGINEERING AND SHOP DRAWINGS IF WALLS GREATER THAN 4 FEET TALL. CONTRACTOR TO SUBMIT WALL BLOCK TYPE, SIZE, AND COLOR FOR APPROVAL.

Westwood | MODULAR BLOCK RETAINING WALL | SI140



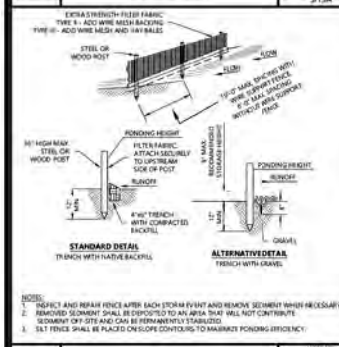
NOTE: CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR WALL, BASE AND REINFORCEMENT/ANCHORING SIGNED BY A PROFESSIONAL STRUCTURAL ENGINEER

Westwood | RETAINING WALL WITH FENCE USING SLEEVE-IT SYSTEM | SI143



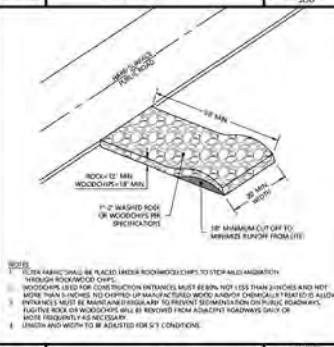
NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL. FIELD VERIFY CONDITIONS.
2. RAILING AND STAIRS BOTH SIDES OF STAIRS AND PER ADA INDICATIONS.
3. ALL HARDWARE TO BE GALVANIZED OR STAINLESS STEEL, AND FINISH TO MATCH RAILING.
4. RAILING FINISH TO BE PRIMED AND PAINTED. COLOR TO BE OWNERS.

Westwood | CONCRETE STAIR AND RAILING | SI148



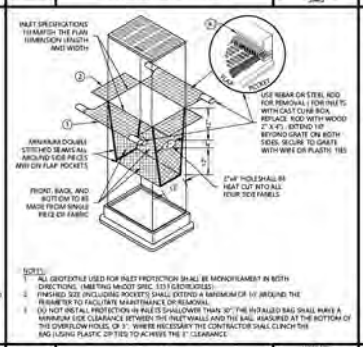
NOTES:
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

Westwood | SILT FENCE | GD02



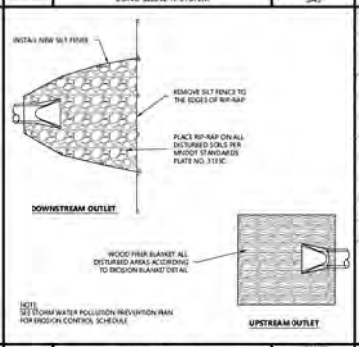
NOTES:
1. FILTER FABRIC SHALL BE PLACED UNDER ROCK/WOOD CHIPS, TO STOP MUD MIGRATION THROUGH ROCK/WOOD CHIPS.
2. WOODCHIPS USED FOR CONSTRUCTION ENTRANCES MUST BE 80% NOT LESS THAN 2 INCHES AND NOT MORE THAN 5 INCHES. NO CHIPPED UP MANUFACTURED WOOD AND/OR CHEMICALLY TREATED IS ALLOWED.
3. ENTRANCES MUST BE MAINTAINED REGULARLY TO PREVENT SEDIMENTATION ON PUBLIC ROADWAYS. FUGITIVE ROCK OR WOODCHIPS WILL BE REMOVED FROM ADJACENT ROADWAYS DAILY OR MORE FREQUENTLY AS NECESSARY.
4. LENGTH AND WIDTH TO BE ADJUSTED FOR SITE CONDITIONS.

Westwood | CONSTRUCTION ENTRANCE | GD05



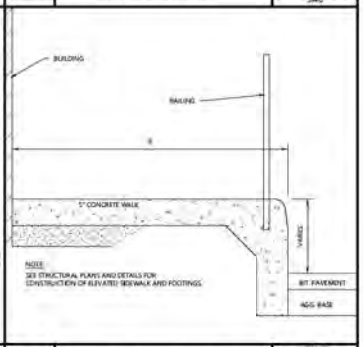
NOTES:
1. ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING MnDOT SPEC. 3151 (GEOTEXTILES).
2. FINISHED SIZE (INCLUDING POCKETS) SHALL EXTEND A MINIMUM OF 1/2" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
3. (X) NOT INSTALL PROTECTION IN INLETS SHALLOWER THAN 30". THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE BETWEEN THE INLET WALLS AND THE BAG, ASSURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CLINCH TIES

Westwood | STORM DRAIN FILTER BAG INSERT | GD10



NOTE: SEE STORM WATER POLLUTION PREVENTION PLAN FOR EROSION CONTROL SCHEDULE

Westwood | EROSION CONTROL AT FLARED END SECTIONS | GD27



NOTE: SEE STRUCTURAL PLANS AND DETAILS FOR CONSTRUCTION OF ELEVATED SIDEWALK AND FOOTINGS.

Westwood | ELEVATED SIDEWALK AT BUILDING | SI48

NOT FOR CONSTRUCTION

Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance

INITIAL ISSUE:	06/03/21	DESIGNED:
REVISIONS		CHECKED:
1	06/15/21	DRAWING:
2	08/24/21	CHECKED:
3		

PREPARED FOR:
DBS GROUP
2700 NATIONAL DRIVE, SUITE 100
DINALASKA, WI 54650

THE GODDARD SCHOOL
MINNETONKA, MN

I HEREBY CERTIFY THAT I WAS PLANNING SUPERVISED ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

STUART LYNAE C. ZARWEN
Date: 06/24/21 LICENSE NO. 42797

Westwood
Phone 952.937.5150
Fax 952.937.5822
12701 Whitewater Drive, Suite 200
Minnetonka, MN 55343
www.wwpi.com
Westwood Professional Services, Inc.

SITE DETAILS I

SHEET NUMBER:
C5.0
DATE: 06/24/21

PROJECT NUMBER: 0031849.00

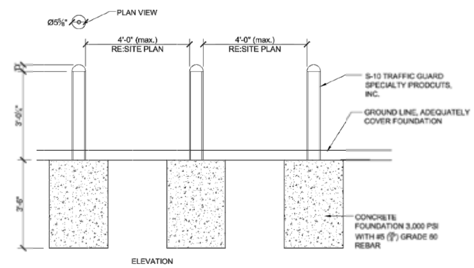
THE GODDARD SCHOOL

NOT FOR CONSTRUCTION

DESIGN TEAM TO COORDINATE WITH LOCAL JURISDICTION IF BIKE RACKS ARE REQUIRED.

17 BICYCLE RACK
SCALE: 3/4" = 1'-0"

BOLLARD NOTES:
1. VERIFY LOCATION OF UNDERGROUND UTILITIES BEFORE DRILLING FOR CONCRETE FOUNDATION.
2. PIPE BOLLARDS LOCATED AT TRASH ENCLOSURE ALONG PLAYGROUND AND TO PROTECT ELECTRICAL TRANSFORMERS WHEN REQUIRED.
3. REFER TO PRODUCT SPECS: S-10 BY TRAFFIC GUARD SPECIALTY PRODUCTS, INC.

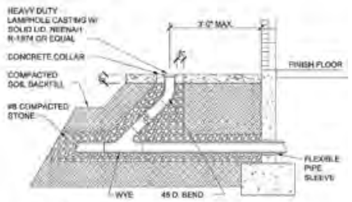


10 SHAFT FOOTING BOLLARD (DISTANCE > 4'-0")
SCALE: 1/2" = 1'-0"

Call 48 Hours before digging.
811 or call811.com
Common Ground Alliance

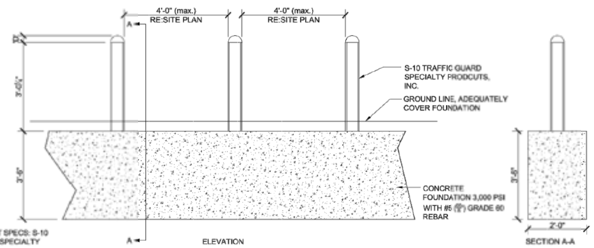
COMING SOON SIGNAGE WORDING MUST BE APPROVED BY A GSI PROJECT MANAGER.

05 MONUMENT SIGNAGE DETAIL
SCALE: 1/4" = 1'-0"



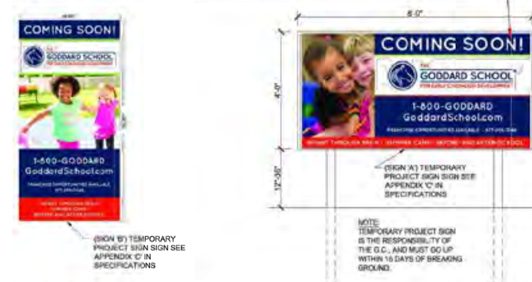
MAXIMUM CLEANOUT SPACING TO BE NO MORE THAN 100 FEET.

18 TYP. CLEANOUT DETAIL
SCALE: N.T.S.



REFER TO PRODUCT SPECS: S-10 BY TRAFFIC GUARD SPECIALTY PRODUCTS, INC.

11 TRENCH FOOTING BOLLARD (DISTANCE < 4'-0")
SCALE: 1/2" = 1'-0"



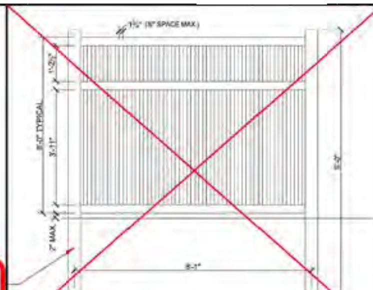
06 TEMPORARY SIGN (TYPE 2)
SCALE: 1/4" = 1'-0"

HANDRAIL ACCESSIBILITY NOTES

1. FOR ACCESSIBILITY, PLEASE REFERENCE ADA 36 CFR 1191 FINAL RULE: PLAY AREAS 15.6. MAIN ENTRANCE PATHWAYS SHOULD BE 72 INCHES TO 96 INCHES WIDE. ALL PATHWAYS MUST PROVIDE ADEQUATE CLEARANCES AS PRESCRIBED BY THE UFAS AND ADA STANDARDS. PATHWAY SLOPES SHOULD BE NO GREATER THAN 1:20 UNLESS THEY ARE PROVIDED WITH A HANDRAIL. (MORE THAN 1:20 IS CONSIDERED A RAMP.) CROSS SLOPES WILL BE LIMITED TO 1:50.
2. PLATFORMS, STAIRS, HANDRAILS ON STAIRS, GUARDRAILS, AND PROTECTIVE BARRIERS ON PLATFORMS MUST BE DESIGNED IN COMPLIANCE WITH REQUIREMENTS CONTAINED IN THE LATEST EDITION OF THE HANDBOOK FOR PUBLIC PLAYGROUND SAFETY, CONSUMER PRODUCT SAFETY COMMISSION (CPSC). THE HEIGHT OF PLATFORMS AND THE AGE GROUP USING THE PLATFORM WILL DETERMINE WHEN A GUARDRAIL OR PROTECTIVE BARRIER IS REQUIRED. GUARDRAILS MAY BE USED IN PLATFORMS AT LOWER HEIGHTS, WHILE PROTECTIVE BARRIERS MUST BE PROVIDED ON HIGHER PLATFORMS.
3. HANDRAILS MUST BE PROVIDED TO ACCOMMODATE THE INTENDED AGE GROUP ON ALL STAIRS (INCLUDING ADULTS). FOR CHILDREN, HEIGHTS WILL RANGE BETWEEN 20 INCHES ABOVE THE LEADING EDGE OF THE TREAD AND 38 INCHES. IN CERTAIN INSTANCES, IT MAY BE NECESSARY TO HAVE TWO RAILINGS MOUNTED AT DIFFERING HEIGHTS.
4. GUARDRAILS MUST BE PROVIDED FOR INFANTS AND TODDLERS ON ALL PLATFORMS GREATER THAN 11-13/16 INCHES ABOVE ADJACENT SURFACES. GUARDRAILS MUST BE PROVIDED FOR PRE-SCHOOL-AGE CHILDREN ON ALL PLATFORMS GREATER THAN

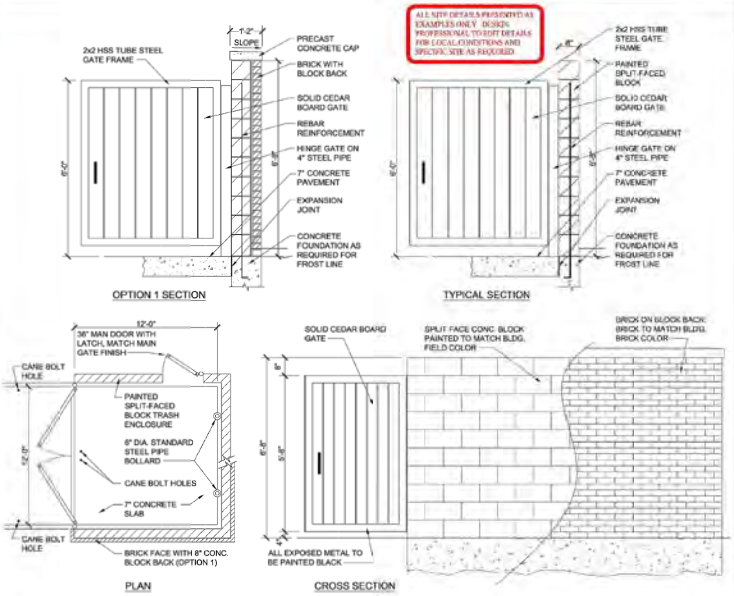
CERTAINTEED BUFFTECH PRINCETON VINYL FENCE TO BE USED IF STEEL FENCE IS NOT PERMITTED

19 HANDRAIL DETAIL
SCALE: 3/4" = 1'-0"

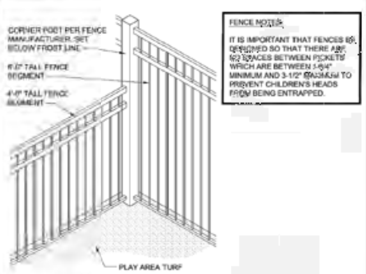


13 VINYL FENCE
SCALE: 1/2"=1'-0"

ALL SITE DETAILS PROVIDED AS EXAMPLES ONLY. DESIGN PROFESSIONAL TO EDIT DETAILS FOR LOCAL CONDITIONS AND SPECIFIC SITE AS REQUIRED.

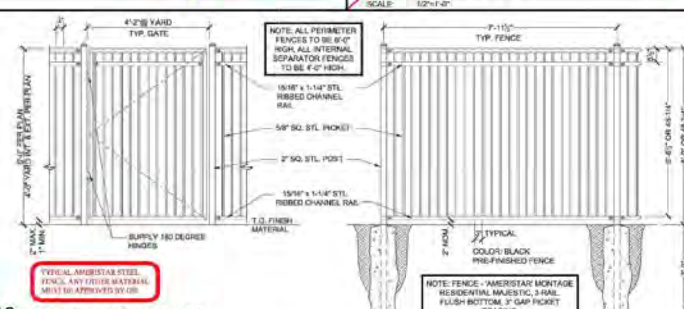


08 TRASH ENCLOSURE DETAILS
SCALE: N.T.S.



FENCE NOTES:
IT IS IMPORTANT THAT FENCES BE DESIGNED SO THAT THERE ARE NO SPACES BETWEEN PICKETS WHICH ARE BETWEEN 3-5/8" MINIMUM AND 3-1/2" MAXIMUM TO PREVENT CHILDREN'S HEADS FROM BEING ENTRAPPED.

20 FENCE TRANSITION DETAIL
SCALE: N.T.S.



NOTE: ALL PERIMETER FENCES TO BE 6'-0" HIGH, ALL INTERNAL SEPARATOR FENCES TO BE 4'-0" HIGH.

TYPICAL AMERISTAR STEEL FENCE. ANY OTHER MATERIAL MUST BE APPROVED BY GSI.

NOTE: FENCE - 'AMERISTAR' MONTAGE RESIDENTIAL MAJESTIC, 3-RAIL FLUSH BOTTOM, 3" GAP PICKET SPACING.

16 TYPICAL FENCE DETAIL
SCALE: 1/2" = 1'-0"

Westwood

PREPARED FOR:
DBS GROUP
2700 NATIONAL DRIVE, SUITE 100
ONALASKA, WI 54650

THE GODDARD SCHOOL
MINNETONKA, MN

SITE DETAILS II

SHEET NUMBER:
C5.1

DATE: 06/24/21

PROJECT NUMBER: 0031849.00

THE GODDARD SCHOOL

INITIAL ISSUE: 06/02/21

N:\0031849.00\DWG\CIVIL\0031849DT01.DWG

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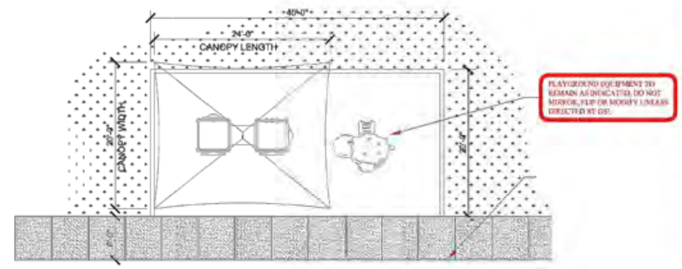
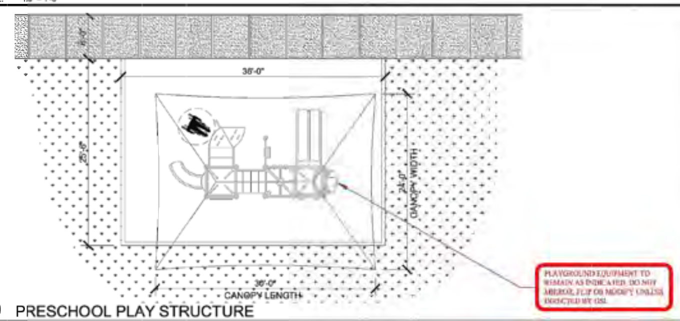
Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance



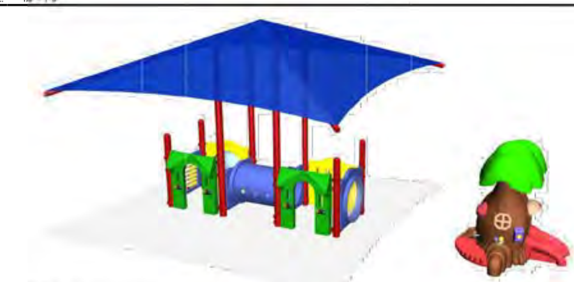
09 INFANT/ TODDLER PLAY STRUCTURE

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



10 PRESCHOOL PLAY STRUCTURE

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



REFER TO 09/C1.2

11 TODDLER PLAYGROUND RENDERING

SCALE: N.T.S.

REFER TO 10/C1.2

12 PRESCHOOL PLAYGROUND RENDERING

SCALE: N.T.S.

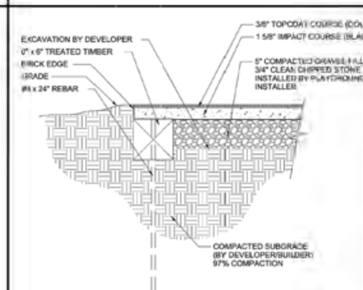
DEVELOPER / GENERAL CONTRACTOR'S PLAYGROUND RESPONSIBILITIES

MUST BE INCLUDED IN DRAWINGS

1. PLAYGROUND STRUCTURE AND SHADE STRUCTURE APPROVALS OR PERMITS IF REQUIRED. APPROVALS AND PERMITTING MAY BE REQUIRED FOR COLOR SCHEME, HEIGHT, MANUFACTURER DESIGN METHODS, ETC.
2. UTILITIES CANNOT BE LOCATED UNDER OR OVER PLAYGROUND BOXES.
3. ELECTRIC AND WATER ARE NEEDED ON SITE FOR THE PLAYGROUND INSTALLERS USE. IF NOT, OTHER PRIOR ARRANGEMENTS SHALL BE MADE.
4. SOILS WITHIN THE PLAYGROUND BOX DIMENSIONS SHOULD BE SUITABLE FOR SLAB AT GRADE INSTALLATIONS. SOILS SHOULD NOT CONTAIN DEBRIS AND COMPACTED TO 97% IN ACCEPTED INCREMENTS CONTAINING SUITABLE SOIL.
5. PROVIDE GOODARD SYSTEM INC.'S PROJECT MANAGER WITH A TIMELINE FOR PLAYGROUND INSTALLATION. ROUGH GRADE IS REQUIRED AND SIDEWALKS SHALL BE INSTALLED PRIOR TO PLAYGROUND INSTALLATION, SOD, FENCE AND PARKING LOT TOP COAT.
6. LOCATE PLAYGROUND BOXES PER SITE PLAN, EXCAVATED 7" DEEP. PLAYGROUND BOXES CANNOT EXCEED A MAXIMUM 2% GRADE. (DTL. 3/C3.1)
7. SUB-GRADE BACKFILL MUST BE COMPACTED TO AT LEAST 97% AND SHOULD NOT CONTAIN MATERIALS SUCH AS LARGE ROCKS, SCRAP WOOD, CONCRETE SPOILS, ETC. PLAYGROUND INSTALLERS NEED TO DRILL ACCURATE HOLES FOR PLAYGROUND POLE INSTALLATION.
8. INSTALL DRAINAGE SYSTEM TO EXCAVATED PLAYGROUND BOXES PER SITE PLAN. (DTL. 13/C3.1)
9. ENSURE ADEQUATE AREA FOR PLAYGROUND INSTALLERS. STAGING AREA NEEDED TO UNLOAD AND PRE-ASSEMBLE APPROX. 1,000 CUBIC FOOT SHIPMENT OF PLAYGROUND EQUIPMENT. HOLDING AREA NEEDED TO RECEIVE DELIVERY OF APPROXIMATELY 40-50 TONS OF CRUSHED STONE. PARKING AREA NEEDED FOR TWO TRUCKS AND ONE 30' TRAILER OF EXCAVATING EQUIPMENT.
10. IN ORDER TO AVOID POSSIBLE DAMAGE, PARKING LOTS SHOULD NOT HAVE TOPCOAT APPLIED AND FENCING SHOULD NOT BE INSTALLED UNTIL PLAYGROUND IS COMPLETE. IF FENCING IS INSTALLED, LEAVE OUT NECESSARY SECTIONS TO PROVIDE ACCESS TO PLAYGROUND AREA.
11. ONCE COMPACTED CRUSH STONE BASE, BORDER, AND EQUIPMENT ARE IN PLACE, THEY SHOULD NOT BE DRIVEN OR WALKED ON AND SHOULD NOT BE USED FOR STORAGE AREA.
12. PLAYGROUND INSTALLATION DESCRIBED ABOVE SHOULD TAKE APPROXIMATELY ONE TO FIVE DAYS, DEPENDING ON SITE CONDITIONS, WEATHER, INSTALLER CREW SIZE, ETC.
13. INSTALLATION OF POUR-IN-PLACE SURFACING USUALLY TAKES PLACE ONE TO TWO WEEKS AFTER PLAYGROUND IS INSTALLED, DEPENDING MAINLY ON WEATHER CONDITIONS.
14. GENERALLY ONLY THREE OR FOUR PARKING SPACES ARE NEEDED FOR SURFACING INSTALLERS. (ONE OR TWO VEHICLES AND A MIXER STAGING AREA)
15. TYPICALLY, TWO MEN MIX THE SURFACING PRODUCT IN THE PARKING LOT AND TRANSPORT BY WHEELBARROW TO PLAYGROUNDS WHERE IT IS POURED AND TROWELED. THEREFORE, NO SPECIAL ALLOWANCES ARE NECESSARY (FENCING CAN BE INSTALLED AND FINISH LANDSCAPING CAN BE COMPLETED)
16. THIS IS USUALLY A TWO-DAY INSTALLATION, DEPENDING MAINLY ON WEATHER CONDITIONS. IMPACT COURSE APPLIED ON DAY ONE, AND TOPCOAT (COLOR) APPLIED ON DAY TWO.
17. ONCE THE TOPCOAT APPLICATION IS COMPLETE, THE BINDING AGENTS WILL TAKE A MINIMUM 24 HOURS TO CURE. DURING THAT TIME THERE IS TO BE ABSOLUTELY NO WALKING ON, PLACING OBJECTS ON, OR ALLOWING ANY DUST TO ACCUMULATE ON THE TOPCOAT SURFACE.
18. FINISH GRADING AND LANDSCAPING MUST BE THE SAME ELEVATION AT THE PLAYGROUND BORDERS.
19. ENSURE THAT THE SITE IS SECURE AND THAT OTHER CONTRACTORS WILL NOT BE STORING, WORKING, WALKING, ETC. ON FINISHED PLAYGROUNDS, SURFACES OR BORDERS.

GENERAL NOTES:
DEVELOPER/GENERAL CONTRACTOR SHOULD BE IN CONSTANT COMMUNICATION WITH GSI TO SCHEDULE DELIVERY AND INSTALLATION OF THE PLAYGROUND STRUCTURES. PLAYGROUND INSTALLERS TRAVEL LONG DISTANCES AND IT IS IMPERATIVE THE SITE IS PROPERLY PREPARED AS SPECIFIED TO AVOID COSTLY MOBILIZATION, SHIPPING AND STORAGE FEES.

GSI'S PLAYGROUND INSTALLERS TRAVEL GREAT DISTANCES, INCURRING EXPENSES FOR BOTH TRANSPORTATION AND LODGING. IN ADDITION THEY ARE REQUIRED TO RESERVE RENTAL MACHINERY. IF THEY ARE TURNED AWAY BECAUSE THE SITE IS NOT READY, A TRAVEL CHARGE WILL APPLY. THIS CHARGE COULD BE SIGNIFICANT ($50.00 PER MAN-HOUR FOR A CREW OF FIVE, LODGING AT $175 PER ROOM PER NIGHT, AND EQUIPMENT RENTAL DEPOSITS). THEREFORE, FOLLOWING ALL OF THE ABOVE GUIDELINES, ESPECIALLY WITH RESPECT TO DISCLOSING EXCESSIVELY ROCKY CONDITIONS, PROHIBITING THE USE OF LARGE ROCKS, CEMENT, ETC. IN BACKFILL MATERIALS, AND PROVIDING THE PROJECT MANAGER AN ACCURATE TIMELINE, WILL SAVE BOTH MONEY AND TIME.



04 POUR-IN-PLACE PLAY SURFACING

SCALE: 1 1/2" = 1'-0"

INITIAL ISSUE: 06/02/21

REVISIONS:
- 06/02/21 ADDRESS SP1
- 06/15/21 CLIENT REVIEW
- 06/18/21 CITY SUBMITTAL
- 07/13/21 CLIENT REVIEW
- 08/10/2021 CITY AND WATERSHED COMMENTS

DESIGNED: CHECKED: DRAWN: HORIZONTAL SCALE: ## VERTICAL SCALE: ##

PREPARED FOR:

DBS GROUP
2700 NATIONAL DRIVE, SUITE 100
ONALASKA, WI 54650

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SHARI LYNN S. AHRENS
DATE: 06/24/21 LICENSE NO. 42797

THE GODDARD SCHOOL
MINNETONKA, MN

Westwood
Phone (952) 937-5150 Fax (952) 937-5822 Toll Free (888) 937-5150
12701 Whitewater Drive, Suite #300 Minnetonka, MN 55343 westwoodps.com
Westwood Professional Services, Inc.

SITE DETAILS III

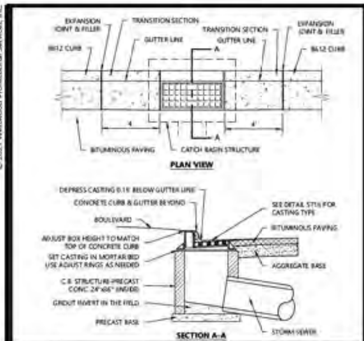
SHEET NUMBER: C5.2

DATE: 06/24/21

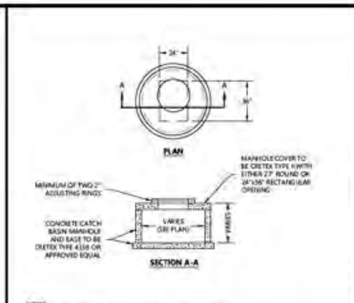
PROJECT NUMBER: 0031849.00

THE GODDARD SCHOOL

N:\0031849.00\DWG\CIVIL\0031849DT01.DWG

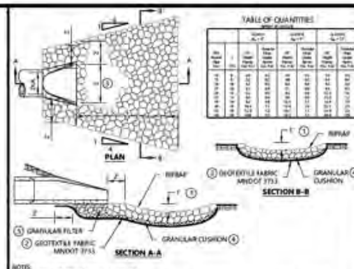


RECTANGULAR CATCH BASIN — ST01



NOTES:
1. BASE TO BE GROUTED TO FORM A SMOOTH INVERT TO OUTLET.
2. PIPE CUT-OUTS TO BE LOCATED WHERE REQUIRED.
3. SEE DETAIL ST16 FOR CASTING TYPE.

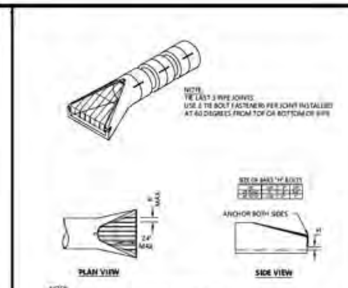
STANDARD MANHOLE — ST02



RIPRAP AT OUTLETS — ST05

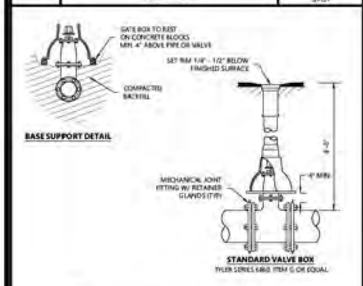
STRUCTURE LOCATION	CASTING TYPE
CURB & GUTTER	R-3067-L
CURB & GUTTER @ LOW POINT	R-3067-VB
SURMOUNTABLE CURB & GUTTER AT DRIVEWAY LOCATION	R-3501-F
STMH IN PAVEMENT OR GREEN SPACE	R-1642 STAMPED "STORM SEWER"
CBMH IN PAVEMENT	R-2535
CBMH IN GREEN SPACE	R-4342
CBMH IN VALLEY GUTTER	R-3362-L

STORM SEWER CASTING SCHEDULE — ST16

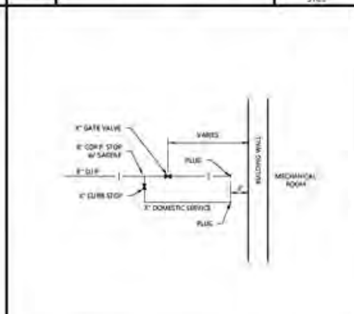


RCP FLARED END SECTION — ST17

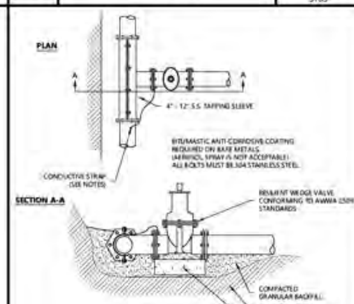
Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance



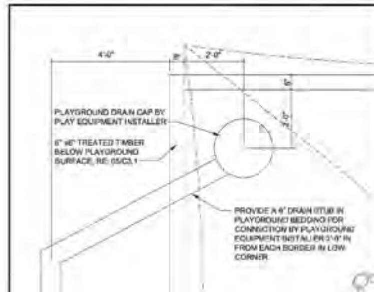
GATE VALVE — WM02



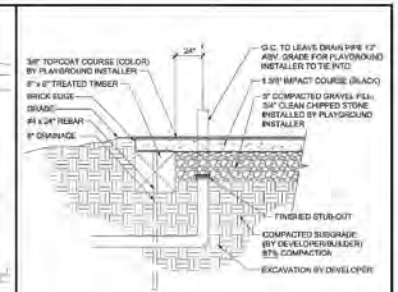
DOMESTIC WATER & FIRE SERVICE — WM10



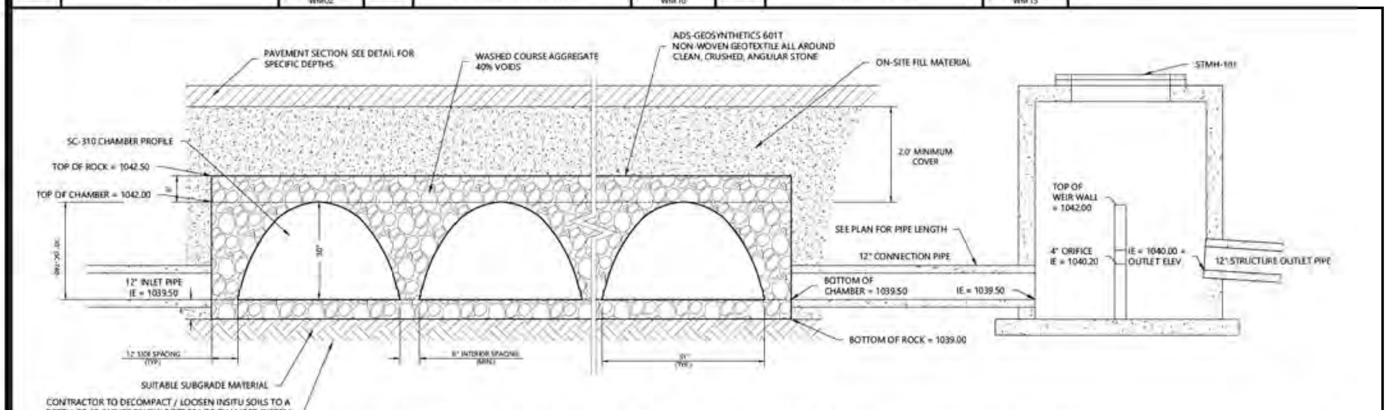
WATERMAIN WET TAP — WM15



09 PLAYGROUND DRAINAGE DETAIL
SCALE: 1/2" = 1'-0"



05 PLAYGROUND DRAINAGE DETAIL



DETAIL IS SCHEMATIC FOR HYDRAULIC MODELING AND PERMITTING ONLY. SEE FINAL PLANS AND DETAILS BY STORMWATER VENDOR FOR CONSTRUCTION.

N.T.S.

VAULT 1 - UNDERGROUND STORMWATER STORAGE - INFILTRATION

NOT FOR CONSTRUCTION

INITIAL ISSUE: 06/02/21

PREPARED FOR:
DBS GROUP
2700 NATIONAL DRIVE, SUITE 100
ONALASKA, WI 54650

THE GODDARD SCHOOL
MINNETONKA, MN

Westwood

UTILITY DETAILS

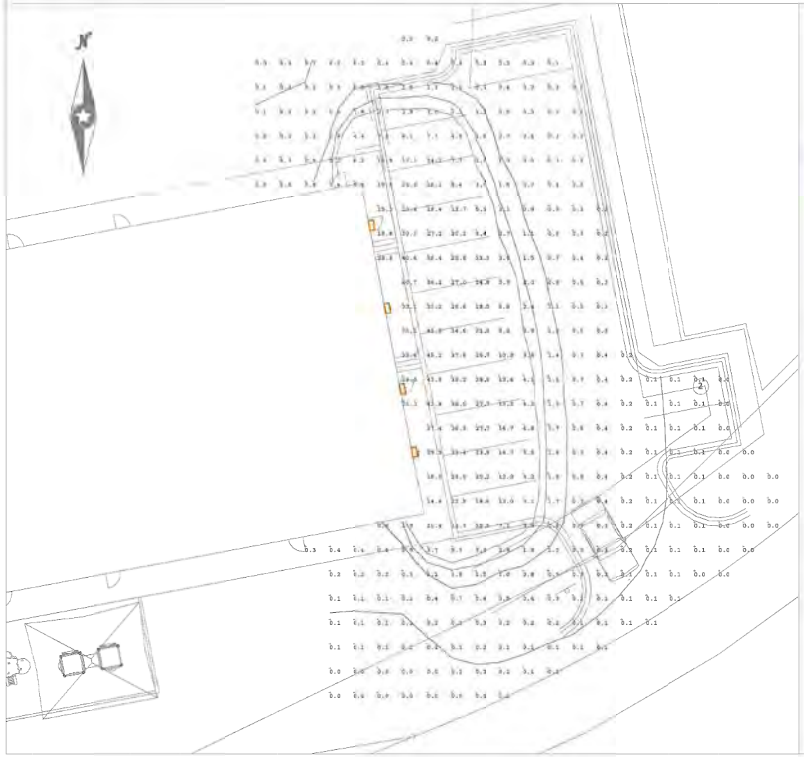
SHEET NUMBER: C5.3
DATE: 06/24/21
PROJECT NUMBER: 0031849.00

THE GODDARD SCHOOL

Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance

Luminaire Schedule								
Symbol	Qty	Label	Arrangement	Mast Height (ft.)	LLF	Description	Tag	Lum. Watts
	4	RWL2-160L-115-4K7-4W	SINGLE	8.33'	0.900	RWL2-160L-115-4K7-4-U	C	109.8

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
CalcPts_1	Illuminance	Fc	5.44	45.2	0.0	N.A.



NOT FOR CONSTRUCTION

INITIAL ISSUE: 06/03/21

PREPARED FOR:
DBS GROUP
2700 PATRIOT DRIVE, SUITE 100
DELAFIELD, WI 53402

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

STUART LYNAE E. ZARRENE
Date: 06/24/21 License No. 42797

THE GODDARD SCHOOL
MINNETONKA, MN

Westwood
Phone 952.937.5150
Fax 952.937.5822
Westwood Professional Services, Inc.

PHOTOMETRIC PLAN

SHEET NUMBER:
C6.0

DATE: 06/24/21

PROJECT NUMBER: 0031849.00

THE GODDARD SCHOOL

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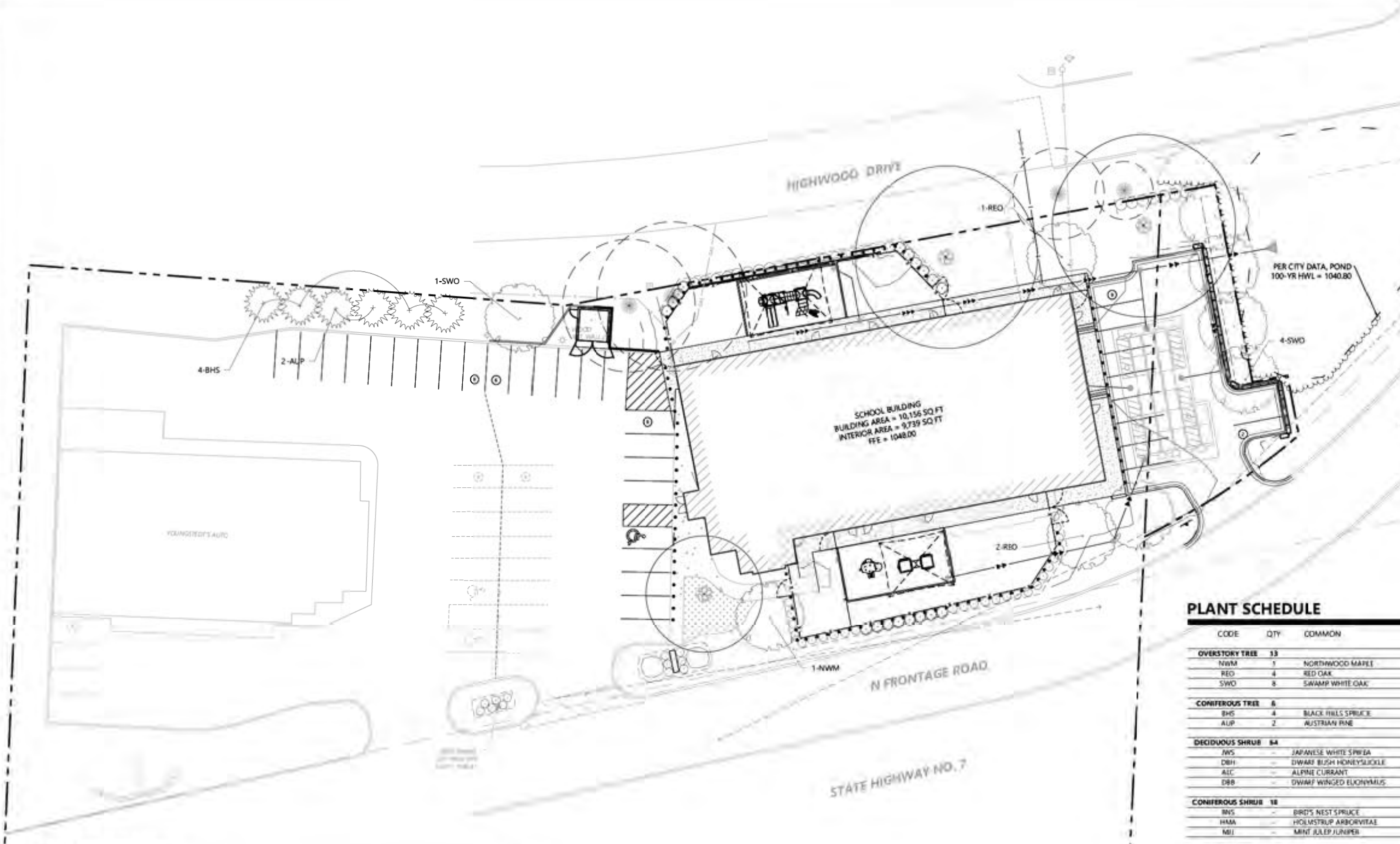
Common Ground Alliance



PLANT SCHEDULE

CODE	QTY	COMMON	BOTANICAL NAME	SIZE	ROOT	SPACING	REMARKS
OVERSTORY TREE	**13**						
NWM	1	NORTHWOOD MAPLE	ACER RUBRUM 'NORTHWOOD'	2.0" CAL.	B&B	AS SHOWN	SINGLE
REO	4	RED OAK	QUERCUS RUBRA	3.0" CAL.	B&B	AS SHOWN	SINGLE
SWO	8	SWAMP WHITE OAK	QUERCUS BICOLOR	3.0" CAL.	B&B	AS SHOWN	SINGLE
CONIFEROUS TREE	**6**						
BHS	4	BLACK HILLS SPRUCE	PICEA GLAUCA DENSATA	6' HT.	B&B	AS SHOWN	FULL
AUP	2	AUSTRIAN PINE	PINUS NIGRA	8' HT.	B&B	AS SHOWN	FULL
DECIDUOUS SHRUB	**64**						
JWS	-	JAPANESE WHITE SPIREA	SPIRAEA ALBIFLORA	#5	CONT.	3'-X" O.C.	
DBH	-	DWARF BUSH HONEYSUCKLE	DIERVILLA LONICERA	#5	CONT.	3'-X" O.C.	
ALC	-	ALPINE CURRANT	RIBES ALPINUM	#5	CONT.	4'-X" O.C.	
DBB	-	DWARF WINGED EUONYMUS	EUONYMUS ALATUS 'COMPACTUS'	#5	CONT.	4'-X" O.C.	
CONIFEROUS SHRUB	**18**						
BNS	-	BIRD'S NEST SPRUCE	PICEA ABIES 'NIDIFORMIS'	#5	CONT.	5'-0" O.C.	
HMA	-	HOLMSTRUP ARBORVITAE	THUJA OCCIDENTALIS 'HOLMSTRUP'	#5	CONT.	3'-0" O.C.	
MJJ	-	MINT JULEP JUNIPER	JUNIPERUS CHINENSIS 'MONLEP'	#5	CONT.	5'-0" O.C.	
PERENNIALS	**44**						
ICD	-	ICE CARNIVAL DAYLILY	HEMEROCALLIS 'ICE CARNIVAL'	#1	CONT.	18" O.C.	
BJD	-	BAJA DAYLILY	HEMEROCALLIS 'BAJA'	#1	CONT.	18" O.C.	
MNS	-	MAY NIGHT SALVIA	SALVIA X NEMOROSA 'MAY NIGHT'	#1	CONT.	18" O.C.	
KFG	-	KARL FOERSTER FEATHER REED GRASS	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	#1	CONT.	24" O.C.	

ABBREVIATIONS: B&B = BALLED AND BURLAPPED CAL. = CALIPER HT. = HEIGHT MIN. = MINIMUM O.C. = ON CENTER SP. = SPREAD QTY. = QUANTITY CONT. = CONTAINER
NOTE: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

LANDSCAPE SUMMARY

TREE REPLACEMENTS	REQUIRED	PROVIDED
CONIFERS 1 SPRUCE TREE REMOVED IS 48' TALL. CODE REQUIRES 1' PROPOSED PER 1' REMOVED.	6 - 8' TALL SPRUCE	6 - 8' TALL SPRUCE
DECIDUOUS 1 OAK TREE REMOVED THAT IS 22" CALIPER. CODE REQUIRES 1" PROPOSED PER 1" REMOVED WITH LIKE SPECIES	8 - 3" OAK TREES	8 - 3" OAK TREES
~~1 COTTONWOOD UNDER 15" CALIPER REMOVED~~ 1 BOXELDER - 20" CALIPER REMOVED CODE REQUIRES 1 - 2" TREE PER TREE REMOVED	2 - 2" TREES	1-2" TREE
TOTAL CALIPER INCHES	28" CALIPER REQUIRED	26" CALIPERP PROPOSED
PER SARAH MIDDELTON, ACCEPTABLE TO SUBSTITUTE 2 SHRUBS FOR 1" CALIPER OF REQUIRED REPLACEMENT TREE REQURIED TO PROVIDE ADDITIONAL 22" CALIPER FOR TREES REMOVED	44 SHRUBS REQUIRED	82 SHRUBS PROPOSED

LANDSCAPE LEGEND

OVERSTORY DECIDUOUS TREE
SHRUBS
PERENNIALS
CONIFEROUS TREE

GSI LANDSCAPE NOTES

1. ALL LANDSCAPING WILL BE IRRIGATED WITH AN UNDERGROUND, AUTOMATIC IRRIGATION SYSTEM. TREES AND SHRUBS (DRIP/BUBBLER) SHALL BE IRRIGATED BY A SEPARATE ZONE FROM SOD/GRASS (SPRAY). THIS INCLUDES TREES PLANTED IN SOD/GRASS AREA. THE SYSTEM IS TO HAVE A RAIN SENSOR SHUT-OFF REQUIRED.
2. SOIL AMENDMENT FOR SODDED AREAS SHALL BE 4 C.Y. OF COMPOSTED ORGANIC MATTER PER 1,000 S.F. THE TOP 5" SHALL BE TOPSOIL AND SOIL AMENDMENT MIXTURE TILLED TO A MIN. DEPTH OF 12".
3. IN ALL PLANTER BED AREAS THE BACKFILLED SOIL SHALL BE REMOVED TO A DEPTH OF 24" AND REPLACED WITH A MIXTURE OF 1/2 TOPSOIL WITH AMENDMENT AND 1/2 NATIVE SOIL COMPACTED TO 85% STD. DENSITY.
4. IN BED AREAS HOLD TOP OF SUBGRADE 3-4" BELOW ADJACENT IMPROVEMENTS FOR MULCHING.
5. ALL SHRUB BEDS SHALL RECEIVE WATER-PERMEABLE WEED BARRIER FABRIC. FABRIC SHALL BE 3 OZ. SPUNBONDED POLYPROPYLENE WITH UV INHIBITORS TYPAR #3301 OR APPROVED EQUAL. PERENNIAL AND ORNAMENTAL GRASS AREAS SHALL NOT RECEIVE THE FABRIC.
6. ALL SHRUB BEDS SHALL BE MULCHED WITH 3-4" DEPTH SHREDDED CEDAR- NATURAL COLOR. SUBMIT SAMPLES FOR APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
7. VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES AND STRUCTURES PRIOR TO DIGGING, EXCAVATION OR TRENCHING. DAMAGE TO UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR WITH NO EXPENSE TO THE OWNER.
8. PLANTS SHALL MEET THE MINIMUM STANDARDS OUTLINED IN THE "AMERICAN STANDARD FOR NURSERY STOCK" ANSI Z60.1 AND THE STATE NURSERY ACT AND ACCOMPANYING RULES & STANDARDS. ALL PLANT MATERIALS ARE SUBJECT TO APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. PLANTS NOT MEETING THE SET STANDARDS WILL BE REJECTED.
9. ALL TREES IN SODDED AREAS WILL HAVE A MULCH RING WITH NATURAL CEDAR FIBER MULCH AT 3-4" DEPTH AND AT LEAST 3-4' IN DIAMETER. KEEP MULCH 4-6" AWAY FROM TRUNKS.
10. PLANT SPECIES AND LOCATIONS SHOULD FOLLOW APPROVED PLAN. IF SITE CONDITIONS OR PLANT AVAILABILITY REQUIRE CHANGES TO THE PLAN, CONTACT THE LANDSCAPE ARCHITECT AND GSI REPRESENTATIVE FOR CLARIFICATION.
11. ALL PLANT MATERIAL SHALL CARRY A WARRANTY FOR A PERIOD OF NOT LESS THAN 1 YEAR AFTER ACCEPTANCE OF THE PROJECT BY THE OWNER. WARRANTY SHALL BE A ONE-TIME REPLACEMENT THAT INCLUDES PLANT MATERIAL AND LABOR COSTS.
12. IRRIGATED TURF SHALL BE APPROVED REGIONAL GRASS BLEND, WITH 3 VARIETY BLEND MIN. (G.C. CONFIRM WITH LOCAL CODE FOR REQUIREMENTS).
13. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL PERTINENT SITE IMPROVEMENTS ALREADY INSTALLED PRIOR TO BEGINNING WORK. NOTIFY OWNER OF ANY CONFLICTS OR DISCREPANCIES WITH INFORMATION STATED IN THESE PLANS. DO NOT PROCEED WITH CONSTRUCTION IF DISCREPANCIES EXIST WITHOUT OWNER APPROVAL.
14. REFER TO GRADING DRAWINGS FOR TOPO/ELEVATIONS. ENSURE POSITIVE DRAINAGE (2% MIN. FALL) IN ALL LANDSCAPE/TURF AREAS. SURFACES SHALL DRAIN AWAY FROM BUILDING FOUNDATIONS (5% MIN.) AND TO THE STREETS AND ALLEY. NOTIFY OWNER IF ROUGH GRADING CONDITIONS WILL CREATE PONDING ON SITE OR FLOW TOWARD FOUNDATIONS. ROUGH GRADES SHALL BE REVIEWED AND ACCEPTED BY THE OWNER PRIOR TO SOIL PREPARATION OPERATIONS.
15. PROPOSED TREES IN THE R.O.W. SHALL BE PRE-APPROVED BY THE CITY FORESTER'S OFFICE AND SHALL BE A MINIMUM OF 20' FROM PROPERTY CORNERS AT INTERSECTIONS, 25' FROM STREET LIGHTS AND 10' FROM EDGE OF DRIVEWAYS, OR PER LOCAL CODE REQUIREMENTS.
16. ALL PROPOSED LANDSCAPING IN THE R.O.W. SHALL BE PER THE LOCAL STREETSCAPE DESIGN MANUAL.
17. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL FIELD INSTALLATIONS AND SHALL REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD DELIVERIES TO GSI'S REPRESENTATIVE IMMEDIATELY. THE G.C. IS TO CONFIRM ALL QUANTITIES AFTER INSTALLATION THAT ALL PLANTS AND MATERIALS ARE INSTALLED PER SPECIFICATIONS AND LANDSCAPE PLANS.
18. LANDSCAPE ARCHITECT IS TO COORDINATE/PRODUCE AND SUBMIT IRRIGATION SPRINKLER DRAWINGS FOR REVIEW AND APPROVAL ONCE LANDSCAPE PLAN HAS BEEN REVIEWED AND APPROVED BY ARCHITECT AND GSI REPRESENTATIVE.

N
1" = 20'
0' 20' 40' 60'

NOT FOR CONSTRUCTION

INITIAL ISSUE: 06/02/21
REVISIONS:
06/11/21 PROGRESS SET
06/15/21 CLIENT REVIEW
06/24/21 CITY SUBMITTAL
~~07/29/21 CHARGE REVIEW~~
08/05/2021 CITY AND WATERSHED COMMENTS

DESIGNED:
CHECKED:
DRAWN:
HORIZONTAL SCALE:
VERTICAL SCALE:

PREPARED FOR:
DBS GROUP
2700 NATIONAL DRIVE, SUITE 100
ONALASKA, WI 54650

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA
JEFFERY R. WESTENDORF
DATE: 06/24/21 LICENSE NO. 44018

THE GODDARD SCHOOL
MINNETONKA, MN

Westwood
Westwood Professional Services, Inc.

LANDSCAPE PLAN

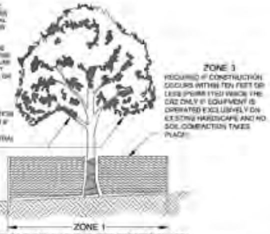
SHEET NUMBER:
L1.0
DATE: 06/24/21
PROJECT NUMBER: 0031849.00

THE GODDARD SCHOOL

TREE PROTECTION AREA: THE AREA WHICH IS ESTABLISHED AT THE CRITICAL ROOT ZONE (CRZ). THE CRZ IS EQUAL TO THE DRIPLINE, FURTHEST EXTENT OF TREE CANOPY, OR IS EQUAL TO ONE FOOT RADIALLY FROM THE TREE FOR EVERY ONE INCH OF TRUNK DIAMETER AT BREAST HEIGHT (DBH = 4.5' ABOVE GROUND), OR WHICHEVER IS GREATER.

ZONE 2
LOWER CANOPY PROTECTION. CONTACT CITY FORESTER IF ANY PRUNING IS NEEDED PRIOR TO WORK IF POTENTIAL FOR DAMAGE EXISTS.

ZONE 3
REQUIRED IF CONSTRUCTION OCCURS WITHIN TEN FEET OR LESS (PERMITTED) INSIDE THE CRZ ONLY IF EQUIPMENT IS OPERATED EXCLUSIVELY ON EXISTING HARDSCAPE AND NO SOIL COMPACTION TAKES PLACE.

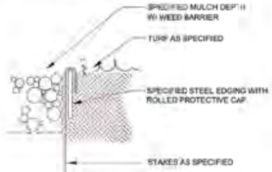


ZONE 1
EXTENDS THROUGH ENTIRE TREE PROTECTION AREA.
ANY DIGGING, EXCAVATING, TRENCHING, CHANGING OF GRADE, OR OTHER ACTIONS THAT MAY POTENTIALLY IMPACT THE ROOTING ENVIRONMENT MUST BE AUTHORIZED BY THE CITY FORESTER PRIOR TO WORK COMMENCEMENT. WORK WITHIN THE CRZ MUST TAKE PLACE IN ACCORDANCE WITH THE CONDITIONS ESTABLISHED BY THE CITY FORESTER.

17 TYPICAL TREE PROTECTION

SCALE: N.T.S.

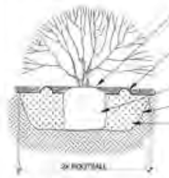
NOTES:
1. SET ALL EDGING 1" ABOVE FINISH GRADE AS SHOWN.
2. EDGING SHALL ABUT ALL CONCRETE CURBS AND WALKS PERPENDICULAR, AND FLUSH W/ GRADES OF CONCRETE.
3. ALL JOINTS TO BE SECURELY STAKED.



13 LANDSCAPE EDGER

SCALE: N.T.S.

NOTES:
1. DO NOT HEAVILY PRUNE SHRUBS AT PLANTING. PRUNE ONLY DEAD OR BROKEN BRANCHES. IF FORM IS COMPROMISED BY PLANTING, REPLACE SHRUB.
2. REMOVE CONTAINER (INCLUDING FIBER CONTAINERS), BASKETS, WIRE, ETC. FROM THE ROOTBALL. BREAK-UP ENCIRCLING ROOTS WITH SHARP KNIFE OR SPADE.
3. PLACEMENT NOTES: SET SHRUB PLUMB. SPACE PLANTS AND PLACE FOR BEST AFFECT.

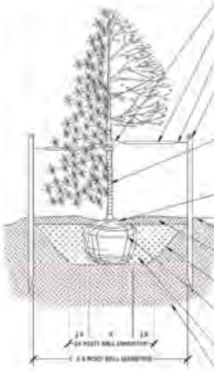


09 TYPICAL SHRUB PLANTING

SCALE: N.T.S.

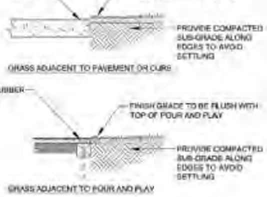
TREES PLANTED IN THE PUBLIC RIGHT OF WAY (PRW):
1. A PERMIT IS REQUIRED TO PLANT IN THE PRW. OBTAIN PERMITS FROM CITY FORESTER'S OFFICE.
2. ONLY TREES FROM FORESTER'S APPROVED STREET TREE LIST OR TREES APPROVED BY THE CITY FORESTER'S OFFICE SHALL BE PLANTED IN THE PRW.
3. FOR A LIST OF PROHIBITED OR SUSPENDED PRW TREES, CONTACT FORESTRY OFFICE.
4. IF OVERHEAD UTILITY WIRES EXIST IN THE PRW, ONLY ORNAMENTAL OR TREES MATURING AT 20 (TWENTY) FEET MAXIMUM HEIGHT SHALL BE PLANTED.
5. TREES SHALL BE CENTERED IN TREE LAWNS AND/OR PLANTING AREAS.
6. TREES SHALL NOT BE PLANTED IN TREE LAWNS LESS THAN FIVE FEET WIDE.
7. WHERE SIDEWALKS ARE NOT PRESENT, TREES SHALL BE LOCATED AS DESIGNATED BY FORESTRY OFFICE.
8. PLANTING IN CORNER TRIANGLE FORMED BY THE FIRST 30 (THIRTY) FEET ALONG THE PRW LINE IN EACH DIRECTION FROM THE CORNER IS NOT PERMITTED.
9. PLANTING WITHIN 10 (TEN) FEET OF ALLEYS, DRIVEWAYS, OR FIRE HYDRANTS IS NOT PERMITTED.
10. PLANTING WITHIN 20 (TWENTY) FEET OF STOP SIGNS OR STREET LIGHTS IS NOT PERMITTED.
11. PLANTING WITHIN FIVE FEET OF WATER METERS OR PITS IS NOT PERMITTED.
12. LARGE SHADE TREES SHALL BE SPACED 35 (THIRTY-FIVE) FEET O.C. AND ORNAMENTAL TREES 25 (TWENTY-FIVE) FEET O.C. (OR AS DESIGNATED BY FORESTRY.
13. TREES SHALL BE PRUNED TO MAINTAIN A CLEARANCE OF 13'-6" OVER STREETS AND ALLEYS AND EIGHT FEET OVER REMAINING PORTIONS OF PRW, INCLUDING SIDEWALK.

NOTE:
1. PRIOR TO DIGGING, THE STATE UTILITY NOTIFICATION CENTER SHALL BE CONTACTED TO LOCATE UNDERGROUND UTILITIES.
2. DO NOT CUT SINGLE LEADER. PRUNE ONLY DAMAGED, DEAD WOOD, OR CO-DOMINANT LEADERS AT CITY FORESTER'S DIRECTION.
3. ANY BROKEN, CRUMBLING, OR OTHERWISE DAMAGED ROOTBALL WILL BE REJECTED. DAMAGE DURING PLANTING OPERATIONS WILL NOT BE EXCUSED.



06 TREE PLANTING DETAIL FOR LAWNS

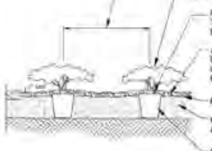
SCALE: N.T.S.



18 TYPICAL CONSTRUCTION EDGES

SCALE: N.T.S.

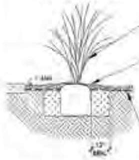
NOTES:
1. HOLD MULCH GRADE 1" BELOW EDGE OF WALK, EDGING, OR CURB
2. HOLD BACK PLANTS 12" FROM EDGES.



14 PERENNIAL PLANTING DETAIL

SCALE: N.T.S.

NOTES:
1. PRUNE ONLY DEAD OR BROKEN BRANCHES.
2. KEEP PLANTS MOIST & SHADED UNTIL PLANTING.
3. DO NOT FERTILIZE FOR AT LEAST 1 GROWING SEASON.
4. AMENDED BACKFILL SHALL BE 70% SOIL FROM PIT & 30% ORGANIC MATERIAL.
5. ANY BROKEN OR CRUMBLING ROOTBALLS WILL BE REJECTED. REMOVING THE CONTAINERS WILL NOT BE AN EXCUSE FOR DAMAGED ROOTBALLS.
6. THOROUGHLY CULTIVATE SOIL TO DEPTH OF ROOTBALL. BACKFILL W/ AMENDED SOIL MIX. SCARIFY SIDES OF PIT. ROOTBALL SHALL REST ON FIRM UNDISTURBED SOIL.
7. CUT & REMOVE ALL BURLAP & CONTAINERS.



10 ORNAMENTAL GRASS PLANTING

SCALE: N.T.S.

Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance

PREPARED FOR:
DBS GROUP
2700 NATIONAL DRIVE, SUITE 100
ONALASKA, WI 54650

JEFFERY R. WESTENDORF
DATE: 06/24/21 LICENSE NO. 44018

THE GODDARD SCHOOL
MINNETONKA, MN

Westwood

LANDSCAPE DETAILS

SHEET NUMBER:
L1.1
DATE: 06/24/21
PROJECT NUMBER: 0031849.00

THE GODDARD SCHOOL

LEGAL SERVICES AGREEMENT
Between
Riley Purgatory Bluff Creek Watershed District and Smith Partners PLLP

WHEREAS, by vote of the Board of Managers on August 12, 2021, the Riley Purgatory Bluff Creek Watershed District (hereinafter RPBCWD or District) selected Smith Partners P.L.L.P. (hereinafter Attorneys) to provide legal services to the RPBCWD as described herein;

NOW, THEREFORE, it is mutually understood and agreed upon that Attorneys shall provide legal services to the RPBCWD as specified below:

1.0 SERVICES

Attorneys agree to provide all legal services requested by the District in fulfillment of its charge as a Minnesota watershed district.

2.0 RATES FOR LEGAL SERVICES; EXPENSES

Attorneys will provide the Services in accordance with the Agreement at the following rates: Principal Louis Smith, $260 in 2021, and $275 in 2022; for all other attorneys, $249 per hour in 2021, and $259 in 2022.

Other professional staff and fees and expenses are as follows:

Law Clerk	$105 per hour
Legal Assistant	$ 80 per hour
Case Assistant	$ 70 per hour
Photocopying	$.09 per page (B&W) $.18 per page (color)
Facsimile transmission	No Charge
Long distance telephone charges	Actual cost
Computer assisted legal research	Actual cost
Courier charges	Actual cost
Travel	Actual cost/IRS rate
Filing fees	Actual cost
Postage	Actual cost
Third party vendor charges	Actual cost

3.0 CONFLICT OF INTEREST

During the term of the Agreement, Attorneys may not represent another governmental jurisdiction located fully or partially within the RPBCWD's jurisdiction without prior written approval of the RPBCWD Administrator.

4.0 TERMINATION

Attorneys are retained at the discretion of the Board of Managers, which may terminate this Agreement at any time. Any termination of the Agreement by the Attorneys will comply with

the applicable rules of professional responsibility. Indemnification, defense, hold harmless and data/materials management terms will survive termination.

5.0 INSURANCE

At all times during the term of this Agreement, Attorneys will have and keep in force the following insurance coverages:

A. General: $1.5 million each occurrence and aggregate on an occurrence basis.

B. Professional liability: $1.5 million each claim and aggregate; coverage may be on a claims-made basis, in which case Attorneys must maintain the policy for, or obtain extended reporting period coverage extending, at least three (3) years from completion of the Services.

C. Automobile liability: $1.5 million combined single limit each occurrence coverage for bodily injury and property damage covering all vehicles on an occurrence basis.

D. Workers' compensation: in accordance with legal requirements applicable to Attorneys.

Attorneys will not commence work until they have filed with the RPBCWD a certificate of insurance clearly evidencing the required coverages. The certificate will name the RPBCWD as a holder and will state that the RPBCWD will receive written notice before cancellation, nonrenewal or change in a policy limit of any described policy under the same terms as Attorneys.

Personnel performing the Services on behalf of Attorneys will not be considered employees of the RPBCWD and are not entitled to any compensation, rights or benefits of any kind from the RPBCWD.

6.0 STANDARD OF CARE; INDEMNIFICATION

Attorneys represent the expertise, qualifications, capability and resources to perform the Services under the Agreement. Attorneys will perform the Services in accordance with due professional care. Attorneys will indemnify, defend and hold harmless the RPBCWD, its officers, Board members, employees and agents from any and all actions, costs, damages and liabilities of any nature to the degree they are the result of Attorneys' professional negligence or other action or inaction by Attorneys that is the basis for Attorneys' liability in law or equity, including but not limited to ordinary negligence. Attorneys will indemnify, defend and hold harmless the RPBCWD, its officers, Board members, employees and agents from any and all actions, costs, damages and liabilities arising out of Attorneys' action or omission failing to meet the Attorneys' duties stated in this section 6.0.

The RPBCWD will indemnify, defend and hold harmless the Attorneys from any and all actions, costs, damages and liabilities of any nature to the degree they are the result of any action or inaction by the RPBCWD that is the basis for the RPBCWD's liability in law or equity.

7.0 MATERIALS

All materials obtained or generated by Attorneys in performing the Services, including documents in hard and electronic copy, software and all other forms in which the materials are contained, documented or memorialized, are the property of the RPBCWD. Attorneys hereby assign and transfer to the RPBCWD all right, title and interest in: (a) its copyright, if any, in the materials; any registrations and copyright applications relating to the materials; and any copyright renewals and extensions; (b) all works based on, derived from or incorporating the materials; and (c) all income, royalties, damages, claims and payments now or hereafter due or payable with respect thereto, and all causes of action in law or equity for past, present or future infringement based on the copyrights. Attorneys agree to execute all papers and to perform such other proper acts as the RPBCWD may deem necessary to secure for the RPBCWD or its assignee the rights herein assigned.

The RPBCWD may immediately inspect, copy or take possession of any materials on written request to Attorneys. On termination of the Agreement, Attorneys may maintain a copy of some or all of the materials except for any materials designated by the RPBCWD as confidential or non-public under applicable law, a copy of which may be maintained by Attorneys only pursuant to written agreement with the RPBCWD specifying terms. Nothing herein restricts Attorneys' non-exclusive retention and subsequent use of their work product consistent with the applicable rules of professional responsibility.

8.0 DATA PRACTICES; CONFIDENTIALITY

If Attorneys receive a request for data pursuant to the Data Practices Act, Minnesota Statutes chapter 13 (DPA), that may encompass data (as that term is defined in the DPA) Attorneys possess or have created as a result of the Agreement, Attorneys will inform the RPBCWD immediately and transmit a copy of the request. If the request is addressed to the RPBCWD, Attorneys will not provide any information or documents in response, but will direct the inquiry to the RPBCWD. If the request is addressed to Attorneys, Attorneys will be responsible to determine whether it is legally required to respond to the request and otherwise what their legal obligations are, but will notify and consult with the RPBCWD before replying. Nothing in the preceding sentence supersedes Attorneys' obligations under the Agreement with respect to protection of RPBCWD data, property rights in data or confidentiality. Nothing in this section constitutes a determination that Attorneys are performing a governmental function within the meaning of Minnesota Statutes section 13.05, subdivision 11, or otherwise expands the applicability of the DPA beyond its scope under governing law.

Attorneys agree that tbey will not disclose and will hold in confidence any and all proprietary materials owned or possessed by the RPBCWD and so denominated by the RPBCWD. Attorneys will not use any such materials for any purpose other than performance of the Services without RPBCWD written consent. This restriction does not apply to materials already possessed by Attorneys or that Attorneys received on a non-confidential basis from the RPBCWD or another party.

9.0 COMPLIANCE WITH LAWS AND STANDARDS

Attorneys will perform the Services in accordance with all applicable professional standards and practices; will comply with the laws and requirements of all federal, state, local and other

governmental units in connection with performing the Services; and will procure all licenses, permits and other rights necessary to perform the Services. All terms of the Agreement are to be understood within and applied to be consistent with the framework of the professional standards of conduct and practices applicable to Attorneys' professional services.

In performing the Services, Attorneys will ensure that no person is excluded from full employment rights or participation in or the benefits of any program, service or activity on the ground of race, color, creed, religion, age, sex, disability, marital status, sexual orientation, public assistance status or national origin; and no person who is protected by applicable federal or state laws, rules or regulations against discrimination otherwise will be subjected to discrimination.

10.0 TERM

The term of this Agreement shall be from September 1, 2021 to December 31, 2022.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed.

By _____
Dick Ward, President
Riley Purgatory Bluff Creek
Watershed District
Board of Managers

Date: _____

By 
Louis N. Smith
Smith Partners P.L.L.P.
250 Marquette Ave S, Suite 250
Minneapolis, MN 55401

Date: August 23, 2021

REDPATH AND COMPANY

August 25, 2021

Terry Jeffery
Interim District Administrator
Riley Purgatory Bluff Creek Watershed District
18681 Lake Drive E.
Chanhassen, Minnesota 55317

Dear Terry:

Enclosed please find the checks and Treasurer's Report for Riley Purgatory Bluff Creek Watershed District for the one month and seven months ending July 31, 2021.

Please examine these statements and if you have any questions or need additional copies, please call me.

Sincerely,

REDPATH AND COMPANY, LTD.

Mark C. Gibbs, CPA
Enclosure

REDPATH AND COMPANY

To The Board of Managers
Riley Purgatory Bluff Creek Watershed District
Chanhassen, Minnesota

Accountant's Opinion

The Riley Purgatory Bluff Creek Watershed District is responsible for the accompanying July 31, 2021 Treasurer's Report in the prescribed form. We have performed a compilation engagement in accordance with the Statements on Standards for Accounting and Review promulgated by the Accounting and Review Services Committee of AICPA. We did not audit or review the Treasurer's Report nor were we required to perform any procedures to verify the accuracy or completeness of the information provided by the Riley Purgatory Bluff Creek Watershed District. Accordingly, we do not express an opinion, a conclusion, nor provide any form of assurance on the Treasurer's Report.

Reporting Process

The Treasurer's Report is presented in a prescribed form mandated by the Board of Managers and is not intended to be a presentation in accordance with accounting principles generally accepted in the United States of America. The reason the Board of Managers mandates a prescribed form instead of GAAP (Generally Accepted Accounting Principles) is this format gives the Board of Managers the financial information they need to make informed decisions as to the finances of the watershed.

GAAP basis reports would require certain reporting formats, adjustments to accrual basis and supplementary schedules to give the Board of Managers information they need, making GAAP reporting on a monthly basis extremely cost prohibitive. An independent auditing firm is retained each year to perform a full audit and issue an audited GAAP basis report. This annual report is submitted to the Minnesota State Auditor, as required by Statute, and to the Board of Water and Soil Resources.

The Treasurer's Report is presented on a modified accrual basis of accounting. Expenditures are accounted for when incurred. For example, payments listed on the Cash Disbursements report are included as expenses in the Treasurer's Report even though the actual payment is made subsequently. Revenues are accounted for on a cash basis and only reflected in the month received.

REDPATH AND COMPANY, LTD.

Redpath and Company, Ltd.

St. Paul, Minnesota
August 25, 2021

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

Treasurers Report

July 31, 2021

REPORT INDEX

Page #	Report Name
1	Cash Disbursements
2	Fund Performance Analysis – Table 1
3	Multi-Year Project Performance Analysis – Table 2
4	Balance Sheet
5	VISA Activity

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
Cash Disbursements
July 31, 2021

Accounts Payable:

Check #	Payee	Amount
5662	Barr Engineering	$94,220.60
5663	David & Rachel Benedict	4,492.49
5664	B9 Polar Waters, LLC	7,394.86
5665	MN Board of Water & Soil Resources	50.00
5666	Kylie Cattoor	2,100.00
5667	CenterPoint Energy	30.00
5668	CenturyLink	294.93
5669	City of Chanhassen	46.83
5670	City of Chaska	9,618.32
5671	Coverall of the Twin Cities, Inc.	316.76
5672	Hansen thorp Pellinen Olson, Inc.	598.50
5673	HealthPartners	5,575.30
5674	Amy Herbert	1,545.00
5675	Olivia R. Holstine	951.48
5676	Houston Engineering, Inc.	10,750.00
5677	Iron Mountain	188.05
5678	Metro Sales, Inc.	256.99
5679	Mollie Mosman	5,000.00
5680	Principal Life Insurance Company	342.00
5681	Pulte Group	53,552.00
5682	Redpath & Company	2,857.13
5683	RMB Environmental Laboratories, Inc.	2,751.00
5684	RMB Environmental Laboratories, Inc.	1,891.00
5685	RMB Environmental Laboratories, Inc.	2,000.00
5686	Smith Partners	14,899.55
5687	Stantec Consulting Service	3,049.75
5688	Sarah & Josh Stephan	3,042.44
5689	West Bay Homes Corporation	53,000.00
5690	Xcel Energy	1,537.99
5691	David Ziegler	1,158.25
	Total Accounts Payable:	**$283,511.22**

Payroll Disbursements:

Payroll Processing Fee	214.70
Employee Salaries	43,396.46
Employer Payroll Taxes	3,927.73
Employer Benefits (H.S.A. Match)	600.00
Employee Benefit Deductions	(516.04)
Staff Expense Reimbursements	375.50
PERA Match	2,139.60
Total Payroll Disbursements:	**$50,137.95**
VISA - 7/02/21	6,801.93
Surety Refund - Pulte Group - Ck. #5681	(53,552.00)
Surety Refund - West Bay Homes - Ck. #5689	(53,000.00)

TOTAL DISBURSEMENTS: **$233,899.10**

Memos
The 2021 mileage rate is .56 per mile. The 2020 rate was .575
Old National VISA will be paid on-line.

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
Fund Performance Analysis - Table 1
July 31, 2021

	2021 Budget	Fund Transfers	2021 Budget	Current Month	Year-to-Date	Year-to Date Percent of Budget
REVENUES						
Plan Implementation Levy	$3,575,000.00	-	$3,575,000.00	$1,850,234.25	$1,850,234.25	51.75%
Permit Fees	25,000.00	-	25,000.00	35,830.88	69,381.83	277.53%
Grant Income	272,580.00	-	272,580.00	4,500.00	36,433.00	13.37%
Investment Income	30,000.00	-	30,000.00	(43.29)	285.26	0.95%
Miscellaneous Income	-	-	-	-	6.84	---
Past Levies	3,204,427.00	-	3,204,427.00	-	-	0.00%
Partner Funds	451,000.00	-	451,000.00	-	2,000.00	0.44%
TOTAL REVENUE	**$7,558,007.00**	-	**$7,558,007.00**	**$1,890,521.84**	**$1,958,341.18**	**25.91%**
EXPENDITURES						
Administration						
Audit	$15,000.00	-	$15,000.00	-	$14,400.00	96.00%
Accounting (and Audit)	$31,000.00		31,000.00	3,071.83	22,438.17	72.38%
Advisory Committees	7,000.00	-	7,000.00	-	-	0.00%
Insurance and bonds	18,000.00	-	18,000.00	-	414.00	2.30%
Engineering Services	112,000.00	-	112,000.00	10,782.50	77,566.06	69.26%
Legal Services	84,000.00	-	84,000.00	3,928.50	47,625.92	56.70%
Manager Per Diem/Expense	30,000.00	-	30,000.00	1,500.00	11,043.88	36.81%
Dues and Publications	16,000.00	-	16,000.00	-	9,006.00	56.29%
Office Cost	190,000.00	-	190,000.00	13,141.36	82,730.08	43.54%
Permit Review and Inspection	140,000.00	-	140,000.00	25,447.63	120,116.18	85.80%
Permit and Grant Database	-	-	-	10,750.00	21,500.00	---
Professional Services	10,000.00	-	10,000.00	-	12,335.50	123.36%
Recording Services	15,000.00	-	15,000.00	1,545.00	9,045.00	60.30%
Staff Cost	802,054.00	-	802,054.00	32,931.41	281,147.10	35.05%
Subtotal	**$1,470,054.00**	-	**$1,470,054.00**	**$103,098.23**	**$709,367.89**	**48.25%**
Programs and Projects						
District Wide						
10-year Management Plan	$10,000.00	-	$10,000.00	$215.10	$4,564.17	45.64%
AIS Inspection and early response	85,000.00	-	85,000.00	254.85	14,272.89	16.79%
Cost-Share/Stewardship Grant	346,735.00	-	346,735.00	18,267.43	70,872.37	20.44%
Data Collection and Monitoring	193,000.00	-	193,000.00	26,371.70	164,285.65	85.12%
Community Resiliency	111,058.00	-	111,058.00	-	7,596.50	6.84%
Education and Outreach	100,834.00	-	100,834.00	6,628.46	21,525.44	21.35%
Plant Restoration - U of M	61,613.00	-	61,613.00	-	9,474.60	15.38%
Repair and Maintenance Fund *	212,540.00	-	212,540.00	-	170.00	0.08%
Wetland Management*	111,248.00	-	111,248.00	20,117.18	114,832.01	103.22%
Groundwater Conservation*	229,444.00	-	229,444.00	-	450.00	0.20%
Lake Vegetation Implementation	83,083.00	-	83,083.00	3,049.75	15,878.13	19.11%
Opportunity Project*	317,480.00	-	317,480.00	-	-	0.00%
Stormwater Ponds - U of M	67,164.00	-	67,164.00	-	36,719.00	54.67%
Hennepin County Chloride Initiative	92,971.00	-	92,971.00	-	4,975.00	5.35%
Lower Minnesota Chloride Cost-Share	217,209.00	-	217,209.00	9,618.32	9,618.32	4.43%
Subtotal	**$2,239,379.00**	-	**$2,239,379.00**	**$84,522.79**	**$475,234.08**	**21.22%**
Bluff Creek						
Bluff Creek Tributary*	$7,251.00	-	$7,251.00	-	-	0.00%
Wetland Restoration at Pioneer	$665,285.00		665,285.00	5,378.22	69,040.77	10.38%
Bluff Creek B5 by Galpin	140,000.00	-	140,000.00	-	-	0.00%
Subtotal	**$812,536.00**	-	812,536.00	**$5,378.22**	**$69,040.77**	**8.50%**
Riley Creek						
Lake Riley - Alum Treatment*	$62,885.00	-	$62,885.00	-	-	0.00%
Rice Marsh Lake in-lake phosphorus load	45,636.00	-	45,636.00	3,072.02	7,230.80	15.84%
Rice Marsh Lake Water Quality Improvement Phase 1	634,147.00	-	634,147.00	12,900.80	69,172.60	10.91%
Riley Creek Restoration (Reach E and D3)	107,047.00	-	107,047.00	3,949.70	13,184.39	12.32%
Upper Riley Creek Stabilization	902,025.00	-	902,025.00	40.50	27,481.56	3.05%
Middle Riley Creek	192,363.00	-	192,363.00	18,281.94	90,738.44	47.17%
Lake Ann Wetland Restoration	50,000.00	-	50,000.00	-	-	0.00%
St. Hubert Water Quality Project	147,063.00	-	147,063.00	432.40	78,487.31	53.37%
Subtotal	**$2,141,166.00**	**$0.00**	2,141,166.00	**$38,677.36**	**$286,295.10**	**13.37%**
Purgatory Creek						
Purgatory Creek Rec Area- Berm/retention area - feasibility/design	$34,899.00	-	$34,899.00	$598.50	$5,233.25	15.00%
Lotus Lake in-lake phosphorus load control	79,225.00	-	79,225.00	-	-	0.00%
Silver Lake Restoration - Feasibility Phase 1	207,208.00	-	207,208.00	824.00	39,654.00	19.14%
Scenic Heights	92,040.00	-	92,040.00	-	2,983.00	3.24%
Hyland Lake in-lake phosphorus load control	20,000.00	-	20,000.00	-	-	0.00%
Duck Lake watershed load	32,120.00	-	32,120.00	800.00	5,176.00	16.11%
Lotus Lake Kerber Pond	14,380.00		14,380.00		-	0.00%
Duck lake Partnership	235,000.00	-	235,000.00	-	-	0.00%
Subtotal	**$714,872.00**	**$0.00**	$714,872.00	**$2,222.50**	**$53,046.25**	7.42%
Reserve	**$180,000.00**	**$0.00**	180,000.00	-	-	0.00%
TOTAL EXPENDITURE	**$7,558,007.00**	**$0.00**	**$7,558,007.00**	**$233,899.10**	**$1,592,984.09**	**21.08%**
EXCESS REVENUES OVER (UNDER) EXPENDITURES	**$0.00**	**$0.00**	**$0.00**	**$1,656,622.74**	**$365,357.09**	

***Denotes Multi-Year Project - See Table 2 for details**

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
Muti-Year Project Performance Analysis - Table 2
July 31, 2021

	Total Lifetime Budget	FUNDING SOURCE District funds	Partner Fund	Grants	Current Year Budget	Costs Month End	Costs Year-to-Date	Total Costs to Date	District's Share Current Year	District's Share Future Years
Programs and Projects										
District Wide										
Community Resiliency	**$148,000.00**	$98,000.00	-	50,000.00	$111,058.00	-	7,596.50	$69,537.57	$75,000.00	60,000.00
Repair and Maintenance Fund	**277,005.00**	277,005.00	-	-	212,540.00	-	170.00	89,635.08	-	20,000.00
Wetland Management	**200,000.00**	200,000.00	-	-	111,248.00	20,117.18	114,832.01	228,583.89	-	70,000.00
Groundwater Conservation	**180,000.00**	180,000.00	-	-	229,444.00	-	450.00	1,005.85	50,000.00	79,000.00
Opportunity Project*	**300,000.00**	300,000.00	-	-	317,480.00	-	-	26,165.29	50,000.00	70,000.00
Stormwater Ponds - U of M	**106,092.00**	64,092.00	42,000.00	-	67,164.00	-	36,719.00	95,646.97	20,000.00	-
Hennepin County Chloride Initiative	**120,800.00**	19,000.00	-	101,800.00	92,971.00	-	4,975.00	32,804.77	-	-
Lower Minnesota Chloride Cost-Share	**217,209.00**	20,000.00	-	197,209.00	217,209.00	9,618.32	9,618.32	9,618.32	-	-
Subtotal	**$1,549,106.00**	**$1,158,097.00**	**$42,000.00**	**$349,009.00**	**$1,359,114.00**	**$29,735.50**	**$174,360.83**	**$552,997.74**	**195,000.00**	**299,000.00**
Bluff Creek										
Bluff Creek Tributary*	**$436,750.00**	$386,750.00	$50,000.00	-	$7,251.00	-	-	$391,498.69		
Wetland Restoration at Pioneer	**857,820.00**	450,000.00	-	407,820.00	665,285.00	5,378.22	69,040.77	711,577.93	450,000.00	-
Bluff Creek B5 by Galpin	**614,000.00**	614,000.00			140,000.00	-	-	-	140,000.00	614,000.00
Subtotal	**$1,908,570.00**	**$1,450,750.00**	**$50,000.00**	**$407,820.00**	**$812,536.00**	**5,378.22**	**$69,040.77**	**$1,103,076.62**	**$590,000.00**	**614,000.00**
Riley Creek										
Lake Riley - Alum Treatment 1st dose *	**$560,000.00**	$560,000.00	-	-	$62,885.00	-	-	$512,114.57	-	-
Rice Marsh Lake in-lake phosphorus load	**150,000.00**	150,000.00	-	-	45,636.00	3,072.02	7,230.80	111,595.45	-	170,000.00
Rice Marsh WQ 1	**300,000.00**	300,000.00	-	-	634,147.00	12,900.80	69,172.60	85,025.10	350,000.00	-
Riley Creek Restoration (Reach E and D3) *	**2,168,148.00**	1,615,000.00	553,148.00	-	107,046.00	3,949.70	13,184.39	2,241,041.42	40,000.00	-
Upper Riley Creek Stabilization	**950,000.00**	950,000.00			902,025.00	40.50	27,481.56	75,456.08	100,000.00	-
Middle Riley Creek	**45,000.00**		45,000.00		192,363.00	18,281.94	90,738.44	90,738.44	-	-
St Hubert	**178,865.00**		65,000.00	113,865.00	147,063.00	432.40	78,487.31	78,487.31	100,000.00	-
Subtotal	**$4,352,013.00**	**$3,575,000.00**	**$663,148.00**	**$113,865.00**	**$2,091,165.00**	**$38,677.36**	**$286,295.10**	**$3,194,458.37**	**$590,000.00**	**170,000.00**
Purgatory Creek										
Purgatory Creek Rec Area- Berm/retention area - feasibility/design	**$50,000.00**	$50,000.00	-	-	$34,899.00	598.50	5,233.25	$20,334.53	-	-
Lotus Lake in-lake phosphorus load control	**345,000.00**	345,000.00	-	-	79,225.00	-	-	265,773.75	-	345,000.00
Silver Lake Restoration Project WQ1	**268,013.00**	268,013.00	-	-	207,208.00	824.00	39,654.00	100,459.19	-	-
Scenic Heights	**260,000.00**	165,000.00	45,000.00	50,000.00	92,040.00	-	2,983.00	210,942.75	-	-
Hyland Lake Internal Load	**150,000.00**	130,000.00	20,000.00	-	20,000.00	-	-	128,612.41	20,000.00	150,000.00
Duck Lake watershed load	**220,000.00**	220,000.00	-	-	32,120.00	800.00	5,176.00	193,055.01	-	-
Subtotal	**$1,293,013.00**	**$1,178,013.00**	**$65,000.00**	**$50,000.00**	**$465,492.00**	**$2,222.50**	**$53,046.25**	**$919,177.64**	**$20,000.00**	**495,000.00**
Total Multi-Year Project Costs	**$9,102,702.00**	**$7,361,860.00**	**$820,148.00**	**$920,694.00**	**$4,728,307.00**	**$76,013.58**	**$582,742.95**	**$5,769,710.37**	**$1,395,000.00**	**$1,578,000.00**

Riley Purgatory Bluff Creek Watershed District
Balance Sheet
As of July 31, 2021

ASSETS

Current Assets

General Checking-Old National	$3,267,406.99	
Checking-Old National/BMW	23,256.03	
Investments-Standing Cash	3,287,134.05	
Investments-Wells Fargo	747,092.13	
Accrued Investment Interest	7.50	
Due From Other Governments	143,280.00	
Taxes Receivable-Delinquent	34,792.36	
Pre-Paid Expense	31,914.23	
Security Deposits	7,244.00	
Total Current Assets:		**$7,542,127.29**

LIABILITIES AND CAPITAL

Current Liabilities

Accounts Payable	$428,782.83	
Retainage Payable	27,616.74	
Withholding Taxes	565.12	
Permits & Sureties Payable	575,637.25	
Deferred Revenue	34,792.36	
Unearned Revenue	183,153.00	
Total Current Liabilities:		**$1,250,547.30**

Capital

Fund Balance-General	$5,926,222.90	
Net Income	365,357.09	
Total Capital		**$6,291,579.99**
Total Liabilities & Capital		**$7,542,127.29**

RILEY PURGTORY BLUFF CREEK WATERSHED DISTRICT
OLD NATIONAL BANK VISA ACTIVITY
July 31, 2021

DATE	PURCHASED FROM	AMOUNT	DESCRIPTION	ACCOUNT #	RECEIPT
07/19/21	General Delivery Service	24.75	Courier Service	10-00-4280	Y
07/20/21	Amzn.Mktp US	234.85	General Office Supplies	10-00-4200	Y
07/21/21	Verizon Wireless	452.45	Monthly Telecommunications	10-00-4240	Y
07/26/21	Speedway	33.20	Vehicle Fuel: Rav 4	10-00-4322	Y
07/27/21	Randy's Sanitation	314.55	Monthly Trash & Recycling	10-00-4220	Y
07/27/21	Hoops Threards	52.61	Logo Embroidery on New Team Gear	10-00-4321	Y
07/29/21	Kowalski's Market	11.98	Meeting Supplies	10-00-4205	Y
08/03/21	USPS	38.50	Postage	10-00-4280	Y
08/03/21	SmartPress.Com	16.34	Office Supplies	10-00-4200	Y
08/03/21	Intuit	35.00	Monthly Software Subscription	10-00-4203	Y
08/09/21	Target	9.11	Bathroom Restock	10-00-4200	Y
08/10/21	Microsoft	93.96	Monthly Software Subscription	10-00-4203	Y
08/10/21	Microsoft	147.64	Monthly Software Subscription	10-00-4203	Y
08/10/21	Cengage	129.00	Online Excel Training Course	10-00-4265	Y
08/13/21	Lunds & Bylerly's	27.99	Meeting Supplies	10-00-4205	Y
08/16/21	The Webstaurant Store	182.71	Bathroom Supplies	10-00-4200	Y
08/17/21	Speedway	22.67	Vehicle Fuel: Rav 4	10-00-4322	Y
		$1,827.31			
07/20/21	Hach Company	170.52	DC Supplies: Chemical	20-05-4201	Y
07/20/21	Menards - Eden Prairie	18.27	DC Equipment: Hardware	20-05-4635	Y
07/23/21	Menards - Eden Prairie	42.88	DC Field Supplies: Storage bags, pavers	20-05-4201	Y
07/27/21	Hach Company	60.45	DC Supplies: Chemical	20-05-4201	Y
07/28/21	Hach Company	123.30	DC Supplies: Chemical	20-05-4201	Y
07/30/21	Speedway	60.05	Vehicle Fuel: DC Vehicle	20-05-4322	Y
08/05/21	Forestry Suppliers, Inc.	195.50	Soil Textbook	20-13-4265	Y
08/10/21	Holiday Stations	71.97	Vehicle Fuel: DC Vehicle	20-05-4322	Y
08/12/21	Speedway	89.91	Vehicle Fuel: DC Vehicle	20-05-4322	Y
08/12/21	Menards - Eden Prairie	49.35	DC Equipment: Tarp, buckets, gravel	20-05-4635	Y
08/13/21	Holiday Stations	66.32	Vehicle Fuel: DC Vehicle	20-05-4322	Y
08/13/21	VP*Land Stewardship PR	51.80	Field Day Registration	20-08-4265	Y
		$1,000.32	**District-Wide Total**		
		$2,827.63	**GRAND TOTAL**		

Managing water quality and invasive macrophytes to promote healthy native aquatic plant communities

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Co-PI's: William R. Herb, St. Anthony Falls Laboratory, University of Minnesota and Lucia R. Levers, Water Resources Center, University of Minnesota

Abstract: Aquatic macrophytes are often limited by water clarity, particularly in impaired lakes, and improvements in water quality via reductions in external and internal loading often result in expansion of submersed macrophytes. In many instances, however, invasive aquatic plants are present and increase at the expense of native plants. Invasive macrophytes usually can persist in poorer water clarity conditions than native plants and although there are a variety of methods to effectively control invasives, restoring native plant communities is difficult without further water quality enhancements. Thus management agencies attempting to meet water quality standards and nutrient, clarity and biological criteria, have a difficult time balancing water quality improvements with invasive plant impacts. We will use a combination of field assessments of water quality and aquatic plants in managed lakes, within-lake water quality modeling and an across basin water quality and management response optimization framework to assess best practices to enhance native macrophyte communities while improving water quality to meet water quality standards. We will also assess current practices used by Twin Cities Metro Watershed Districts and agencies to determine which practices appear to be most effective and cost effective. Our results will inform our basic understanding of the interlinkage of water quality and native and invasive macrophytes and provide recommendations for effective and attainable actions that can be used to address water quality and invasive plant issues across the Upper Mississippi Basin.

2. The Problem

Many lakes in the Upper Mississippi Basin are impaired for water quality (often nutrients, clarity and algae) and numerous strategies have been developed to improve water quality, including reduction of external loading, control of internal loading and biological manipulations such as carp removal and macrophyte control or removal. Invasive aquatic plants such as curlyleaf pondweed (*Potamogeton crispus*) and Eurasian watermilfoil (*Myriophyllum spicatum*) are widespread in these systems and in addition to causing biological impairment often complicate approaches to enhance water quality. Improvements to water clarity can allow the invasives to expand and dominate the system (Bakker et al. 2013). These invasive plants have also been implicated in nutrient release and reinforcement of poor water clarity, particularly upon senescence (James et al. 2002, Bartodziej et al. 2017, but see Johnson et al. 2012).

Management agencies spend considerable resources to delist nutrient impaired waterbodies (Osgood 2013, 2016) and control invasive species (Homans and Newman 2011). Reduction of external loading via watershed management or BMPs is often the

first focus of management and essential to address (Lathrop and Carpenter 2014), however, it is not clear that external load control beyond regulation of sewage input will be quickly effective in meeting water quality standards (Osgood 2013); legacy effects are pervasive and can delay response to external loading for 10 to 20 years if internal loading interventions are not initiated (Sharpley et al. 2013). Furthermore, other water quality and lake management issues such as invasive species are not effectively addressed with watershed management (Osgood 2018) and these projects tend to be long term and expensive (Osgood 2016). In addition to direct water quality (nutrients, algae, and clarity) improvement, macrophyte communities will response to internal and external nutrient controls, however community composition may differ in response to these actions and both approaches will likely be needed to develop stable conditions with diverse macrophyte communities (Hilt et al. 2018).

Common carp removal is an effective in-lake approach to improve water clarity and enhance macrophyte communities (Weber and Brown 2009, Bajer and Sorensen 2015, Vilizzi et al. 2015), however internal loading may still persist and constrain mid summer clarity (Bajer and Sorensen 2015). Reduced late season clarity is likely to favor invasive plants such as curlyleaf pondweed and Eurasian watermilfoil (eutrophic species) over native taxa (Knopik and Newman 2018, Verhoeven et al. 2020b). Thus additional interventions to further enhance clarity may be needed to restore native plant communities. Alum (Huser et al. 2016a) and bentonite (Phoslock; Spears et al. 2016) are effective interventions to reduce internal loading and enhance clarity and have often been associated with increases in plant abundance and diversity (e.g., Spears et al. 2016, Dunne and Newman 2019).

Although a number of studies have assessed the effectiveness and occasionally the cost of approaches to reduce external loading (Osgood 2016), internal loading (Huser et al. 2011, 2016b, Spears et al. 2016, Bajer and Sorensen 2015, Bartodzeij et al. 2017) and invasive macrophyte control (e.g., Johnson et al. 2012, Nault et al. Verhoeven et al. 2020a) a comprehensive assessment is rarely considered. Water quality specialists focus on nutrient and algal management while invasive species specialist focus on invasive plants and animals. Few studies have examined the combined effects of nutrient and water clarity improvements on invasive macrophytes and the associated native plant community.

Lake scientists and managers are expanding their efforts to meet water quality standards and to control invasive plants, yet substantial uncertainty exists surrounding optimal decision-making regarding strategies. A number of projects are planned in the region this year, highlighting the need for a more comprehensive approach to lake management (Baker and Newman 2014). Development of an integrated approach will benefit WMOs, agencies (e.g., MN PCA and DNRs), Lake Associations, and lake shore owners.

Our proposed research addresses components of all three of the stated Research Priorities. Firstly, it will improve our understanding of the impacts of invasive aquatic plants on lakes in the Upper Mississippi Basin and their relationship to water quality. Secondly, we will identify lake characteristics (nutrients, water quality, plant communities and management) that influence establishment, expansion and impacts of invasive aquatic plants in these systems and how management of invasives and water quality can be used to improve water resources in similar lakes throughout the Upper

Mississippi Region. Finally, we will conduct a bioeconomic assessment of costs and benefits of various approaches to control invasives and enhance native plants and water quality and develop approaches to guide management of aquatic invasive plants to restore native plant communities.

3. Results and Benefits

Our research will enhance our understanding of the interrelationship of water quality, native macrophytes and invasive macrophytes, building on alternative stable state theory (e.g., Scheffer et al. 1993, Scheffer 1998, Hilt et al. 2018) to develop a more complete model of these interactions (Figure 1). We will be able to identify practices and assessment metrics to determine if and when stable native macrophyte communities are established. It will also enhance development of lake water quality models as diagnostic tools and predictive models. Our assessment of the approaches used by regional management agencies to meet water quality standards, while sustaining and enhancing native plant communities and thus fish habitat and retaining recreational use and lake aesthetics, will produce a catalog of successful and ineffective practices and allow a bio-economic cost-benefit framework of strategies suited to particular systems.

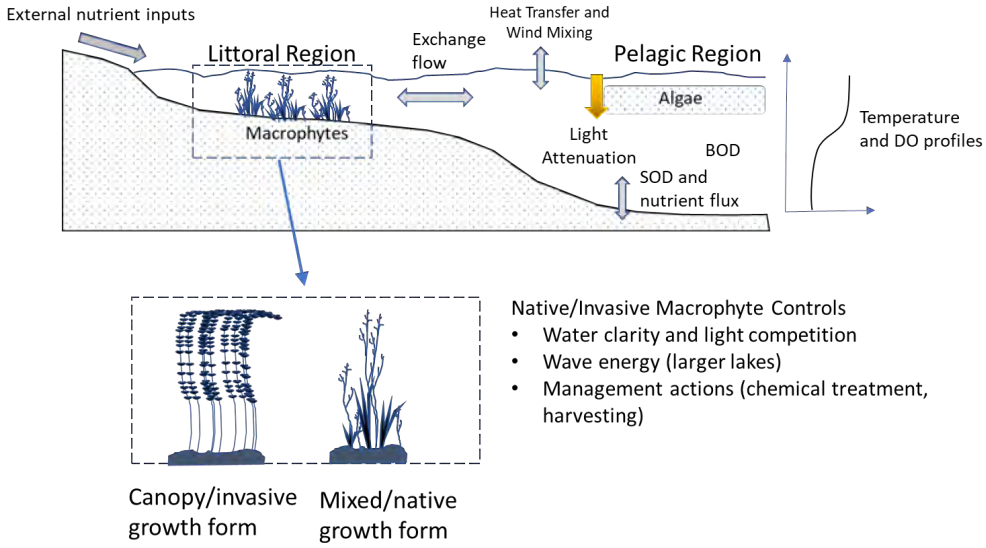

Figure 1: Macrophyte and management process interconnectedness

Specifically, we will gain a better understanding of how water quality, and invasive plants and their management affect native plant community structure and coverage. We hypothesize that improved clarity should particularly benefit native plants if invasive plants can be selectively controlled, but improvements in clarity without invasive management or invasive management without improvements in clarity will not result in a stable native plant community and will require continued and intensive management. Our field and modeling research will also provide a broader overview of the response of water quality (P, chl-a, clarity) to management actions and how those influence plant communities. In addition, based on alternative stable state theory, we expect that expanded plant coverage should further enhance water clarity. We hypothesize that native

plants that are more clarity dependent will better reinforce clear water than canopy forming and turbidity tolerant invasive Eurasian watermilfoil and curlyleaf pondweed.

Our broader assessment of WMO management practices, results and self assessments will provide a summary of WMO actions in the Twin Cities and their relative effectiveness under particular circumstances. This information will be of particular use to other organizations in the metro but will be of broad interest to managers, researchers, and WMO's throughout the Upper Mississippi Basin, North America and the world.

4. Nature, Scope and Objectives

We will focus on lakes in the Twin Cities Metro Region, which are governed by the Metropolitan Area Surface Water Management Act (https://bwsr.state.mn.us/metro-watershed-management-plan and https://Www.Pca.State.Mn.Us/Water/Twin-Cities-Metropolitan-Area-Tcma-Watersheds). These include shallow and deep lakes, fully-developed and undeveloped lakes, and large (>7000 ha) and small (< 5ha) lakes and are managed by a group of Metropolitan Watershed Management Organizations (MWMOs, Figure 2).

Figure 2. Twin Cities Metropolitan Watershed Management Organizations (from bswr.state.mn.us)

We will address three objectives in this project:

Objective 1. Assess the response of native and invasive aquatic macrophytes to management interventions reduced nutrient loading and associated water quality

improvements and the effects of invasive macrophyte management of native plants and water quality.

Objective 2. Model the response of water quality (nutrients, algae and clarity) and aquatic macrophytes with a1-D shallow lake and 2-D deep lake (CE-QUAL-W2), compare results and determine best approach to model and assess response to management actions

Objective 3. Assess current practices used by Twin Cities Metro Watershed Districts and agencies to determine which practices appear to be most effective and cost effective and develop an across basin water quality and management response decision framework to assess best practices to enhance native macrophyte communities while improving water quality to meet water quality standards.

During the first year of the project we will meet with stakeholders and determine lake and projects to assess in summer 2021. Field data on plants and water quality will be collected from May to October in 2021 and 2022 – some additional data will be collected in 2023 to fill in gaps or address outstanding questions. Modeling efforts will start immediate and the 1-D model should be completed by June 2021 and the 2-D model by June 2022. This will feed into the bio-economic analysis.

	Year 1				Year 2				Year 3			
	2020		2021		2022				2023			
	Sep	Dec	Mar	June	Sep	Dec	Mar	June	Sep	Dec	Mar	June
Objective 1												
Planning and lake selection	X	X	X			X						
Field sampling				X	X			X	X			
Data analysis and reporting						X	X		X	X	X	X
Objective 2												
1-D shallow lake model completed				X								
2-D lake models for study lakes								X				
Simplified lake model development										X		
Objective 3												
Watershed selection for inclusion				X								
Literature Review				X								
Watershed data collection						X						
Framework development												X

Activity Timeline.

5. Methods, Procedures and Facilities

Field collected data

We will continue to collect plant community and water quality data on three lakes within the Riley Purgatory Bluff Creek Watershed District: Riley (DOW ID 10-0002), Staring (27-0078), and Susan (10-0013). For these lakes we have data on the plant community in May, June and August from 2010 or 2011 to present. These data include point intercept data (fixed grid with 140 to 240 sampling points in the littoral zone) on species occurrence, relative abundance, plant height and sampling depth (e.g., Knopik and Newman 2018, Dunne and Newman 2019) as well as biomass estimates (Johnson

and Newman 2011) by species from a subset of locations. We also have total plant coverage and biovolume estimates from BioBase sonar assessments (biobasemaps.com). In addition we have temperature, oxygen, and light by depth profiles for each sampling date and the watershed district has similar data plus total phosphorous and chlorophyll-a collected on a bi-weekly basis throughout the growing season.

In addition to the lakes we have been sampling within the Riley Basin we will assess 5 additional lakes in the Metro Watersheds that have recently or will have efforts to improve water quality and clarity while managing invasive plants. For example, we will add assessments of Hyland Lake, Dakota County (19-0025), which has had a number of BMPs since the late 1990s including, external load reduction, a recent alum treatment (2019) and invasive plant control; Bald Eagle, Ramsey County (62-0002), which had an alum treatment in 2014 and 2018 and is currently managing for Eurasian watermilfoil and curlyleaf pondweed and three other lakes yet to be determined. .

Historical (pre-proposal) data for lakes chosen as study sites will typically include biweekly water quality data (temperature and oxygen profiles, Secchi depth and TP and chlorophyll-a) and at least one or two point intercept survey of plant communities each year. These data are collected by the WMOs or their contractors, or occasionally the MN DNR or consultants for plant control permit requirements. Lake selection will be based on availability of background and pre-treatment data and well planned manipulations and invasive control that will allow an assessment of the response to management.

We will enhance the available and agency-collected water quality data with spatially distributed profiles collected with a YSI ProDSS to get biweekly temperature, oxygen, NO_3 and chlorophyll by depth from profiles from mid May until mid September at multiple locations within lakes. This will allow us to assess these parameters within and outside of macrophyte beds and will contribute to our modeling efforts. Two lakes will be monitored with continuous logging arrays during summer to monitor temperature (5 depths), light (3 depths), dissolved oxygen, water level and wind speed. In one lake the array will be placed in deep water for open water assessment and in the second lake 3 arrays will be placed at different locations to obtain data from open water as well as in or near macrophyte beds or bays in the lake. These data will be used to parameterize and calibrate the water quality and plant models and will corroborate the ProDSS measurements.

Finally, we will do additional plant and water quality sampling on a Sentinel Lake for CE-Qual 2 model verification. USGS scientists Richard Kiesling and Erik Smith have developed and calibrated this model in Pearl Lake and Madison Lake. We will select one of these lakes (likely Madison, a deep lake with both Eurasian watermilfoil and curlyleaf pondweed) for futher data collection and analysis, including spatial assessment of water quality profiles and plants surveys if not already planned by the MN DNR.

Lake model development

The lake modeling effort will 1) help quantify interactions between water quality and the abundance of invasive and native submersed macrophytes, and 2) enable us to test the effectiveness of different management strategies to suppress invasives and enhance native plant communities, and 3) develop simplified models for watershed-level management studies. The crux of the effort will be to model the effect of seasonally variable water

clarity and temperature on the growth success of native and invasive submersed plant communities. The modeling study will begin using one-dimensional (1-D) models, where the variation of temperature, light, and plant mass is modeled over depth for a laterally uniform system (Figure 3). This sub-model will need to consider the growth form of target species, the temperature- and light-dependent growth rates, and the partitioning of available growth between plant mass in the water column and root mass. Once the growth characteristics of the native and invasive plant species have been established, growth competition between species can be modeled under different physical conditions, e.g. for a series of growing seasons with varying open-water season lengths, water temperatures, solar radiation, and water clarity. Additional sub-models will be needed to simulate water temperature and varying water depth as a function of weather conditions and runoff inputs. Water clarity will be an external input to the 1-D model based on measurements for the study lake or based on remote sensing data. As the modeling effort progresses, algae growth models will be added to the 1-D model or the 2-D models described below, to simulate light competition between macrophytes and algae.

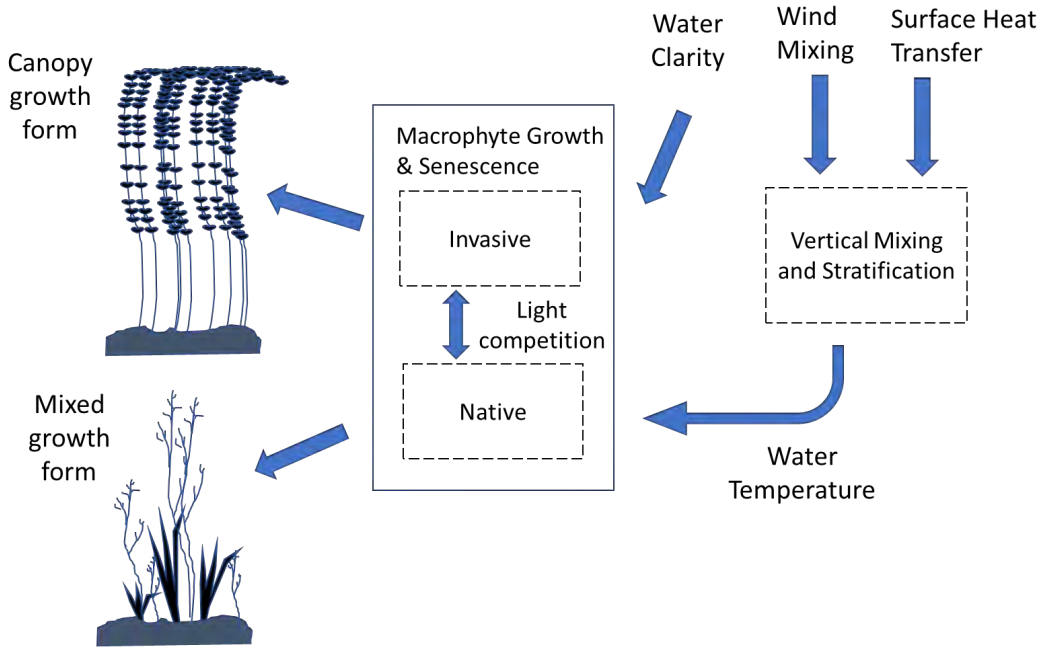

Figure 3. Schematic diagram of a 1-D macrophyte growth model with physical models for temperature and light inputs.

In the second phase of the modeling study, 2-D lake models will be used to simulate water quality interactions in study lakes with both littoral areas with macrophytes and deeper basins. In addition to the processes considered in the 1-D model, the 2-D models will also include phosphorus dynamics and algae growth dynamics (Figure 4). The 2-D modeling framework will likely be based on the CE-QUAL-W2 models developed by USGS for the Sentinel lake in Minnesota (Smith et al. 2014). The existing CE-QUAL-W2 models for Madison Lake (Blue Earth County, MN) or Pearl Lake (Stearns County, MN) are likely starting points. The macrophyte model features built into CE-QUAL-W2 (Cole & Wells 2008; Sullivan et al. 2013) will be used to model littoral macrophyte

growth and the corresponding effects on mixing, stratification, and lake water quality, and run for multiple-year simulations to study seasonal dynamics and year-to-year differences from climate variability.

The 2-D modeling framework will then be applied to several of the study lakes, such as Staring Lake and Lake Susan in the Riley Purgatory Bluff Creek Watershed District. Measured temperature, dissolved oxygen, chlorophyll and phosphorus profiles will be used to calibrate the 2-D models in the littoral and pelagic zones. The calibrated models can then be used to study the effect of different management scenarios (e.g external nutrient load reduction or alum treatment) on seasonal lake water quality coupled with invasive and native macrophyte growth. Multiple-year simulations will be used to assess the response of water quality and plant growth to variable climate and nutrient inputs.

As the CE-QUAL-W2 is run, we will compare 1-D and 2-D lake modeling results, with the goal of creating a simplified lake model framework that adequately captures the dynamics of water quality and plant growth. A key step will be to assess the degree of coupling in water quality processes between lake littoral areas and the pelagic basins. For example, two 1-D models, one for the littoral zone and one for the pelagic basin, may be able to represent the basic processes in shallow and deep areas of a lake, with some degree of coupling via exchange flows.

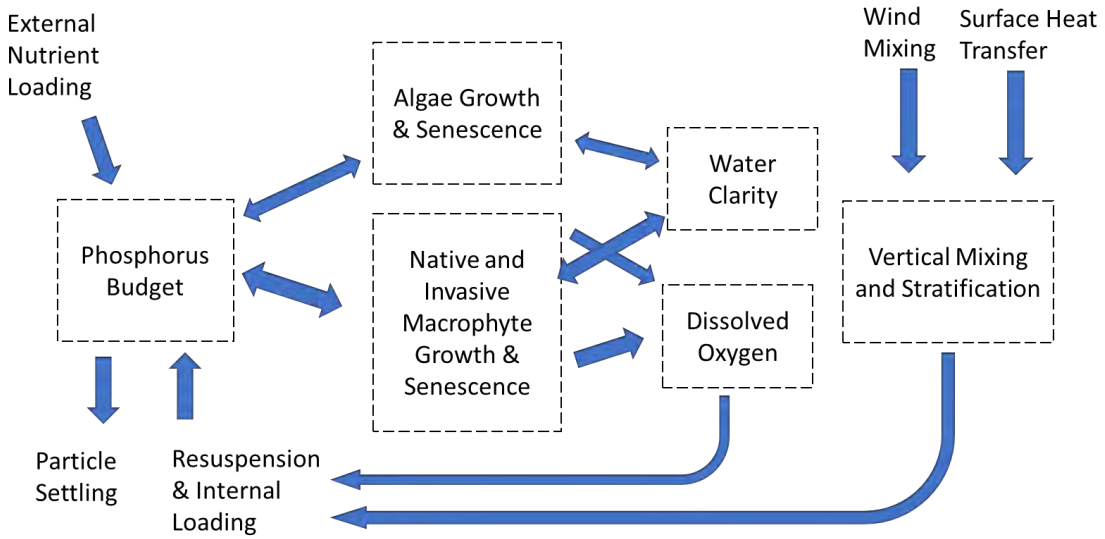

Figure 4. Processes considered in the 2-D lake models (CE-QUAL-W2)

Water quality and management response decision framework

We will develop a bio-economic cost-benefit decision framework with inputs from 1) watershed district datasets, 2) the lake model (in turn informed by field data collection) and 3) data from the literature/publicly available data (Figure 5).

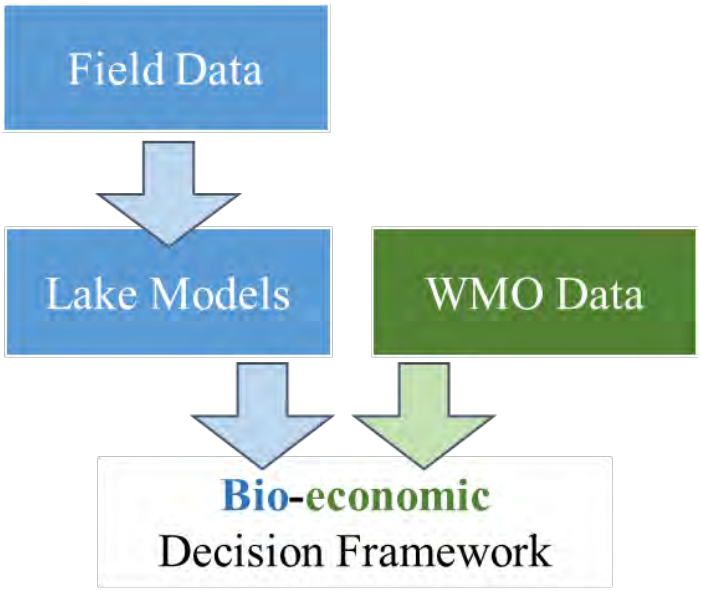

Figure 5: Informing the decision framework: field data collection, lake modelling, and water management organization (WMO) data

Integrating bio-economic optimization methodology (Levers et al. 2019 and Levers and Schwabe, 2017) with cost-benefit or cost-effectiveness frameworks is not uncommon in conservation literature (Reyns et al. 2018, Norbury et al. 2014, Kronbak et al, 2009), but has not been extensively developed for aquatic invasive species, nor is it routinely available to AIS managers, though it clearly would assist with management decisions (Büyüktahtakın & Haight 2018, Pradhananga et al. unpublished, Duhr unpublished).

Watershed district data will include, but is not limited to, accounting costs of invasive species and water quality management methods, dates of management events, measured water quality metrics, quantitative or qualitative data on infestation magnitudes, and metrics related to ecological and recreational value. We will focus on lakes under established management, e.g. Riley (DOW ID 10-000200), Staring (27-0078), and Susan (10-001300) in the Riley Purgatory Bluff Creek Watershed District (RPBCWD), which has already agreed to provide us with any data they have collected. We will also identify lakes and projects from several other water management organizations in the Twin Cities Metro to include in our analysis with the assistance of AIS researchers and local resource managers (See Figure 2). We will also use results of previous and concurrent projects to inform data collection (Duhr 2020, Pradhananga et al. N.D.).

Outputs from the Lake Model developed (Figure 1) will be used to inform the bio-economic framework. Specifically, the simplified lake model framework that adequately captures the dynamics of water quality and plant growth will be used to estimate the impacts of different management methods, both for water quality and invasive species. Additional parameters for consideration will include local land cover (critical for external loading), recreational activities, and ecosystem metrics such as biodiversity. Local land cover may be important in differentiating lakes for management type. Ecosystem metrics and recreational activities can provide information on nonmarket benefits of management. Regression analysis will be used to estimate relationships.

6. Related research

This research expands on previous research conducted by our and other groups on assessing and managing water quality and aquatic plant communities. It builds on alternative stable state theory developed for shallow lakes, whereby excess nutrients support phytoplankton that shades out submersed macrophyte communities (turbid state), but well developed macrophyte communities can enhance clarity and reduce phytoplankton by stabilizing sediments, sequestering nutrients and providing refuge for phytoplankton grazers. Invasive macrophytes such as curlyleaf pondweed and Eurasian watermilfoil can often persist in lower water clarity but will respond positively to water quality improvements and clarity and outcompete native macrophytes. Although methods to selectively control these invasive plants exist (e.g., Johnson et al. 2012, Nault et al. 2014, 2018) they often do not result in substantial increases in native macrophytes (Jones et al. 2012) or can result in monocultures of low-light tolerant natives (McComas et al. 2015). Enhancements to water quality (e.g., via alum treatments Huser et al. 2011, 2016) can promote native plant communities (Bakker et al. 2013, Hilt et al. 2018, Dunne and Newman 2019), but need to be integrated with proper invasive plant management to be sustainable.

Newman has been working on restoration of native plant communities since 2009 when he started working with the RPBCWD to assess macrophyte response to invasive carp removal. This work assessed the effectiveness of native plant transplanting (Knopik and Newman 2018), herbicide treatments (e.g., Verhoeven et al. 2020a) and alum and seedbank assessments (Dunne and Newman 2019) on restoring native plant communities. Current work funding by the RPBCWD aims to identify key indicators to use a management endpoints or criteria for success in developing sustainable native plant communities.

There has been substantial previous work on modeling submersed macrophyte growth by the U.S. Army Corps (Best & Dassen 1987; Best and Boyd 1996, 1999) and others (Gao et al. 2017; Håkanson & Boulion 2002; Hootsmans 1994; Van Nes et al. 2003), as well as work at the University of Minnesota (Herb & Stefan 2003, Herb & Stefan 2006). These models predict macrophyte biomass as a function of physical parameters (light, temperature, nutrients) and growth form, and are typically calibrated for particular native and/or invasive species. Macrophyte growth models have also been integrated into larger water quality models for lakes, rivers, and reservoirs, to study couplings of plant growth and senescence with algae, nutrient cycling, and water quality (Hilt et al. 2018; Janse et al. 2008; Sullivan et al. 2013; Vilas et al. 2018) and flow conditions (Bulat et al. 2019, Herb and Stefan 2005a, 2005b; Vilas et al. 2018). The Hilt et al., study, in particular, gives relevant methods and results for this study, where coupled macrophyte/algae/water quality models are used to study seasonal water quality states in shallow lakes in response to external and internal nutrient load changes. The complex nature of these models requires field observations to calibrate the parameters describing growth, dissolved oxygen, nutrients, etc.

Bioeconomic analyses, which incorporate both economic and biophysical processes, are common in environmental and watershed analyses (e.g., Levers and Schwabe 2017 and Levers et al. 2019) but are less common in lake water quality and invasive species assessments. A Minnesota Aquatic Invasive Research Center

(MAISRC)'s grant (Pradhananga, Levers, Dalzel, and Bajer et al. N.D.), funded a Minnesota watershed district survey of invasive carp management and phosphorus levels, which resulted in a framework for contacting watershed districts, processing their data, and accessing effectiveness. Additionally, Levers has submitted a proposal to MAISRC, *AIS Management Data Collection and AIS Database Exploration,* which proposes to curate available AIS infestation data, explore viability of a MAISRC database or catalog, and collect data on AIS management from counties/lakeshore associations. If funded, these data will be available to enhance the decision framework developed here.

7. Training potential

One graduate student will be supported with a University of Minnesota Water Resources Center WRS Graduate Research Assistantship Supplement for two years. An additional year of funding will come as a Research Assistantship funded by the Riley Purgatory Bluff Creek Watershed District. The grad students will work with all the PIs, and collaborators as well as regularly interacting with our agencies partners for data acquisition and management applications. We will train at least 6 undergraduates (2 per year) who will participate in field, survey or modeling research full time during each summer and part time during the academic year. A junior researcher, Research Associate Lucia Levers, will also gain further experience and training interacting with an experienced modeler and an applied aquatic ecologist while developing relationships with a number of management agencies and lake professionals.

8. Government involvement

Drs. Erik Smith (USGS Oklahoma-Texas Water Science Center) and Richard Kiesling (USGS Upper Midwest Science Center, Moundsview, MN) have agreed to provide advice on modeling with their work on the 2-D model CE-QUAL-W2. Although they do not have funding to collaborate in more detail they will share there model and insights from efforts in Pear and Madison Lakes (MN) and will also serve on graduate student committees if needed.

9. Information transfer

Through collaboration (access to data, sharing data, collecting data from agency systems) with local water management agencies in the Twin Cities Metro we will be directly sharing our results and insights from their management actions and an assessment of the most effective approaches on a subset of lakes. Further, our analysis of their actions and efforts more broader (meta analysis of agencies assessment of management actions, costs, outcomes and benefits) will further allow the agencies to learn from each other and see which approaches are most likely to achieve water quality goals within realistic budgets and social acceptance ….

We will start with a planning effort meeting with representatives from the Twin Cities Metro Water Management Organizations as well as the MN DNR, MN PCA, Met Council, and Three Rivers Park District. The aim of the first meeting will be introduce our plans, assess the agency needs, identify planned projects worthy of field assessment, and developing a process for continued collaboration. We will meet with this group at least once per year in the subsequent years to share results and further plan sampling and data acquisition efforts.

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University of Minnesota, Postdoctoral Research Specialist, Forestry, 1985-1986
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Appointments:

Director of Undergraduate Studies, Marine Biology Minor 2020
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Fulbright Scholar, Rhodes University, Grahamstown, South Africa 2011-2012
Director of Graduate Studies, Water Resources Science (Acting 1996), 2003-2011
Professor, Fisheries, University of Minnesota 2002-
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Associate Professor, Fisheries, University of Minnesota 1995-2002
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Assistant Professor, Fisheries, University of Minnesota 1988-1995
Postdoctoral Fellow, Renewable Natural Resources, University of Connecticut 1986-1988

Five Most Relevant Products:

Dunne, M.A. and R. M. Newman. 2019. Effect of light on macrophyte sprouting and assessment of viable seedbank to predict community composition. Journal of Aquatic Plant Management 57:90-98.

Knopik, J. M and R. M. Newman. 2018. Transplanting aquatic macrophytes to restore the littoral community of a eutrophic lake after the removal of common carp. Lake and Reservoir Management 34(4): 365–375.

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Current Grants:

Riley Purgatory Bluff Creek Watershed District, 2018-2021, PI ($120,337). Managing for sustainable native macrophyte communities in lakes of the Riley Purgatory Bluff Creek Watershed District

Environment and Natural Resources Trust Fund (LCCMR). 2019-2021. PI; R. Thum co-PI ($236,436) Genetics to improve hybrid and Eurasian watermilfoil management.

Teaching:

Fisheries Ecology and Management, FW 5604 (3 sem cr) Winter 1997-2001; 2003-2017
Introduction to Marine Biology, FW 2003 (3cr) Winter 2014, Fall 2014, Winter 2018
Stream and River Ecology, FW 8/5459 (3 sem cr) Fall even years 1990-2000, 2004-2018
Invasive Plants and Animals, ESPM 3515 (3cr) Fall odd years 2017-

Synergistic Activities:

University of Minnesota Award for Outstanding Contributions to Postbaccalaureate, Graduate, and Professional Education and Academy of Distinguished Teachers 2011

Project Director, Risk Analysis for Introduced Species and Genotypes, an NSF sponsored IGERT program and Director of Graduate Studies of the associated minor, 2007- 2011

Editorial Board, Ecol. Freshwat. Fish, 1992-2011; Freshwater Biology 2008-

Instructor, White Earth Math and Science program, Summer course for tribal primary and secondary students 1999-2017; program won 2001 USDA Secretary's Honor Award

Member of organizing committee and presenter at:

Fundamentals of Lake Processes - Nutrient (Phosphorus) Impairment Workshop, Applied Lake Management & Stormwater Series. Univeristy of Minnesota Extension, 22 February 2018, Farmington, MN.

Lake Management Tools Workshop, Applied Lake Management & Stormwater Series. University of Minnesota Extension, 21 February 2019, Minneapolis, MN.

Students and advisors:

Thesis Advisor: Thomas F. Waters (MS and PhD), deceased, U of MN
Postdoctoral Advisor: James A. Perry (U of MN) and David B. Schroeder (UCONN)
Graduate Students (36 total, 22 MS, 11 PhD graduated)

William R. Herb, Ph.D

Research Associate

University of Minnesota, St. Anthony Falls Laboratory

2 Third Ave SE, Minneapolis, MN 55414

Office Phone: 612-624-5147

Email: herb0003@umn.edu

Education

B.S., Mechanical Engineering, University of Wisconsin-Madison, 1985

M.S., Mechanical Engineering, University of Minnesota, 1991

Ph.D., Mechanical Engineering, University of Minnesota, 1996

M.S., Water resources Science, University of Minnesota, 2004

Professional Experience

2001-present	Research Associate	University of Minnesota
1996-2001	Principal Research Scientist	Honeywell Technology Center
1995-1996	Research Associate	Honeywell Technology Center
1991-1995	Student Aid	Honeywell Technology Center
1990-1991	Teaching Assistant	University of Minnesota
1985-1989:	Development Engineer	Enkel Corporation, Rockford, IL

Grants Received

Minnesota Local Road Research Board, "Assessing Culverts in Minnesota: Fish Passage and Storm Vulnerability", 7/18-6/21, $154,000. (co-PI, with PI Jessica Kozarek)

Minnesota Coastal Program, "Detailed Hydrology for Stormwater BMPs", September 2018 – November 2019, $182,688 (PI, with Co-PIs John Gulliver and Lucinda Johnson).

Legislative-Citizen Commission on Minnesota Resources, "Prioritizing shoreline habitat restoration in Minnesota lakes", 7/17-6/20, $294,000 (PI).

Metropolitan Council Environmental Services, "Long-throated Flume Study", 9/16-9/17, $200,000. (PI)

Legislative-Citizen Commission on Minnesota Resources, "Prioritizing Future Management of North Shore Trout Streams", 7/15-6/18, $357,000. (co-PI, with Lucinda Johnson).

Minnesota Local Road Research Board, "Study of de-icing salt accumulation and transport through a watershed", 6/14-12/17, $160,000. (PI, with Co-PI Heinz Stefan)

Minnesota Department of Natural Resources, "Quantifying wind-wave energy on Minnesota Lakes", 10/14 – 6/16, $25,000. (PI, with co-PI Heinz Stefan).

Professional Memberships

American Geophysical Union

Association for the Sciences of Limnology and Oceanography

Select Peer-reviewed Publications

Missaghi, S., Hondzo, M, and W. Herb, 2017. Prediction of Lake Water Temperature, Dissolved Oxygen, and Fish Habitat under Changing Climate. Climatic Change 141(4), 747-757.

Herb, W. R., Johnson, L. B., Jacobson, P. C., & Stefan, H.G., 2014. Projecting cold-water fish habitat in lakes of the glacial lakes region under changing land use and climate regimes. Canadian Journal of Fisheries and Aquatic Sciences, 71(9), 1334-1348.

Herb, W.R. and H.G. Stefan, 2011. Equilibrium temperature models for coldwater streams, Water Resources Research, 47: W06519.

Herb, W.R., B. Janke, O. Mohseni and H.G. Stefan, 2009. Simulation of temperature mitigation by a stormwater detention pond, Journal of the American Water Resources Association, 45(5): 1164-1178.

Herb, W.R. and Stefan, H.G. Integral growth of submersed macrophytes in varying light regimes. Ecological Modelling, 168(12): 77-100, 2003.

Herb, W.R. and Stefan, H.G. Model for wind-driven vertical mixing in a shallow lake with submersed macrophytes. Journal of Hydraulic Engineering, 131(6): 488-496, 2005.

Herb, W.R. and Stefan, H.G. A numerical model for temperature stratification and vertical mixing dynamics in a shallow lake with submersed macrophytes. Water Resources Research, 41(2), W02023, 2005.

Herb, W.R., Stefan, H.G., 2006. Seasonal growth of submersed macrophytes in lakes: the effects of biomass density and light competition. Ecol. Model. 193, 560–574.

Select Reports

Herb, W.; Janke, B., and H. Stefan, 2017. Study of de-icing salt accumulation and transport through a watershed. Final Report 2017-50, Minnesota Department of Transportation, Research Services & Library, 128 pp.

Herb, W., K. Blann, L. Johnson, R. Garono, J. Jereczek, M. White and H. Sorensen. 2016. Sustaining Minnesota's Lake Superior Tributaries in a Changing Climate. Final Report to NOAA's Office for Coastal Management.

Johnson, L. B., Herb, W.R., and Cai, M., 2013. Assessing Impacts of Climate Change on Vulnerability of Brook Trout in Lake Superior's Tributary Streams of Minnesota. Final Report to Minnesota Department of Natural Resources.

Lucia R. Levers, PhD

llevers@umn.edu; 559-859-4319; @LuciaLevers

Education

PhD **Environmental Sciences: Environmental Sciences and Management** 2015
University of California, Riverside
Dissertation: *Bio-Economic Analyses of Biofuel-Based Integrated Farm Drainage Management Systems on Marginal Land in a Salinity and Drainage Impacted Region: The Case of California's Central Valley*

MS **Environmental Sciences: Environmental and Natural Resource Economics** 2010
University of California, Riverside

BA **Human Biology: Sustainable Human/Environment Interactions** 2004
Stanford University
Capstone: *Community Engagement with the Wildlife Center of Silicon Valley*

Research Experience

Research Associate 2017 - Present
Water Resources Center: University of Minnesota, Twin Cities

Postdoctoral Researcher 2015 - 2017
USDA-ARS Salinity Laboratory: Riverside, CA
Department of Environmental Sciences: University of California, Riverside

Junior Research Specialist 2014
Department of Plant and Environmental Sciences: University of California, Davis

Peer Review Publications

Levers, L., Pradhananga, A., & Peterson, J. *Whom do you trust? Farmer Willingness to Accept for Perennial Crop Adoption*. Submitted for publication.

Levers, L., & Pradhananga, A. *Willingness to Pay for Aquatic Invasive Species Management: an Onsite Survey of Minnesota Lakes*. Submitted for publication.

Levers, L., Story, D. & Schwabe, K. (In press). Boons or Boondoggles: An Assessment of Salton Sea Water Importation Proposals. *California Agriculture*.

Levers, L., Skaggs, T., & Schwabe, K. (2019). Buying Water for the Environment: A Hydro-Economic Analysis of Salton Sea Inflows. *Agricultural Water Management*. 213C, 554-567.

Levers, L. R., & Schwabe, K. A. (2017). Biofuel as an Integrated Farm Drainage Management crop: A Bio-Economic Analysis. *Water Resources Research*, 53(4), 2940-2955.

George, N., **Levers, L.**, Thompson, S., Hollingsworth, J., & Kaffka S. (2017). Modeling identifies optimal fall planting times and irrigation requirements for canola and camelina at locations across California. *California Agriculture,* 71(4):214-220.

State Agency Reports

Calow, P., Lewandowski, A., **Levers, L.**, & Kirby, E. (2020). *Final Report on the Future of Minnesota Drinking Water: A Framework for Managing Risk*. Minnesota Department of Health. Retrievable from https://www.wrc.umn.edu/future-minnesota-drinking-water

Synomik, D., **Levers L.**, & Calow, P. (2019). Lead in Minnesota Drinking Water. Minnesota

Department of Health. Retrievable from https://www.health.state.mn.us/communities/environment/water/docs/leadreport.pdf

Rhees, S., Weirens, D., Peterson, J., Lewandoski, A., **Levers, L.**, Lazarus, W., & Pradhananga, (2018). *Working Lands Watershed Restoration Feasibility Study and Program Plan*. Retrieved from http://www.bwsr.state.mn.us/

Kelly, S., Calow, P., Lewandowski, A., **Levers, L.**, Kirby, E., & Ntouko, M. (2018). *Interim Report on The Future of Minnesota Drinking Water: A Framework for Managing Risk*. Minnesota Department of Health. Retrievable from https://www.wrc.umn.edu/future-minnesota-drinking-water

Levers, L., & Kaffka, S. (2015). *California Energy Commission Task 4: Integrated Assessment of Agricultural Biomass Derived Alternative Fuels and Power in California: Supplemental Information Part 1; Use of Marginal Lands in California for Biomass Feedstocks*. California Energy Commission.

Select Manuscripts in Preparation

Levers, L., & Kaffka, S. *Retirement or Reuse? Bioenergy on Marginal Land Under California's Sustainable Groundwater Management Act*. Manuscript in preparation.

Levers, L., Dalzell, B., & Peterson, J. *Optimizing Conservation Practices: A Bio-economic Spatial Model*. Manuscript in preparation.

Franklin, B., Schwabe, K., Knapp, K., & **Levers, L.** *The Economics of Jointly Managed Irrigated Perennials and Groundwater Stocks*. Manuscript in preparation.

Select Grants

PI; Grant co-author — Feb 17, 2020 – Aug 17, 2020
Levers, L., Zukoski, A., Walker-Swaney, J., Wiringa, P. "Obesity mapping with state issued identification cards." BOLD Ideas. University of Minnesota Office of Academic Clinical Affairs. $30,000.

Researcher; Grant co-author — June 17, 2019 - Dec 31, 2020
Bilotta, J., Runkel, T., Arnold, B., Bohman, B., Levers, L., Jennings, C., Kang, P. "Managed Aquifer Recharge." Environmental and Natural Resources Trust Fund. $350,000.

Researcher; Grant co-author — March 1, 2019 - Dec 31, 2020
Lenhart, C., Current, D., & **Levers, L.** "Assessment of cover crop effectiveness within a treatment train of farm BMPs." Minnesota Department of Agriculture. $64,286.

Researcher; Grant co-author — Sep 28, 2018 - Sep 30, 2021
Lewandowski, A., Current, D., Jelinski, N., Gutknecht, J., Magner, J., Drewitz, M., & **Levers, L.** "Measuring Soil Health in the Upper Midwest to Improve Water Quality". Natural Resources Conservation Service: United States Department of Agriculture. $885,047.

Co-PI; Grant co-author — July 1, 2018 - June 30, 2020
Pradhananga, A., **Levers, L.**, Bajer, P., & Dalzell, B. "Public Values of Aquatic Invasive Species Management." Minnesota Aquatic Invasive Species Research Center. $242,091.

Co-PI; Grant co-author — July 1, 2018 - June 30, 2021
Shottler, S., **Levers, L.** & Peterson, J. "Develop Market Based Alternatives for Perennial Crops to Benefit Water and Wildlife". Environment and Natural Resources Trust Fund. $150,000.

United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Upper Midwest Water Science Center - Minnesota
2280 Woodale Dr.
Mounds View, MN 55112
763-783-3100

Date: June 1, 2020
From: Erik Smith, Ph.D., Oklahoma-Texas Water Science Center
Richard Kiesling, Ph.D., Hydrologist, Upper Midwest Water Science Center

To Whom It May Concern:

We are writing in support of the research proposal, "Managing water quality and invasive macrophytes to promote healthy native aquatic plant communities", that is being submitted to the USGS/NIWR Water Resources Research Act Program/Aquatic Invasive Competitive Grants Program. Although we do not have funding to participate directly in this research, we can help provide input into the research, assist with model development, or in advising on how to update previously published CE-QUAL-W2 models.

Through previous U.S. Geological Survey (USGS) research completed for both the National Park Service and the Minnesota Department of Natural Resources, we have extensive experience with CE-QUAL-W2 hydrodynamic and water-quality models. We have calibrated and published several models using the CE-QUAL-W2 modeling framework, including two applications (Madison Lake, Minnesota; Pearl Lake, Minnesota) that included using the macrophyte component of the model. We would both be interested in the usage of the macrophyte component in particular, which we have not previously calibrated through direct measurements. A comparison of the results from this work from the CE-QUAL-W2 model with the one-dimensional model from Dr. William Herb will be insightful.

In support of this work, we are willing to provide some advisory capacity and offer input, help serve on graduate student committees, and potentially participate in manuscript development for model application and insights.

Sincerely,

Erik A. Smith, Ph.D.
U.S. Geological Survey | Ann Arbor, MI
Oklahoma-Texas Water Science Center
Work #: (734) 214-7253
Cell #: (612) 386-1558

Richard L. Kiesling, Ph.D.
U.S. Geological Survey | Mounds View, MN
Upper Midwest Water Science Center
Work #: (763) 783-3131
Cell #: (612) 817-2826

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512
www.rpbcwd.org

Tuesday, June 2, 2020

Raymond M. Newman
Department of Fisheries, Wildlife, and Conservation Biology
University of Minnesota
St. Paul, MN 55108

Dear Prof. Newman:

I am writing in support of your research proposal “Managing water quality and invasive macrophytes to promote healthy native aquatic plant communities” that is being submitted to USGS/NIWR Water Resources Research Act Program/Aquatic Invasive Species Competitive Grants Program. This proposed research complements and expands on your past research conducted with the support, funding and collaboration of the district and addresses many of our key concerns with invasive species management in impaired waterbodies that are being managed for water quality improvements. We are currently managing 7 waterbodies impaired for nutrients and clarity and 5 of these have invasive aquatic plant species that complicate management. Your proposed research will further our understanding of integrated adaptable water resource management. This holistic approach will allow water resource managers take management steps in a in a way that maximizes success and provide multiple benefits.

I also appreciate the expansion to include other Metro Water Management Organizations – we all face similar problems and use variations on similar approaches. A formal analysis across the broader array of lakes and approaches will help us all improve management in a cost-effective manner.

Although the district cannot commit at present to another round of funding starting in 2021, we anticipate considering an ongoing project after review of your annual report in January 2021. You may use the remaining funds committed to your project for the coming academic year (September 2020 through May 2021) to support graduate student Jacob Olson and ongoing research as a match for this USGS proposal. After expenditures this summer, the District anticipates > $30,000 will be available from Contract 76110 Managing for sustainable native macrophyte communities in lakes of the Riley Purgatory Bluff Creek Watershed District (Project #: 00074343).

We are excited about this project and look forward to furthering our understanding of our water resources and making better management decisions.

Sincerely,

Claire Bleser
District Administrator, Riley Purgatory Bluff Creek Watershed District

resourceful. naturally.
engineering and environmental consultants

BARR

Memorandum

To: RPBCWD Board of Managers
From: Heather Hlavaty
Subject: Pioneer Trail Wetland Restoration Project – Request for additional engineering services budget
Date: August 24, 2021
Project: 23/27-0053.14 030B

Requested Board Action

Barr requests that the RPBCWD Board of Managers consider authorizing Barr Engineering to spend an additional budget of $22,000 for construction administration and observation services related to the Pioneer Trail Wetland Restoration Project.

In March 2020, the RPBCWD completed a feasibility study with the goal of restoring a wetland complex tributary to Bluff Creek located on three District owned parcels north side of Pioneer Trail just east of CSAH 101 in Chanhassen, Minnesota. The proposed project includes blocking the existing draintile that currently dewaters the wetland, replacing the surface outlet, grading within an existing wetland to remove invasive reed canary grass, increasing floodplain storage, and restoring with diverse native wetland and upland vegetation. At the April 2020 Board meeting, the RPBCWD Board of Managers authorized final design and preparation of construction documents for the recommended project from the feasibility study. Early in the final design process, district staff collected detailed survey data on the site and along the downstream conveyance system (i.e., topography, culvert size and elevation, ditch bottom elevation, utilities, etc.) to inform the design. Utility conflicts surfaced with the feasibility planned rerouting of the culvert under Pioneer Trail. To avoid utility conflicts, unanticipated design revisions were required to ensure no increases in flood elevation in the wetland or peak discharges leaving the site.

The original design and construction observation task order for $74,700 plus expenses for permit fees and newspaper advertisements was authorized by the Board on April 1, 2020 with an anticipated construction being complete and the project closed out by fall of 2021. Several factors impacted the schedule that have resulted in an anticipated construction beginning a year later than the original anticipated timeline. Early on we had hoped to absorb these project delay costs and other items summarized below into the project without requesting additional budget but to no avail. We verbally communicated with Administrator Bleser of unanticipated work needed to advance the project (e.g., redesign the outlet, conversion and compilation of district collected survey data, assistance with monitoring well placement, increased project management activities) and the potential for a budget shortfall.

As of August 13, 2021, there was $2,597 left in Barr's authorized budget for this project ($73,922 spent including the newspaper advertisement which was paid by Barr and invoiced back to the district as an expense). Because the entire engineering design, coordination, and construction administration budget is exhausted, Barr is requesting additional project budget for the following reasons:

- Model updates to include the existing conditions survey collected by district staff on July 2, 2020 altered the peak flow and peak wetland elevation during the 2-, 10-, and 100-year storm events.
    - Additional effort was required to translate the District's survey and wetland delineation into modeling and design.
    - In order to meet the District's water surface elevation and rate control requirements, the proposed outlet and wetland floodplain storage required reconfiguration from the recommended design in the feasibility study.
    - Additional modeling was done to avoid rerouting the culvert beneath Pioneer Trail recommended in the feasibility study. This effort was not anticipated and led to cost savings for the project.
- Aiding district staff with the development, review and quality control of the wetland delineation report for the project. Barr's authorized task order assumed district staff would be responsible for these efforts. Former Administrator Bleser and Interim Administrator Jeffery requested support from Barr to assist district staff with the wetland delineation report development.
- Barr staff taking on additional project coordination and management activities related to the departure of the prior District Administrator.
- Additional efforts related to advertising in the official papers due to the potential state government shut down and the associated freezing of grant dollars associated with the project.
- Development of a 3-year vegetation management period to ensure proper site restoration.
    - This required additional discussion with district staff, district legal, and Barr staff to develop a future protocol for vegetation establishment.
    - This will require additional site visits for the next three years not anticipated during scope development.

Task Order 30B anticipated roughly 390 hours for design and permitting, but as of August 13th, Barr had expended about 660 hours. The Task Order 30B allotted 80 hours for construction administration, including bidding assistance, construction observation, and project close-out activities. We also anticipate construction administration activities will take more time than originally scoped due to an extended vegetation establishment period.

Because the design, permitting, and coordination of the project required more time than originally anticipated in order to facilitate the forward-movement of the project, additional budget is needed to complete construction administration services and close-out activities. The following table summarizes the approved budget, the amount spent as of August 13th, and anticipated additional budget to complete the construction administration work associated with the Pioneer Trail Wetland Restoration Project (Task

Order 30B). We are anticipating the total construction administration budget at project completion in 2024, assuming no change orders, smooth construction, minimal punch list items, and close-out activities go smoothly, to be roughly $28,000 - $34,000: Because some of the shortfall in the budget is due to inefficiencies in Barr's execution of the project design, we are only requesting a portion of the anticipated shortfall.

Task Order 30B	Authorized Budget[1]	Amount Spent Through 8/13/21	Requested Budget Increase
· **Design of Restoration Project (Design, Permitting, EAW, Maintenance Plan, Plans and Specifications)**	$52,400	$64,456	$6,000
· **Construction Services (Bidding, Construction Oversight and Administration)**	$24,119	$9,466	$16,000
Total	**$76,519**	**$73,922**	
Budget Remaining (as of 8/13/21)		**$2,597**	
Budget Increase Request			**$22,000**

[1] The authorized budget reflects the $74,700 in Task Order 30B plus the newspaper advertisement expenses ($1,819.46)

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
Fund Performance Analysis - Table 1
December 31, 2019

												This Column is a calculation	This Column is generally a calculation or linked to Budget Backups
1	8/25/2021												
2		From Fund Performance Analysis - Table 1 May 31, 2021	Transfers that occurred or are suggested during 2021		From June Treasurer's Report Table 1			FY 2022 Budget Funding Sources					
3	Items	2021 Budget	Fund Transfers	Revised 2021 Budget	Actual Spent Year-to-Date	Year to Date Percent of Budget	Projected End of Year Remaining	Projected Carry Over Budget	Grants	Partners & Other Sources	Proposed 2022 Levy	Proposed 2022 Budget
4	**REVENUES**												
5	Plan Implementation Levy	$ 3,575,000	$ -	$ 3,575,000		0.00%	$ -	$ -	$ -	$ -	$ 3,615,000	$ 3,615,000
6	Permit	$ 25,000	$ -	$ 25,000		0.00%	$ -	$ -	$ -	$ 25,000	$ -	$ 25,000
7	Grant Income	$ 272,580	$ -	$ 272,580		0.00%	$ -	$ -	$ 71,933	$ -	$ -	$ 71,933
8	Investment Income	$ 30,000	$ -	$ 30,000		0.00%	$ -	$ -	$ -	$ 30,000	$ -	$ 30,000
9	Past Levies (Carry Overs)	$ 3,204,427	$ -	$ 3,204,427		0.00%	$ -	$ -	$ -	$ -	$ -	$ 3,350,058
10	Miscellaneous Income	$ -	$ -	$ -		---	$ -	$ -	$ -	$ -	$ -	$ -
11	Reimbursements			$ -			$ -	$ -	$ -	$ -	$ -	$ -
12	Partner Funds	$ 451,000	$ -	$ 451,000		0.00%	$ -	$ -	$ -	$ 272,000	$ -	$ 272,000
13	**TOTAL REVENUE**	**$ 7,558,007**	**$ -**	**$ 7,558,007**	**$ -**	**0.00%**	**$ -**	**$ -**	**$ 71,933**	**$ 327,000**	**$ 3,615,000**	**$ 7,363,991**
14												
15	**EXPENDITURES**											
16	**Administration**											
17	Audit	$ 15,000		$ 15,000	$ 14,400	96.00%					$ 15,000	$ 15,000
18	Accounting	$ 31,000	$ -	$ 31,000	$ 19,366	62.47%	$ -	$ -			$ 45,000	$ 45,000
19	Advisory Committees	$ 7,000	$ -	$ 7,000	$ -	0.00%	$ -	$ -			$ 5,000	$ 5,000
20	Insurance and bonds	$ 18,000	$ -	$ 18,000	$ 414	2.30%	$ -	$ -			$ 21,000	$ 21,000
21	Engineering Services	$ 112,000	$ -	$ 112,000	$ 66,783	59.63%	$ -	$ -			$ 132,000	$ 132,000
22	Legal Services	$ 84,000	$ -	$ 84,000	$ 43,697	52.02%	$ -	$ -			$ 108,000	$ 108,000
23	Manager Per Diem/Expense	$ 30,000	$ -	$ 30,000	$ 9,544	31.81%	$ -	$ -			$ 30,000	$ 30,000
24	Dues and Publications	$ 16,000	$ -	$ 16,000	$ 9,006	56.29%	$ -	$ -			$ 16,000	$ 16,000
25	Office Cost	$ 190,000	$ -	$ 190,000	$ 69,589	36.63%	$ -	$ -			$ 191,000	$ 191,000
26	Permit Review and Inspection	$ 140,000	$ -	$ 140,000	$ 94,689	67.64%	$ -	$ -			$ 160,000	$ 160,000
27	Permit and Grant Database	$ -	$ -	$ -	$ 10,750	#DIV/0!	$ -	$ -			$ 30,000	$ 30,000
28	Professional Services	$ 10,000	$ -	$ 10,000	$ 12,336	---	$ -	$ -			$ 17,400	$ 17,400
29	Recording Services	$ 15,000	$ -	$ 15,000	$ 7,500	50.00%	$ -	$ -			$ 15,500	$ 15,500
30	Staff Cost	$ 802,054	$ -	$ 802,054	$ 247,177	30.82%	$ 100,000	$ 100,000			$ 533,800	$ 633,800
31	**Subtotal**	**$ 1,470,054**	**$ -**	**$ 1,470,054**	**$ 605,251**	**41.17%**	**$ 100,000**	**$ 100,000**	**$ -**	**$ -**	**$ 1,319,700**	**$ 1,419,700**
32	**Programs and Projects**											
33	**District Wide**											
34	10-year Management Plan	$ 10,000	$ -	$ 10,000	$ 4,349	43.49%	$ -	$ -			$ 80,000	$ 80,000
35	AIS Inspection and early response	$ 85,000	$ -	$ 85,000	$ 14,018	16.49%	$ 15,000	$ 15,000			$ 53,000	$ 68,000
36	Cost-share/ Stewardship Grant	$ 346,735	$ -	$ 346,735	$ 52,605	15.17%	$ 110,000	$ 110,000			$ 100,000	$ 260,000
37	Data Collection and Monitoring	$ 193,000	$ -	$ 193,000	$ 137,913	71.46%	$ -	$ -			$ 213,000	$ 213,000
38	Community Resiliency	$ 111,058	$ -	$ 111,058	$ 7,597	6.84%	$ 30,000	$ 30,000	$ 40,000		$ 60,000	$ 130,000
39	Education and Outreach	$ 100,834	$ -	$ 100,834	$ 14,897	14.77%	$ 71,000	$ 71,000			$ 29,000	$ 100,000
40	Plant Restoration - U of M	$ 61,613	$ -	$ 61,613	$ 9,475	15.38%	$ 50,000	$ 50,000			$ -	$ 50,000
41	Repair and Maintenance Fund	$ 212,540	$ (113,000)	$ 99,540	$ 170	0.17%	$ 100,000	$ 100,000			$ -	$ 100,000
42	Wetland Management*	$ 111,248	$ -	$ 111,248	$ 94,715	85.14%	$ -	$ -			$ 157,000	$ 157,000
43	Groundwater Conservation* (120 K Grant and Pilot Project timing)	$ 229,444	$ -	$ 229,444	$ 450	0.20%	$ 220,000	$ 220,000			$ -	$ 220,000
44	Lake Vegetation Implementation	$ 83,083	$ -	$ 83,083	$ 12,828	15.44%	$ 13,000	$ 13,000			$ 63,000	$ 76,000
45	Opportunity Project*	$ 317,480	$ (217,000)	$ 100,480	$ -	0.00%	$ 100,000	$ 100,000			$ 150,000	$ 250,000
46	Stormwater Ponds - U of M	$ 67,164	$ -	$ 67,164	$ 36,719	54.67%	$ 20,000	$ 20,000			$ -	$ 20,000
47	Hennepin County Chloride Initiative	$ 92,971	$ -	$ 92,971	$ 4,975	5.35%	$ 90,000	$ 90,000			$ -	$ 90,000
48	Lower Minnesota Chloride Cost-Share	$ 217,209	$ -	$ 217,209	$ -	0.00%	$ 195,000	$ 195,000			$ -	$ 195,000
49	**Subtotal**	**$ 2,239,379**	**$ (330,000)**	**$ 1,909,379**	**$ 390,711**	**20.46%**	**$ 1,014,000**	**$ 1,014,000**	**$ 40,000**	**$ -**	**$ 905,000**	**$ 2,009,000**
50	**Bluff Creek**											
51	Bluff Creek Tributary*	$ 7,251	$ -	$ 7,251	$ -	0.00%	$ 2,000	$ 2,000			$ 3,000	$ 5,000
52	Wetland Restoration at Pioneer	$ 665,285	$ -	$ 665,285	$ 63,663	9.57%	$ 447,000	$ 447,000	$ 31,933		$ -	$ 478,933
53	Bluff Creek B5 by Galpin	$ 140,000	$ -	$ 140,000	$ -		$ 120,000	$ 120,000			$ -	$ 120,000
54	**Subtotal**	**$ 812,536**	**$ -**	**$ 812,536**	**$ 63,663**	**7.84%**	**$ 569,000**	**$ 569,000**	**$ 31,933**	**$ -**	**$ 3,000**	**$ 603,933**
55	**Riley Creek**											
56	Lake Riley - Alum Treatment*	$ 62,885	$ -	$ 62,885	$ -	0.00%	$ 43,000	$ 20,000			$ -	$ 20,000
57	Rice Marsh Lake in-lake phosphorus load	$ 45,636	$ -	$ 45,636	$ 4,159	9.11%	$ 26,000	$ 26,000			$ -	$ 26,000
58	Rice Marsh Lake Water Quality Improvement Phase 1	$ 634,147	$ -	$ 634,147	$ 56,272	8.87%	$ 149,000	$ 149,000		$ 5,000	$ 74,000	$ 228,000
59	Riley Creek Restoration (Reach E and D3)	$ 107,047	$ -	$ 107,047	$ 9,235	8.63%	$ 78,000	$ 78,000			$ -	$ 78,000
60	Lake Riley & Rice Marsh Lake Subwatershed Pond Assessment	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -			$ -	$ -
61	Upper Riley Creek Stabilization	$ 902,025	$ -	$ 902,025	$ 27,441	3.04%	$ 847,000	$ 847,000			$ 600,000	$ 1,447,000
62	Middle Riley Creek	$ 192,363	$ 352,000	$ 544,363	$ 72,457	13.31%	$ 25,000	$ 25,000		$ 58,000	$ (22,000)	$ 61,000
63	Lake Ann Wetland Restoration	$ 50,000	$ (50,000)	$ -		#DIV/0!	$ -	$ -			$ -	$ -
64	St Hubert Water Quality Project	$ 147,063	$ -	$ 437,284	$ 78,054	17.85%	$ 31,000	$ 31,000		$ 15,000	$ -	$ 46,000
65	**Subtotal**	**$ 2,141,166**	**$ 302,000**	**$ 2,733,387**	**$ 247,618**	**9.06%**	**$ 1,199,000**	**$ 1,176,000**	**$ -**	**$ 78,000**	**$ 652,000**	**$ 1,906,000**
66	**Purgatory Creek**											
67	Purgatory Creek Rec Area- Berm/retention area - Design/Construction	$ 34,899	$ 113,000	$ 147,899	$ 4,635	3.13%	$ 113,000	$ 113,000		$ 112,000	$ -	$ 225,000
68	Lotus Lake in-lake phosphorus load control	$ 79,226	$ -	$ 79,226		0.00%	$ 80,000	$ 80,000			$ -	$ 80,000
69	Silver Lake Water Quality BMP	$ 207,208	$ -	$ 207,208	$ 38,830	18.74%	$ 46,000	$ 46,000			$ -	$ 46,000
70	Scenic Heights	$ 92,041	$ (85,000)	$ 7,041	$ 2,983	42.37%	$ 4,058	$ 4,058			$ -	$ 4,058
71	Hyland Lake in-lake phosphorus load control	$ 20,000	$ -	$ 20,000	$ -	0.00%	$ 20,000	$ 20,000			$ -	$ 20,000
72	Duck Lake Watershed Load	$ 32,120	$ -	$ 32,120	$ 4,376	13.62%	$ 25,000	$ 25,000			$ -	$ 25,000
73	Mitchell Lake Subwatershed Pond Assessment	$ -	$ -	$ -		#DIV/0!	$ -	$ -			$ -	$ -
74	Lotus Lake Kerber Pond Ravine	*$ 14,380*	$ -	$ 14,380	$ -	*0.00%*	$ -	$ -			$ -	$ -
75	Duck Lake Road Partnership	*$ 235,000*	$ -	$ 235,000	*$ -*		$ -	$ -			$ 235,000	$ 235,000
76	Lotus Lake Watershed Improvement Project (LL_1, LL_3, LL_7, LL_8)	$ -	$ -	$ -			$ -	$ -			$ 430,000	$ 430,000
77	**Subtotal**	**$ 714,872**	**$ 28,000**	**$ 742,872**	**$ 50,824**	**6.84%**	**$ 288,058**	**$ 288,058**	**$ -**	**$ 112,000**	**$ 665,000**	**$ 1,065,058**
78	**Reserve**	**$ 180,000**		**$ 180,000**	$ -	0.00%	**$ 180,000**	**$ 180,000**			**$ 70,000**	**$ 250,000**
79	**TOTAL EXPENDITURE**	**$ 7,558,007**	**$ -**	**$ 7,848,228**	**$ 1,358,066**	**17.30%**	**$ 3,350,058**	**$ 3,327,058**	**$ 71,933**	**$ 190,000**	**$ 3,614,700**	**$ 7,253,691**
80	**EXCESS REVENUES OVER (UNDER) EXPENDITURES**	**$ (0)**	**$ -**	**$ (290,221)**							**$ 300**	**$ 110,300**
	QC Check	$ 7,558,007	$ -	$ 7,848,228	$ 1,358,066		$ 3,350,058	$ 3,327,058	$ 71,933	$ 190,000	$ 3,614,700	$ 7,253,691
										% Change	1.1%	-7.6%

***Denotes Multi-Year Project - See Table 2 for details**

County	Payable Net Tax Capacity	Net Tax Capacity Percent Distribution			Apportioned Payable 2022	$ 3,615,000
Hennepin County	$ 123,548,402	76%			$ 2,753,213	
Carver County	$ 38,672,148	24%			$ 861,787	
Watershed Total	$ 162,220,550	100%			NA	