



3800 Laverne Avenue North
Lake Elmo, MN 55042

(651) 747-3900
www.lakeelmo.org

NOTICE OF MEETING

The City of Lake Elmo

Planning Commission will conduct a meeting on

Monday April 10, 2017 at 7:00 p.m.

AGENDA

1. Pledge of Allegiance
2. Approve Agenda
3. Approve Minutes
 - a. March 27, 2017
4. Public Hearings
 - a. EASEMENT VACATION. A request by Bremer Bank, National Association, 8555 Eagle Point Blvd N, Lake Elmo, to vacate two easements from PID#3302921410053: an existing drainage and utility easement to be relocated to allow for expansion of existing building on site and an existing drainage and utility easement to be relocated upon combination of PID #3302921410053 with PID#s 3302921410050 and 3302921410051.
 - b. ZONING TEXT AMENDMENT. A request by the City of Lake Elmo for a Zoning Text Amendment amending Article XIII: Village Mixed Use District of the City's Zoning Code, adding a Village Low Density Residential Zoning District and making minor adjustments to the City's VMX Zoning District Standards.
5. Business Items
 - a. ZONING TEXT AMENDMENT –The Planning Commission will discuss a proposed solar energy system ordinance.
 - b. ENGINEERING AND LANDSCAPE STANDARDS – The Planning Commission will discuss and make recommendation on proposed City Engineering and Landscape Standards.
6. Updates
 - a. City Council Updates – April 4, 2017
 - i. Inwood 5th Addition Final Plat and PUD Plans - Approved
 - ii. Approve Comp Plan Amendment to City's Wastewater facilities - Approved
 - b. Staff Updates
 - i. Upcoming Meetings:
 - April 10, 2017
 - April 24, 2017
 - ii. MAC CEP Report-none
 - c. Commission Concerns
7. Adjourn

***Note: Every effort will be made to accommodate person or persons that need special considerations to attend this meeting due to a health condition or disability. Please contact the Lake Elmo City Clerk if you are in need of special accommodations.



**City of Lake Elmo
Planning Commission Meeting
Minutes of March 27, 2017**

Chairman Kreimer called to order the meeting of the Lake Elmo Planning Commission at 7:00 p.m.

COMMISSIONERS PRESENT: Larson, Dorschner, Emerson, Williams, Lundquist and Hartley

COMMISSIONERS ABSENT: Fields, Kreimer and Dodson

STAFF PRESENT: Planning Director Wensman and City Administrator Handt

Approve Agenda:

M/S/P: Dodson/Williams, move to approve the agenda as presented, ***Vote: 6-0, motion carried, unanimously.***

Approve Minutes: March 13, 2017

M/S/P: Lundquist/Dorschner, move to approve the March 13, 2017 minutes as amended, ***Vote: 6-0, motion carried unanimously.***

Public Hearing – Zoning Map Amendment – General Business to Village Mixed Use

Wensman started his presentation regarding the rezoning of properties from GB to VMX. Since 2013, there have only been 3 properties rezoned to VMX based on applications received by the City. In 2016, the Planning Commission discussed rezoning all of the properties to VMX, but tabled it for the following reasons 1) densities within this area are guided too high 2) VMX standards are less restrictive 3) form based code should be created 4) updated population and development projections for area needed. The rationale for the rezoning is to bring the subject properties' land use consistent with the Comprehensive Plan. Without the rezoning at this time, many improvements to these properties would require owners to rezone to VMX and obtain variances.

Wensman went through the differences between GB and VMX such as lot width, lot area and impervious surface maximum. There are 83 parcels currently zoned general business. There are some parcels that are guided RS that are guided for VMX and there are a number of parcels zoned RS being used for business, not single family homes. The residential properties being used for business were not noticed, but should be included in this rezoning. Re-publication of the public hearing to include these properties would

be needed. The properties that are guided for VMX, but currently used as single family residences, staff is not recommending rezoning at this time. Staff feels that single family residences should be an allowed use in the VMX. If that is the case, those existing single family homes could be rezoned to VMX as it would have no impact on them. New and existing homes should be treated the same.

Hartley is wondering why there is long list of condition uses as part of the VMX district. Wensman stated it is the choice of the City Council to decide what is permitted and conditional. Some uses are conditional to allow greater scrutiny of those uses. In the Village, the lots and structures are very close to each other, so there could be uses that should have greater scrutiny with conditions put in place to mitigate unforeseen situations. Hartley thinks the veterinary services should be more specific to small animals, not large animal services.

Wensman stated that if there are specific changes to the code, that code be discussed through the public hearing for the zoning. Williams is wondering if the City Council responded to the June Planning Commission request for updated population projections for the Village area. Wensman stated that they did not specifically respond. They have now launched into the Comprehensive Plan process and it will be addressed through the process. Williams is asking if there were 2 houses fairly far apart on existing lots, could they then subdivide and build another house. Wensman thinks there are greater requirements for single family homes, but he will look at it. Williams asked about the status of the form based code. Wensman stated that with the Comprehensive Plan update, the priority for form based code was lowered. Emerson asked how many single family homes would be affected if they change them to VMX. Wensman thought maybe around 30 properties. Williams asked what the downside would be of those properties being legal non-conforming. Wensman stated if the home burned down, they could only rebuild on the footprint and would not be able to expand without a variance. Williams is wondering about making single family homes conditional uses. Wensman stated that might be a good solution.

Public Hearing opened at 7:32 pm

Sue Dunn, 11018 Upper 33rd Street, she would like the Commission to really think about what things should be conditional uses. She is concerned about surface water and impervious surface. She thinks the VMX could possibly add an additional 10,000 people in the Village Area. She is concerned about the existing businesses. She thinks single family homes are important to the Village Area. She thinks it is important to know what the projections are for 2040 and how close we are to meeting those projections. There is also a huge section to the East that is considered part of the Village area.

There were no written comments

M/S/P: Dorschner/Williams, move to continue the public hearing for the Zoning Map Amendment Discussion to rezone properties to VMX – Village Mixed Use to the next possible meeting in order to properly notice the public hearing to include the additional properties in the Zoning Map Amendment, Vote: **6-0, motion carried unanimously.**

Public Hearing – Comprehensive Plan Amendment to add 2 properties to RSF Sewered

Wensman started his presentation regarding adding 2 properties to the Olson Lake Trail sewer area and re-guiding them to Rural Single Family sewer. This would add 4497 & 4473 Olson Lake Trail to the MUSA. The feedback from the Met Council is that it would just be an administrative review and would be similar to what was done in the Village to add additional properties. This does not require any jurisdictional review as we have a joint powers agreement with Oakdale. We have not received any comments from the public notice sent out and advertised.

Dorschner asked what the Oakdale capacity would be for hooking up the rest of the properties around Olson Lake on that road. Wensman stated that they are not in the MUSA so there has been no talk about Oakdale picking them up. Wensman stated that they do not know, because there is no plan for it and the property owners are not requesting it. Handt stated that the Engineers did reach out to neighboring properties to see if they wanted to be included, and these were the only 2 properties interested in being included.

Williams is wondering if there is a Zoning Text that is actually rural single family sewer. Wensman stated that the City does not have that specific zoning, but it is probably something that could be created. Wensman stated that there really is no problem leaving them as Rural Single Family zoning, but the change to the land use designation was something the City Council was interested in to distinguish those properties within the MUSA. Met Council was only concerned with land use designation in the Comprehensive Plan allowing for sewer connection.

Emerson is wondering if they would move the MUSA line without the property owners asking for it. Wensman stated that the City has not required properties to be sewer unless the property owner has petitioned for it and signed a waiver.

Public Hearing opened at 7:44 pm

No one spoke and there were no written comments

Public Hearing closed at 7:45 pm

M/S/P: Dorschner/Lundquist, move to recommend approval of the amendment to the City's Wastewater Facilities Plan by adding PID #'s 090292132001 & 080292140059 to the Olson Lake Trail MUSA, **Vote: 6-0, motion carried unanimously.**

Hartley stated that they are adding these properties because they specifically requested it. Looking at the map, there are potentially 4-5 properties that would seem to fit the same characteristics of the other properties and why they requested it. Why is the City not adding those properties? Williams stated it is because they did not request it and according to Handt, they actively declined by not responding. Wensman stated that there was one additional parcel that was thinking about it, but after further discussion with the Engineer, they declined. Dorschner is wondering if we have the means through the MUSA to require connection. Wensman stated that with the joint powers with Oakdale, we have the means to connect these properties. Dorschner is concerned that properties along the lake are still on old septic systems and what that means for the future. Hartley stated that he is concerned because the City does not have a very good mechanism to catch when drainfield fail and so we end up with even one house affecting the Lake. Handt stated that most septic problems are caught when the properties are sold or a building permit is issued. Williams stated that the same logic for the additional properties could be applied to the whole Tri-Lakes area. If the MUSA was opened up to the whole Tri-Lakes area, there would be numerous people speaking against it. Wensman stated that there are a number of 201 septic systems in this area that have been created to deal with some of the failing septic systems.

M/S/P: Lundquist/Dorschner, move to recommend approval of a Comprehensive Plan Amendment re-guiding PID #'s 090292132001 & 080292140059 to Rural Single Family Sewered on the City's Land Use Plan, **Vote: 6-0, motion carried unanimously.**

Dorschner wanted to confirm that there was no Rural Single Family Sewered zoning. Handt stated that there was not, but this is just guiding it as such in the Comprehensive Plan. Hartley wanted to reinforce his concern from the standpoint of the Comprehensive Plan, they do not have the potential pollution issues under control for all of these properties that have individual septic systems and the inspection of them comes well after the fact that they have failed. Williams doesn't disagree, but doesn't feel that it will change anytime soon as he has heard the same discussion for 40 years.

Business Item –Preliminary Plat and PUD Plans - Royal Golf

Wensman started his presentation by stating that the Planning Commission approved the rezoning to GCC on 3/13/17 and tabled the approval for the Preliminary Plan and Preliminary PUD Plans. At the last meeting, the developer was proposing some changes to the NW neighborhood. They have withdrawn those changes at this time. The Planning Commission requested addition information on forest management, but the developer is no longer interested in doing that. The developer has indicated he will comply with the tree replacement requirements, but there is still dispute as to whether the project is a mixed use. Since 3/13, the VBWD has raised concerns regarding some of the infiltration basins. The developer is working through those issues and is confident

there are adequate solutions that will not impact the plat. Staff has slightly modified the condition pertaining to VBWD approval. Staff added a missing condition that the green corridor in the NW neighborhood be a minimum of 100' wide outside of the lot area. Right now there is one area that is shown at 84' with one of the lot lines.

Staff is recommending the same conditions with some corrections and additions. A correction to #15, correcting the Lots and Block it pertained to. Condition #20 pertains to the woodland management. It doesn't hurt to keep that condition if the developer changes his mind, but it is up to the Planning Commission how to handle that. Condition #24 was reworded to make it clearer. #35 was added to capture the 100' green corridor. #36, #37 & #38 are the 3 conditions added by the Planning Commission regarding the sidewalk along the South side of 20th street and that there would be no street lights except at street intersections to meet the dark sky ordinance and to work with adjacent property owners to come up with screening that gets incorporated into the landscape plans. The recommended findings are the same with the addition of #9 that a significant amount of public testimony regarding that 20th street is already dangerous without the additional traffic and the developer needs to explore ways to make the road safer. Staff is recommending approval with 38 conditions of approval and the 9 findings identified.

Dorschner asked what the dispute is around mixed use. Wensman stated that the tree preservation plan has a provision that requires mitigation as well as landscape requirements for residential development. For commercial and mixed use developments there is an exception that all trees with the exception of ornamental trees may be counted towards tree replacement requirements. The developer is saying that this site is mixed use with the golf course being the commercial piece. They are arguing that it the case so that all of the replacement trees will count towards their landscaping requirements. Staff is saying that the golf course is the principle use; open space. It was a public facility in the past and it had an accessory commercial use, which is not the primary use. They will be creating a separate parcel for the more commercial site, and possibly that could be exempted, but exempting the whole golf course is not consistent with past practice and the City attorney does not support the mixed use interpretation. Wensman stated the difference would be a large cost to the developer in tree replacement or a significant loss of trees for the City. Staffs solution for this was the idea of forest management to better serve the development. The developer likes the tree preservation better because it is more quantifiable vs the forest management which is kind of a gray area.

Rick Packer, Royal Golf, stated that the attorneys were discussing the mixed use concept and they had hoped that they could come to a compromise. They did not feel that the forest management was a compromise, but an exchange for the tree preservation requirement. The Royal Golf attorney opinion is that this development is mixed use. There is economic incentive that the City has provided to commercial development. There is currently no definition of mixed use in the City code. In the absence of a

definition, those terms are supposed to be given their plain and ordinary meaning. The Royal Golf Community has 4 different types of uses on the property. There is residential, business services, food service and outdoor recreation. They feel that the golf course is clearly a commercial use. This is a wooded site vs a cornfield, so the number is really large. There are 8500 trees on this site, with about 3000 trees being removed. They are allowed to remove roughly 2500 trees or 30%. They are removing about 35% or 418 trees more than what is allowed. Based on the City code without the mixed use exemption, they would need to plant 3024 trees or 10 trees per lot. Packer states it would cost them \$1.5 million dollars for trees alone. They had proposed 900 trees or 3 trees per lot. Packer stated that staff rejected that as there was no way for them to inspect them. They are planting 214 trees that are ornamental which do not count either. They feel that they legally qualify for a mixed use and should get the exemption. They were looking for some compromise that they did not get.

Royal Golf is proposing to construct an off street trail in a location shown on the overhead vs a trail on 20th Street that has no shoulders. There is a significant grade change where the trail would need to go and a loss of trees. They would argue that it would be better served with adding a shoulder to the road that is wide enough to walk and bike on. Packer talked about the alternate Villa design and would like that to move forward to the City Council. There is one driveway that is in the sanitary sewer easement which is a concern to the city engineer. They can enter something into documents recorded against the property. Packer stated that this plan has one less unit than proposed with plat, but is essentially the same grading plan.

Lundquist asked why the proposed sidewalk on 20th only goes just past the clubhouse. Packer stated that there are places that are very steep and would be very disruptive to that area. Williams asked why the City would not accept the widened shoulder or sidewalk within the ROW. Wensman stated that MSA standards would require the sidewalk to be located on the outer edge of the ROW.

Larson asked what the status of the tree replacement is. Wensman stated that there is the landscape requirement and the street tree requirement. The City is going the more lenient interpretation, requiring landscaping based on the disturbed area calculation. Street trees will go in with the road when the improvement goes in. In terms of the development trees with 4 trees going in with the home, as long as the City has escrow to ensure the trees go in, the timing isn't as important. There is a difference between the developer and the City of approximately 1000 trees. That difference hinges on the Mixed Use issue as the City and developer have failed to come to a compromise. Williams asked if they are opposed to any forest management in exchange for relief of the tree replacement. Packer stated that there is no compromise if it is dollar for dollar exchange they would not be interested. Williams stated that he is willing to relax the tree replacement provisions from 1000 to 500 in return for a program of buckthorn removal for 3 years after construction has started. Hartley thinks that it is problematic as it is not just the individual home owners. Dorschner stated that buckthorn is very

difficult to manage and is good screening. Hartley feels that the City is better off having new trees vs a management plan based on the possible tree diseases. Emerson feels that the uses out there are mixed use and that is what they need to decide. Williams feels that they need to go with the City Attorney's opinion on that issue, but also feels that there should be some relaxation of the number of trees with buckthorn removal.

M/S/P: Williams/Lundquist, move to add an additional condition that the tree replacement requirement based on residential use be relaxed by 50% in return for the developer controlling buckthorn by cutting stems and treating the remaining stumps by either physical pulling or by herbicide application for a period of three years beyond the date for which construction begins for the adjacent phase, ***Vote: 4-2, motion carried with Hartley and Dorschner voting no.***

Wensman stated that this motion would replace condition #20 in the packet. Dorschner asked how many trees this would leave them to replace. Half would be around 500. Dorschner feels there would be more value in trees vs. the forest management. He feels the real issue is the mixed use interpretation vs. residential, but feels they need to go with the attorney's opinion. Jim Felton talked about what they did for the wildlife corridor and what was required by the VBWD. His estimate of cost for what they have done is about 50K.

Williams doesn't believe there are any West Lakeland properties that they need to be concerned about in regards to screening. Packer stated that they have an agreement with the Homestead development. Williams feels that the City should allow the golf carts on the streets for the GCC. Wensman stated that a separate ordinance would be required that is not part of the zoning code. They could recommend that staff bring one forward. Hartley stated that personally he is not in favor of the golf carts because they are often driven irresponsibly and rules are not followed. Emerson doesn't have a problem with golf carts and maybe an age limit could be put on it. Dorschner was in Arizona and many of the communities there have them. Larson stated that the golf carts would have destinations such as the clubhouse, restaurant, etc. Schroeder stated that they have looked at many ordinances in different cities and they address such things as age, speed, hours of operation, lights, etc.

M/S/P: Williams/Dorschner, move to propose an additional finding #10 that the Planning Commission determines that it would be desirable to allow golf carts on the public streets within a golf course community, ***Vote: 5-1, motion carried, with Hartley voting no.***

Williams asked if the Fire Chief commented on the street names. Wensman stated that the Fire Chief does not like the new street naming policy, and is going to be taking the whole street naming policy back to the public safety committee. This street naming complies with the current ordinance.

In regards to the street lights, the City Engineer stated that there is no requirement to have street lights in a development.

Packer is wondering if they have addressed the Villa area. Handt stated that as of Friday, the developer was pulling that section, but tonight included it in the presentation. Wensman stated that one clear problem based on their limited review is the driveway with a storm pipe underneath it which will need to change.

M/S/P: Williams/Dorschner, move to recommend condition #39 that staff reviews and approves the new plans presented tonight regarding the Villas and that the developer complies with all of the staff recommendations, ***Vote: 6-0, motion carried unanimously.***

M/S/P: Lundquist/Larson, move to recommend approval of the Preliminary Plat and Preliminary Planned Unit Development Plans for the Royal Golf Club at Lake Elmo with the 39 conditions based on the 10 findings identified in the staff report and amended by the Planning Commission, ***Vote: 6-0, motion carried unanimously.***

Business Item – Zoning Text Amendment – Village Low Density Residential Zoning

Wensman started his presentation regarding the Village Low Density Residential Zoning. Since the last meeting, there were density ranges added, the impervious calculation was added to 35%, struck the maximum setback standard, allows free standing multi-family dwellings as a CUP to match the comprehensive plan, and clarified the setbacks for other residential uses. There was a desire at the last meeting to have a build to line incorporated into the VMX and the staff thinks that they have addressed that by the prevailing setback of the street to have consistency. If it is a new street, it can be decided at that time. Wensman went through some of the other standards.

Williams asked about the garage standards and why that need to be called out specifically. Wensman thinks that it for existing homes that might want to build an additional garage. There was some information regarding tiny houses and if the City wants to alter its minimum home size. Wensman thinks more research needs to be done regarding this for the next meeting. Another consideration is would we want to have different standards for the urban vs rural areas. There was discussion if the Planning Commission thinks the VMDR zoning should just use the standards for LDR and have that reference made in the Comprehensive Plan.

Hartley is wondering how the City determines in the VMX what is a permitted use and what requires a condition use permit. Wensman stated that there is not a straight criteria that determines if it is permitted vs a CUP. Typically the City makes uses conditional if it is perceived that the type of use could potentially create issues so the city wants to put conditions on the use. Williams stated that if there were

recommendations of uses that should be permitted, the Commission could take up that discussion in the future.

Business Item – Zoning Text Amendment – Solar Ordinance

Wensman started his presentation regarding the solar ordinance. Some of the reasons for a solar ordinance are to protect neighbors from glare, that it meets imperious surface, area and size requirements and that there is a decommissioning plan. There is also a solar farm definition, which is not currently outlined in the Zoning Code as allowed permitted or condition primary use. Where should they be allowed as a primary use if anywhere? Some of the standards are that it must comply with accessory structure setback, height, lot coverage, etc. Should solar energy systems be exempt from certain standards in certain areas? Hartley is wondering if the City wants to add to the ordinance that an HOA can't prohibit the use of solar panels. Wensman stated that would be unusual, but the City could put that restriction on. Currently solar farms are not allowed as the primary use anywhere, should they be? Staff is looking for any other additional standards that the Commission would like to include.

Hartley thinks a large commercial installation is very different than a residential one. He also feels that in residential, if it is limited to the rooftop, that is different issue than if it takes up a whole back yard. Williams suggested a slightly different definition of solar farm from "wholesale sales" to "offsite customers". Williams wants "off-grid systems" defined in the interconnection agreement section. Williams would like to eliminate "using a reflector to enhance solar production" from the reflectors section. Hartley stated that the commercial operations are probably the only ones to use reflectors. Williams is also confused about "screening to the North side of the solar array". He thinks they need to look at that. Hartley suggested just striking the word north.

Williams thinks that it needs to be stated that solar panels are considered impervious for calculations. Emerson doesn't feel that the whole thing should be considered impervious. Williams feels that especially in commercial operations, you have compaction of the soils and it is no longer like a vacant field. There are also access roads and maintenance to consider. Wensman stated that it is creating a concentrated flow and runoff. Williams feels that it is easier for the City to manage and not inconsistent with the codes of other Cities if it is considered impervious. Hartley stated that maybe the total area could be calculated and 50% is considered impervious.

Williams would like to add a provision that HOA's and CIC's are not allowed to prohibit solar systems. He is wondering if they should add solar systems as an incentive in the PUD bonus table. Williams asked if these systems would require a city building permit. Wensman stated that they would because of the footings. Hartley stated that screening and such would need to be reviewed by the City. Wensman stated that it might not be a building permit, but a zoning compliance review. Williams stated that there is a reference to building code in the code requirements section and it should say all rooftop

or building integrated systems. Williams would like to add the words “and/or screened” to item #7 Visibility to be consistent with other rooftop structures. For storm water management, Williams would like to add “Watershed Districts requirements”.

City Council Updates – March 21, 2017 Meeting

- i) Wildflower 2nd Developer Agreement - passed
- ii) Lakewood Crossing 2nd Addition Concept Plan PUD - passed
- iii) Noise Ordinance – on hold

Staff Updates

- 1. Upcoming Meetings
 - a. April 10, 2017
 - b. April 24, 2017
- 2. MAC CEP Report

Commission Concerns

Hartley would like to reinforce the idea that the meetings not be too long and that the Commission get out at a reasonable hour. If the meeting gets too long, they are not at their best.

Dorchner wants to finalize the rural single family sewer. Wensman stated that the ordinance states that the rural single family should be predominately individual septic, but does not require it to be so. If they are designated in the comprehensive plan by the MUSA, it is allowed. Dorschner feels there should be different standard for when you are sewer and when you aren't. Wensman will look at it more detail and report back. Williams is concerned that there has been nothing done as a City regarding form based code. He recognizes that it takes a long time, but it just keeps being pushed down the road. Wensman stated that through the Comp Plan amendment process, the vision will be reaffirmed.

Meeting adjourned at 10:45 pm

Respectfully submitted,

Joan Ziertman
Planning Program Assistant

STAFF REPORT

DATE: 4/10/2017

PUBLIC HEARING

ITEM #: 4a

MOTION

TO: Planning Commission
FROM: Emily Becker, City Planner
AGENDA ITEM: Bremer Bank Service Center Easement Vacations
REVIEWED BY: Stephen Wensman, Planning Director

BACKGROUND:

The City has received requests from Bremer Bank, National Association for two easement vacations:

- To vacate an existing drainage and utility easement to be relocated to allow for the expansion of the existing building.
- To vacate an existing drainage and utility easement to be relocated to accommodate the combination of the three parcels requested to be combined.

Location: 8555 Eagle Point Blvd N, PID#s 33.029.21.41.0053, 33.029.21.41.0050, and 33.029.21.41.0051

Existing Land Use: Bremer Service Center Building and Parking Lot

Existing Zoning: Business Park (BP) – Eagle Point Business Park Planned Unit Development (PUD)

Surrounding Land Use/Zoning: East: Low Density Residential (LDR) (Boulder Ponds); South: BP; North: High Density Residential (HDR) (Inwood); West: BP (School)

Comprehensive Plan: Business Park

History: 1999: Eagle Point PUD approved.
2002: Site plan for Bremer approved.
2011: City approved a PUD amendment in 2011 to allow for the expansion of the parking lot, amending the setback along the norther property line from 80 feet to 20 feet.
2015: City approved a minor subdivision of Outlot A in to two separate parcels to facilitate transfer of land.

Deadline for Action: Application Complete: 3/16/2017
60 Day Deadline: 5/15/2017
Extension Letter Mailed: N/A
120 Day Deadline: N/A

Applicable Regulations: Article XIV – Commercial Districts
M.S. 412.851

ISSUE BEFORE COMMISSION:

The Commission is being asked to hold a public hearing and make recommendation on the request for two easement vacations for the property located at 8555 Eagle Point Blvd.

PROPOSAL DETAILS/ANALYSIS:

“Move to recommend approval of the vacation of the easement described as the south 5.00 feet Lot 1 Block 1, Eagle Point Business Park 3rd Addition subject to a new drainage and utility easement, as approved by the City Engineer, being recorded.”

Staff recommends that the Planning Commission recommend approval of the proposed drainage and utility easement vacation:

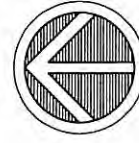
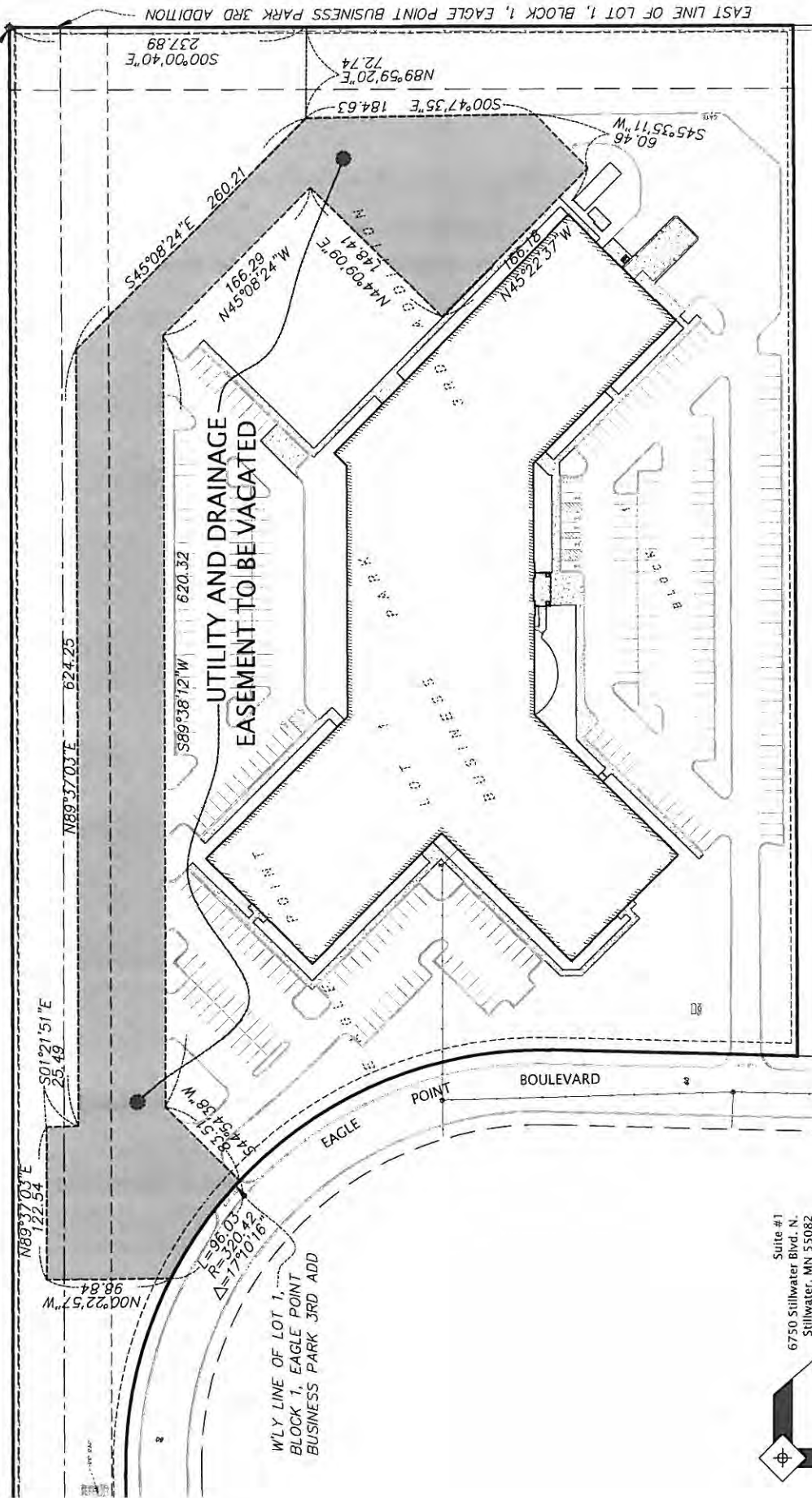
“Move to recommend approval of the vacation of the easement as shown in Doc. No. 1208614, subject to a replacement easement, as approved by the City Engineer, being recorded.”

ATTACHMENTS:

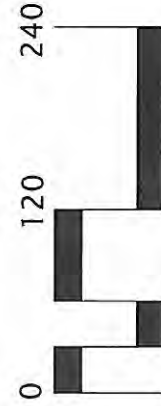
- Easement Vacation and Replacement Exhibits
- Application

EASEMENT VACATION EXHIBIT

NE CORNER OF LOT 1, BLOCK 1, EAGLE
POINT BUSINESS PARK 3RD ADDITION

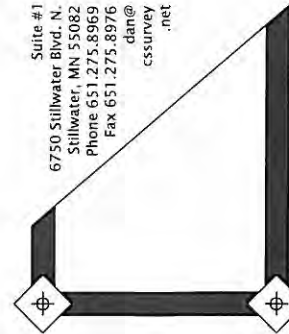


NORTH



SCALE: 1 INCH = 120 FEET

Suite #1
6750 Stillwater Blvd. N.
Stillwater, MN 55082
Phone 651.275.8969
Fax 651.275.8976
dan@
cssurvey
.net



CORNERSTONE
LAND SURVEYING, INC.

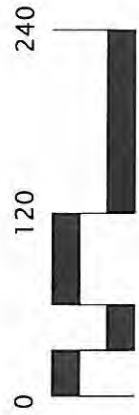
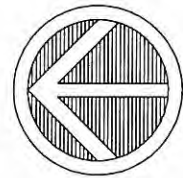
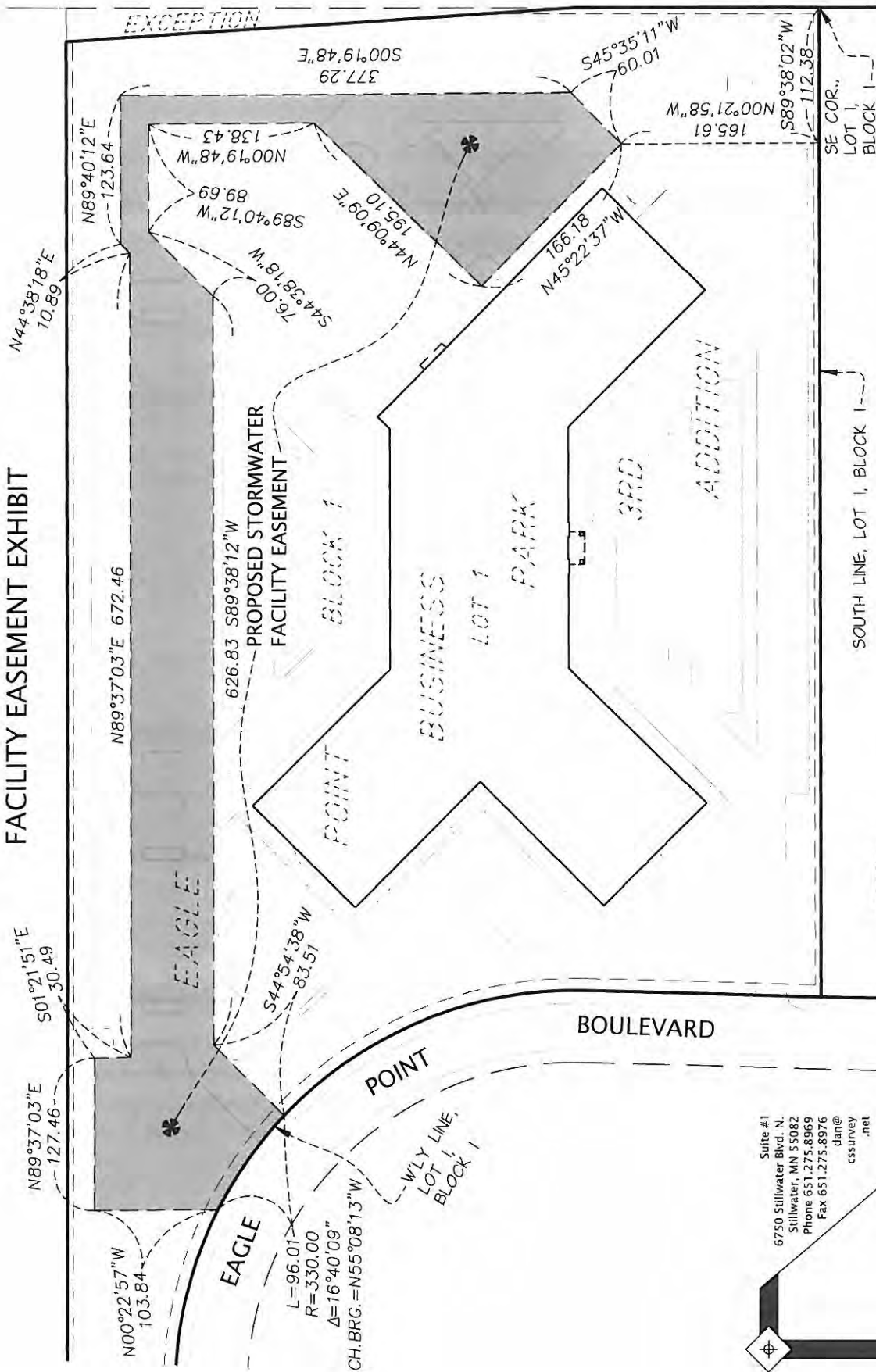
UTILITY AND DRAINAGE EASEMENT TO BE VACATED

An easement for drainage and utility purposes over that part of the following described property:

That part of Lot 1, Block 1, EAGLE POINT BUSINESS PARK 3RD ADDITION, according to the plat thereof filed of record in the office of the Registrar of Titles in and for Washington County, Minnesota said easement is described as commencing at the northeast corner of said Lot 1; thence South 00 degrees 00 minutes 40 seconds East, assumed bearing along the east line of said Lot 1, a distance of 237.89 feet; thence South 89 degrees 59 minutes 20 seconds West 72.74 feet to the point of beginning; thence South 00 degrees 47 minutes 35 seconds East 184.63 feet; thence South 45 degrees 35 minutes 11 seconds West 60.46 feet; thence North 45 degrees 22 minutes 37 seconds West 166.18 feet; thence North 44 degrees 09 minutes 09 seconds East 148.41 feet; thence North 45 degrees 08 minutes 24 seconds West 166.29 feet; thence South 89 degrees 38 minutes 12 seconds West 620.32 feet; thence South 44 degrees 54 minutes 38 seconds West 83.51 feet to the westerly line of said Lot 1; thence northwesterly 96.03 feet along said westerly line being a non-tangential curve concave to the southwest having a radius of 320.42 feet a central angle of 17 degrees 10 minutes 16 seconds and a chord which bears North 55 degrees 08 minutes 14 seconds West; thence North 00 degrees 22 minutes 57 seconds West 98.84 feet; thence North 89 degrees 37 minutes 03 seconds East 122.54 feet; thence South 01 degrees 21 minutes 51 seconds East 25.49 feet; thence North 89 degrees 37 minutes 03 seconds East 624.25 feet; thence South 45 degrees 08 minutes 24 seconds East 260.21 feet to the point of beginning.

NOTE: EASEMENT IS AS SHOWN IN DOC. NO. 1208614

NORTHERLY STORMWATER FACILITY EASEMENT EXHIBIT



■ DENOTES PROPOSED
STORMWATER FACILITY
EASEMENT

Suite #1
6750 Stillwater Blvd. N.
Stillwater, MN 55082
Phone 651.275.8969
Fax 651.275.8976
dan@
cssurvey
.net

CORNERSTONE
LAND SURVEYING, INC

LEGAL DESCRIPTION:

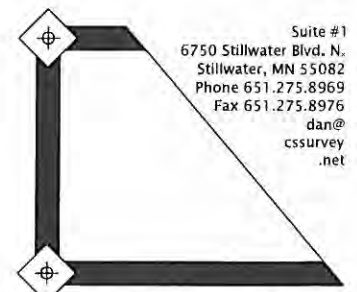
Lot One (1), Block One (1), EAGLE POINT BUSINESS PARK 3RD ADDITION,
EXCEPT

That part Beginning at the Northeast corner of said Lot 1, Block 1; thence South 89 degrees 38 minutes 02 seconds West, assumed bearing, along the North line of said Lot 1 a distance of 28.08 feet, thence South 03 degrees 47 minutes 08 seconds East a distance of 426.49 feet to the East line of said Lot 1; thence North 00 degrees 00 minutes 40 seconds West along said East line of Lot 1 a distance of 425.74 feet to the point of beginning.
(Torrens property, Certificate of Title No. 73198)

DESCRIPTION OF PROPOSED EASEMENT:

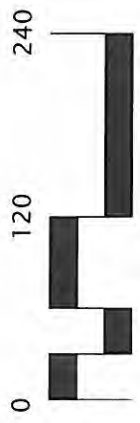
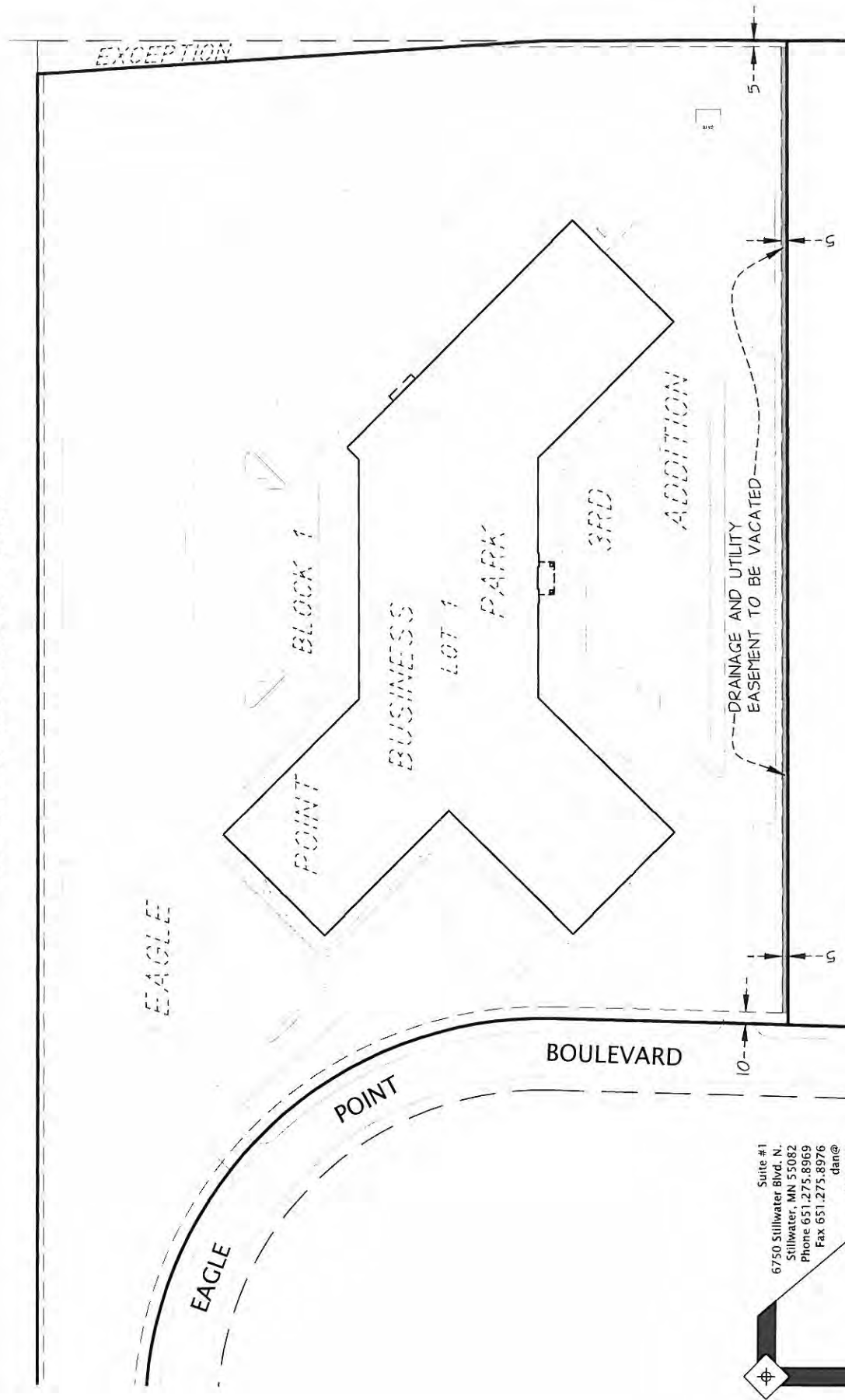
A stormwater facility easement over, under, and across that portion of Lot 1, Block 1, EAGLE POINT BUSINESS PARK 3RD ADDITION, described as follows:

COMMENCING at the southeast corner of said Lot 1, Block 1; thence on an assumed bearing of South 89 degrees 38 minutes 02 seconds West along the south line of said Lot 1 a distance of 112.38 feet; thence North 00 degrees 21 minutes 58 seconds West a distance of 165.61 feet to the POINT OF BEGINNING; thence North 45 degrees 22 minutes 37 seconds West a distance of 166.18 feet; thence North 44 degrees 09 minutes 09 seconds East a distance of 195.10 feet; thence North 00 degrees 19 minutes 48 seconds West a distance of 138.43 feet; thence South 89 degrees 40 minutes 12 seconds West a distance of 89.69 feet; thence South 44 degrees 38 minutes 18 seconds West a distance of 76.00 feet; thence South 89 degrees 38 minutes 12 seconds West a distance of 626.83 feet; thence South 44 degrees 54 minutes 38 seconds West a distance of 83.51 feet to the westerly line of said Lot 1; thence northwesterly along said westerly line a distance of 96.01 feet along a non-tangential curve concave to the southwest having a radius of 330.00 feet a central angle of 16 degrees 40 minutes 09 seconds and a chord which bears North 55 degrees 08 minutes 13 seconds West; thence North 00 degrees 22 minutes 57 seconds West, not tangent to last described curve, a distance of 103.84 feet; thence North 89 degrees 37 minutes 03 seconds East a distance of 127.46 feet; thence South 01 degrees 21 minutes 51 seconds East a distance of 30.49 feet; thence North 89 degrees 37 minutes 03 seconds East a distance of 672.46 feet; thence North 44 degrees 38 minutes 18 seconds East a distance of 10.89 feet; thence North 89 degrees 40 minutes 12 seconds East a distance of 123.64 feet; thence South 00 degrees 19 minutes 48 seconds East a distance of 377.29 feet; thence South 45 degrees 35 minutes 11 seconds West a distance of 60.01 feet to the POINT OF BEGINNING.



CORNERSTONE
LAND SURVEYING, INC
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EASEMENT VACATION EXHIBIT




 DENOTES DRAINAGE
AND UTILITY EASEMENT
TO BE VACATED

Suite #1
 6750 Stillwater Blvd. N.
 Stillwater, MN 55082
 Phone 651.275.8969
 Fax 651.275.8976
 dan@
 cssurvey
 .net

CORNERSTONE
 LAND SURVEYING, INC

LEGAL DESCRIPTION:

Lot One (1), Block One (1), EAGLE POINT BUSINESS PARK 3RD ADDITION,
EXCEPT

That part Beginning at the Northeast corner of said Lot 1, Block 1; thence South 89 degrees 38 minutes 02 seconds West, assumed bearing, along the North line of said Lot 1 a distance of 28.08 feet, thence South 03 degrees 47 minutes 08 seconds East a distance of 426.49 feet to the East line of said Lot 1; thence North 00 degrees 00 minutes 40 seconds West along said East line of Lot 1 a distance of 425.74 feet to the point of beginning.

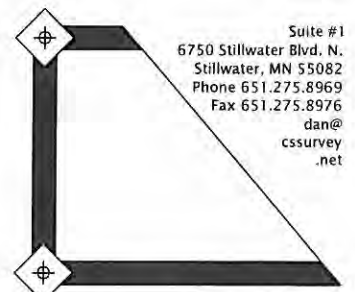
(Torrens property, Certificate of Title No. 73198)

DESCRIPTION OF EASEMENT TO BE VACATED:

The south 5.00 feet Lot 1, Block 1, EAGLE POINT BUSINESS PARK 3RD ADDITION

EXCEPT

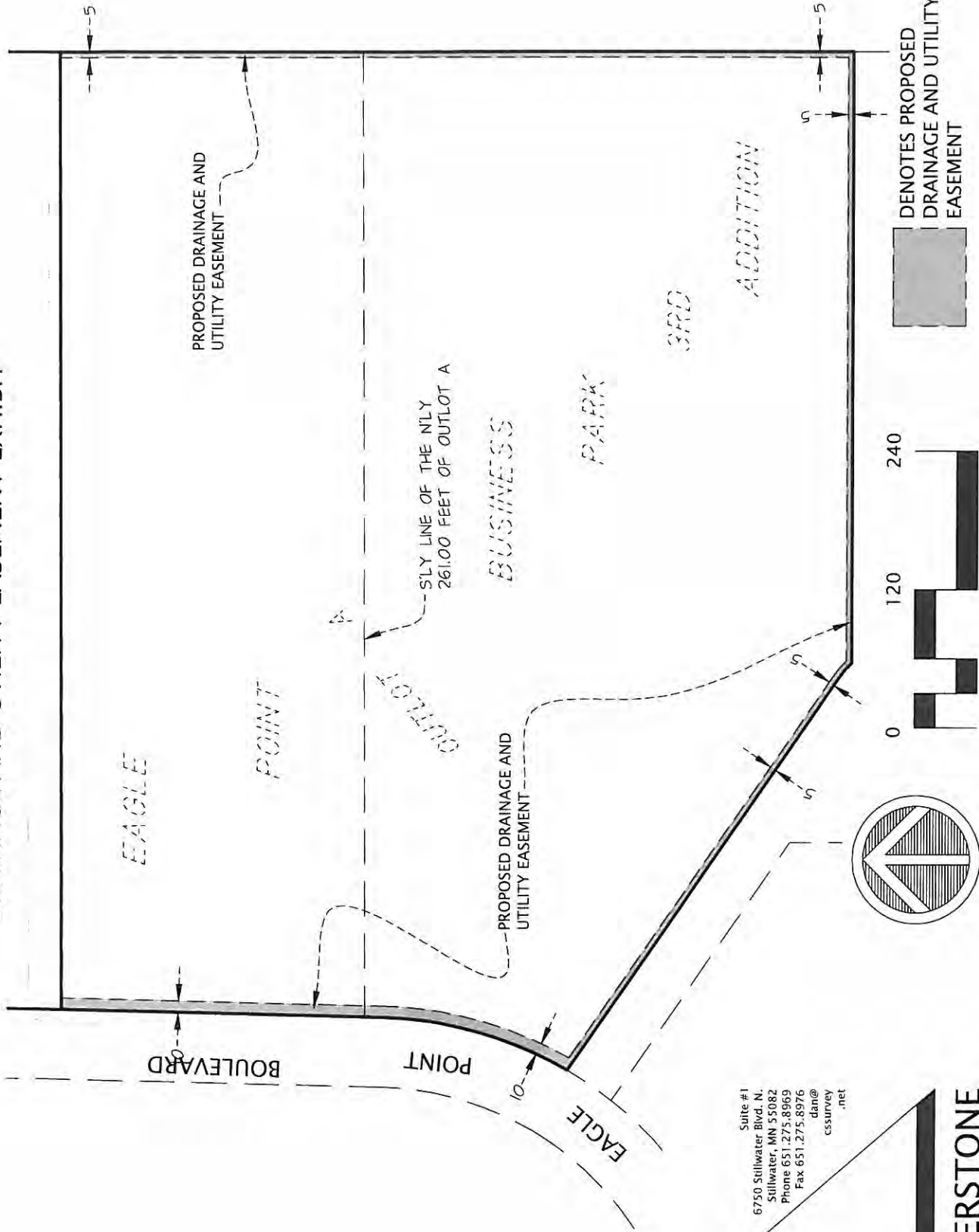
The west 10.00 feet of the south 5.00 feet and the east 5.00 feet of the south 5.00 feet of said Lot 1



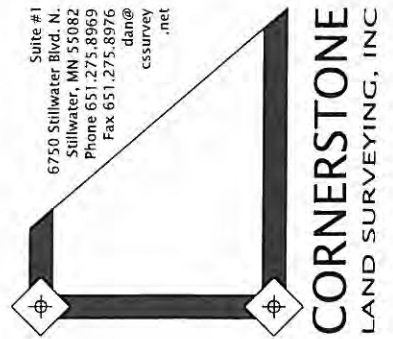
Suite #1
6750 Stillwater Blvd. N.
Stillwater, MN 55082
Phone 651.275.8969
Fax 651.275.8976
dan@
cssurvey
.net

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DRAINAGE AND UTILITY EASEMENT EXHIBIT



Suite #1
6750 Stillwater Blvd. N.
Stillwater, MN 55082
Phone 651.275.8969
Fax 651.275.8976
dan@
cssurvey
.net



LEGAL DESCRIPTION:

The northerly 261.00 feet of Outlot A, EAGLE POINT BUSINESS PARK 3RD ADDITION, according to the plat thereof on file and of record in the office of the Registrar of Titles, Washington County, Minnesota.
(Torrens property, Certificate of Title No. 72855)

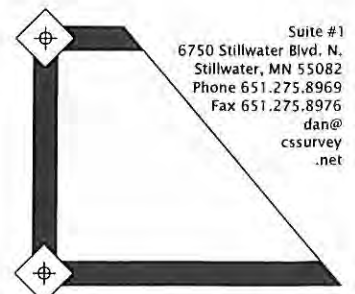
AND

That part of Outlot A, EAGLE POINT BUSINESS PARK 3RD ADDITION, lying southerly of the northerly 261.00 feet, according to the recorded plat thereof, Washington County, Minnesota.
(Torrens property, Certificate of Title No. 74304)

DESCRIPTION OF PROPOSED EASEMENT:

A drainage and utility easement over, under, and across that portion of Outlot A, EAGLE POINT BUSINESS PARK 3RD ADDITION, described as follows:

The westerly 10.00 feet, the southwesterly 5.00 feet, the south 5.00 feet, and the east 5.00 feet; all of said Outlot A



Suite #1
6750 Stillwater Blvd. N.
Stillwater, MN 55082
Phone 651.275.8969
Fax 651.275.8976
dan@
cssurvey
.net

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LAND SURVEYING, INC
PAGE 2 OF 2 PAGES

Date Received _____
Received By: _____
Permit #: _____



651-747-3900
3800 Laverne Avenue North
Lake Elmo, MN 55042

LAND USE APPLICATION

- ☐ Comprehensive Plan ☐ Zoning District Amend ☐ Zoning Text Amend ☐ Variance*(see below) ☐ Zoning Appeal
- ☐ Conditional Use Permit (C.U.P.) ☐ Flood Plain C.U.P. ☐ Interim Use Permit (I.U.P.) ☐ Excavating/Grading
- ☐ Lot Line Adjustment ☐ Minor Subdivision ☐ Residential Subdivision Sketch/Concept Plan
- ☐ PUD Concept Plan ☐ PUD Preliminary Plan ☐ PUD Final Plan ☐ Wireless Communications ☒ Easement Vacation

Applicant: Bremer Bank, National Association c/o Josh Meyer

Address: 8555 Eagle Point Blvd., Lake Elmo, MN 55042

Phone # 651-734-4510

Email Address: JPMeyer@Bremer.com

Fee Owner: Bremer Bank, National Association

Address: 8555 Eagle Point Blvd., Lake Elmo, MN 55042

Phone # 651-734-4510

Email Address: JPMeyer@Bremer.com

Property Location (Address): 8555 Eagle Point Blvd., Lake Elmo, MN 55042

(Complete (long) Legal Description: Lot 1, Block 1 and Outlot A, Eagle Point Business Park 3rd Addition, Washington County, Minnesota Except That Part of Lot 1, Block 1 as described as follows:

PID#: 33.029.21.41.0053, 33.029.21.41.0050, and 33.029.21.41.0051

Detailed Reason for Request: To vacate an existing stormwater facility easement in order to relocate it to allow for expansion of the existing building on site. Also, to vacate an existing drainage and utility easement to allow for efficient development of an overall parcel being combined to allow for efficient parking and land use.

*Variance Requests: As outlined in Section 301.060 C. of the Lake Elmo Municipal Code, the applicant must demonstrate practical difficulties before a variance can be granted. The practical difficulties related to this application are as follows:
Not applicable

In signing this application, I hereby acknowledge that I have read and fully understand the applicable provisions of the Zoning ordinance and current administrative procedures. I further acknowledge the fee explanation as outlined in the application procedures and hereby agree to pay all statements received from the City pertaining to additional application expense.

Signature of applicant: _____

Date: 3-6-17

Signature of fee owner: _____

Date: 3-6-17

Beginning at the northeast corner of said Lot 1, Block 1; thence South 89 degrees 38 minutes 02 seconds West, assumed bearing, along the north line of said Lot 1 a distance of 28.08 feet; thence South 03 degrees 47 minutes 08 seconds East a distance of 426.49 feet to the east line of said Lot 1; thence North 00 degrees 00 minutes 40 seconds West along said east line of Lot 1 a distance of 425.74 feet to the point of beginning.



STAFF REPORT

DATE: APRIL 10, 2017

AGENDA ITEM: 5B – PUBLIC HEARING

CASE #2016-59

TO: Planning Commission
FROM: Emily Becker, Planner
SUBMITTED BY: Zoning Text Amendment – Village Urban Districts
REVIEWED BY: Stephen Wensman, Planning Director

BACKGROUND:

The Planning Commission has reviewed a proposed draft Village Urban Low Density (V-LDR) zoning district as well as minor amendments to the Village Mixed Use (VMX) District at its January 23, 2017, February 13, February 27, 2017, and March 27, 2017 meetings.

ISSUE BEFORE THE COMMISSION:

Staff respectfully requests that the Planning Commission hold a public hearing and recommend changes to and/or approval of the proposed draft ordinance of the Village Low Density Residential and minor amendments to the Village Mixed Use (VMX) District.

PLANNING/ZONING ANALYSIS:

Summary of Discussed Changes since the last Planning Commission meeting to Proposed Ordinance. The following provides changes and responses to Commission feedback provided from the last meeting at which the subject ordinance was discussed:

- **Multi-Family Not within a Mixed Use Development Added.** There was question about if there was a definition for multi-family and for mixed use. Multi-family dwelling is defined in the Zoning Code as a building containing three or more dwelling units. The mixed use definition
- **Mixed Use Definition.** The Commission asked that mixed use be defined. Staff was unable to find a very good example of mixed use to fit broadly within the Code. The VMX District states that more than one use is allowed on one parcel of land or in one building. Mixed use could mean a number of things: a mixture of uses in one building, one parcel, one development, one area, or one neighborhood. Staff does not recommend that Mixed Use be defined, as it could cause issues with interpretation elsewhere in the Code.
- **Additional Density Standards Added.** Staff added language from the Comprehensive Plan Amendment approved in late 2015 that allows a higher density for senior congregate care facilities with services in the VMX to exceed listed density maximums with a range not to exceed 16 units per acre provided the facility can satisfy all zoning and applicable conditional use permit reviews.
- **Garage Setback.** There was question as to why garages should be required to be setback at least 25 feet. This is to prevent cars parked in driveways from parking in the right-of-way. Garage setbacks were added to the Lot Dimension and Setback Requirements table in order to simply standards.
- **Standards for Village Medium Density Residential.** There is still no Village Medium Density Residential Zoning District. The density that is set forth in the Comprehensive Plan for the Village Medium Density Residential land use is 2.5-4.99 units per acre. This is virtually the same density as Urban Low Density Residential (2.5-4 units per acre). Areas guided for Village Medium Density Residential may be zoned Urban Low Density to achieve the density for which

the area is guided. The reason for the creation of the Village Low Density Residential district is to create an urban residential zoning district which allows a density of 1.5-2.49 (the density the Comprehensive Plan designates for areas guided Village Low Density Residential), as there currently exists no zoning district that allows this.

- **Additional Setback Standards for County Roads Added.** Staff has received requests from the county to add increased setback standards for county roads. Resultantly, Staff has recommended adding setback standards from county roads CSAH 14 and 17 at a minimum of 30 feet.
- **Single Family Homes in VMX.** The Commission has expressed that they would like to see single family homes still allowed in the VMX District.
 - *Zoning Code Language Currently.* Currently, standards for the VMX district indicate that an existing single family home shall be considered a permitted, rather than non-conforming use, in the VMX zoning district. This language was derived from the Comprehensive Plan language outlined below. The Comprehensive Plan does not classify single-family homes as an allowed use in the VMX zoning district.
 - “[Uses in] VMX: Twin Home, Townhouse, Apartment/Condominium, Housing Above Retail”
 - “The existing residential neighborhoods within the Village Planning Area will [be] guided either as RS – Rural Single Family or as VMX – Village Mixed-Use with the intent of classifying all existing single family residential homes as permitted uses:
 - *Language needs to be changed.* This current language does not make legal sense. Either a use should be permitted or conditional use. Upon rezoning, a use may be made a legal non-conforming use, which would indicate that it could not be expanded. A legal non-conforming use may not be expanded through the variance process, as that would be considered a use variance, which is not allowed.
 - *Single Family Detached Home as a Conditional Use in VMX.* The Commission had mentioned that they may wish to see single family detached homes conditional uses in the VMX district as an option. Staff has drafted the proposed ordinance to read this way. However, the above should be considered regarding the Comprehensive Plan’s designated uses for the VMX district.
- **Minimum Lot Size Requirements for Single Family Detached Home in VMX.**
 - *Minimum Lot Size.* Staff has estimated that the minimum lot size of single family homes within the VMX District is approximately 0.3 acres (13,068 sf). The Commission had expressed concern about lots with single family detached homes to subdivide. The current ordinance designates a minimum lot size of 5,000 sf for a single family detached home (even though it’s not an allowed new use). To address Commission concern, Staff is proposing that the minimum lot size be 9,000 sf, mirroring the minimum lot size standard of the proposed V-LDR standard. This would prevent a majority of the lots within this district to further subdivide, as only approximately eight of the single family residential lots guided for VMX would be able to further subdivide under this standard.
 - *Minimum Lot Width.* The current minimum lot width for single family homes within the VMX district is designated as 50 feet. However, it may make sense to increase this to 70 feet given the proposed increase minimum lot size of the district. It appears that very few single family lots within the Village have a lot width of as little as 50 feet, however it may affect some lots to increase the minimum to 70 feet. If the minimum lot size is increased, it may make sense to change the minimum lot width as well. Staff has changed the minimum lot width in the proposed ordinance but is looking for recommendation on this.
- **Conditional and Permitted Uses Currently Allowed in the VMX District.** The Commission had expressed some concern over conditional and permitted uses currently designated as allowed

within the VMX zoning district. The Commission should specifically outline which uses are of concern and discuss. If additional standards are needed for specific uses, this should also be discussed.

- **New Housing Types Mixture Requirement.** The following statement was added to standards for a single-family attached home in the VMX District. Staff added this standard, as it exists as standards for multi-family dwellings and two-family dwellings in the urban residential district. Staff has asked that the City Attorney review this language, as they believe it may not be legal to limit the type of housing one person can put in on a block just because someone had previously erected the same type of housing.
 - “New housing types should be introduced in limited quantities to increase diversity and housing choice, not to replace whole blocks of existing housing. Therefore, no more than 1/4 of the lineal frontage of a developed block may be redeveloped as two-family units, and no further two-family or higher density development is permitted once this threshold is reached. Lineal frontage shall be measured around the entire perimeter of the block.”
- **Veterinary Services.** One comment from the Commission referenced that they may not wish to see veterinary services for large animals in the downtown area. Staff has added language that sets forth standards preventing this. The Commission should also keep in mind that further conditions can be placed during the conditional use permit process to help mitigate risks associated with certain uses.
- **House Size.** The Commission did not specifically speak about the single family detached dwelling size regulation that was added to the VMX and V-LDR Zoning Districts. This standard remains unchanged as a result.
- **Question about General Site Design Considerations (154.504) vs. Development Standards for Specific Uses (154.505).** The Commission had a question about why these were two separate sections. Section 154.504 sets forth general standards for all development within the Village District, whereas Section 154.505 sets forth general standards for specific uses.

Findings.

The Planning Commission drafted the following findings at its February 13, 2017 meeting:

1. That certain areas of the Old Village are guided for Urban Low Density Residential in the Land Use Plan of the Comprehensive Plan, which designates a density of 1.5-2.49 units per acre.
2. That there currently does not exist a Village Low Density Residential zoning district which has a density of 1.5-2.49 units per acre within the Zoning Code.
3. That the Village Low Density Residential zoning district is being proposed due to the imminence of the Gonyea West Development, which is expected to be proposed to be located within the Old Village in an area guided for Village Low Density Residential.
4. That the Planning Commission would be interested in exploring increased densities within the Old Village as an amendment to the Comprehensive Plan.

RECOMMENDATION:

Staff recommends that the Planning Commission hold a public hearing and provide feedback on or recommend approval of amendments to Article XIII: Village Mixed Use Districts, which add standards for the V-LDR Village Low Density Residential District and proposes minor changes to the VMX – Village Mixed Use District. If the Commission wishes to make recommendation at this time, the Commission may do so with the following motion:

“Move to recommend adoption of Ord 08- , creating a Village Low Density Residential District and making minor amendments standards of the Village Mixed Use District.”

ATTACHMENTS:

1. Draft Ordinance

**CITY OF LAKE ELMO
COUNTY OF WASHINGTON
STATE OF MINNESOTA**

ORDINANCE NO. 08-__

**AN ORDINANCE AMENDING ARTICLE XIII: VILLAGE MIXED USE DISTRICT AND
CREATING STANDARDS FOR A VILLAGE LOW DENSITY RESIDENTIAL ZONING
DISTRICT**

SECTION 1. The City Council of the City of Lake Elmo hereby amends the Lake Elmo City Code Title XV: Land Usage; Chapter 154: Zoning Code; Article XIII: Village Mixed Use District; to read the following:

ARTICLE XIII: VILLAGE ~~MIXED-USE~~ DISTRICTS

§ 154.500 PURPOSE AND DISTRICT DESCRIPTION

(A) *V-LDR Village Low Density Residential.* The purpose of the V-LDR zoning district is to provide opportunity for lower density residential development within the Old Village and create a transition and connectivity between the heart of the Old Village and surrounding rural areas. Residential development within areas zoned V-LDR will occur at a density of 1.5-2.49 units per acre.

(B) *VMX – Village Mixed Use District.* The purpose of the VMX district is to provide an area for compact, mixed use development made mutually compatible through a combination of careful planning and urban design and coordinated public and private investment. This district is intended to continue the traditional mixed use development that has occurred in the Village area by allowing retail, service, office, civic and public uses as well as residential units. The mixture of land uses within the district is essential to establishing the level of vitality and intensity needed to support retail and service uses. Development within areas zoned VMX will occur at a density of 6-10 units per acre. Senior congregate care facilities may exceed this density maximum with a range not to exceed a total of 16 units per acre, provided the facility can satisfy all zoning and applicable conditional use permit review criteria. The placement of building edges and treatment of building, parking, landscaping, and pedestrian spaces is essential to creating the pedestrian friendly environment envisioned for the VMX district. The standards in this chapter are intended to implement and effectuate the principles and relationships established in the Village Master Plan, which will be carried out through specific standards related to site planning, signage, architecture, building materials, and landscaping. Renovation and infill of traditional storefront-type buildings is encouraged, and parking standards may be waived to recognize the availability of on-street and shared parking facilities.

§ 154.501 PERMITTED AND CONDITIONAL USES

Table 11-1 lists all permitted and conditional uses allowed in the urban residential districts. “P” indicates a permitted use, “C” a conditional use. Uses not so indicated shall be considered prohibited. Cross-references listed in the table under “Standards” indicate the location within this Ordinance of specific development standards that apply to the listed use.

A. *Combinations of uses, Village Districts*. The following use types may be combined on a single parcel:

1. Principal and accessory uses may be combined on a single parcel.
2. A principal and secondary dwelling unit may be combined according to the standards of Section ~~155.137-154.454~~ (C).

B. *Combination of uses, VMX District*.

1. Single-family attached or multi-family complexes designed for rental or condominium occupancy, since these typically include multiple units and buildings on a single parcel.
2. Other permitted or conditional uses allowed within the district may be combined on a single parcel, provided that a unified and integrated site plan is approved. The entire development must be approved as a conditional use.
3. A mixed-use building that combines permitted or conditionally permitted residential, service, retail and civic uses may be developed meeting the form standards of this Article. Office or studio uses on upper stories are encouraged.

Table 11-1: Permitted and Conditional Uses, ~~VMX~~ Village Districts

	V-LDR	VMX	Standard
Residential Uses			
Household Living			
Single-family detached dwelling	<u>P</u>	<u>P*</u> <u>C*</u>	155.504.A-154.505 (A) (1), (2), *(4)
Two-family dwelling	=	<u>P*</u>	155.504.A-154.505 (A) (1), (4)
Single-family attached dwelling	=	C	154.505 (A) (1), (5)
Multifamily dwelling	=	C	154.505 (A) (1), (6)
Secondary dwelling	<u>C</u>	C	154.505.D-154.454 (C) & 154.505 (A) (1), (3)
Live-work unit	=	P	155.505.J-154.505 (B) (6)
Group Living			
Group Home	<u>P</u>	P	155.102.C-154.301 (A)
Group Residential Facility	=	C	155.102.D-154.301 (B)
Congregate Housing	=	C	155.102.E-154.301 (C)
Semi-Transient Accommodations	=	C	155.102.F-154.301 (C)
Public and Civic Uses			
Community Services	=	P	155.103.C
Day Care Center	=	P	155.103.D
Public Assembly	=	C	155.505.M
Religious Institutions	=	C	155.505.N-154.303 (N)
Schools, Public and Private	=	C	155.505.O-154.303 (A)
Services			
Business Services	=	P	
Business Center	=	P	
Offices	=	P	
Communications Services	=	P	
Education Services	=	P	154.303 (A)
Financial Institution	=	P	155.505.P
Funeral Home	=	C	
Lodging	=	C	155.505.Q-154.302 (D)
Medical Facility	=	C	155.505.R-154.303 (B)
Membership Organization	=	C	155.505.N
Nursing and Personal Care	=	C	155.104.C-154.303 (C)
Personal Services	=	P	
Repair and Maintenance Shop	=	C	155.505.E-154.505 (B) (1)
Trade Shop	=	C	155.505.F-154.505 (B) (2)
Veterinary Services	=	C	154.505.G-154.505 (B) (3)

Food Services			
Standard Restaurant	E	P	
Restaurant with Drive-through	E	C	154.304 (A)
Drinking and Entertainment	E	P	155.505.S-154.304 (B)
Sales of Merchandise			
Retail Trade ¹	E	P	155.505.T
Farmer's Market	E	C	155.505.AA
Garden Center	E	C	155.505.U-154.505 (B)
Neighborhood Convenience Store	E	P	155.505.V
Shopping Center	E	C	155.505.W
Wayside Stand	P	P	154.454 (D)
Automotive/Vehicular Uses			
Automobile Maintenance Service	E	C	155.505.X-154.505 (B)
Automobile Parts/Supply	E	P	155.505.X-154.505 (B)
Gasoline Station	E	C	155.505.X-154.305 (B)
Parking Facility	E	C	155.505.X-154.505 (B)
Sales and Storage Lots	E	C	155.505.X-154.305 (C)
Outdoor Recreation			
Outdoor Recreation Facility	E	C	155.505.Y-154.306 (C)
Parks and Open Areas	P	P	
Indoor Recreation/Entertainment			
Indoor Athletic Facility	E	C	155.505.Z-154.307
Indoor Recreation	E	C	155.505.Z-154.307
Transportation and Communications			
Broadcasting or Communications Facility	E	C	155.110.B
Mixed Uses			
<u>Combination of Principal Uses on a single parcel</u>		C/P	<u>154.501 (B)</u>
<u>Combination of Principal and Accessory Uses on a single parcel</u>	P	P	<u>154.501 (A)</u>
Accessory Uses			
Home Occupation	P	P	155.111.A,B 154.012 (12) (e)
Bed and Breakfast	E	C	155.111.C-154.310 (A)
Family Day Care	P	P	155.111.G-154.012 (12)
Group Family Day Care	E	C	155.111.G
Temporary Sales	P	P	155.107.B-154.509 (G)
Parking Facility	E	P	154.505 (H) (7)
Solar Equipment	P	P	155.111.I-154.310 (C)
Swimming Pools, Hot Tubs, Etc.	P	P	155.111.J
Other Structures Typically Incidental and Clearly Subordinate to Permitted Uses	P	P	

Note: Standards listed in Table 11-1 are listed by Article, Section and Subsection.

¹Retail Trade in the VMX District includes all uses and activities defined as Retail Trade in ~~§155.507.B.5 154.012 (5) (c)~~ with the exception of building supplies sales and warehouse club sales.

§ 154.502 LOT DIMENSIONS AND BUILDING BULK REQUIREMENTS

Lot area and setback requirements shall be as specified in Table 11-2, Lot Dimension and Setback Requirements.

Table 11-2: Lot Dimension and Setback Requirements, ~~VMX Villages Districts~~

	V-LDR	VMX
Minimum Lot Area (sq. ft.)^a		
Non-Residential Use	-	None
Single Family Detached Dwelling	<u>9,000</u>	5,000-9000
Two-Family Dwelling (per unit) ^b	=	3,000
Single-Family Attached (per unit) ^c	=	2,500
Multi-Family Dwelling (per unit)	=	1,800
Secondary Dwelling	-	See 154.454 (C)
Live-Work Unit	=	3,000
Congregate Housing	=	155.402.F 154.301 (C)
Other Structures	=	3,500
Maximum Lot Area (acres)		
Residential Structures	<u>N/A</u>	N/A
Other Structures	<u>N/A</u>	5
Minimum Lot Width (feet)		
Single Family Detached Dwelling	<u>70</u>	50-70
Two-Family Dwelling (per unit) ^b	=	30
Single-Family Attached (per unit) ^c	=	25
Multi-Family Dwelling (per building)	=	75
Live-Work Unit	=	25
Maximum Height (feet/stories)	<u>35</u>	35/3 ^d
Maximum Impervious Coverage		
Residential Structures	<u>35%</u>	75%
Other Structures	=	No Limit
Minimum Building Setbacks (feet)^e		

Front Yard	<u>25</u>	Single-Family Detached, Two- Family, and Single- Family Attached: See LDR standards of 154.452 Multi-Family Dwellings: 154.505 (A) (6) (b) All Other Residential Uses: 154.505 (A) (7) Non-Residential Uses: 154.505 (B) (1)
Interior Side Yard	<u>10</u>	10 ^e
Corner Side Yard	<u>15</u>	0 ^f
Rear Yard	<u>20</u>	10
Garages	<u>25</u>	<u>25</u>

Notes to ~~VMX~~ Village Districts Table

- a. No development may exceed the residential density range as specified in the Comprehensive Plan for the ~~Village Mixed-Use~~ corresponding land use category.
- b. Two-family units may be side-by-side with a party wall between them (“twin”) or located on separate floors in a building on a single lot (“duplex”). The per-unit measurements in this table apply to “twin” units, whether on a single lot or separate lots. The standards for single-family detached dwelling shall apply to a “duplex” containing two vertically-separated units on a single lot.
- c. In the case of single-family attached dwellings that are not situated on individual lots, minimum lot size shall be applied to each unit as a measure of density; i.e. 1 unit per 2,500 square feet. This standard is also used for multifamily dwellings.
- d. Buildings up to 45 feet in height may be permitted as part of a PUD in the VMX District.
- ~~e. The front yard setback for single family homes shall be 25 feet.~~
- e. Side yard setbacks in the VMX District apply only along lot lines abutting residentially zoned parcels or those parcels with residential uses as the sole use.
- f. Corner properties: the side yard façade of a corner building adjoining a public street shall maintain the front setback of the adjacent property fronting upon the same public street, or the required front

Commented [EB1]: This is already indicated in 154.505 (A) (3) (b)

yard setback, whichever is less. If no structure exists on the adjacent property, and provided required setbacks are not otherwise stated herein, the setback shall be shown in the table.

- g. Properties abutting CSAH 17 and CSAH 14 shall have a minimum setback standard of 30 feet.

§ 154.503 DIMENSIONAL REQUIREMENTS AND PRESERVATION OF OPEN SPACE

- A. *Averaging of Lot Area.* When lots are clustered within a development to provide common open space, the open space may be used to calculate an average density per lot to determine compliance with the individual lot area requirements.
- B. *Lot Dimension Reductions.* Other reductions in dimensional standards may be considered as part of a Planned Unit Development if these reductions provide for common open space within a development.
- C. *Village Open Space Overlay District.* Development of areas within the Village Open Space Overlay District, as designated by the Comprehensive Plan, is not allowed. Residential lots shall not encroach on the areas designated as open space per this overlay district, unless approved by Council.

§ 154.504 GENERAL SITE DESIGN CONSIDERATIONS – ~~LMX~~ VILLAGE DISTRICTS

Development of land within the ~~VMX Village Districts~~ shall follow established standards for traffic circulation, landscape design, and other considerations as specified in Article 5, 6 and 7.

- A. *Circulation.* New access points to ~~State Highway 5~~ County State Aid Highway 14 may be refused or restricted to right-in right-out movement if alternatives exist. Internal connections shall be provided between parking areas on adjacent properties wherever feasible.
1. The number and width of curb-cuts shall be minimized. To promote pedestrian circulation, existing continuous curb-cuts shall be reduced to widths necessary for vehicular traffic, and unnecessary or abandoned curb cuts shall be removed as parcels are developed.
- B. *Fencing and Screening.* Fencing and screening walls visible from the public right-of-way shall be constructed of materials compatible with the principle structure.
- C. *Lighting design.* Lighting shall be integrated into the exterior design of new or renovated structures to create a greater sense of activity, security, and interest to the pedestrian, and shall comply with §150.035-150.038 *Lighting, Glare Control, and Exterior Lighting Standards.*
- D. *Exterior Storage.* Exterior materials storage must be screened from view from adjacent public streets and adjacent residential properties, by a wing of the principal structure or a screen wall constructed of the same materials as the principal structure. Height of the structure or screen wall must be sufficient to completely conceal the stored materials from view at eye level (measured at six feet above ground level) on the adjacent street or property.

- E. *Screening of Existing Residential Structures.* When a new development is proposed adjacent to an existing single family residential structure, screening shall be provided in accordance with §154.258.F. The City may require buffering or screening above and beyond this section in cases where the required screening will not provide an adequate separation between incompatible uses.
- F. *Sidewalks and/or Trails.* Where cul-de-sacs are permitted by the City, sidewalks or trails are required to connect the bulb of the cul-de-sac with the nearest through-road or trail.
- G. *Lake Elmo Theming Study.* Elements of the Lake Elmo Theming Study not herein described must be incorporated in to development within Village Districts where applicable.

§ 154.505 DEVELOPMENT STANDARDS FOR SPECIFIC USES

Development of land within the ~~VMX Village & Districts~~ shall follow established standards for traffic circulation, landscape design, parking, signs and other considerations as specified in Articles 5, 6 and 7. The following standards apply to specific uses; other standards related to design and building type may be found at §154.506.

A. Residential Units, Village Districts.

1. All Residential Units, Village Districts.

- a. Residential housing units shall be designed to reflect the general scale and character of the Village, including front yard depth, height and roof pitch, primary materials, facade detailing and size and placement of window and door openings.

2. Single-Family Detached Dwellings, Village Districts.

- a. No parking shall be located in the front yard or between the front façade and the street except on a permitted driveway.
- b. Primary entrances are required to be along the front façade.
- c. Dwelling units shall be at least twenty-four (24) feet in width, at least nine hundred sixty (960) square feet in area, and be placed on a permanent foundation.

3. Secondary Dwellings, Village District. Restricted to lots occupied by single-family dwellings, and must meet the standards for secondary dwellings in residential districts, §154.13454 (C) and be located within the primary structure.

4. Single-Family Detached and Two-Family Dwellings, VMX District.

- a. Single-Family Detached Dwellings are limited to those existing at the time of adoption of this Ordinance. Expansion of existing and new single-family detached dwellings shall be allowed through the conditional use process, considered permitted uses, rather than nonconforming uses.

- b. Unless otherwise specified in this Article, Single and Two-Family Dwellings in the VMX district shall adhere to the ~~MDR~~ LDR district setbacks as specified in §154.452.

5. *Single-Family Attached, VMX District.*

~~a. A maximum of eight (8) units shall be permitted within a single building.~~

- a. The primary entrance to each unit shall be located on the façade fronting a public street; an additional entrance may be provided on the rear or side façade.
- b. For redevelopment projects, new housing types should be introduced in limited quantities to increase diversity and housing choice, not to replace whole blocks of existing housing. Therefore, no more than 1/4 of the lineal frontage of a developed block (measured around the entire block perimeter) may be converted to townhouse units, and no further townhouse, two-family or higher-density development is permitted once this threshold is reached.
- c. Common open space for use by all residents or private open space adjacent to each unit shall be provided. Such open space shall comprise a minimum of three hundred (300) square feet per unit.
- d. No parking shall be located in the front yard or between the front façade and the street.
- e. Unless otherwise specified in this Article, Single-Family Attached dwellings in the VMX district shall adhere to the MDR district setbacks as specified in §154.452.

6. *Multi-Family Dwelling Units, VMX District.*

- a. Dwelling units (both condominium and rental) within a mixed use development are restricted to the upper floors or rear or side ground floors of a mixed use building.
- b. Setback standards for multi-family dwellings not within a mixed use development shall be determined through the conditional use process.

7. *All Other Residential Uses, VMX District. Setbacks for all other residential uses within the Village districts not specifically outlined in this Section shall be determined by either 154.506 or through the conditional use process.*

B. *Non-Residential Uses, VMX District.*

- 1. Setbacks, Generally. The front yard setback of a new non-residential building within the VMX district shall maintain the prevailing front yard setback of that block, or a maximum setback of 20 feet, whichever is less.
- 2. *Repair and Maintenance Shop.* No outdoor storage is permitted unless fully screened from public view.

Commented [EB2]: Verifying with the City Attorney if this is legal.

3. *Trade Shop.* Exterior materials storage must be totally screened from view from adjacent public streets and adjacent residential properties by a wall of the principal structure or a screen wall constructed of the same materials as the principal structure.
4. *Veterinary Services.*
 - a. All activities must be conducted within an enclosed building.
 - b. Specific veterinary practices shall be limited to veterinary medicine, surgery, dentistry, and related service for small domestic household pets.
5. *Garden Center.*
 - a. The storage or display of any materials or products shall meet all setback requirements of a structure, and shall be maintained in an orderly manner. Screening along the boundaries of adjacent residential properties may be required, meeting the standards of Article 6, Section 155.89.F.
 - b. All loading and parking shall be provided off-street.
 - c. The storage of any soil, fertilizer or other loose, unpackaged materials shall be contained so as to prevent any effects on adjacent uses.
6. *Automobile Maintenance Service and Automobile Parts/Supply*
 - a. All vehicle repairs shall be conducted in a completely enclosed building
 - b. The storage or display of inoperable or unlicensed vehicles or other equipment shall meet all setback requirements of a structure, and shall be totally screened from view from adjacent public streets and adjacent residential properties.
7. *Live-Work Unit.* The purpose of a live-work unit is to provide a transitional use type between a home occupation and a larger commercial enterprise, and to provide neighborhood-oriented commercial services, while maintaining a generally residential character in which the work space is subordinate to the residential use.
 - a. The work space component shall be located on the first floor or basement of the building.
 - b. The dwelling unit component shall maintain a separate entrance located on the front or side façade and accessible from the primary abutting public street.
 - c. The work space component of the unit shall not exceed thirty (30) percent of the total gross floor area of the unit.
 - d. A total of two (2) off-street parking spaces shall be provided for a live-work unit, located to the rear of the unit, or underground/enclosed.

- e. The size and nature of the work space shall be limited so that the building type may be governed by residential building codes. An increase in size or intensity beyond the specified limit on floor area would require the building to be classified as a mixed-use building.
 - f. The business component of the building may include offices, small service establishments, home crafts which are typically considered accessory to a dwelling unit, or limited retailing (by appointment only) associated with fine arts, crafts, or personal services. It may not include a wholesale business, a commercial food service requiring a license, a limousine business or auto service or repair for any vehicles other than those registered to residents of the property.
 - g. The business of the live-work unit must be conducted by a person who resides on the same lot. The business shall not employ more than two (2) workers on-site at any one time who live outside of the live-work unit.
8. *Parking Facility.* Structured parking is permitted as a ground floor use within a mixed-use building, provided that it is located on side or rear facades, not facing the primary abutting street. The primary street-facing façade shall be designed for retail, office or residential use. The primary street façade may include an entrance into the parking facility.
9. *Outdoor Dining Accessory to Food Services.* Outdoor dining is allowed as an accessory use in the commercial districts, provided that tables do not block the sidewalk. A minimum of five (5) feet of sidewalk must remain open.

§ 154.506 VMX DISTRICT DESIGN AND DEMOLITION REVIEW

- A. *Review of Design.* For certain development activity as specified in the *Lake Elmo Design Standards Manual*, design review is required as part of the approval process for a [building permit, conditional use permit](#), or certificate [of zoning compliance](#) under this Ordinance. All projects subject to design review shall be reviewed for conformance with the *Lake Elmo Design Standards Manual*. A separate process for design review is not established.
- 1. *Review Authority and Process.* Design review shall be the responsibility of the individual or body authorizing the permit or certificate and shall be incorporated in the established review of the applicable [building permit, conditional use permit](#), or certificate [of zoning compliance](#). For those applications under this Ordinance that require review by the Planning Commission ([i.e. conditional use permits](#)), the Planning Commission shall consider the standards in the *Lake Elmo Design Standards Manual* as part of its recommendation to the City Council.
 - 2. *Review by Professional.* The authorizing body may request review by a design professional of the proposed design or demolition. The cost of review by such design professional shall be charged by the applicant, and shall not exceed \$1,000 unless otherwise agreed to by the applicant.
 - 3. *Development Activity Defined.* Development Activity consists of new construction and redevelopment activities, including remodeling that expands the footprint of a structure, altering, or repairing a structure in a manner that will change the exterior appearance of said structure.

Development activity also includes the construction of a new parking lots and installation of signage.

- a. *Exempt Activities.* The following activities shall be exempt from under review of this Section:
- i. Ordinary repairs and maintenance that will not change the exterior appearance of a structure;
 - ii. Removal of existing signage without replacement unless said signs are an integral part of the building;
 - iii. Emergency repairs ordered by the Director of Planning in order to protect public health and safety;
 - iv. Exterior alteration, addition, or repair of a structure used as a single-family residence, duplex, or two-family residence.
 - v. Temporary signage, installed in accordance with §154.212 of this Ordinance, or during which time an application for permanent signage is pending under this Ordinance;
 - vi. Maintenance of existing signage advertising an on-site business;
 - vii. Alterations only to the interior of a structure.

§ 154.507 ACCESSORY USES AND STRUCTURES

Accessory uses are listed in ~~the VMX District Use~~ Table 11-1 as permitted or conditional accessory uses. Accessory uses and structures in the ~~VMX Village~~ Districts shall comply with the following standards and all other applicable regulations of this ordinance:

- A. *Phasing.* No accessory use or structure shall be constructed or established on any lot prior to the time of construction of the principal use to which it is accessory.
- B. *Incidental to Principal Use.* The accessory use or structure shall be incidental to and customarily associated with the principal use or structure served.
- C. *Subordinate to Principal Use.* The accessory use or structure shall be subordinate in the area, extent, and purpose to the principal use or structure served.
- D. *Function.* The accessory use or structure shall contribute to the comfort, convenience, or necessity of the occupants of the principal use or structure served.
- E. *Location.* The accessory use or structure shall be located on the same zoning lot as the principal use or structure.
- F. *Residential Accessory Structures*

~~§ 154.508 RESIDENTIAL ACCESSORY STRUCTURES~~

~~A.~~ 1. Design Compatibility. On parcels used for residential structures within the ~~VMX Village~~ Districts, the design and construction of any garage, carport, or storage building shall be similar to or compatible with the design and construction of the main building. The exterior building materials, roof style, and colors shall be similar to or compatible with the main building or shall be commonly associated with residential construction.

- ~~B.~~ 2. Attached structures. An accessory structure shall be considered attached, and an integral part of, the principal structure when it is connected by an enclosed passageway. All attached accessory structures shall be subject to the following requirements:
- The structure shall meet the required yard setbacks for a principal structure, as established for the zoning district in which it is located.
 - The structure shall not exceed the height of the principal building to which it is attached.

~~B.~~ 3. Attached Garages.

- ~~3.~~ a. Attached garages are encouraged to be side or rear loaded. If facing the primary street, garages shall be designed using one of the following techniques, unless specific physical conditions on the lot in question require a different approach:

- ~~The front of the garage is recessed at least four (4) feet behind the plane of the primary façade; or~~
- ~~The front of the garage is recessed at least four (4) feet behind a porch if the garage is even with the primary façade; or~~
- Garages shall be offset from the principal structure by a minimum of two feet.
- The width of the attached garage shall not exceed 40% of the width of the entire principal building façade (including garage) fronting the primary street.

- ~~4.~~ b. Attached garages shall not exceed one thousand (1,000) square feet in area at the ground floor level except by conditional use permit.

- ~~5.~~ c. Garage doors or openings shall not exceed fourteen (14) feet in height.

~~C.~~ 4. Detached structures. Detached accessory structures for permitted residential structures in the ~~VMX Village Districts must be in~~ accordance with the following requirements:

- Detached accessory structures shall be located to the side or rear of the principal building, and are not permitted within the required front yard or within a side yard abutting a street.
- Detached garages shall not exceed one thousand (1,000) square feet at ground floor level and shall not exceed a height of twenty-two (22) feet or the height of the principal structure,

whichever is higher. The maximum size and height may be increased upon approval of a conditional use permit, provided that lot coverage requirements are satisfied.

- c. Pole barns, as defined herein, shall be prohibited.
- d. No more than thirty (30) percent of the rear yard area may be covered by accessory structures.
- e. Garage doors or openings shall not exceed fourteen (14) feet in height.

~~§ 154.509 ACCESSORY USES~~

~~A.~~ G. *Exterior Storage on Residential Parcels.* All materials and equipment shall be stored within a building or be fully screened so as not to be visible from adjoining properties, except for the following:

- a. Laundry drying,
- b. Construction and landscaping materials and equipment currently being used on the premises. Materials kept on the premises for a period exceeding six (6) months shall be screened or stored out of view of the primary street on which the house fronts.
- c. Agricultural equipment and materials, if these are used or intended for use on the premises.
- d. Off-street parking and storage of vehicles and accessory equipment, as regulated in Article 5, Section ~~155.67-154.210.~~
- e. Storage of firewood shall be kept at least ten (10) feet from any habitable structure and screened from view of adjacent properties.
- f. Outdoor parking.

~~B.~~ H. *Temporary Sales.* Temporary sales, also known as yard or garage sales, are permitted in all residential districts, limited to two (2) per calendar year per residence, not to exceed four (4) days in length for each event.

~~C.~~ I. *Accessory Uses and Structures Not Listed*

~~§ 154.510 ACCESSORY USES AND STRUCTURES NOT LISTED~~

Standards for accessory uses and structures that are permitted in all districts, or in all residential buildings in any district, are listed in Article 7, Specific Development Standards. These include uses such as family and group family day care, bed and breakfast facilities, and home occupations, and structures such as swimming pools and solar equipment.

SECTION 2. The City Council of the City of Lake Elmo hereby amends the Lake Elmo City Code Title XV: Land Usage; Chapter 154: Zoning Code; Article X: Division Into Districts; Section 154.350 to read the following:

<i>Zoning District</i>		<i>Reference</i>
R-2	One and Two Family Residential	154.033
GB	General Business	154.034

A	Agriculture	Article XI
RR	Rural Residential	Article XI
RT	Rural Development Transitional	Article XI
RS	Rural Single Family	Article XI
RE	Residential Estate	Article XI
LDR	Urban Low Density Residential	Article XII
MDR	Urban Medium Density Residential	Article XII
HDR	Urban High Density Residential	Article XII
<u>V-LDR</u>	<u>Village Limited Density Residential</u>	<u>Article XIII</u>
VMX	Village Center - Mixed Use	Article XIII
C	Commercial	Article XIV
CC	Convenience Commercial	Article XIV
LC	Neighborhood Office/Limited Commercial	Article XIV
BP	Business Park/Light Manufacturing	Article XIV
PF	Public Facilities	Article XV

SECTION 3. The City Council of the City of Lake Elmo hereby amends the Lake Elmo City Code Title XV: Land Usage; Chapter 154: Zoning Code; Article VII: General Regulations; Section 154.212: Sign Regulations; Table 5-3 to read the following:

Table 5-3 Ground Signs				
Zoning District		A ^a , LDR, OP, RE, RS, RR ^a , RT ^a	MDR, HDR, <u>V-LDR</u>	BP, C, CC, GB, LC, VMX
No. of Total Traffic Lanes	Speed Limit (MPH)	Max Height/ Area (Sq. Ft.)	Max Height/ Area (Sq. Ft.)	Max Height/ Area (Sq. Ft.)
1-3	0-34	-	6'/32	10'/32
	35-44	-	6'/32	10'/50
	45+	-	6'/32	10'/72
4-5	0-34	-	6'/32	10'/40
	35-44	-	6'/32	10'/64
	45+	-	6'/32	12'/80

SECTION 4. The City Council of the City of Lake Elmo hereby amends the Lake Elmo City Code Title XV: Land Usage; Chapter 153: Subdivision Regulations; Section 153.14: Park Land Dedication Requirements; Subd. A to read the following:

<i>Zoning Districts</i>	<i>Minimum Required Land Dedication</i>
R1, R2, R3, and R4	10%
RS, V-LDR , LDR, MDR, HDR	10%
RE	7%
RR and AG	4%

SECTION 5. Effective Date. This ordinance shall become effective immediately upon adoption and publication in the official newspaper of the City of Lake Elmo.

SECTION 6. Adoption Date. This Ordinance 08-__ was adopted on this ____ day of _____, 2017, by a vote of __ Ayes and __ Nays.

LAKE ELMO CITY COUNCIL

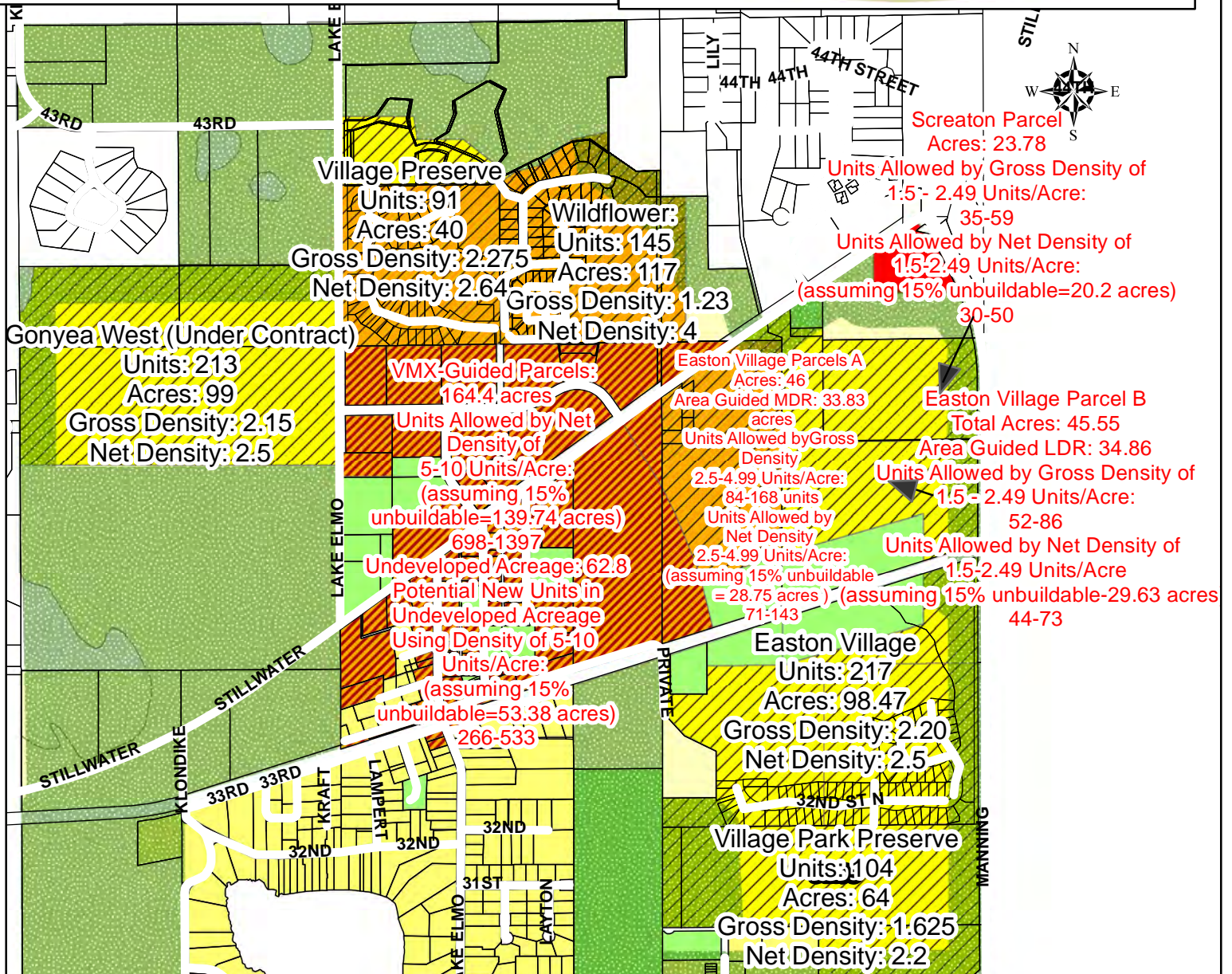
Mike Pearson, Mayor

ATTEST:

Julie Johnson, City Clerk

This Ordinance 08-__ was published on the ____ day of _____, 2017.

Parcels Guided in Village District



Land Use	Expected Per Village Master Plan	Development/Parcel Under Contract, Prelim Plat or Final Plat	Planned or Approved Development	Possible Future Development	Possible # of Units (based on <u>gross</u> density)		Possible # of Units (based on <u>net</u> density)	
					Low	High	Low	High
V-LDR and V-MDR Zoning Districts	800	Gonyea West	213	Screaton Parcel	35	59	30	50
		Village Preserve	91	Easton Village Parcel A	84	168	71	143
		Wildflower	145	Easton Village Parcel B	52	86	44	73
		Easton Village	217					
		Village Park Preserve	104	Possible Future Units :	171	313	145	266
		Total Planned/Approved Development Units:	770					
VMX Zoning District	200-300	Arbor Glen	48	Vacant Parcels in VMX District			266	533
				Potential Redevelopment in VMX District			398	1397

existing language that limits garage width to 40% of the width of the principal structure in the VMX.

The Commission wanted to further research into the minimum house square footage requirements allowed in all the zoning districts and suggested looking at the zoning codes for progressive cities, neighboring cities and a few similar cities in the west metro.

Business Item – Zoning Text Amendment – Planned Unit Development Zoning

Planning Director Wensman introduced draft changes to the PUD ordinance. He suggested the purpose to the changes was to add the recently approved OP PUD process to the Article I PUD regulations. The other primary change was to eliminate the size requirement for commercial PUDs and to allow the Planning Director to waive the Sketch Plan requirement for small commercial PUDs when they meet the identified objectives in Section 154.751. Wensman also mentioned that Consulting Planner Gozola had reviewed the draft and offered some additional suggested changes. Wensman stated he will review some of Gozolas suggestions and will incorporate them into a future draft amendment.

Commissioner Williams wanted to revisit section 154.751, Identified Objectives. He felt the requirement that one or more of them needing to be met was too easy for developers. It was suggested that Planning staff research what other cities do for establishing a basis for allowing PUDs.

Commissioner Hartley suggested that 154.752 C and D be reworded to something like 120% increase from the underlying zoning requirements.

Commissioner Williams was supportive of the draft changes to the minimum requirements, but suggested some rewording.

Commissioner Hartley wanted 154.753 B to include public trails.

The Commission discussed potential changes to the point system in Table 16-2 and wanted to revisit this. It was felt that Trails were a requirement already if part of a comprehensive trail plan and that otherwise the City should not award points for them.

Business Item – Zoning Text Amendment – Solar Ordinance Discussion

Planning Director Wensman introduced the Solar Ordinance discussion asking the Commissioners what they wanted to see changed with the City's ordinance.

Commissioner Dorschner wanted to be sure the ordinance protected neighbors from glare, etc. related to solar facilities. Commissioner Larson also stressed that safety was a concern.

Commissioner Williams thought the ordinance should address impervious surface requirements. Williams also felt the City should be less concerned with the amount of energy that can produced and more concerned about the area or size requirements and the districts in which the facilities should be located.

Director Wensman offered that he would review the city's ordinance against other ordinances to create a draft ordinance that takes into consideration the Commissions' concerns along with items generally addressed in other ordinances for future discussion.

City Council Updates – February 21, 2017 Meeting

- i) OP-Alt Zoning District Repeal – passed
- ii) Shoreland Management Overlay Ordinance Amendment – failed and tabled to next meeting
- iii) ZMA and CUP for 3549 Lake Elmo Ave - passed

Staff Updates

1. Upcoming Meetings
 - a. March 13, 2017
Planning Director Wensman informed the Commission that the Royal Golf zoning map amendment and preliminary plat and preliminary PUD, Inwood 5th final plat and PUD and Lakewood Crossing 2nd Concept PUD public hearings will be held.
 - b. March 27, 2017
Planning Director Wensman thought that Easton Village 2nd Addition and Hidden Meadows 2nd Addition final plat might be reviewed at this meeting along with business items for future ordinance amendments.

Commission Concerns

Commissioner Dodson asked to review the engineering standards for street lighting. Commissioners Dorschner and Hartley requested updated zoning maps for their zoning notebooks.

Meeting adjourned at 9:45 pm

Respectfully submitted,

Joan Ziertman
Planning Program Assistant



STAFF REPORT

DATE: 4/10/2017

BUSINESS

ITEM #: 5a

MOTION

TO: Planning Commission
FROM: Emily Becker, City Planner
AGENDA ITEM: Solar Energy Ordinance
REVIEWED BY: Stephen Wensman, Planning Director

BACKGROUND:

The creation of a solar garden/solar power ordinance is an item on the 2017 Planning Commission Work Plan. The Planning Commission reviewed a draft ordinance at its March 27, 2017 meeting. Staff has amended the proposed ordinance for the Planning Commission's review.

ISSUE BEFORE COMMISSION:

The Planning Commission is being asked to clarify what should be included in the requested solar garden/solar power ordinance.

PROPOSAL DETAILS/ANALYSIS:

Exemptions. The Planning Commission may wish to consider certain exemptions for the requirement that solar energy systems adhere to the lot size and dimension standards of the zoning district in which the solar energy system is located. The average size of an "off-the-shelf" solar panel is approximately 1 square meter (approximately ten square feet). However, there are smaller solar panels available, and requiring that such solar panels meet the accessory structure setback requirements of a zoning district may be unnecessary. For example, the City had recently received an inquiry about installing a 13.2" X 11" solar panel to provide exterior lighting to a sign. Because the Current code does not provide exemptions, this solar panel would need to adhere to the minimum setback requirements of the zoning district in which the solar panel is being proposed. The Commission may wish to consider adding an exemption to these requirements, based on the size of the solar panel. Staff has proposed an exemption size of six square feet or less, but the Commission may wish to consider a different size for exemptions.

Different Standards for Rooftop vs. Landscape. The Commission wished to designate different standards for rooftop vs. ground solar energy systems. Language was added to clarify different standards for rooftop and ground-mount solar energy systems.

Standards for Solar Farms. The proposed ordinance sets forth standards for solar farms. These standards would set forth specifications for solar farms as a principal use within a zoning district. These standards

would be specified in the Article of the zoning district in which solar farms would be allowed. Staff is requesting that the Planning Commission consider if solar farms should be allowed as a conditional primary use within a zoning district that currently exists in the city and to consider which zoning district that should be.

Defining Off-Grid Systems. The previous ordinance exempted off-grid systems from being required to have an interconnection agreement. The Commission asked for a definition of off-grid. Staff revised the proposed ordinance to provide further clarification.

Additional Clarification for Impervious Surface. Staff added language to further clarify what would be considered impervious surface for a solar energy system. This language was taken directly from the model ordinance.

Reflectors. The Planning Commission suggested that the language in the proposed ordinance should be amended to state that glare should be minimized from any solar energy system rather than stating that glare shall be minimized from any solar energy system using reflectors. Staff has amended the language as such.

Restrictions from Homeowner's Association. The Commission had requested that the solar energy systems ordinance place restrictions on homeowner's associations being able to forbid the installation of solar energy systems or create design standards that effectively preclude solar energy installations. This language has been added to the proposed ordinance.

Tax Status of Solar Farms. The Commission had questioned what the tax status of solar farms would be. The City Assessor was contacted and stated that the land on which a solar farm in Scandia is located is taxed commercially.

FISCAL IMPACT:

None.

OPTIONS:

The Commission may wish to:

- Specify desired amendments or additions to the Zoning Code regarding solar garden/solar power ordinance.
- Not recommend amending current standards or adding new ones.

ATTACHMENTS:

- Draft Ordinance

CITY OF LAKE ELMO
COUNTY OF WASHINGTON
STATE OF MINNESOTA

ORDINANCE NO. 08-__

**AN ORDINANCE AMENDING THE LAKE ELMO CITY CODE OF ORDINANCES BY
ADDING ADDITIONAL STANDARDS FOR SOLAR ENERGY SYSTEMS.**

SECTION 1. The City Council of the City of Lake Elmo hereby amends Title XV: Land Usage; Chapter 154: Zoning Code; Article II; Section 154.012; Subd. (B) (12) by amending the definition of Solar Equipment and adding one definition relating to solar energy systems:

Solar Farm. A commercial facility that converts sunlight into electricity, whether by photovoltaic (PV), concentrating solar thermal devices (CST), or other conversion technology, for the principal purpose of wholesale sales of generated electricity to off-site customers.

Solar-Equipment Energy System. Any solar collector, skylight, or other solar energy device whose A device or structural design feature, a primary purpose of which is to provide for the collection, storage, and distribution of solar energy for space heating, cooling, water heating, providing daylight for interior lighting, or for power generation.

SECTION 2. The City Council of the City of Lake Elmo hereby amends Title XV: Land Usage; Chapter 154: Zoning Code; Article II; Section 154.310 (C) to read as follows.

Solar Energy Systems. Solar energy systems ~~and solar structures~~ are permitted accessory uses in all districts, provided the system or equipment is in compliance with ~~minimum lot requirements~~ and setback standards set forth below.

Commented [EB1]: "Solar structure" is not defined in the code. "Solar Energy System" is now defined, and so was kept. "Solar energy systems" is sufficient to meet the intent of what is trying to be said here.

1. *Rooftop Solar Energy Systems.*
 - a. These systems are permitted accessory uses in all districts in which buildings are permitted.
 - b. *Visibility, Commercial Installations.* Commercial rooftop systems shall be placed on the roof to limit visibility from the public right-of-way or to blend into the roof design, provided that minimizing visibility still allows the property owner to reasonably capture solar energy.
2. *Ground-Mount Solar Energy Systems.*
 - a. Ground-mount energy systems are permitted accessory uses in all districts where buildings are permitted.
 - b. A solar structure Ground-mount energy systems must comply with all accessory setback, height and lot coverage restrictions unless otherwise stated herein or a variance is granted and shall not encroach on any City easement unless an easement encroachment agreement approved by the Planning Director or his/her designee after review and approval from the City Engineer or his/her designee has been executed. A certificate of zoning compliance is required for all solar energy systems unless a conditional use permit is required as stated herein.

- i. The collector surface of a ground-mount system and any foundation, compacted soil, or other component of the solar installation that rests on the ground is considered impervious surface. Vegetated ground under the collector surface can be used to mitigate stormwater runoff.
 - c. Exemptions. Solar energy systems of a size of six square feet or less may be exempt from zoning district setback requirements.
3. Interconnection Agreement. All electric solar energy systems that are connected to the electric distribution or transmission system through the existing service of the primary use on the site shall obtain an interconnection agreement with the electric utility in whose service territory the system is located. Solar energy systems connected directly to the distribution or transmission system must obtain an interconnection agreement with the interconnecting electric utility. Systems that are not directly connected to the grid or not connected to the electric system of a building that is connected to the grid are exempt from this requirement.
 4. Glare. Glare produced from any solar energy system shall be minimized from affecting adjacent or nearby properties. Measures to minimize glare include selective placement of the system, screening of the solar array, modifying the orientation of the system, reducing use of the reflector system, or other remedies that limit glare.
 - a. Mirror Reflecting Designed Solar Energy Systems. Mirror reflecting designed solar energy systems are permitted only on properties with five (5) acres or larger. A conditional use permit is required and more restrictive setback standards may be required upon review of the conditional use permit.
 5. Code Requirements. Electric solar system components that are connected to a building electric system must have an Underwriters Laboratory (UL) listing. All solar installations must comply with the Minnesota and National Electric Code. All rooftop or building integrated solar energy systems require a building permit and shall comply with the Minnesota Building Code. Solar thermal hot water systems shall comply with applicable Minnesota State Plumbing Code requirements.
 6. Decommissioning. A decommissioning plan shall be required to ensure that facilities are properly removed after their useful life. Decommissioning of solar panels must occur in the event they are not in use for 12 consecutive months. The plan shall include provisions for removal of all structures and foundations, restoration of soil and vegetation and a plan ensuring financial resources will be available to fully decommission the site. The City may require the posting of a bond, letter of credit or the establishment of an escrow to ensure proper decommissioning.
 7. Easements Allowed. Solar easements may be filed, consistent with Minnesota Stat. Chapter 500 Section 30. Any building owner can purchase an easement across neighboring properties to protect access to sunlight. The easement is purchased or granted by owners of neighboring properties and can apply to buildings, trees, or other structures that would diminish solar access.
 8. Restrictions on Solar Energy Systems Limited. No homeowners' agreement, covenant, common interest community, or other contract between multiple property owners within a subdivision shall forbid installation of solar energy systems or create design standards that effectively preclude solar energy installations.

SECTION 3. The City Council of the City of Lake Elmo hereby amends Title XV: Land Usage; Chapter 154: Zoning Code; Article __: _____; Section _____: Development Standards for Specific Uses to read as follows.

Solar Farm.

1. Conditional Use Permit. A conditional use permit is required.
2. Stormwater and NPDES. Solar farms are subject to the City's and watershed district's stormwater management and erosion and sediment control provisions and NPDES permit requirements.
3. Foundations. A qualified engineer shall certify that the foundation and design of the solar panels, racking and support is within accepted professional standards, given local soil and climate conditions.
4. Power and communication lines. Power and communication lines running between banks of solar panels and to nearby electric substations or interconnections with buildings shall be buried underground. Exemptions may be granted by the City in instances where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines, or distance makes undergrounding feasible, at the discretion of the Planning Director.

SECTION 2. Effective Date. This ordinance shall become effective immediately upon adoption and publication in the official newspaper of the City of Lake Elmo.

SECTION 43 Adoption Date. This Ordinance 08-____ was adopted on this _____ day of ____ 2017, by a vote of ____ Ayes and ____ Nays.

LAKE ELMO CITY COUNCIL

Mike Pearson, Mayor

ATTEST:

Julie Johnson, City Clerk

This Ordinance 08-____ was published on the ____ day of _____, 2017.



STAFF REPORT

DATE: 4/10/17

REGULAR

ITEM #: 5b

MOTION

TO: Planning Commission
FROM: Stephen Wensman, Planning Director
AGENDA ITEM: Landscape Design Standard Details and Specifications
REVIEWED BY: Emily Becker, City Planner
Stephen Mastey, Consulting Landscape Architect.

BACKGROUND:

On a periodic basis, the City's Landscape Design Standard Details and Specifications are updated and approved by the City Council. As part of that process it was requested that the Planning Commission review them and make a recommendation to the City Council. This year, the landscaping and irrigation design standard details and specifications, have been removed from the Engineering Standards and these have been updated and incorporated into their own freestanding set of standard details and specifications.

ISSUE BEFORE THE COMMISSION:

To review the Landscaping Design Standard Details and Specifications and provide a recommendation to the City Council.

PROPOSAL DETAILS/ANALYSIS:

Landscape Standards (900 series). The new series include updated details for deciduous, coniferous trees and shrubs for flat and sloped site planting. The tree protection detail was also moved into the landscape standards. The landscape standards also include required and recommended details for landscape irrigation. The required irrigation details include the water service and controller details that illustrate the required connections to Municipal Water consistent with City Council's direction in 2016 when reviewing and adopting the irrigation standards. The recommended details illustrate best practices in landscape irrigation and these details are taken from the 5th Street project, where irrigation was required. All the irrigation standard details refer to updated irrigation specifications. Other improvements to the details include:

- To be current with MN Department of Transportation Standard Specifications for Construction 2016 Edition;
- To be current with the latest edition of American Standard for Nursery Stock (ANSI Z60.1);

- To clarify and provide additional guidance on incorrect planting practices that have been observed from time on time projects within in the City specifically on City owned property / right of way;
- Provide guidance within the irrigation specification and details to help further protect the City's potable water resources; and
- To be current with updated technology advances within the irrigation industry specifically in the areas of energy efficiency, water conservation, improved watering that coincides with better plant health and increased sustainability of the irrigation products and systems supplied.

FISCAL IMPACT:

None

RECOMMENDATION:

Staff recommends that the Planning Commission recommend approval of the Landscaping Design Standard Details and Specifications with the following motion:

“Move to recommend approval of the Landscaping Design Standard Details and Specifications.”

ATTACHMENTS:

- Landscaping Standard Details and Specifications

CITY OF LAKE ELMO STANDARD DETAIL INDEX

900 SERIES – LANDSCAPE

- 900 TREE PROTECTION
- 901 STANDARD PLAN NOTES – LANDSCAPE PLANS
- 902a DECIDUOUS TREE
- 902b DECIDUOUS TREE ON SLOPE 5% TO 50%
- 903a CONIFEROUS TREE
- 903b CONIFEROUS TREE ON SLOPE 5% TO 50%
- 904a SHRUB
- 904b SHRUB ON SLOPE 5% TO 50%

950 SERIES – IRRIGATION

CITY REQUIRED:

- 950a IRRIGATION WATER SUPPLY (MUNICIPAL)
- 950b 2-WIRE PEDESTAL IRRIGATION CONTROLLER

CITY RECOMMENDED:

- 951a TYPICAL DRIPLINE LAYOUT
- 951b TYPICAL DRIPLINE CONFIGURATIONS
- 951c IRRIGATION DRIP ZONE CONTROL
- 951d IRRIGATION DRIPLINE POP-UP OPERATOR INDICATOR
- 951e IRRIGATION DRIPLINE FLUSH VALVE
- 951f DECIDUOUS TREE DRIPLINE WATERING RINGS
- 951g CONIFEROUS TREE DRIPLINE WATERING RINGS
- 951h CENTER MEDIAN LANDSCAPE IRRIGATION
- 952a IRRIGATION VALVE W/ SOLENOID & DECODER
- 952b IRRIGATION QUICK COUPLER VALVE
- 953a 3/4-INCH OUTLET OR SMALLER IRRIGATION ROTOR TYPE SPRINKLER W/
SWING JOINT
- 953b 4-INCH TO 12-INCH POP-UP HEIGHT IRRIGATION SPRAY TYPE SPRINKLER
W/ SWING JOINT
- 953c BROADCAST IRRIGATION IN THE VICINITY OF CONIFERS
- 953d BOULEVARD LANDSCAPE IRRIGATION

MARCH 2017



CITY OF LAKE ELMO

STANDARD DRAWING NO.

INDEX

LAKE ELMO

Notes:

1- Trees shall be of quality prescribed in crown observations and root observations details and specifications.

2- See specifications for further requirements related to this detail.

3- Amend Planting Soil with MnDOT 3881 B.4 Type 4 Natural Based Fertilizer and MnDOT 3896C or 3896G Additives

4- Mulch ring for individually planted trees shall be a minimum diameter of 6-feet or to extent of lower limbs whichever is greater.

5- Remove all nursery twine at trunk at time of planting.

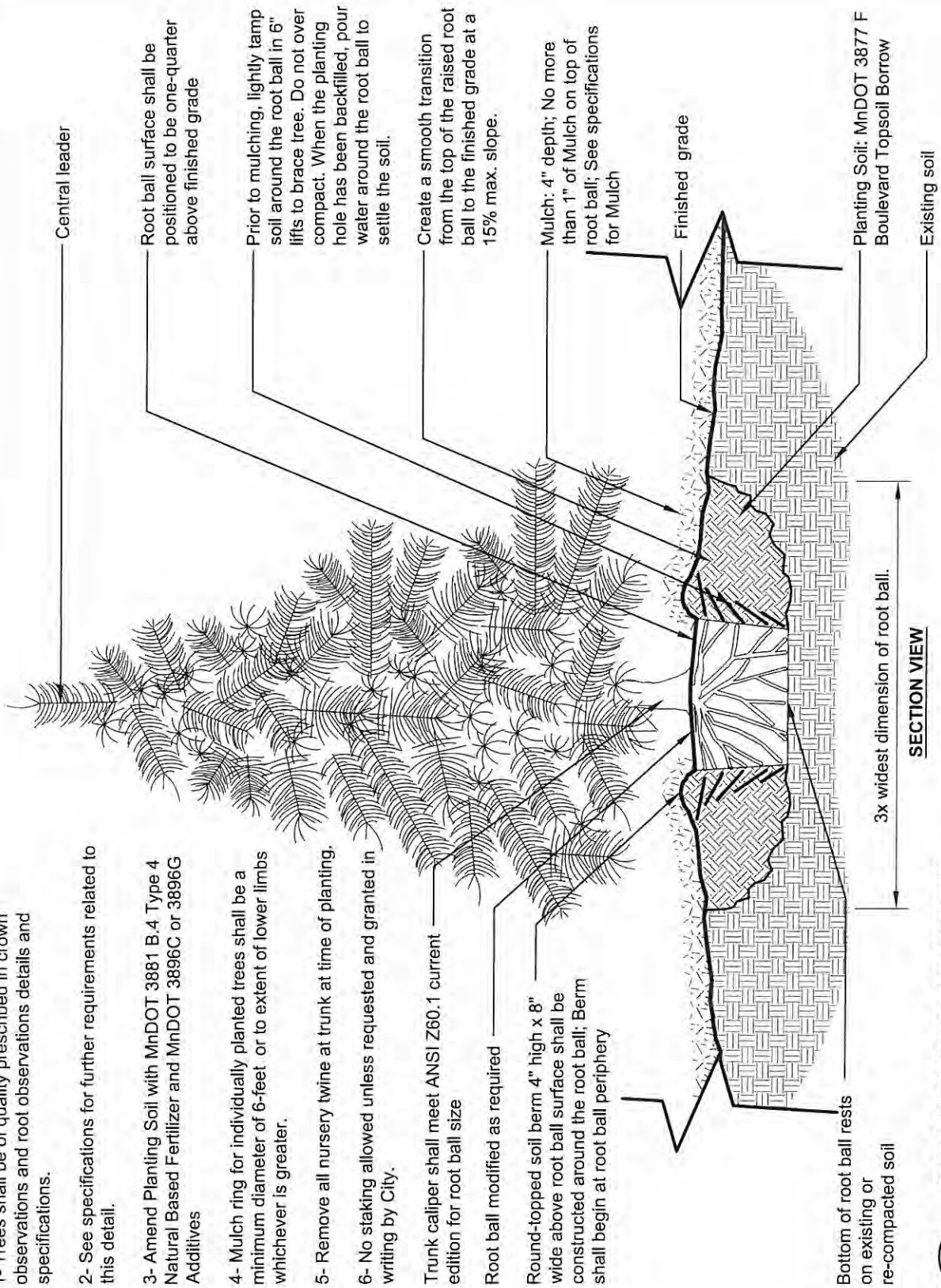
6- No staking allowed unless requested and granted in writing by City.

Trunk caliper shall meet ANSI Z60.1 current edition for root ball size

Root ball modified as required

Round-topped soil berm 4" high x 8" wide above root ball surface shall be constructed around the root ball; Berm shall begin at root ball periphery

Bottom of root ball rests on existing or re-compacted soil



CONIFEROUS TREE

903a

MARCH 2017

THE CITY OF
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CITY OF LAKE ELMO

STANDARD DRAWING NO.

903a

LAKE ELMO

Notes:

1- Trees shall be of quality prescribed in crown observations and root observations details and specifications.

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3- Amend Planting Soil with MnDOT 3881 B.4 Type 4 Natural Based Fertilizer and MnDOT 3896C or 3896G Additives

4- Mulch ring for individually planted trees shall be a minimum diameter of 6-feet or to extent of lower limbs whichever is greater.

5- Remove all nursery twine at trunk at time of planting.

6- No staking allowed unless requested and granted in writing by City.

Trunk caliper shall meet ANSI Z60.1 current edition for root ball size

Root ball modified as required

Round-topped soil berm 4" high x 8" wide above root ball surface shall be centered on the downhill side of the root ball for 240°; Berm shall begin at root ball periphery

Planting Soil: MnDOT
3877 F Boulevard Topsoil
Borrow

Central leader

Original slope should pass through the point where the trunk base meets substrate/soil

Prior to mulching, lightly tamp soil around the root ball in 6" lifts to brace tree. Do not over compact. When the planting hole has been backfilled, pour water around the root ball to settle the soil.

Mulch: 4" depth; No more than 1" of Mulch on top of root ball; See specifications for Mulch

Original grade

Bottom of root ball rests on existing or re-compacted soil.

SECTION VIEW

CONIFEROUS TREE ON SLOPE 5% TO 50%

903b

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903b

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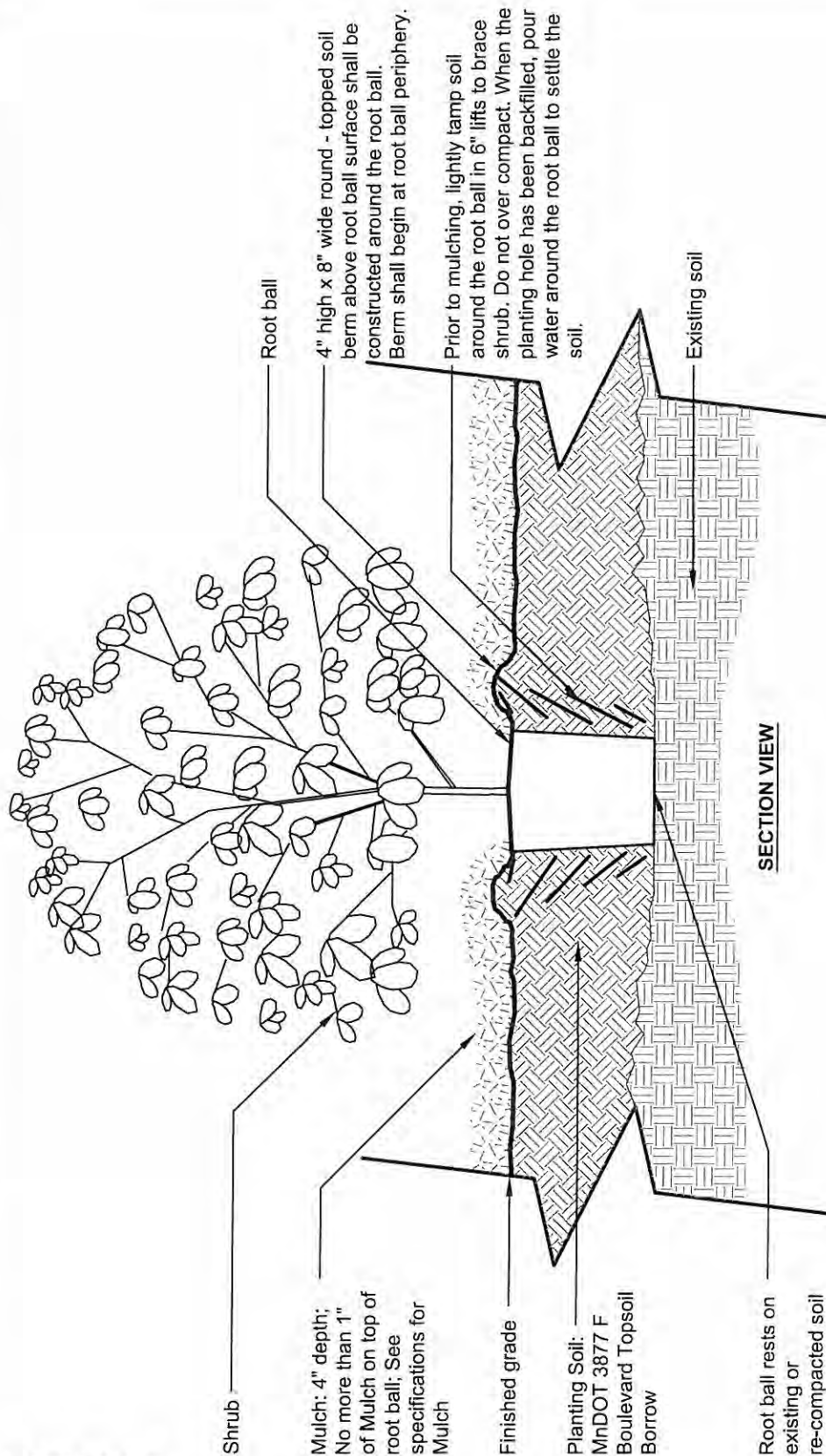


CITY OF LAKE ELMO

STANDARD DRAWING NO.

904a

LAKE ELMO



Notes:

1- Shrubs shall be of quality prescribed in the root observations detail and specifications.

2- See specifications for further requirements related to this detail.

3- Amend Planting Soil with MnDOT 3881 B.4 Type 4 Natural Based Fertilizer and MnDOT 3896C or 3896G Additives

SHRUB

904a

MARCH 2017

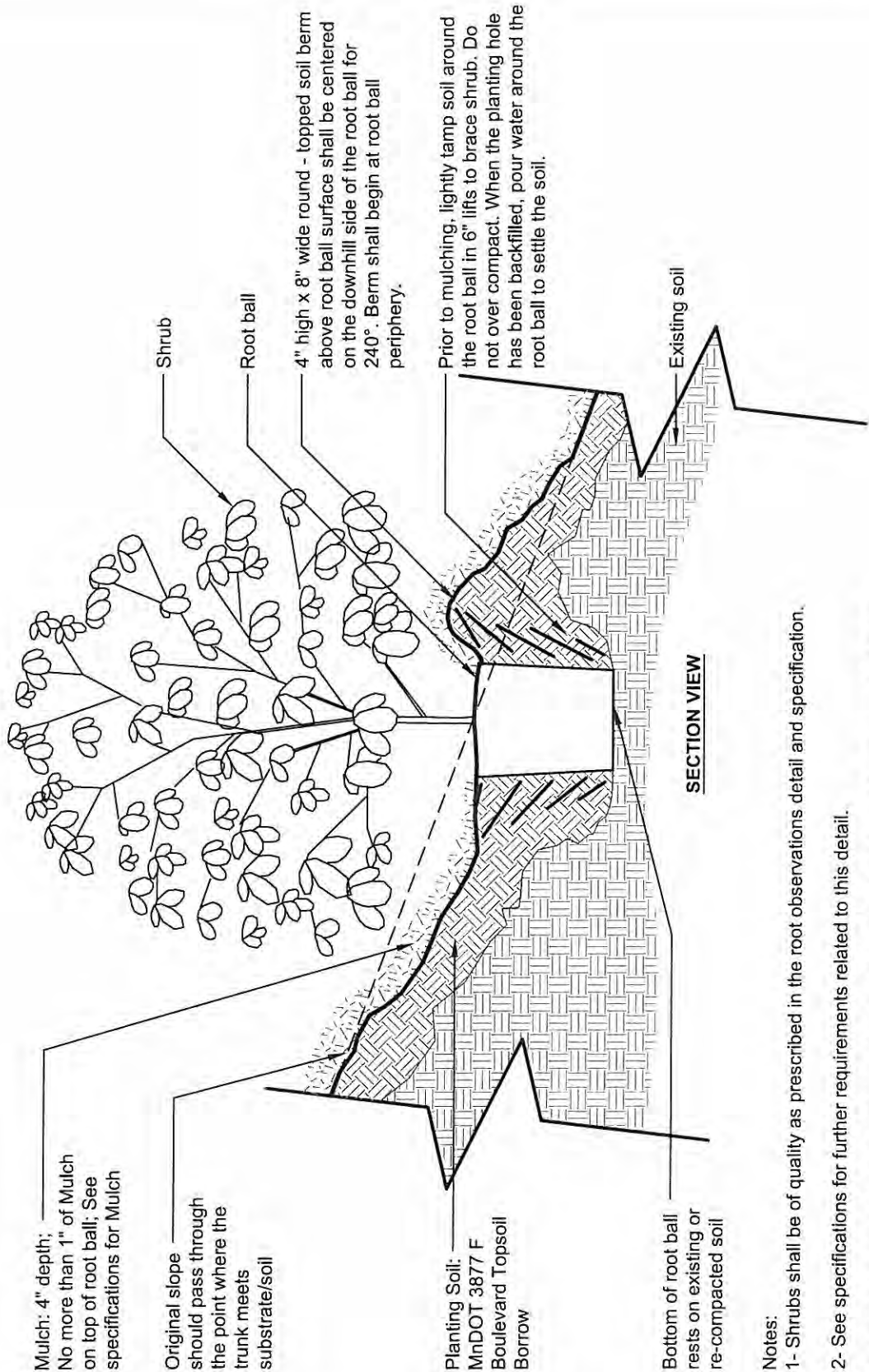


CITY OF LAKE ELMO

STANDARD DRAWING NO.

904b

LAKE ELMO



Notes:

1- Shrubs shall be of quality as prescribed in the root observations detail and specification.

2- See specifications for further requirements related to this detail.

3- Amend Planting Soil with MnDOT 3881 B.4 Type 4 Natural Based Fertilizer and MnDOT 3896C or 3896G Additives

SHRUB ON SLOPE 5% TO 50%

904b

MARCH 2017

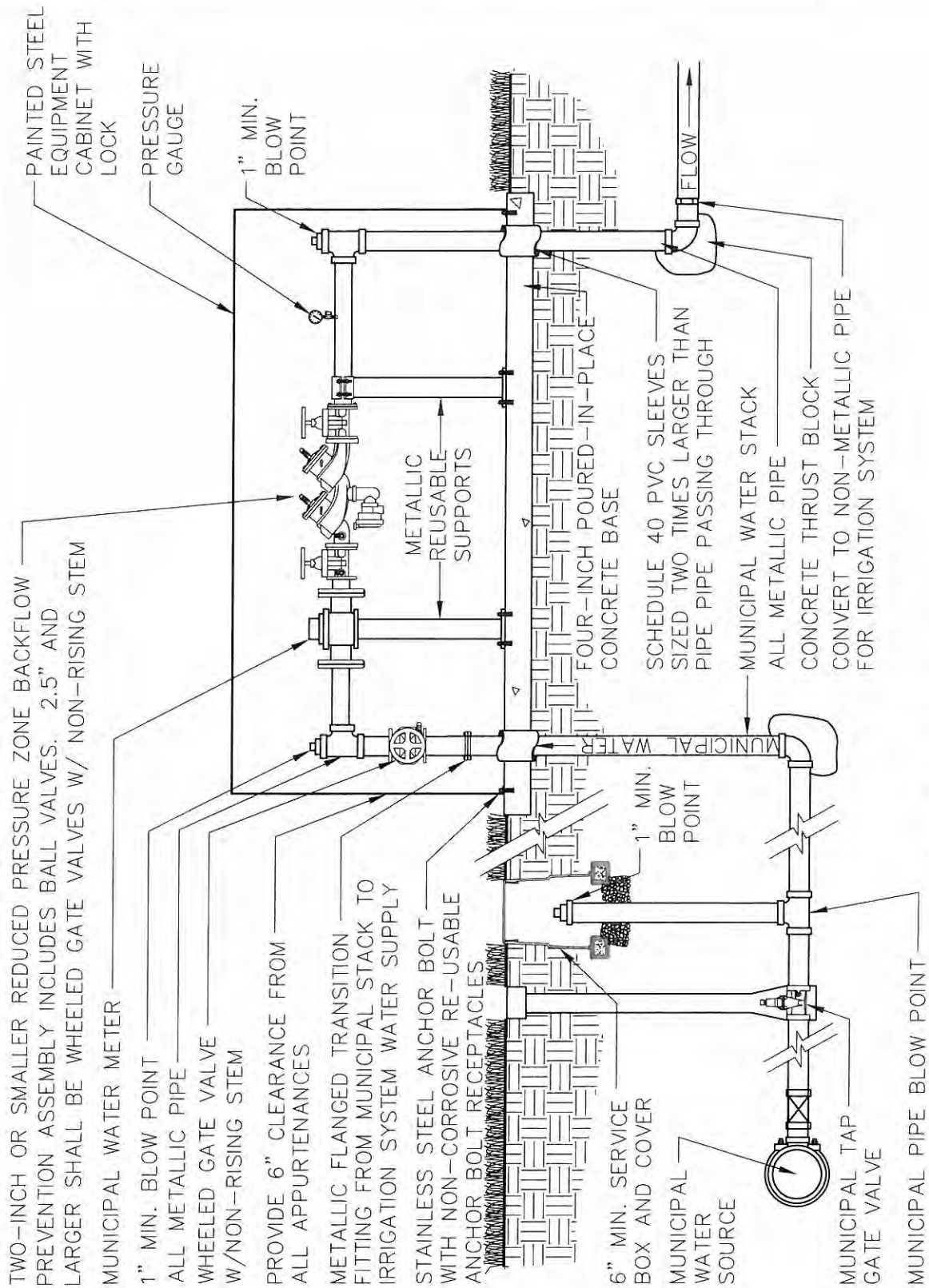


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LAKE ELMO



IRRIGATION WATER SUPPLY (MUNICIPAL)

950a

MARCH 2017

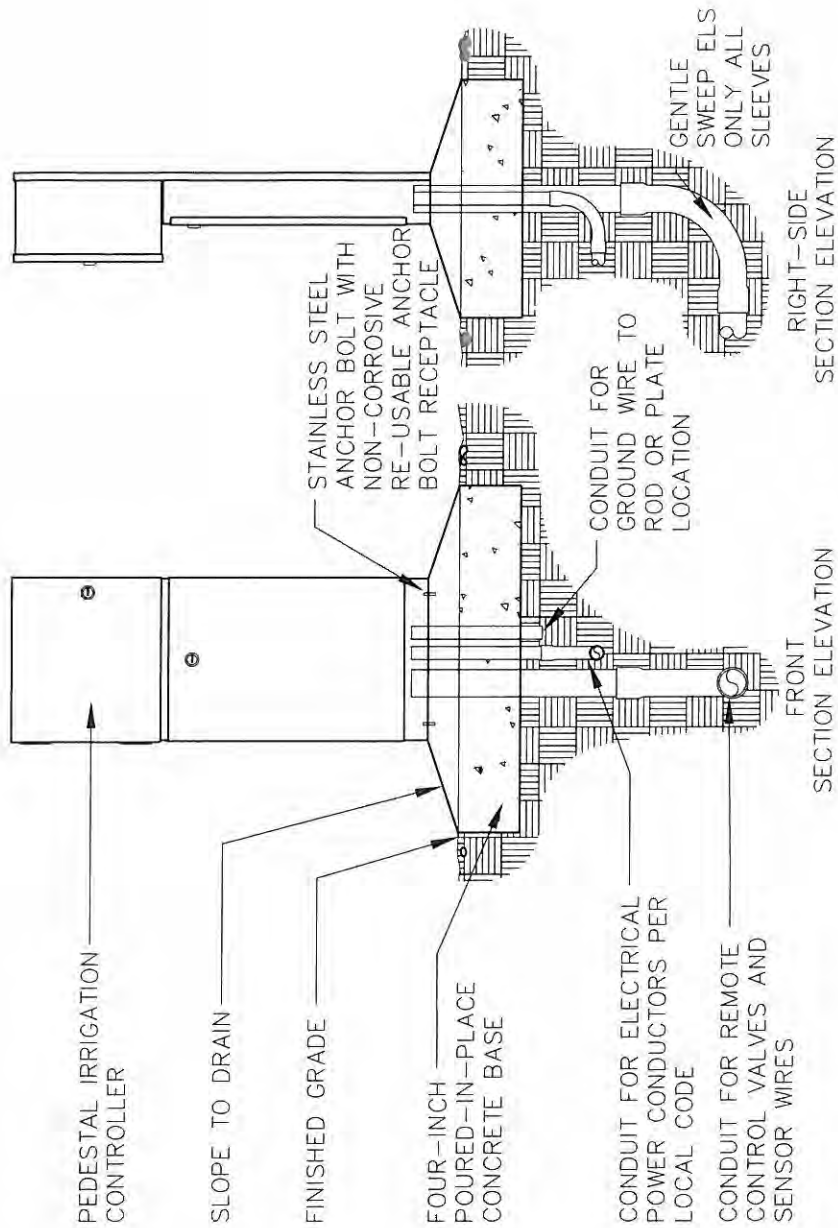


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STANDARD DRAWING NO.

950b

LAKE ELMO



NOTE:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS, BEST PRACTICES AND LOCAL CODES.
2. HIGH AND LOW VOLTAGE ELECTRICAL WORK IS TO BE PERFORMED BY A LICENSED ELECTRICIAN.
3. GROUND CONTROLLER IN ACCORDANCE WITH MANUFACTURER RECOMMENDATION.

2-WIRE PEDESTAL IRRIGATION CONTROLLER

950b

MARCH 2017

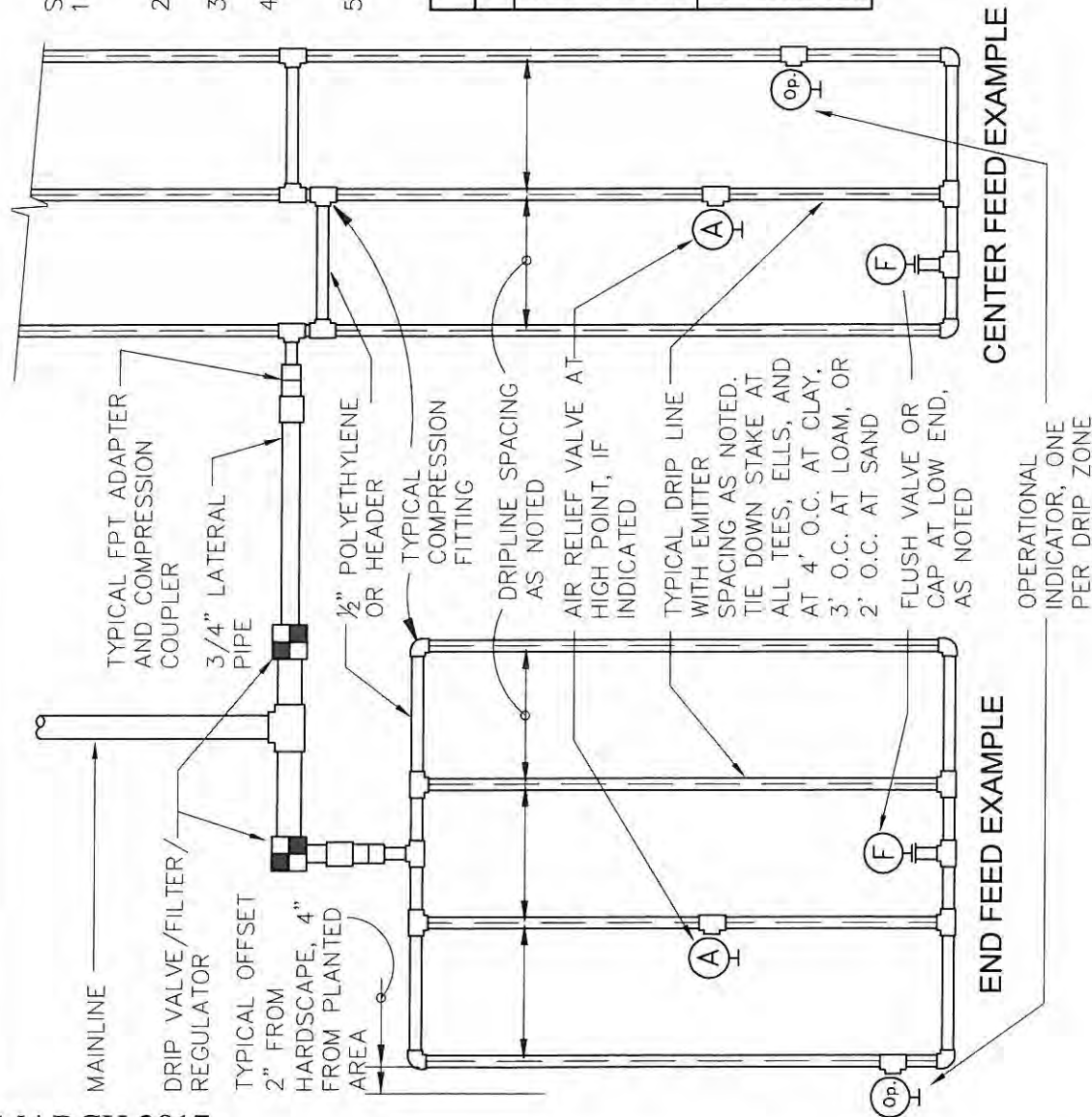


CITY OF LAKE ELMO

STANDARD DRAWING NO.

951a

LAKE ELMO



- SLOPED CONDITION NOTE:
1. DRIPLINE LATERALS SHOULD FOLLOW THE CONTOURS OF THE SLOPE WHENEVER POSSIBLE.
 2. INSTALL AIR RELIEF VALVE AT HIGHEST POINT.
 3. NORMAL SPACING WITHIN THE TOP $\frac{2}{3}$ OF SLOPE.
 4. INSTALL DRIPLINE AT 25% GREATER SPACING AT THE BOTTOM $\frac{1}{3}$ OF THE SLOPE.
 5. ZONE THE BOTTOM $\frac{1}{3}$ ON A SEPARATE VALVE.

MAXIMUM FLOW PER ZONE		
	MAX GPM	PSI LOSS
SCHEDULE 40 PVC HEADER SIZE		
1/2"	4.7 GPM	7.7 PSI
3/4"	8.3 GPM	5.6 PSI
1"	13.5 GPM	4.2 PSI
1-1/2"	33.9 GPM	2.9 PSI
2"	52.4 GPM	1.9 PSI
POLY PIPE HEADER SIZE		
1/2"	4.7 GPM	8.8 PSI
3/4"	8.3 GPM	6.3 PSI
1"	13.5 GPM	4.8 PSI
1-1/2"	31.8 GPM	2.9 PSI
2"	52.4 GPM	2.2 PSI

TYPICAL DRIPLINE LAYOUT

951a

MARCH 2017

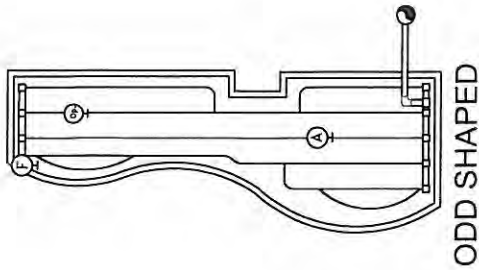
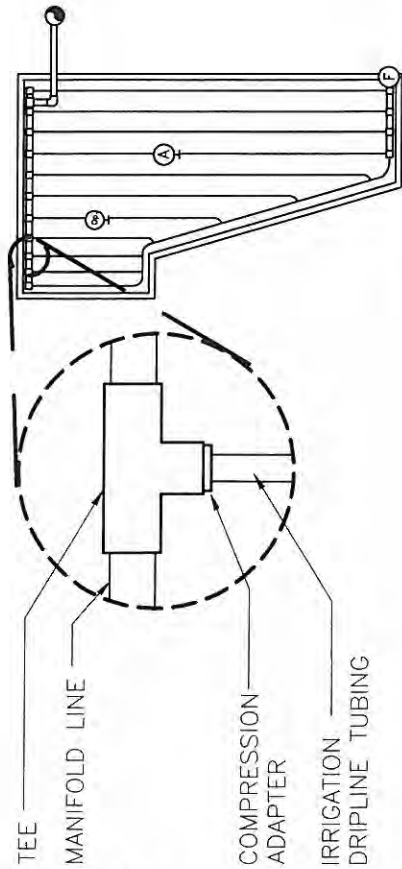


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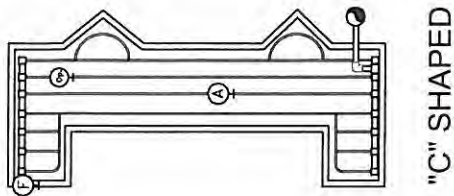
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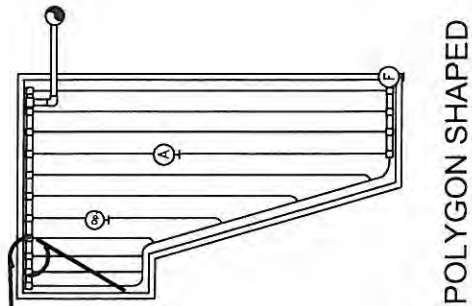
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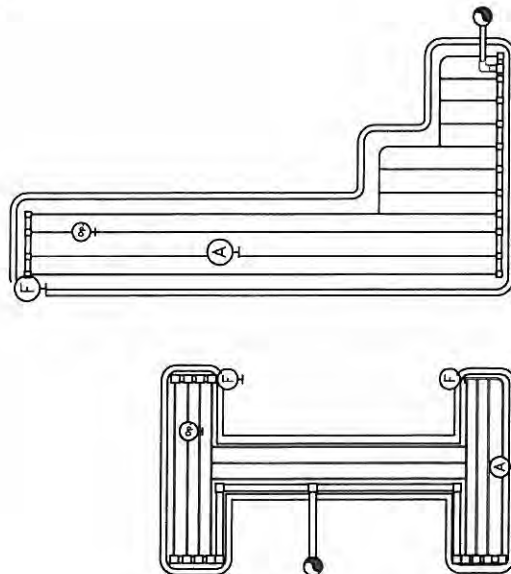
ODD SHAPED



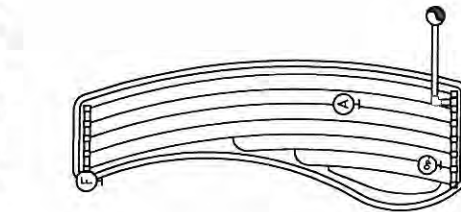
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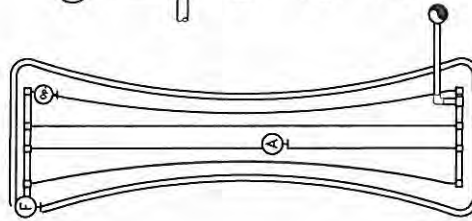
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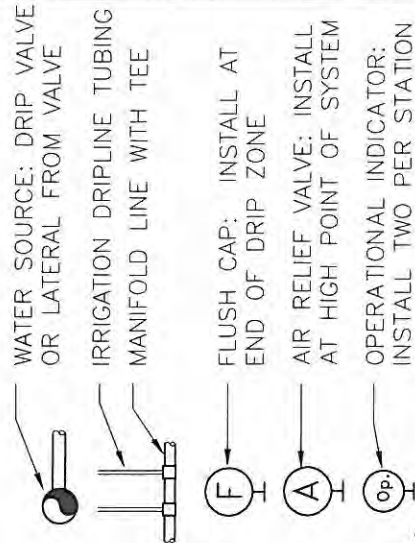
DOGBONE SHAPED



CURVED POLYGON



HOURLASS SHAPED

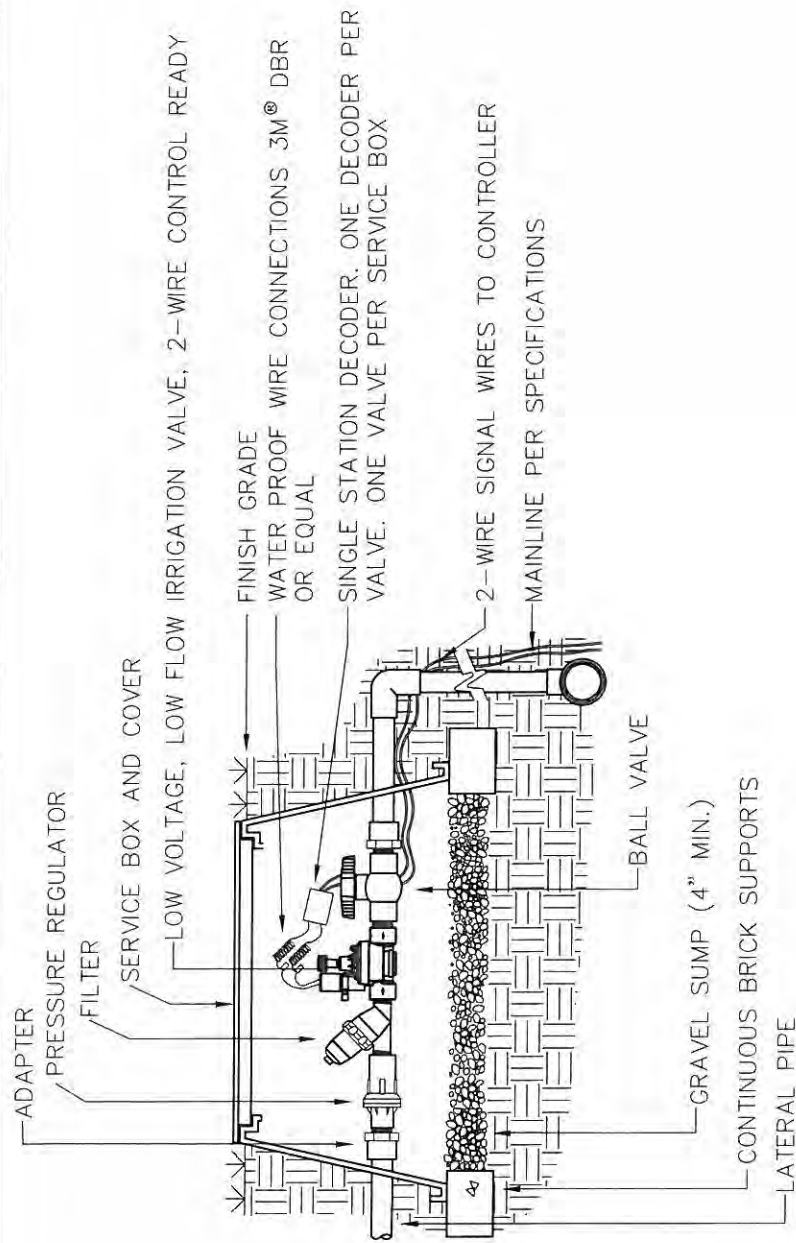


NOTE:

- DO NOT EXCEED 2000 SF PER DRIP GRID STATION

TYPICAL DRIPLINE CONFIGURATIONS

951b



NOTE:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND BEST PRACTICES.
2. SET SERVICE BOXES AT FINAL GRADE OR HIGHER AS TOPOGRAPHY REQUIRES SO THAT THEY ARE VISIBLE BUT NOT A HAZARD.
3. SERVICE BOX BOTTOMS SHALL BE SUPPORTED ON BRICKS OR SUITABLE HARD MATERIAL AND PLACED NEATLY AND IN WORKMANLIKE FASHION.
4. INSTALL EQUIPMENT IN APPROPRIATELY-SIZED SERVICE BOXES. ONE DEVICE PER BOX AND LOCATED TO ENABLE SERVICING OF DEVICE. SEE IRRIGATION SPECIFICATION.
5. UTILIZE SERVICE BOX EXTENSION KITS AS REQUIRED.
6. ADD FOUR-INCHES OF 3/4-INCH CRUSHED GRAVEL SUMP PER BOX.
7. ALLOW FOR NOT LESS THAN 24" WIRE SLACK COILED NEATLY IN SERVICE BOX.
8. GROUND DECODERS AND/OR 2-WIRE PATH PER MANUFACTURER RECOMMENDATIONS.

IRRIGATION DRIP ZONE CONTROL

951c

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MARCH 2017

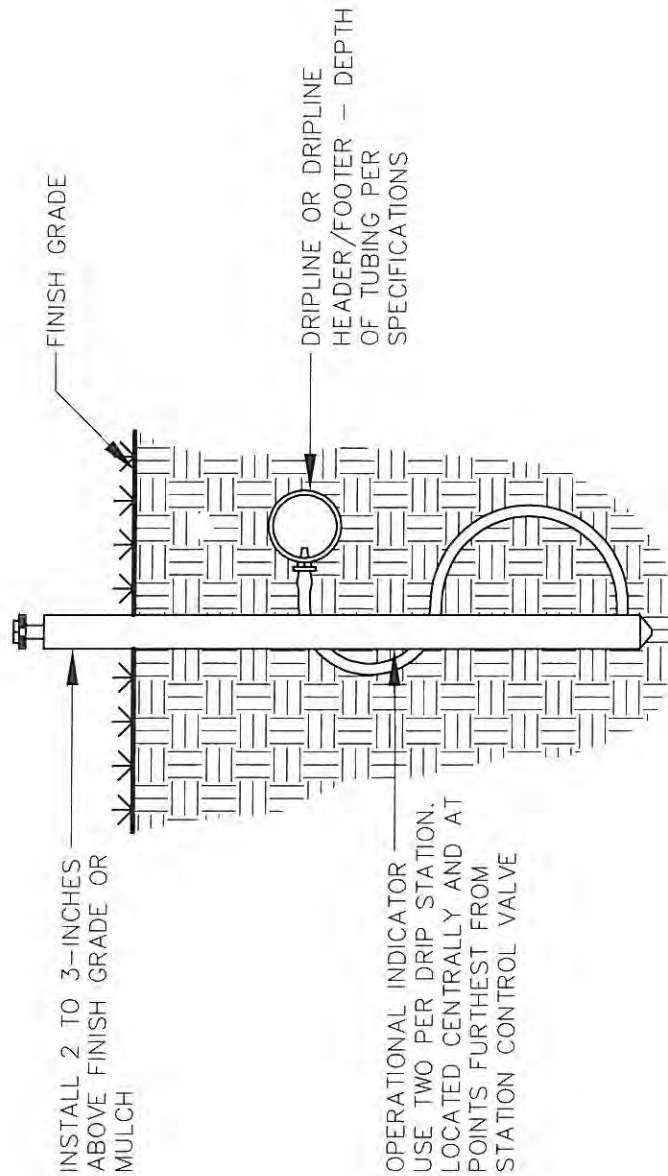


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NOTE:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND BEST PRACTICES.
2. INSTALL POP-UP OPERATION INDICATORS UPON EACH CORRESPONDING IRRIGATION STATION IN LOCATIONS THAT WILL BE VISIBLE AT A DISTANCE, BUT NOT A TRIPPING HAZARD.
3. POP-UP OPERATION INDICATOR WILL SIGNAL OPERATING STATION(S). INDICATOR WILL ALSO FURNISH EVIDENCE OF POTENTIAL DAMAGE TO STATION IF NOT OR PARTIALLY ELEVATED DURING OPERATION.

IRRIGATION DRIPLINE POP-UP OPERATION INDICATOR

951d

MARCH 2017

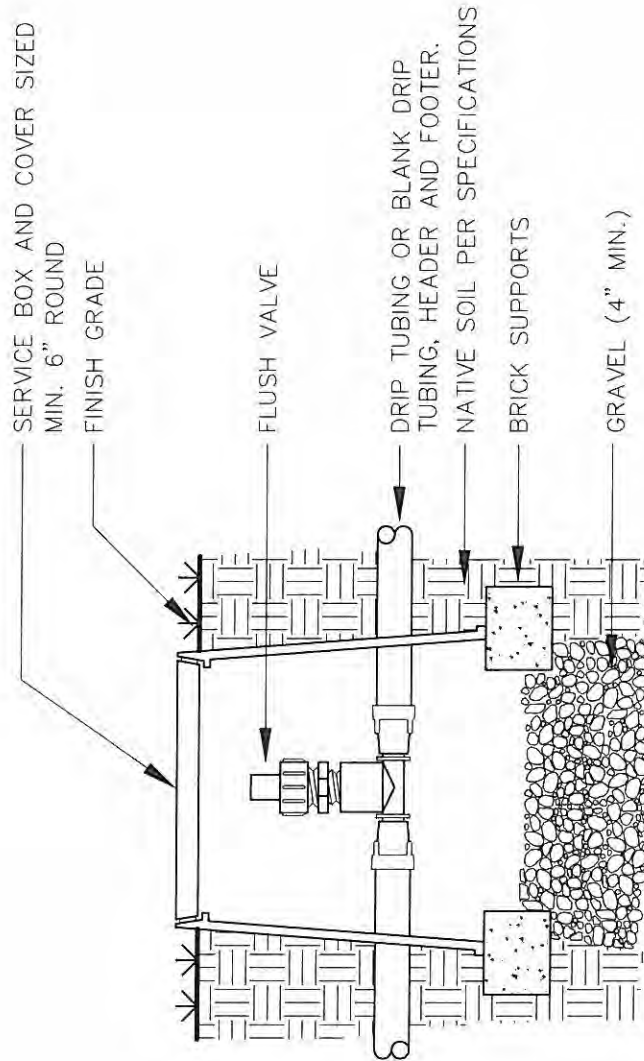


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NOTE:

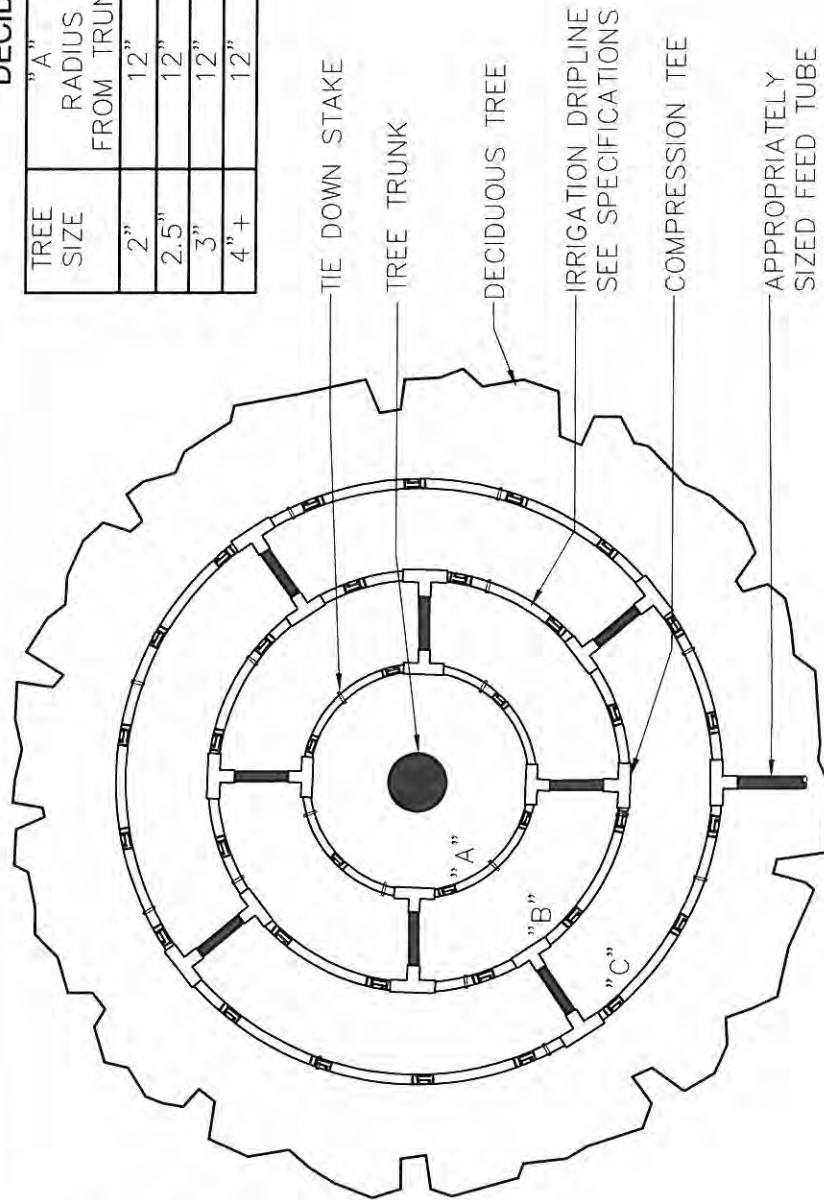
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND BEST PRACTICES.
2. LOCATE FLUSH CAP ASSEMBLY AT LOW POINTS.
3. USE ONE FLUSH VALVE FOR EVERY 7 GPM PER ZONE, LOGICALLY SPACED.
4. FLUSH RATE IS 0.8 GPM.
5. FLUSH PRESSURE IS 2 PSI.
6. THE SYSTEM SHALL BE FLUSHED THOROUGHLY AFTER REPAIRS OR ALTERATIONS ARE MADE TO THE IRRIGATION COMPONENTS. FLUSH CAPS SHALL NOT BE MANIPULATED AS FLUSH POINTS.

IRRIGATION DRIPLINE FLUSH VALVE

951e

DECIDUOUS TREES

TREE SIZE	"A" RADIUS FROM TRUNK	"B" RADIUS FROM TRUNK	"C" RADIUS FROM TRUNK
2"	12"	24"	
2.5"	12"	24"	
3"	12"	24"	36"
4"+	12"	24"	36"



NOTES:

1. ASSEMBLE DRIPLINE IN COMPLIANCE WITH MANUFACTURER RECOMMENDATIONS
2. TREE SIZE REFERENCE—AMERICAN STANDARD FOR NURSERY STOCK Z60.1—2014 OR CURRENT.
3. TREE WATERING SHALL OCCUR VIA IRRIGATION STATIONS INDEPENDENT OF OTHER PLANT MATERIAL.
4. QUANTITY OF DRIPLINE RINGS, EMITTER SPACING AND FLOWS ARE DEPENDENT ON TREE CALIPER SIZE. SEE GUIDANCE CHART.
5. DRIPLINE EMITTERS SHALL BE 12" MANUFACTURER—SPACED.
6. DRIPLINE RINGS SHALL BE SPACED NOT GREATER THAN 12".
7. TIE DOWN STAKES SHALL BE SPACED NOT GREATER THAN 18" OR AS CONDITIONS DICTATE.
8. WATERING FREQUENCY AND DURATION SHALL BE A FUNCTION OF IRRIGATION SCHEDULING.

DECIDUOUS TREE DRIPLINE WATERING RINGS

951f

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THE CITY OF
LAKE ELMO

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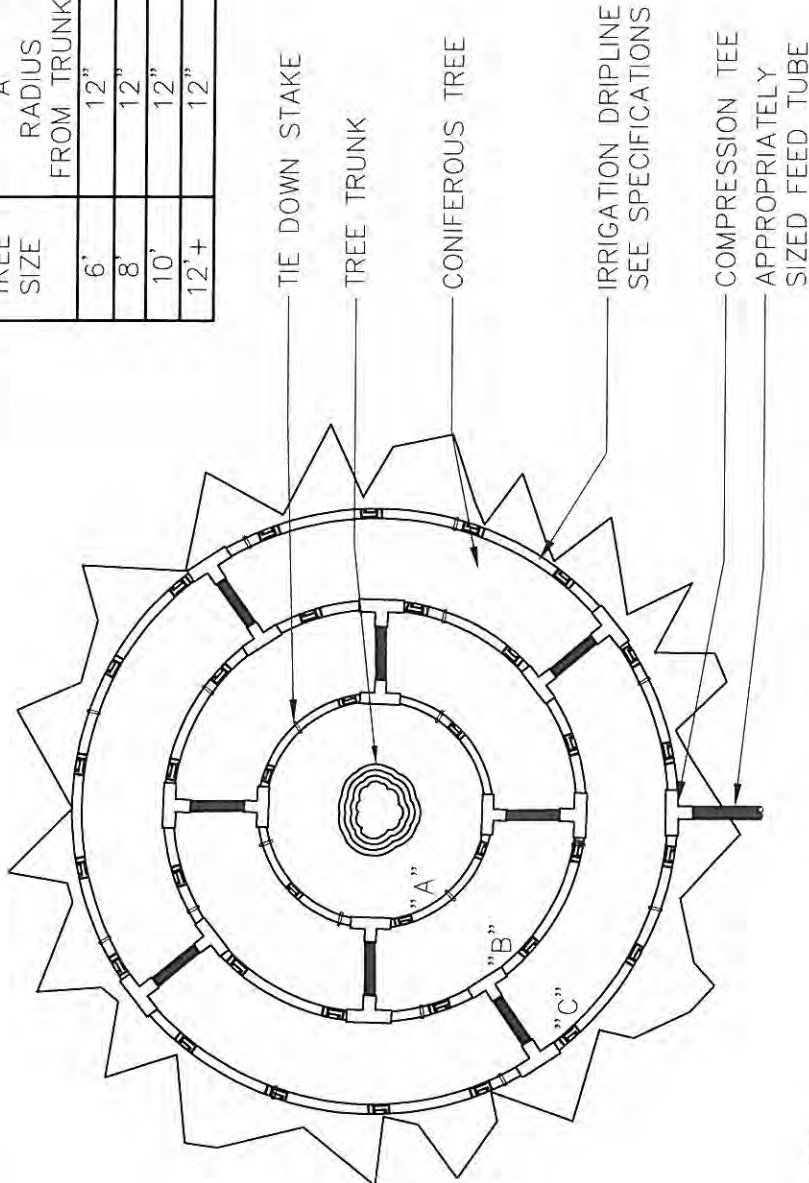
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951f

LAKE ELMO

CONIFEROUS TREES

TREE SIZE	"A" RADIUS FROM TRUNK	"B" RADIUS FROM TRUNK	"C" RADIUS FROM TRUNK
6'	12"	24"	
8'	12"	24"	
10'	12"	24"	36"
12'+	12"	24"	36"



NOTES:

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6. DRIPLINE RINGS SHALL BE SPACED NOT LESS THAN 12".
7. TIE DOWN STAKES SHALL BE SPACED NOT GREATER THAN 18" OR AS CONDITIONS DICTATE.
8. WATERING FREQUENCY AND DURATION SHALL BE A FUNCTION OF IRRIGATION SCHEDULING.

CONIFEROUS TREE DRIPLINE WATERING RINGS

951g

MARCH 2017

THE CITY OF
LAKE ELMO

CITY OF LAKE ELMO

STANDARD DRAWING NO.

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LAKE ELMO

MARCH 2017

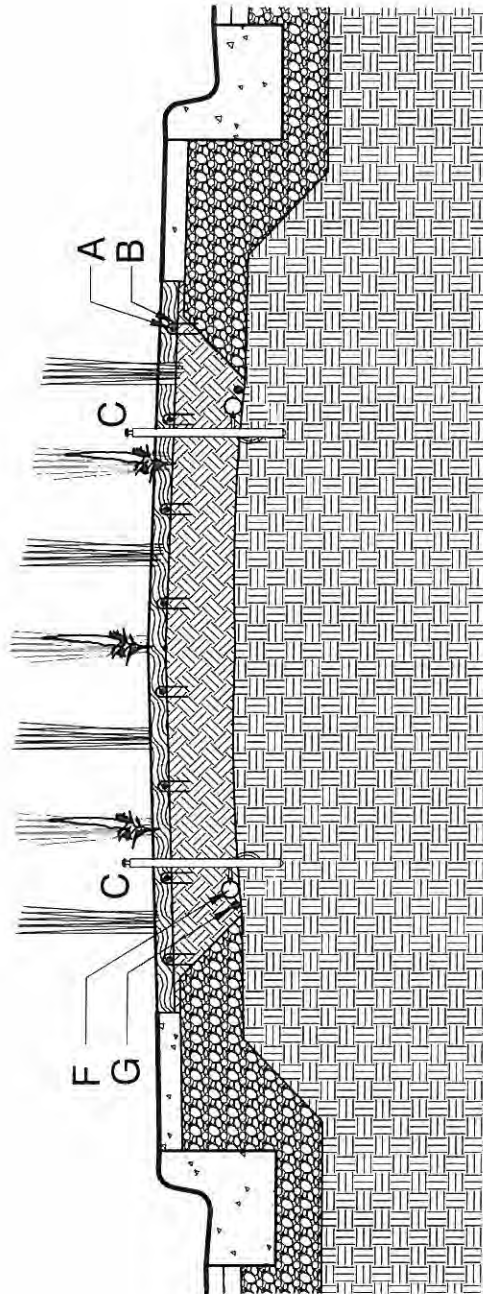


CITY OF LAKE ELMO

STANDARD DRAWING NO.

951h

LAKE ELMO



LEGEND:

- A. DRIP EMITTERS ON 12" GRID; NOT TO EXCEED 2,000 SF/GRID STATION
- B. DRIP GRID STAPLES; MIN 24" O.C.
- C. OPERATION INDICATOR ON EACH HEADER; 2 PER STATION
- D. DRIP VALVE ASSEMBLY IN JUMBO SERVICE BOX
- E. DRIP GRID/FLUSH VALVE(S) IN 6" ROUND MIN. SERVICE BOX(ES)
- F. SDR 21 PVC MAINLINE; 2" OR GREATER; 24" FROM BACK OF SIDEWALK, 24" MIN. DEPTH TO TOP OF PIPE
- G. CONTROL WIRE PATH

CENTER MEDIAN LANDSCAPE IRRIGATION

951h

MARCH 2017

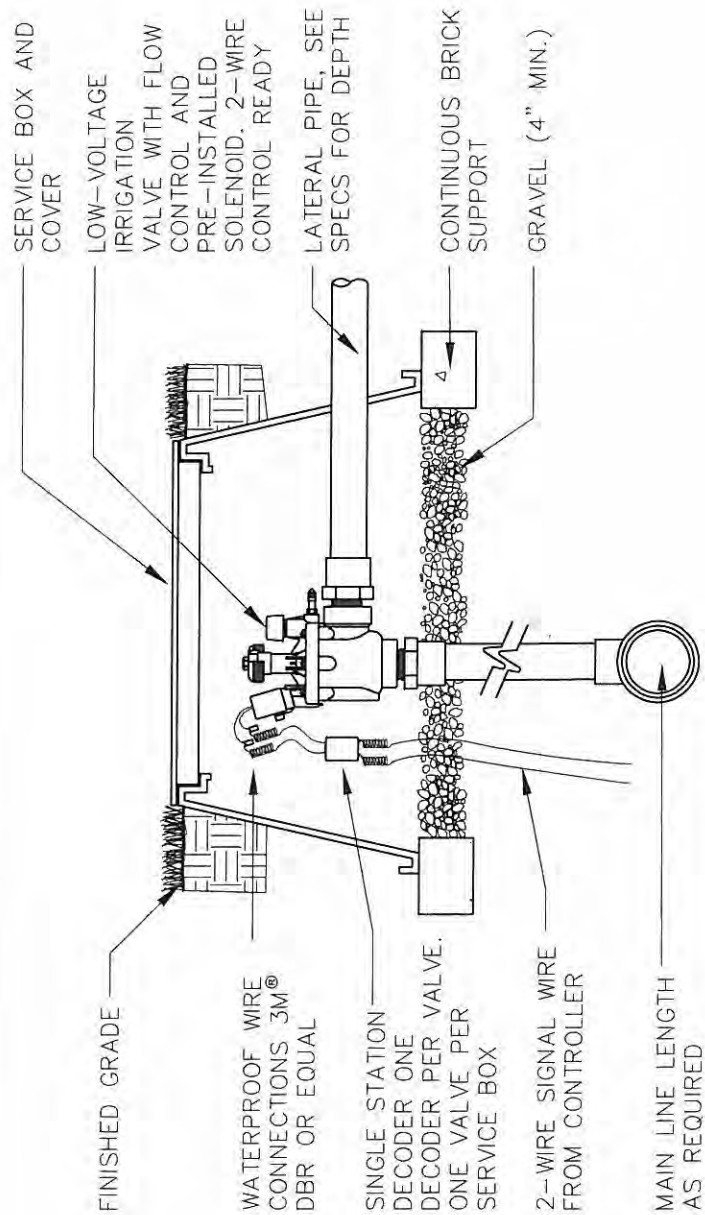


CITY OF LAKE ELMO

STANDARD DRAWING NO.

952a

LAKE ELMO



NOTE:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND BEST PRACTICES.
2. SET SERVICE BOXES AT FINAL GRADE OR HIGHER AS TOPOGRAPHY REQUIRES SO THAT THEY ARE VISIBLE BUT NOT A HAZARD.
3. SERVICE BOX BOTTOMS SHALL BE SUPPORTED ON BRICKS OR SUITABLE HARD MATERIAL AND PLACED NEATLY AND IN WORKMANLIKE FASHION.
4. INSTALL EQUIPMENT IN APPROPRIATELY-SIZED SERVICE BOXES. ONE DEVICE PER BOX AND LOCATED TO ENABLE SERVICING OF DEVICE. SEE IRRIGATION SPECIFICATION.
5. UTILIZE SERVICE BOX EXTENSION KITS AS REQUIRED.
6. ADD FOUR-INCHES OF 3/4-INCH CRUSHED GRAVEL SUMP PER BOX.
7. ALLOW FOR NOT LESS THAN 24" WIRE SLACK COILED NEATLY IN SERVICE BOX.
8. GROUND DECODERS AND/OR 2-WIRE PATH PER MANUFACTURER RECOMMENDATIONS.

IRRIGATION VALVE W/ SOLENOID & DECODER

952a

MARCH 2017

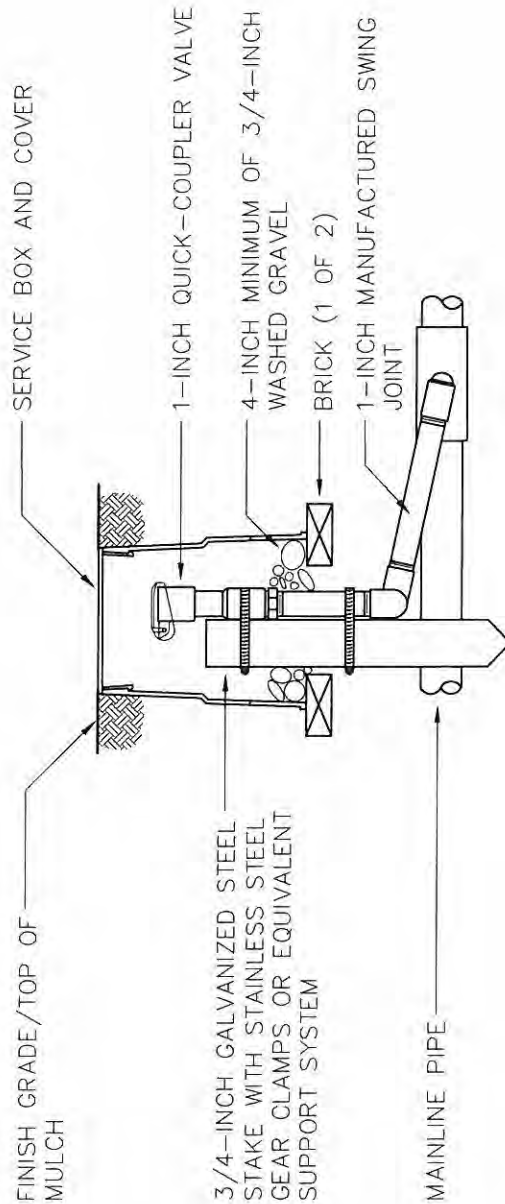


CITY OF LAKE ELMO

STANDARD DRAWING NO.

952b

LAKE ELMO

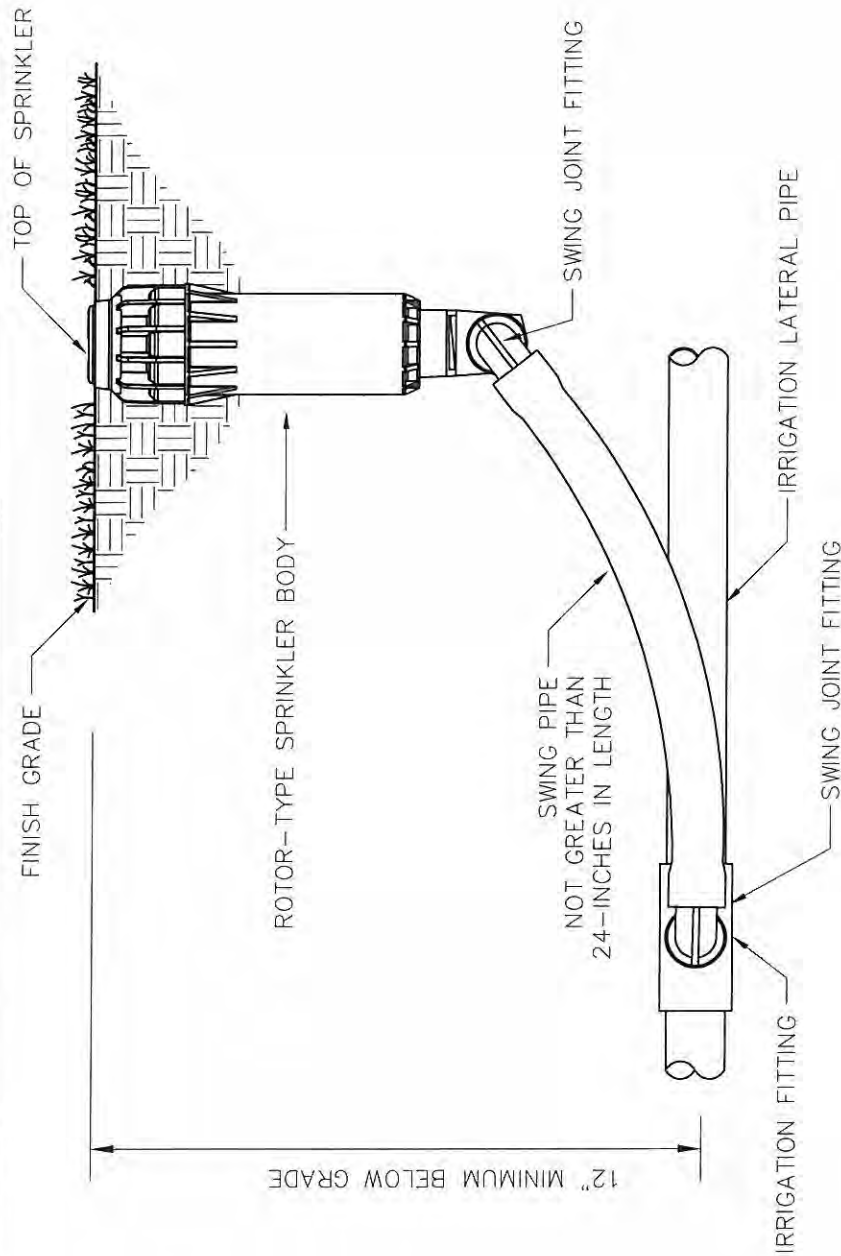


NOTE:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND BEST PRACTICES.
2. SET SERVICE BOXES AT FINAL GRADE OR HIGHER AS TOPOGRAPHY REQUIRES SO THAT THEY ARE VISIBLE BUT NOT A HAZARD.
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4. INSTALL EQUIPMENT IN APPROPRIATELY-SIZED SERVICE BOXES. ONE DEVICE PER BOX AND LOCATED TO ENABLE SERVICING OF DEVICE. SEE IRRIGATION SPECIFICATION.
5. UTILIZE SERVICE BOX EXTENSION KITS AS REQUIRED.
6. ADD FOUR-INCHES OF 3/4-INCH CRUSHED GRAVEL SUMP PER BOX.
7. ALLOW FOR NOT LESS THAN 24" WIRE SLACK COILED NEATLY IN SERVICE BOX.
8. GROUND DECODERS AND/OR 2-WIRE PATH PER MANUFACTURER RECOMMENDATIONS.

IRRIGATION QUICK COUPLER VALVE

952b



NOTE:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND BEST PRACTICES.
2. SPRINKLER SHALL OPERATE CLOSE TO DESIGNER SPECIFIED PRESSURE RATING.
3. DO NOT MOUNT SPRINKLER DIRECTLY NEXT TO HARDSCAPES OR FENCES, PLACE 2"–4" AWAY TO ALLOW FOR MAINTENANCE.
4. SPRINKLER SHALL BE PLACED PERPENDICULAR TO FINISHED GRADE FOR OPTIMUM PERFORMANCE.

953a
 $\frac{3}{4}$ -INCH OUTLET OR SMALLER IRRIGATION
 ROTOR TYPE SPRINKLER W/ SWING JOINT

MARCH 2017

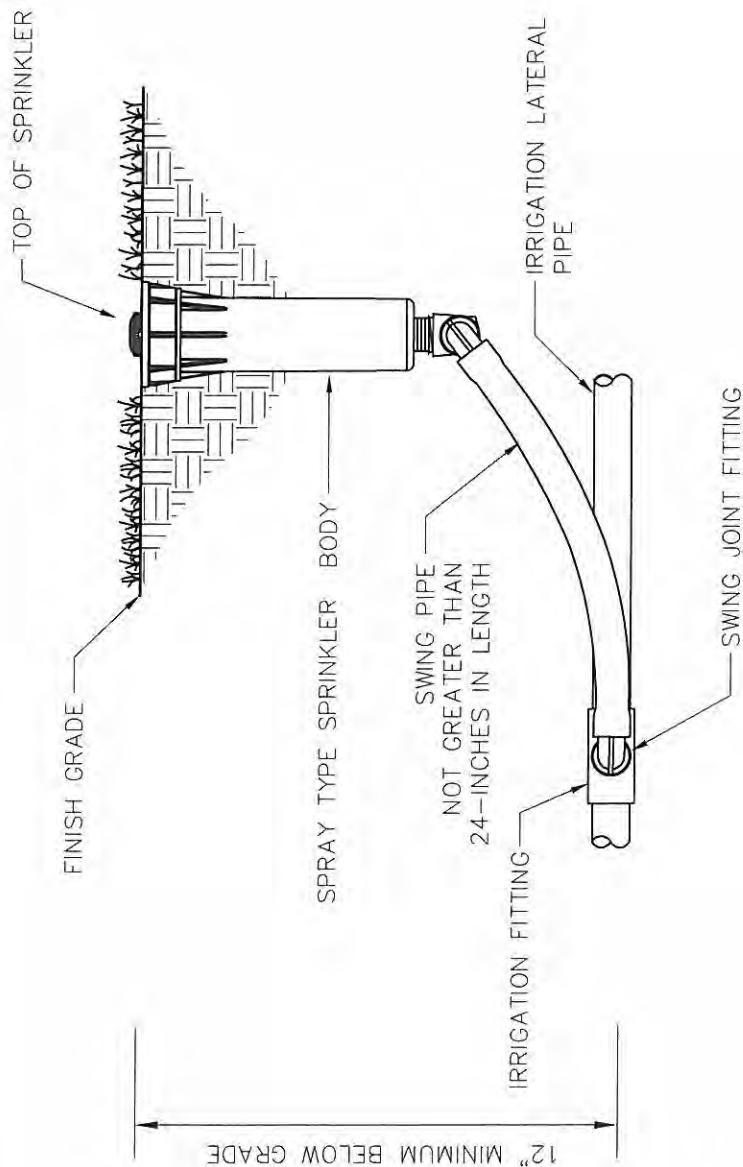
THE CITY OF
LAKE ELMO

CITY OF LAKE ELMO

STANDARD DRAWING NO.

953a

LAKE ELMO



NOTE:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND BEST PRACTICES.
2. SPRINKLER SHALL OPERATE CLOSE TO DESIGNER SPECIFIED PRESSURE RATING.
3. DO NOT MOUNT SPRINKLER DIRECTLY NEXT TO HARDSCAPES OR FENCES. PLACE 2" - 4" AWAY TO ALLOW FOR MAINTENANCE.
4. SPRINKLER SHALL BE PLACED PERPENDICULAR TO FINISHED GRADE FOR OPTIMUM PERFORMANCE.

953b 4 -INCH TO 12-INCH POP-UP HEIGHT IRRIGATION
SPRAY TYPE SPRINKLER W/ SWING JOINT

MARCH 2017



CITY OF LAKE ELMO

STANDARD DRAWING NO.

953b

LAKE ELMO

MARCH 2017

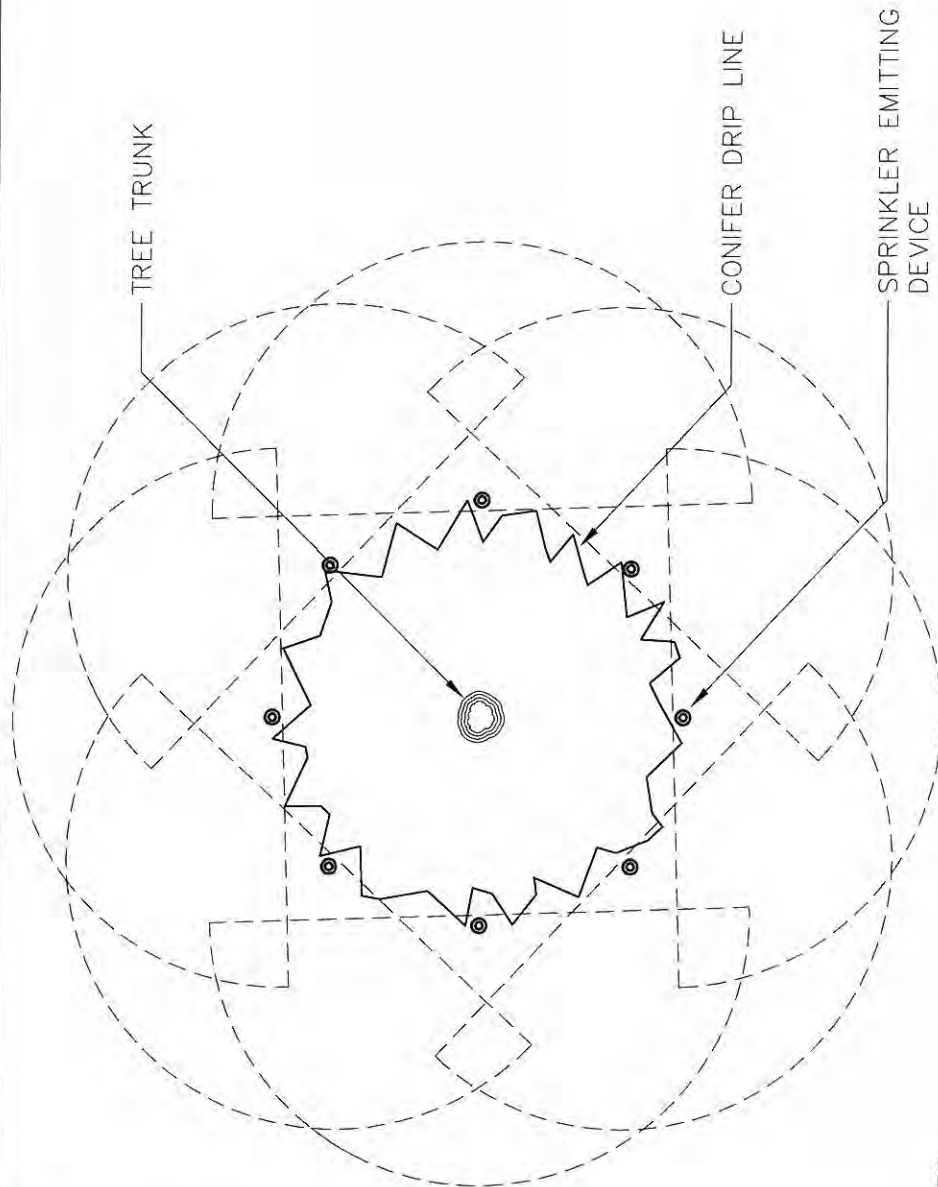


CITY OF LAKE ELMO

STANDARD DRAWING NO.

953c

LAKE ELMO



NOTES:

1. LAYOUT AND INSTALLATION OF SPRINKLER EMISSION DEVICES INTENDED TO SERVE TURF AND/OR BEDS SHALL RESULT IN LITTLE OR NO SPRAY ONTO CONIFEROUS PLANTS.
2. DESIGN, LAYOUT AND INSTALL SPRINKLER EMISSION DEVICES OUTSIDE OF CONIFEROUS DRIPLINE AND SPRAY AWAY FROM CONIFEROUS PLANTS.
3. WHERE FEASIBLE, USE LOW-ANGLE NOZZLES TO MINIMIZE OCCASIONS OF OVERSPRAY ONTO CONIFEROUS PLANTS IN GENERAL AND IN PARTICULAR, AS RESULTANT OF OCCASIONAL WIND CONDITIONS.
4. SPRINKLER EMISSION DEVICES THAT RESULT IN SPRAY TOWARD CONIFEROUS PLANTS SHALL BE DESIGNED, LAID-OUT AND INSTALLED IN CONFORMANCE WITH NOTE #1.

BROADCAST IRRIGATION IN THE VICINITY OF CONIFERS

953c

MARCH 2017

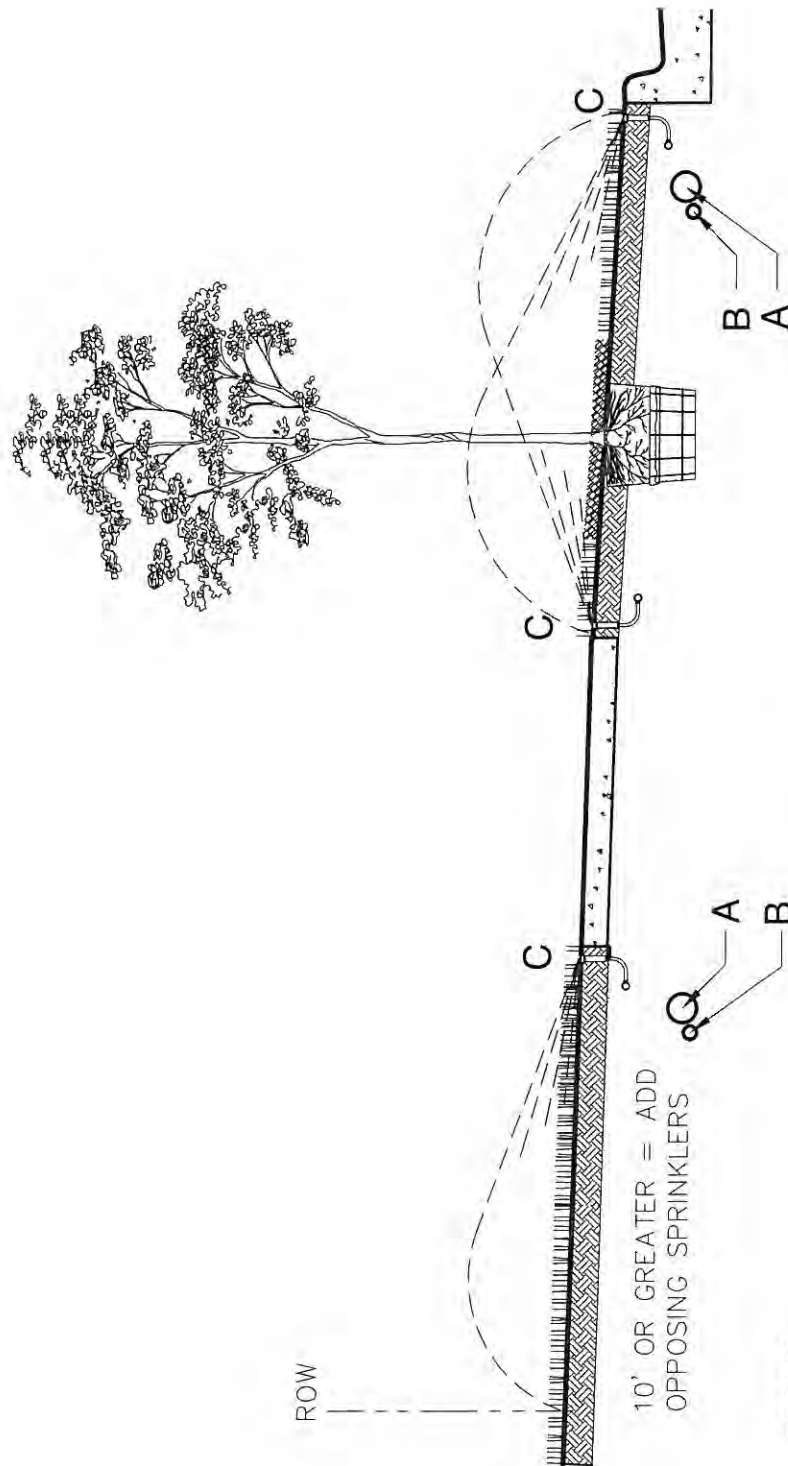


CITY OF LAKE ELMO

STANDARD DRAWING NO.

953d

LAKE ELMO

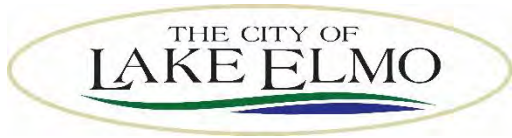


LEGEND:

- A. SDR 21 PVC MAINLINE; 2" OR GREATER; 24" FROM BACK OF SIDEWALK; 24" MIN. DEPTH TO TOP OF PIPE
- B. CONTROL WIRE PATH
- C. 4" POP-UP SPRAY-TYPE SPRINKLER

BOULEVARD LANDSCAPE IRRIGATION

953d



STAFF REPORT

PLANNING COMMISSION

DATE: 04/10/2017

ITEM #: 5b

AGENDA ITEM: Engineering Design and Construction Standards Manual – March 2017 Revisions

SUBMITTED BY: Jack Griffin, City Engineer

REVIEWED BY: Kristina Handt, City Administrator
Rob Weldon, Public Works Director
Stephen Wensman, Planning Director
Chad Isakson, Assistance City Engineer

BACKGROUND: The City has prepared and maintains engineering design standards, standard specifications, and standard details for public infrastructure within the City, including streets, sanitary sewer, watermain, storm water facilities, right-of-way management and boulevard layout. This information is compiled into an Engineering Design and Construction Standards Manual for use by staff and the development community. The latest version of the Manual is dated February 2015.

The standards have been established to set minimum requirements to be met for all public infrastructure projects in the City with the intent of constructing consistent and compatible infrastructure systems throughout the community; to clearly communicate with the development community these minimum expectations and requirements; and to expedite plan design, preparation and City plan review and approvals. The engineering design standards and guidelines have been established to address the most common project elements and are to be used in conjunction with the requirements set forth by applicable codes, laws and ordinances, recognized industry standards, good engineering practice and specific project needs. Omission of reference in these standards and guidelines does not relieve responsibility for compliance with these requirements. In addition, the provisions of these standards and guidelines are not intended to prohibit the use of alternative systems, methods or components. Professional engineering judgement and ingenuity is encouraged to adapt to specific project needs. However, varying from the standards and guidelines will only be permitted with the approval of the City Engineer, after performing due diligence to ensure the design is equivalent or superior to the prescribed elements of the guideline.

ISSUE BEFORE THE COMMISSION: Staff respectfully requests that the Planning Commission review and recommend approval of the March 2017 revisions to the Engineering Design and Construction Standards Manual.

PROPOSAL DETAILS/ANALYSIS: The Engineering Design and Construction Standards Manual is a living document that is reviewed and modified from time to time by the City Engineering team to adapt pro-actively to changing conditions so as to remain current, address best practices and extract additional economic value and performance as needed. Changes are often based on recommendations from Planning, Public Works or other City staff, the development community, and other stakeholders. Changes made by the City Engineer over time are periodically brought forward as revisions to the Engineering Design and Construction Standards Manual to formalize the City's approval.

The Engineering Design and Construction Standards Manual dated March 2017 includes the following revisions and updates:

Plan Format Requirements.

1. Updated the Plan Format requirements to require electronic plans for a complete submittal.
2. Removed reference to City benchmark system.
3. Added requirement to provide “All proposed lot corner elevations” as part of the grading plans.
4. Revised section IV. F. to clarify NWL and HWL plan requirements and require HWL contours.
5. Updated the Plan Format requirements to clarify record drawing requirements.
 - o Revised II. A. to remove house pad as-built elevations.
 - o Deleted II. M. requiring shots sufficient to produce 2 ft. contours.
 - o Revised II. N. grade tolerance language to indicate areas outside of tolerance “may” be subject to revisions/re-work.
 - o Added III.F. “Ties for draintile cleanouts to permanent structures.”

Design Standards.

1. Clarified local street widths for a) parking both sides b) parking one side and c) no parking.
2. Added minimum tangent requirements at local street intersections.
3. Collector street and right-of-way widths were changed to “case by case basis”.
4. Changed drain tile pipe to PVC schedule 40.
5. Sign post standards were changed per direction of Public Works.
6. Clarified the City street light fixture and pole requirements.
7. Revised tracer wire requirements to be 12 AWG and added Drive-in Magnesium Grounding Anode Rod requirements to assist Public Works with utility locates.
8. Changed the minimum watermain pipe size to 6-inch diameter when allowed by the City Engineer.
9. Maximum length of pipe at dead ends. Changed to 1,000 feet.
10. Added 4-foot Sump Manhole requirement to be consistent with VBWD standards.
11. Stormwater BMPs.
 - o Changed Pretreatment forebay to no longer be “Required”.
 - o Added Clay Pond Liner specifications for wet ponds to meet VBWD standards.
 - o Removed infiltration basin plantings to reference approved Landscape Plan.
 - o Revised and detailed infiltration basin boring requirements.
12. Updated City Low Impact Development practices language.
13. Removed landscaping details.
14. Update detail plate index.
15. Unresolved items.
 - o Review/revise turning radius at intersections w/center medians. Snow plow issues.

Standard Details.

1. Revised all Standard Details to “MARCH 2017” and updated the index details to reflect updated numbering system.
2. 201 – Added hydrant concrete splash pad per Public Works request.
3. 203 – Revised gate valve key requirements per Public Works request.
4. 208 – Added note to reference Landscape Irrigation Standards for work by Private Contractor.
5. Added tracer wire requirements for utility locate assistance. Details provided by Public works.
 - o 300A – Added tracer wire note.
 - o 313 – Added access box and grounding rod detail.
 - o 315 – Added detail for tracer wire plan view.
6. 416 – Revised minimum pond depth to 3-feet to match design standard.
7. 419 – Changed draintile pipe to Schedule 40 PVC.
8. 505 – Updated valley gutter detail to 6 foot width and removed mesh.

9. 507A, 507B, 507C, 507D, and 507E. Added MnDOT Pedestrian ramp standard details.
10. 509 – Updated standards trail width to 8 feet from 8-1/2 feet.
11. 514 – Added new detail for bituminous saw and seal requirements for residential streets.
12. 600D – Removed comment #5 requiring placement of 2 rows of sod and silt fence.
13. 801 – Updated draintile note to schedule 40 pipe.
14. 804 – Updated draintile note to schedule 40 pipe.
15. 805 – Removed reference for the placement of 2 rows of sod/silt fence.
16. 807A – Added detail for Temporary Cul-De-Sac Type A.
17. 807B – Added detail for Temporary Cul-De-Sac Type B.
18. Removed Section 900 Landscape/Irrigation details to be located in Landscape Standards Manual.
19. Created new Section 900 for Signing/Pavement Markings/Lighting.
20. Added Detail 902 and 903 to detail new street and traffic sign post standards per Public Works.

Standard Specifications.

1. Revised all Standard Specifications to “MARCH 2017”.
2. Section 1450 – Included Modified Penetration Test for Aggregate Base Compaction (industry standard by Geotech field technicians).
3. Section 3217 – Revised pavement marking materials (Section 4.C.).
4. Removed 3290 (Landscape Plantings). Moved Prairie Style turf to turf establishment section.
5. Section 3307 – Tracer wire changed to 12 gauge per manufacturer’s recommendation.
6. Section 3330 – Added tracer wire requirements per direction of Public Works. Using MWRA specifications incorporated. Grounding rod/access box at every service.
7. Section 3340 – Revised spec to address new MDH requirement for watertight connection on all storm sewer structures within 10 feet of watermain.
8. Section 3346 – Revised spec for draintile to be Schedule 40 PVC.
9. Section 3440 – Revised sign posts per Public Works new standards and to match new details.

RECOMMENDATION: Staff is recommending that the Planning Commission recommend approval of the March 2017 revisions to the Engineering Design and Construction Standards Manual. The recommended motion for the action is as follows:

“Move to recommend approval of the March 2017 revisions to the Engineering Design and Construction Standards Manual.”

ATTACHMENTS:

1. Plan Format Requirements – Redlines showing changes from February 2015 to March 2017.
2. Engineering Design Standards – Redlines showing changes from February 2015 to March 2017.
3. Standard Details – New details 201, 208, 315, 514, 807A, 807B, 902, and 903.

**The full Engineering Design and Construction Standards Manual, dated March 2017 is available for review at City Hall.*

PLAN SHEET FORMAT REQUIREMENTS

for

CITY OF LAKE ELMO

This document outlines the required plan format and minimum acceptable plan sheet requirements for each development project within the City of Lake Elmo. The minimum requirements shall be met for all projects before approval may be granted by the City Engineer.

Plan submittals will not be considered received until all plan formats have been submitted to the City. All submittals and resubmittals shall include full size plans (22" x 34"), half size plans (11" x 17") and electronic plan files in PDF format.

GENERAL REQUIREMENTS:

1. Plan sheet size shall be 22" x 34" and 11" x 17".
2. All Plans shall be submitted in electronic PDF format.
- ~~2-3.~~ All electronic CAD/GIS files, when required, must be accompanied by a "layer description list" that clearly identifies the elements of each layer or level.
- ~~3.~~ Vertical control of Construction Record Drawings must be on the City's Benchmark System.

CONSTRUCTION PLANS: The following plan sheets shall be bound together in one plan set and distributed to the City in the number and plan size as required.

- I. Title Sheet
 - A. Location Map with Section, Range and Township provided.
 - B. Sheet Index.
 - C. Plan Date with all Revision Dates.
 - D. Preparer's Name and Contact Information.
 - E. Owner's Name and Contact Information.
- II. Legend and Typical Sections
 - A. Plan Legend for all Applicable Symbols.
 - B. City of Lake Elmo Typical Sections as Applicable to the Project.
 - C. Additional Typical Sections as Deemed Appropriate by the Design Engineer.
- III. Standard Details and Storm Sewer Construction Chart
 - A. City of Lake Elmo Standard Details as Applicable to the Project.
 - B. Additional Standard Details as Deemed Appropriate by the Design Engineer.
 - C. Storm Sewer Construction Chart.
- IV. Grading, Drainage, and Erosion Control Plans
 - A. North Arrow (Up or to the right on all sheets).
 - B. Scale: 1"=50' horizontal.
 - C. Maximum plan sheet size 22" x 34".

D. Building pads with garage floor elevation, low floor elevation, low opening elevation and building type.

E. All proposed lot corner elevations.

~~E.F.~~ Wetland delineations and wetland buffers, creeks, streams, lakes & other water bodies.

G. Existing and proposed normal water level (NWL) and high water level (100-year HWL) for all water bodies within and adjacent to the property, including proposed high water level (100-year HWL) for infiltration basins.

H. Proposed high water level (100-year HWL) contour for all storm water ponds and infiltration basins.

~~F. Normal water level (NWL) and high water level (100-year HWL) for all water bodies within and adjacent to the property.~~

~~G.I.~~ All emergency overflow elevations, placed in **BOLD** on the plans.

~~H.J.~~ All erosion control measures, permanent and temporary.

~~I.K.~~ Grading and erosion control City standard plan notes.

~~J.L.~~ Tree protection fencing.

~~K.M.~~ Spot elevations for significant trees to be saved.

~~L.N.~~ Retaining Walls (wall heights and elevations).

~~M.O.~~ Existing storm sewer, drainage and culvert structures to a distance of 150 feet beyond plat boundary with pipe material, size and inverts.

~~N.P.~~ Topographical features to a distance of 150 feet beyond plat boundary (fences, trails, sidewalks, streets, driveways, etc.)

~~O.Q.~~ Property, right-of-way and easement lines.

~~P.R.~~ Existing street and driveway widths with type of surface identified.

V. Sanitary Sewer and Watermain Plan Sheets:

A. Plan and Profiles for Sanitary Sewer and Watermain shall be placed on the same sheet(s).

B. The following information shall be shown:

1. North Arrow (Up or to the right on all sheets).
2. Scale: 1"=50' horizontal and 1"=10' or 1"=5' vertical (Maximum sheet size 22" x 34")
3. Street names & right-of-way lines.
4. Lot and block numbers.
5. Location of all existing utilities with pipe material and size.
6. Existing and proposed easements.
7. Size of mains.
8. Material and Class of pipe.
9. Length of mains and each sanitary sewer pipe segment.
10. Size and type of manholes.
11. Proposed grade of each sanitary sewer pipe segment.
12. Elevation of inverts of all sanitary sewer lines, at MH and at stub ends.
13. Arrows indicating the direction of flow on the sanitary sewer plan views.
14. Number each sanitary sewer structure on both plan and profile views.
15. Stationing of sanitary sewer structures on profile view.
16. Proposed main line pipe crossings on the profile views.
17. Proposed storm sewer shown in plan and profile views (background view).
18. Service locations and wye stationing on the plan view (from the main line to the utility easement line).

19. Proposed invert elevations at the utility easement line. Risers must be listed for each lot if needed.
20. Elevation of the top of the water service stop box at the utility easement line.
21. Hydrant, valve and fitting locations on the plan view (gate valve or butterfly valve noted as applicable).
22. Proposed and existing pump or lift stations.
23. Proposed and existing Well Pumphouses.
24. Existing grade profile over main line pipe.
25. Finished grade profile over main line pipe.
26. Centerline stationing at 100 foot minimum intervals.
27. Sanitary Sewer City Standard Plan Notes.
28. Watermain City Standard Plan Notes.

VI. Street and Storm Sewer Plan Sheets:

A. Plan and Profile shall be shown on the same sheet.

B. The following information shall be shown:

1. North Arrow (Up or to the right on all sheets).
2. Scale: 1"=50' horizontal and 1"=10' or 1"=5' vertical (Maximum sheet size 22" x 34")
3. Street names.
4. Lot and block numbers.
5. Existing and proposed easements/right-of-ways.
6. Show concrete walks and bituminous paths.
7. Sizes of storm sewer pipe.
8. Material and Class of storm sewer pipe.
9. Length of each storm sewer pipe segment.
10. Proposed grades of each storm sewer pipe segment.
11. Proposed drainage swale locations, elevations, and grades.
12. Elevations on all inverts and castings of all storm sewer structures.
13. Arrows indicating the direction of flow on the storm sewer plan views.
14. Number of each storm sewer structure on both plan and profile views.
15. Proposed watermain and sanitary sewer shown in plan and profile views.
16. Proposed pipe crossings on the storm sewer profile views.
17. Existing grade profile over storm sewer pipe.
18. Finished grade profile over storm sewer pipe.
19. Finished centerline street elevations every 50 feet minimum.
20. Centerline stationing.
21. Street grades on profile.
22. Vertical curve data on profile.
23. Horizontal alignment and curve data on plan view.
24. Top of curb elevations at the beginning, mid-point and end of all radii and at all intersections where drainage is a concern, at maximum or at minimum grades.
25. Drainage flow arrows at street intersections.
26. Finished profile for centerline of trails (plan and profiles for trails may be on separate sheets from street and storm sewer plans).
27. Storm Sewer City Standard Plan Notes.
28. Sidewalk and Trail City Standard Plan Notes.

C. Drantile Information to be Shown:

1. Size, type and location of pipe on plan view.
2. Locations of service wyes and clean-outs.
3. Arrows indicating the direction of flow on the draintile.

VII. Cross Sections

- A. Cross sections shall be provided for all street reconstruction work, turn lanes, or when interfacing new streets along existing streets and roadways.
- B. Cross sections shall be provided for all trails, except when the trail is placed in the boulevard in accordance with a typical standard street section.
- C. At a minimum, each cross section shall show the following:
 1. Finished ground to the match points of existing grade.
 2. Existing ground.
 3. Right-of-way and easement locations.
 4. Centerline of proposed improvement.
 5. Full depth proposed section.
 6. Label all slopes proposed at maximum grades.
- D. When provided, cross sections shall be shown a minimum of every fifty (50) feet, at all low points, critical drainage locations, driveways, and at intersections.

VIII. Street Signage, Lighting, and Pavement Marking Plan

- A. Signing, Pavement Markings, and Lighting City Standard Plan Notes.

IX. Landscape Plan Sheets

- A. Irrigation Systems.
- B. Include tree removals, planting schedule, and tree replacement plan.
- C. Include City Standard Landscaping Plan Notes.

RECORD DRAWINGS: Record drawings must be completed and submitted to the City Engineer to assist the City in the review, verification and acceptance of the work completed. The submittal information outlined below is considered the minimum documentation requirements. The City Engineer may request additional information specific to the improvements as deemed reasonably necessary to verify the work conforms to the approved grading and construction plans.

I. Submittal Requirements:

- A. As-built Construction Plans shall be certified by the engineer and prepared in accordance with the Plan Sheet Format Requirements.
- B. All changes from the final construction plans should be indicated on the as-built Construction Record Drawings. All changes shall be lined out and corrections shall be shown in ***bold italics***.
- C. Each Record Drawing shall list Contractor's name, Developer Engineer's name, City Project Number, Construction Completion Date, and Record Plan Drawing Number (provided by City).
- D. Final record drawings shall be submitted as one (1) set of full size plans (22" x 34"), two 11" x 17" paper copies, and submitted in electronic form (CD) with DWG files and PDF files that are printable to scale on 11"x17".
- E. As-built surveyed information shall tie out to benchmarks as indicated on the plans.
- F. GIS shape files must be provided to include all as-built public infrastructure data.

II. Certified Record "As-built" Grading Plan shall include:

- A. Location and as-built elevations at lot corners ~~and house pads.~~
- B. Location and as-built elevations along all swales, berms, slopes and ditches.
- C. Location and as-built elevations at all emergency overflow (EOF) points.
- D. All finished grades for pond cross sections.
- E. Location and as-built elevations at high water levels (HWL) for ponds and low points.
- F. Location and as-built for all storm sewer structures including inverts and overflows.
- G. Location and as-built elevations at all retaining walls, including top and bottom of wall at maximum wall height locations.
- H. Location and as-built elevations for any private wells or wastewater systems.
- I. Location and as-built elevations for other features critical to drainage performance.
- J. Contours for all HWL, wetland, and other water bodies, buffers and setbacks.
- K. Property lines and easements.
- L. Location of all existing utilities.

~~M. Sufficient as-built elevation shots to substantiate 2-foot contour lines.~~

M. As-built grading plan must conform to the approved final grading plan. As-built elevation shots not within +/- 0.2 feet of proposed elevations are subject to rejection and re-work at the discretion of the City Engineer.

~~N. As-built elevation shots must be within +/- 0.2 feet of proposed elevations.~~

~~O.~~

III. Certified Record "As-built" Construction Plans shall include:

- A. As-built surveyed elevations for sanitary and storm sewer manhole and catch basin casting/inlet tops and inverts, flared end section inverts, and any other structure elevations shown on the as-bid drawings. Actual elevations must be recorded to the nearest 0.01 foot, and the actual pipe grades recorded to the nearest .01%.
- B. Sanitary and storm sewer lines field measured from center of casting to center of casting or from center of casting to end of flared end. Record lengths to nearest 0.5 foot.

- C. All changes from planned pipe, structure, or hydrant locations.
- D. Measured distances from center of casting to end of stubs for sanitary and storm sewer.
- ~~E.~~ Ties from ends of watermain stubs to permanent structures.
- ~~F.~~ Ties for drain tile cleanouts to permanent structures.
- ~~E.~~
- ~~F.~~G. Service ties for the curb box for each lot. Including pipe quantity, size and type on plans.
- ~~G.~~H. All sewer services with stationing from downstream manhole to wye location. Pipe quantity, type and invert elevation at utility easement line shall be shown on the property served.
- ~~H.~~I. Location of watermain fittings (i.e. bends, tees, etc.).
- ~~I.~~J. Top nut of hydrant elevations.
- ~~J.~~K. All pipe insulation.
- ~~K.~~L. As-built surveyed elevations for top of curb in sufficient quantity to verify street grades.
- ~~L.~~M. All lot address numbers shown on both utility and street record plans.

- IV. Private Water/Wastewater Facilities: Record drawings shall be provided in the format consistent with the requirements for public infrastructure as prescribed herein:
 - A. Tie information for all underground structures.
 - B. Location and as-built elevations for any system structures, pipes, pipe slopes, pipe lengths, valves, clean-outs, and other facilities.
 - C. Property lines and easements for the facilities.
 - D. Detail on the plans any revisions or deviations from the approved design.
 - E. Operation & Maintenance manual including:
 - 1. Operational performance characteristics for all pumps.
 - 2. All electrical and control information including electrical console schematics.
 - 3. All mechanical information, parts data, and operational instructions.
 - 4. Facility Operation instructions and procedures.
 - 5. Emergency mitigation measures.
 - 6. Chemical treatment schedules.
 - 7. Permit documentation and reporting requirements.
- V. Public Infrastructure Inventory Requirements: Final quantity tabulations shall be submitted for the following information:
 - A. Sanitary Sewer Pipe, by footage and pipe size.
 - B. Watermain, by footage and pipe size.
 - C. Number of Hydrants, Gate and Butterfly Valves, Manholes, Catch Basins, and Lift Stations.
 - D. Number of Sanitary Sewer Services, by pipe size.
 - E. Number of Water Services, by pipe size.
 - F. Number of Drain Tile Services, by pipe size.
 - G. Storm Sewer Pipe, by footage and pipe size.
 - H. Number of Pollution Control Structures (Sumps, Grit Chambers, Pond Skimmers), by type.
 - I. Number of Ponds and Sedimentation Basins, by type. Each listed with water surface area and volume at NWL and HWL.
 - J. Number of Storm Sewer Outlet Structures, by size.
 - K. Number of Alternative Stormwater Drainage Facilities (BMP's), by type of BMP.
 - L. Public Streets by lineal footage and square yard.

- M. Private Streets by lineal footage and square yard.
- N. Sidewalks by lineal footage and square yard.
- O. Trails by lineal footage and square yard.

ENGINEERING DESIGN STANDARDS

for

CITY OF LAKE ELMO

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STREET DESIGN AND GEOMETRICS

- **Geometric Design, Local Residential Street**
 - Minimum Street Width, back of curb to back of curb.....28-feet
 - ~~-Minimum Street Width (B-B), parking one side (when allowed by City).....24-feet~~
 - ~~-Minimum Street Width (B-B), no parking (when allowed by City).....22-feet~~
 - Minimum Street Width, one-way lanes with center median.....19-feet
 - Center Crown.....2.5%
 - Minimum Longitudinal Grade.....0.5%
 - Maximum Longitudinal Grade.....8%
 - Maximum Intersection Approach Grade, First 50-feet.....2.05%
 - Minimum Vertical Curve Length, Crest (including stop conditions).....K=19
 - Minimum Vertical Curve Length, Sag (including stop conditions).....K=37
 - Minimum Horizontal Curve Radius.....90-feet
 - Intersection Angles.....90 degrees
 - ~~-Tangent Length at Intersection from Curb Line, Local Streets.....50 feet~~
 - ~~-Tangent Length at Intersection from Curb Line, Higher Class Streets.....100 feet~~
 - ~~-Tangent Minimum between curves.....50 feet~~
 - Minimum Intersecting Street Offset, from Centerlines.....150-feet
 - Curb Radius, Minimum Local to Local.....20-feet
 - Curb Radius, Minimum Local to Collector.....25-feet
 - Minimum Diameter of Cul-de-sac.....90-feet
 - Minimum Grade around Cul-de-sac.....0.5%
 - Maximum Cul-de-sac Street Length (lots less than 2.5 acres).....600-feet
 - Maximum Cul-de-sac Street Length (lots equal or greater than 2.5 acres).....1,320-feet
 - Temporary Cul-de-sac at plat line.....Required
- **Geometric Design, Collector Street**
 - Design Standards.....Meeting State-Aid for minimum design speed
 - Minimum Street Width, back of curb to back of curb.....Varies (~~as determined by City~~36-feet min)
 - Maximum Longitudinal Grade.....6%
 - Intersection Angles.....90 degrees
 - ~~-Tangent Length at Intersection from Curb Line, Local Streets.....50 feet~~
 - ~~-Tangent Length at Intersection from Curb Line, Higher Class Streets.....100 feet~~
 - ~~-Tangent Minimum between curves.....50 feet~~
 - Minimum Vertical Curve Length, Sag and Crest.....~~Meeting~~ State-Aid for minimum design speed
 - ~~-Minimum Vertical Curve Length, Sag.....Meeting State-Aid for minimum design speed~~

Minimum Horizontal Curve Radius.....	Meeting State-Aid for minimum design speed
-Minimum Intersecting Street Offset, if allowed, from Centerlines.....	250-feet
-Street/Roadway Access.....	Per City Access Management Spacing Guidelines
-Driveway Access, Residential.....	Prohibited
-Driveway Access, Commercial.....	Per City Access Management Spacing Guidelines
-Curb Radius.....	25-feet

• **Pavement Section Design** *(Pavement sections below are minimum allowed. Additional pavement section may be required based on Geotechnical Report of the subgrade soils).*

-Local Residential Street.....	Minimum 7-Ton Design
-Subbase, Select Granular Borrow (SPEC 3149.2B).....	Minimum 12-inches
-Subsurface Drainage System.....	Required
-Base, Aggregate Base, Cl. 6 100% Crushed Stone Aggregate.....	Minimum 6-inches
▪ <i>Note: Class 6 Recycled Material Substitute by City Engineer Approval</i>	
-Non-Wearing Course, MnDOT 2360 Type SP 12.5, Mixture 2B.....	2-inches
-Wearing Course, MnDOT 2360 Type SP 9.5, Mixture 2B.....	1½-inches
-Collector Street and Above.....	Minimum 10-Ton Design
-Subbase, Select Granular Borrow (SPEC 3149.2B).....	Minimum 12-inches
-Subsurface Drainage System.....	Required
-Base, Aggregate Base, Cl. 6 100% Crushed Stone Aggregate.....	Minimum 8-inches
▪ <i>Note: Class 6 Recycled Material Substitute by City Engineer Approval</i>	
-Non-Wearing Course, MnDOT 2360 Type SP 12.5, Mixture 3C.....	2-inches
-Wearing Course, MnDOT 2360 Type SP 9.5, Mixture 3C.....	2-inches

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• **Drainile/Street Subsurface Drainage**

-Type.....	Sch. 40 Rigid PVC Perforated
-Size.....	4-inch
-Sock.....	MnDOT SPEC 3733
-Location.....	All Low Points in both directions; at 350 foot intervals, and Project Specific Design
-Length.....	Minimum 100-foot runs; 100 feet in both directions from low points
-Clean Outs.....	Every 150 feet and at all dead ends

• **Curb and Gutter**

-Material, All Purposes.....	Concrete
-Strength, Minimum Requirements.....	3,900 PSI
-Type: New Developments, Single Family Residential.....	Surmountable
-Type: Multifamily, Commercial, Collector Roads, Medians, Reconstruction.....	B618

• **Utility Conduit**

-Type.....	PVC Schedule 40
-Location/Depth.....	Perpendicular to Street and minimum 1-foot below Street Subgrade

• **Entrances/Driveways**

-Maximum Driveway Width at Right-of-way.....	Varies by Zoning District
--	---------------------------

-Bituminous Driveway Minimum Thickness, Section.....Match Street
 -Residential Concrete Driveway Minimum Thickness.....6-inches
 -Commercial Concrete Driveway Minimum Thickness.....8-inches

- **Signing**

-Design Standards.....MMUTCD
 -Sheathing Type.....Type IX Diamond Grade

(DG3) High Intensity Diamond Grade DG3

-Sign Posts, green powdered painted galvanized
~~metal~~.....Pre-Punched 14 ga. Square Tube 3.0 LBS/ft

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RIGHT-OF-WAY AND BOULEVARD LAYOUT

- **Right of Way Widths**

-Local Residential Street Minimum Width.....60-feet
 -Cul-de-sacs.....60-foot radius
 -Collector Street Minimum Width.....Varies (as determined
by City 80-foot Minimum)

- **Boulevard, Local Residential Street**

Width.....16-feet
(15-feet at cul-de-sacs)

-Slope, Typical and Maximum.....4% and 4:1
 -Topsoil Minimum.....6-inch
 -Turf Treatment.....Lawn Sod
 -Tree Location without Sidewalk or Trail.....8-feet back of curb
 -Tree Location with Sidewalk or Trail.....5-feet back of curb
 -Street Light Location.....5-feet back of curb
 -Street Light Type/Pole.....15-foot California

Acorn w/Aluminum Pole (All Black)

-Hydrant Location.....5-feet back of
 curb

- **Sidewalks**

-Collector Street.....Required on both sides
 -Local Residential Street.....Required on one side
 -Cul-de-sac Street.....Required for trail connection
 -Width.....6-feet
 -Sidewalk Maximum Longitudinal Grade.....6%
 -Pavement Section.....5-inch Concrete; 4-inch Select Granular

- **Trails**

-Locations.....Per City trail plan and as directed
 -Width, Local Trail.....8-feet

-Pavement Section, Local Trail.....2.25-inch Bituminous; 8-inch minimum Class 5
 -Maximum Longitudinal Grade.....8%

- **Berm Construction in Boulevard**

-Maximum Side Slope with Maintenance Requirements.....3:1
 -Maximum Side Slope with Natural Vegetation.....2:1

SANITARY SEWER

- **Force Main**

-Material.....PVC or HDPE
 -PVC, 2-inch–24-inch..... C900/C905
 -HDPE Class, 1-inch.....SDR 9
 -HDPE Class, 2-inch–24-inch.....SDR 11
 -Minimum Cover.....~~7.58~~

Feet

-Location of main in Street.....Project Specific
 -Tracer Wire.....~~812~~ AWG solid, PRO-TRACE HDD-CCS

PE45

-Air Relief Valve and Manhole Locations.....All High Points
 -Clean Outs.....All Low Points

- **Gravity main**

-Material.....PVC
 -Minimum Diameter.....8-inch
 -Class, up to 20-feet in depth.....SDR 35
 -Class, 20-25 feet in depth.....SDR 26
 -Class and Material, over 25 feet in depth.....Project Specific
 -Minimum cover over pipe.....5.5-feet
 -Maximum depth of pipe.....30-feet
 -Slope.....Ten States Standards
 -Tracer Wire.....12 AWG solid, PRO-TRACE HF-CCS PE45
 -Location of main in Street.....Centerline

- **Sanitary Sewer Manholes**

-Type.....Precast Concrete
 -Maximum inlet/outlet elevation difference.....2-feet
 -Minimum depth of Manhole.....6-feet
 -Type of Casting.....R-1642-B
 -Joints and Assembly.....Per City Details
 -Location.....Street Centerline
 -Maximum Spacing.....400-feet
 -Flow Line Match Required.....8/10ths Rule
 -Drop Across All Manholes Required.....0.1-feet
 -Connections to Existing Manholes.....Core Drill with Boot
 -Outside drop minimum.....2-feet
 -Outside drop Material.....Ductile Iron

• **Service Pipe**

-Material.....PVC
 -Minimum Diameter.....4-inch
 -Class.....SCH 40
 -Tracer Wire.....12 AWG solid, PRO-TRACE HF-CCS PE45
-Drive-In Magnesium Grounding Anode Rod.....Copperhead Part # ANO-1005 (1.5lb)

WATERMAIN

• **Water Service Pressures**

-Individual Booster Pumps required.....development specific

• **Main Pipe**

-Material.....DIP
 -Class.....CL. 52
 -Minimum Diameter – Mainline.....8-inch
 -Minimum Diameter – As allowed by City Engineer~~Unlooped – Cul de sac~~.....8-inch
 -Minimum Diameter – Hydrant Lead.....6-inch
 -Minimum Cover.....7½-feet
 -Maximum Length of Dead Ends.....61,000-
 feet
 -Air Release measures.....MH, Hydrant
 -Tracer Wire.....128 AWG solid, PRO-TRACE HF-CCS
 PE45
 -Location of main in Street.....North or West

• **Hydrants**

-Type.....Waterous Pacer WB-67
 -Depth of Bury.....8½-feet
 -Maximum Coverage Radius, Residential.....500-feet
 -Maximum Coverage Radius, Commercial.....300-feet
 -Gate valve on Hydrant
 leads.....Yes-at Tee

-Hydrant Nozzel.....4-inch Storz with Pentagon Nut end cap
 -Temporary dead end lines.....Hydrant required (no air bleed valves)

- **Valves**

-Resilient Seat Gate Valve, for 12-inch pipe & smaller.....American Flow Control 2500 Series
 -Butterfly Valve, for pipe over 12-inch.....Mueller Linesal III
 -Valve Box.....Tyler G-Box6860
 -Maximum area isolated by valving.....20 services
 -Maximum distance between valves on Trunk Mains.....800-feet

- **Service Pipe**

-Service Material.....Type “K” copper
 -Corporation Stop.....A.Y. McDonald 74701B
 -Curb StopA.Y. McDonald 76104
 -Curb BoxA.Y. McDonald 5614 w/rod & Mpls. top

STORM SEWER

- **Design**

-Design Frequency for Storm Sewer.....10-year
 -Minimum storm sewer design velocity.....3-fps
 -Maximum storm sewer design velocity.....15-fps
 -Maximum storm sewer outlet velocity.....5-fps
 -Minimum Outfall Pipe Slope.....Verify positive grade at completion (no reverse grade)

- **Main Pipe**

-Storm Sewer Pipe Material.....RCP
 -Minimum Cover Depth.....3-feet
 -Minimum Pipe Diameter, Main.....15-inch
 -Minimum Catch Basin Lead.....12-inch
 -Location of main in Street.....South or East

- **Culvert pipe**

-Culvert Material, urban road or crossing public road.....RCP
 -Culvert Material, rural road private driveway.....CMP
 -Minimum Culvert Size.....15-inch
 -Apron and Trash Guard Required.....Yes

- **Manholes**

-Type.....Precast Concrete
 -Sump.....Depth.....and
 Location.....4-feet, located at
street prior to discharge point
 -Minimum Structure Depth.....4-feet
 -Casting.....R-1642-B
 -Minimum Adjustment Rings.....2
 -Maximum Adjustment Rings.....1-foot

• **Catch Basins**

-Type.....Precast Concrete
 -Minimum Structure Depth.....4-feet
 -Maximum run to Catch Basin.....350-feet
 -Casting, Curb & Gutter, B Style Curb.....R-3067V
 -Casting, Area Drain.....R-4342

STORMWATER MANAGEMENT AND STORMWATER BMPs

Note: Stormwater facilities shall be in accordance with the Requirements listed herein; in accordance with the Requirements of the applicable watershed district; and in accordance with the Minnesota Pollution Control Agency NPDES Construction Storm Water Permit. In addition, all "Recommended" and "Highly Recommended" provisions of the Minnesota Stormwater Manual should be considered requirements by the City of Lake Elmo unless specifically approved otherwise by the City Engineer.

• **Site Design**

-Facility locations.....Outlots deeded to City
 -Location and Size.....above 100-year HWL
 -Building Lowest Floor above 100-year HWL.....2-feet
 -Building Lowest Opening above EOF.....1-foot
 -Minimum access road width (located in Outlot).....20-feet
 -Maximum grade for maintenance access roads.....10%
 -Setback from building foundations.....35-feet
 -Flood Protection.....Overland Emergency Overflows Required (No landlocked basins)

• **Stormwater Ponds (Detention Basins)**

-Design Frequency (DF).....2, 10, and 100-year, and 100-year 10-day snowmelt
 -Minimum Basin Depth to HWL.....3-feet
 -Maximum Pond Depth to HWL.....10-feet

- Average Permanent Pool Depth.....4-feet to 6-feet
- Permanent Pool Length-to-Width Ratio.....3:1 or greater
- Maintenance Bench Maximum side slope, first ten feet above Permanent Pool.....10:1
- Aquatic Bench Maximum side slope, first ten feet into Permanent Pool.....10:1
- Maximum side slope, beyond first ten feet.....3:1
- Pretreatment Sediment Forebay.....~~Required~~ 10%

Pond Area

- Required freeboard.....2-feet above HWL
- Pond Liner.....Clay lined per VBWD specifications

• Drainage Swales

- Maximum side slopes on Swales (maximum slopes allowed only when necessary).....3:1
- Maximum side slopes on Right-of-Way Swales.....4:1
- Minimum longitudinal Swale grade.....2%
- Minimum Swale depth within Right-of-Way.....18-inches
- Minimum Bottom Width.....4-feet

• Infiltration Facilities (Bioretention Areas and Rain Gardens)

- Inlet control from Streets.....Use Neenah R-3067-V casting on Catch Basin (no curb cuts)
- Maintenance Agreement for public right-of-way.....Required
- Maintenance Access Easement.....Required
- Minimum distance from septic system or drainfield.....35-feet
- Minimum distance from public or private well.....50-feet
- Maximum Site Slope.....5%
- Minimum depth to Bedrock.....5-feet
- Minimum depth to Seasonally High Water Table.....5-feet
- Located in “hotspot” drainage shed (i.e. gas stations).....Prohibited
- Located in Hydrologic Soil Group D Soils.....Prohibited
- Underdrain, Group C Soils (filtration).....Required
- Soil infiltration rates.....*By Field Testing at Facility Location
- ~~-Minimum In-situ Permeability.....1 inch per hour~~
- Maximum side slope.....4:1
- Maximum drain dry time.....48 hours
- Soil medium.....MnDOT 3877 E Rooting Topsoil Borrow
- ~~-Seeding Plantings.....Seed perMnDOT 3876~~

Specifications with Type 33-261

- ~~-Plantings.....Planted in conformance with City approved landscape plan~~
- ~~.....Seed to be enhanced with 1 plug per 4 Square Feet~~

~~.....Infiltration areas 10,000 sqft or greater requires 3 grass mixes for variety~~

~~.....Native Shrubs to be planted in conformance with City approved landscape plan~~

* Soil borings are required to verify infiltration rates. Borings must be taken to a depth of ~~520~~ feet below proposed infiltration basin elevation.

- Minimum 2 borings per facility up to 5,000 SF. of infiltration area.
- Minimum 3 borings per facility up to 10,000 SF. of infiltration area.

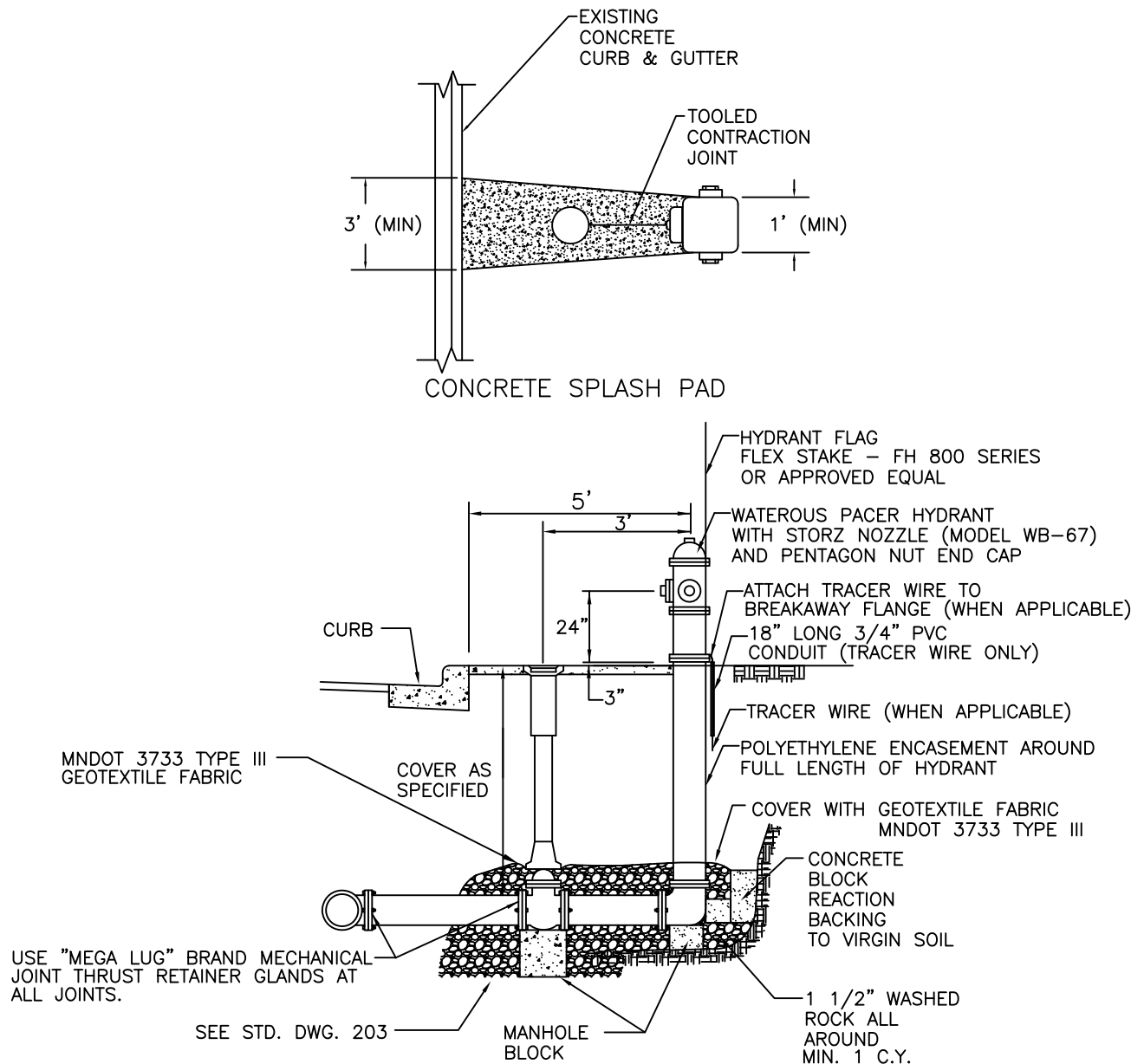
- Additional boring required for every additional 2,500 SF. of infiltration area.

- **Other Stormwater BMPs:** *The City of Lake Elmo has adopted the following additional BMPs and Low Impact Development practices for the City and promotes their use in accordance with these Engineering Design Standards and the applicable City Code.*

- **Open Space Developments in applicable Zoning Districts.**
- **Narrow Streets through minimized street width standards.**
- **Stormwater Reuse.**
- Infiltration/filtration Practices.
- ~~Filtration Facilities.~~
- **Vegetated Swales (Ribbon Curbs and Curbless Streets in applicable Zoning Districts).**
- **Temporary Erosion and Sedimentation Control using Engineering Standards Manual.**
- **Stormwater Site Design.**
 - Conservation of open spaces to protect a site's natural areas.
 - Impervious lot coverage credits for Stormwater BMPs.
 - Use of Pervious Pavements.
 - Adoption of Minimal Impact Design Standards (MIDS) to mimic predevelopment hydrology.
 - ~~Reproduce predevelopment hydrology.~~
 - Incorporation of Landscaping and use of Native Vegetation.

DETAIL PLATE NUMBERS AND PLAN NOTES

- Pipe Installation 101,103,105
- Watermain 200A,201,203,204,206,207A,207B,208,210,211
- Sanitary Sewer 300A,301,302,303,305,306,311,313,314,315
- Storm Sewer 400A,402,404,405,406,407,408,409,410,411,
~~411~~,412,416,417,419,420,421
- Pavements, Curbs, Walks 500A,501,502,504,505,506,507A,507B,507C,508,509
507D,507E,508,509,510,511,512,513,514
- Erosion Control 600A,600B,600C,600D,601,603,604,605,606
- ~~Miscellaneous~~ 700A,706,712,713
- Typical Sections and Right-of-Way 801,804,805,806,807A,807B
- Signing/Pavement Markings/Lighting Landscaping
900A,901A,901B,902A,902B,~~902A~~,903A,903B,904



NOTES:

1. USE MEGA LUGS ON ALL JOINTS. PROVIDE CONCRETE BLOCKING BEHIND HYDRANT AND TEE. USE COR-BLUE T BOLTS ON ALL FITTINGS.
2. PLUG WEEP HOLES IF GROUNDWATER IS PRESENT.
3. IF WEEP HOLES ARE PLUGGED, PUMPER NOZZLE CAP MUST BE PAINTED GREEN AND A TAG SHALL BE ATTACHED TO THE HYDRANT STATING "DRAIN HOLES PLUGGED".
4. SUPPLY 1 EXTRA FLEX STAKE FOR EVERY 10 HYDRANTS INSTALLED. MINIMUM ONE PER PROJECT.
5. SUPPLY 1 HYDRANT STORZ WRENCH OR HYDRANT REPAIR KIT PER PROJECT.
6. SUPPLY 1 6" HYDRANT EXTENSION AS DIRECTED BY THE ENGINEER.
7. ALL HYDRANTS NOT IN SERVICE SHALL BE COVERED WITH BLACK POLY PLASTIC.
8. CONCRETE SPLASH PAD SURFACE SHALL HAVE BROOMED FINISH.

**EXTRA STAKES AND REPAIR KITS ARE TO BE DELIVERED TO THE PUBLIC WORKS BUILDING.

TYPICAL HYDRANT LAYOUT (VALVE IN BOULEVARD)

MARCH 2017

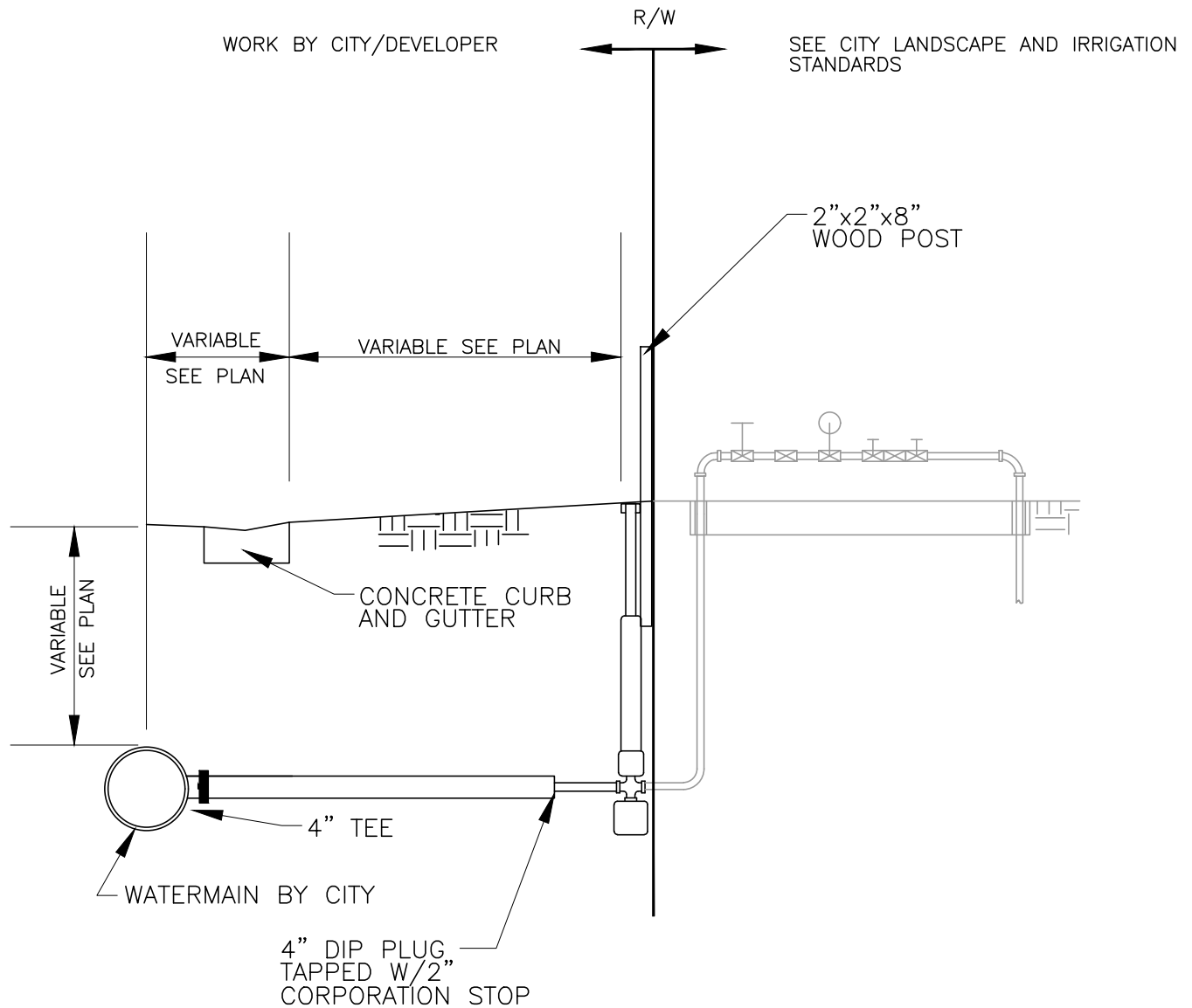


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201

LAKE ELMO



NOTE:

INSTALL 2" CURB STOP WITH COMPRESSION FITTING AT THE END.

IRRIGATION SERVICE

MARCH 2017

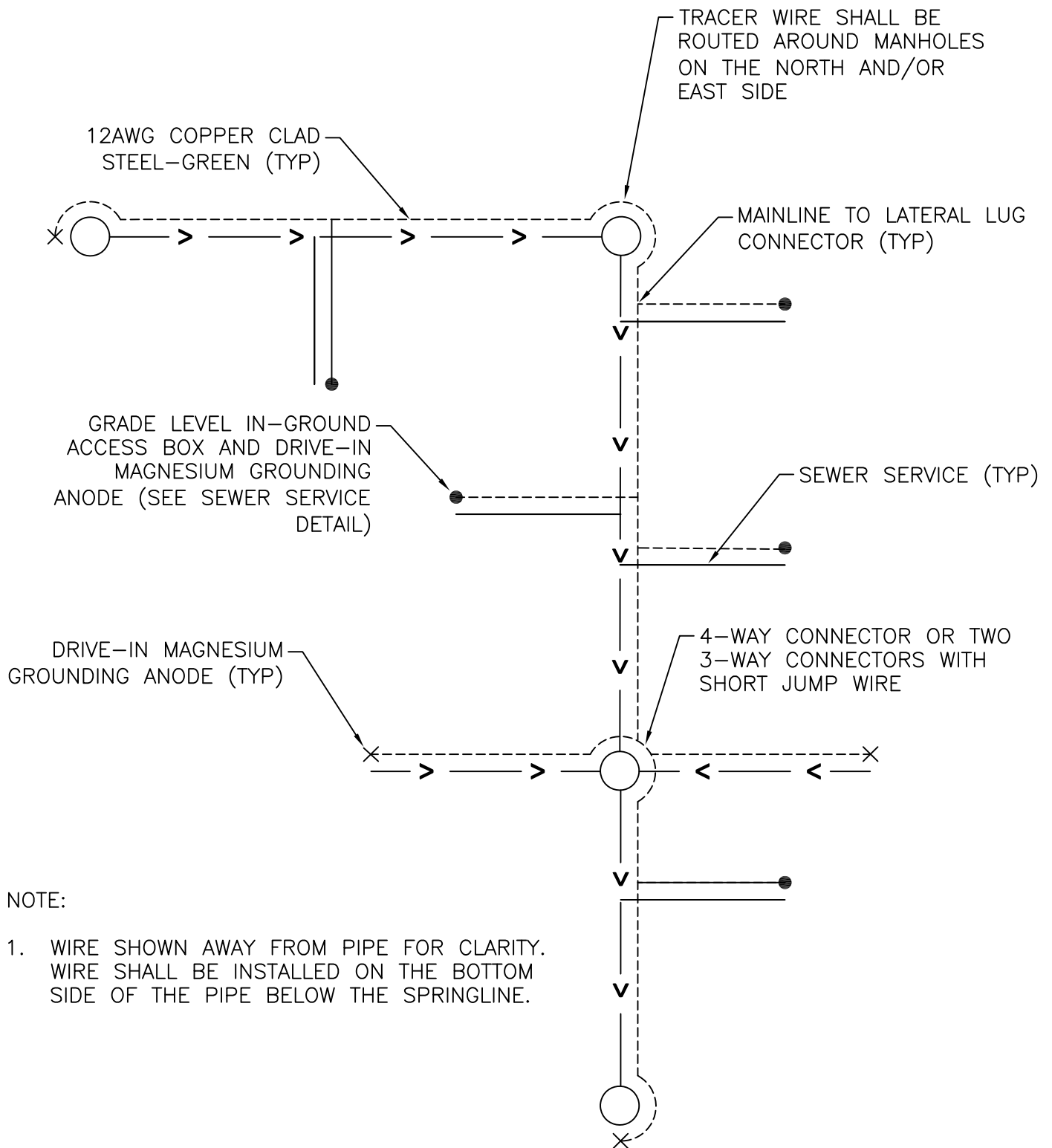


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LAKE ELMO



TRACER WIRE PLAN VIEW (SANITARY SEWER)

MARCH 2017



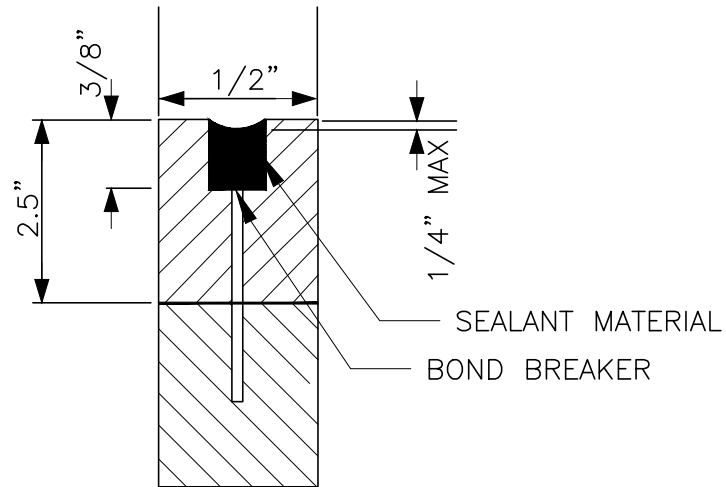
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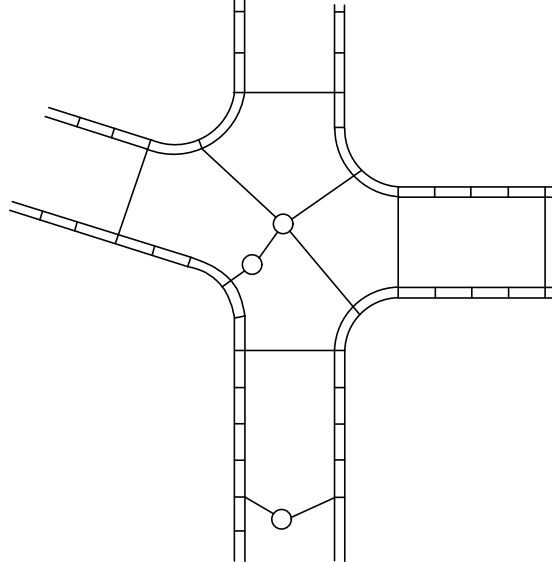
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LAKE ELMO

SAW AND SEAL FOR NEW STREETS



SAW AND SEAL SAMPLE LAYOUT



NOTES:

1. SAW AND SEAL CUT LOCATIONS SHALL BE PLACED EVERY 40 FEET AND AT MANHOLES OR DIRECTED BY ENGINEER.
2. SAW AND SEAL CUT SHALL BE STRAIGHT AND MATCH JOINTS IN CURB AND GUTTER.
3. JOINTS TO BE BLOWN CLEAN AND DRIED WITH A HEAT LANCE IMMEDIATELY BEFORE SEALING.
4. CONTRACTOR TO SETUP AND MAINTAIN TRAFFIC CONTROL, IN ACCORDANCE WITH MUTCD APPENDIX B, INCLUDING FLAGGERS.
5. BOND BREAKER TAPE IS OPTIONAL.

SAW AND SEAL

MARCH 2017

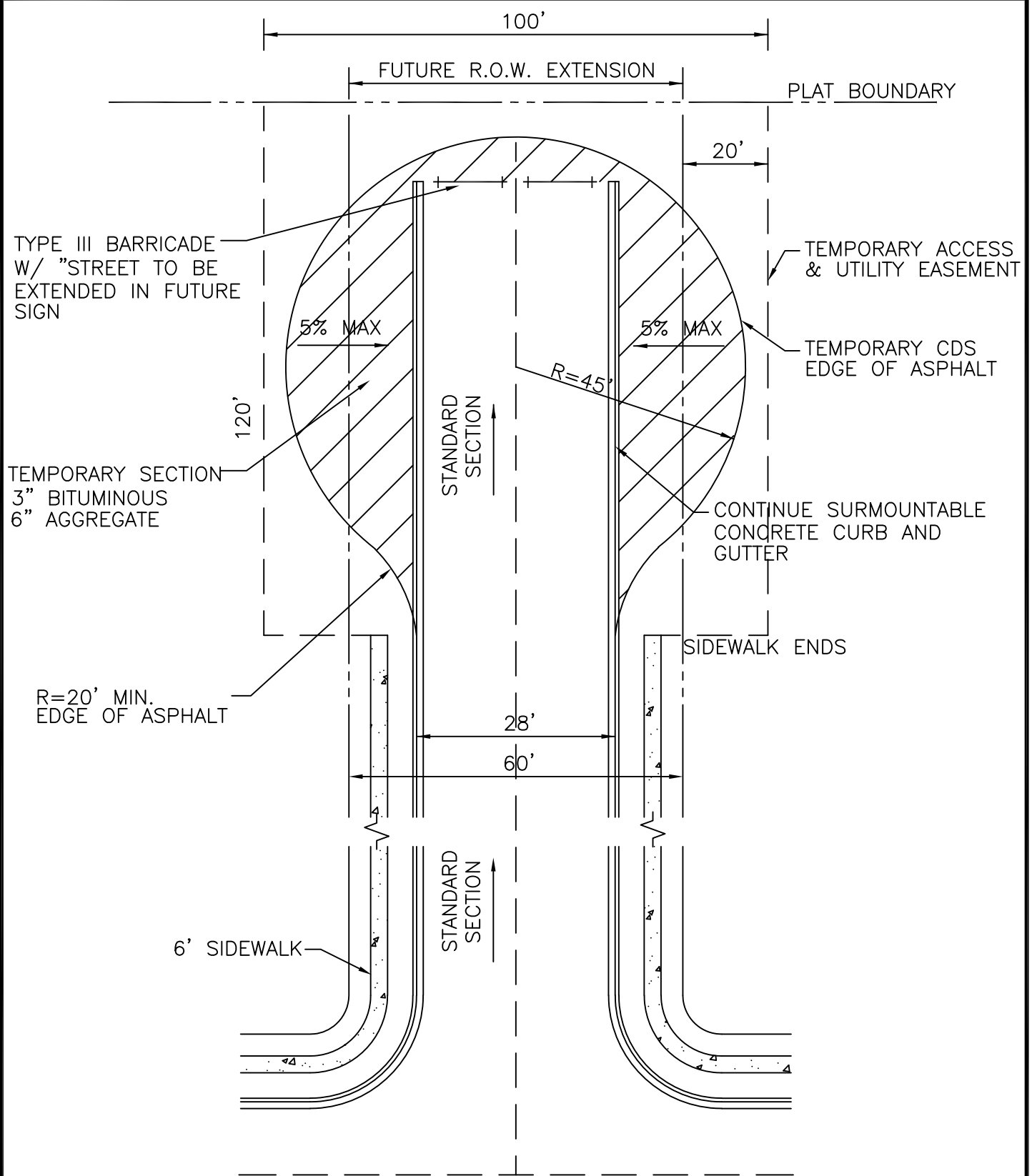


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STANDARD DRAWING NO.

514

LAKE ELMO



TEMPORARY CUL-DE-SAC TYPE A

MARCH 2017



CITY OF LAKE ELMO

STANDARD DRAWING NO.

807A

LAKE ELMO

NOTE: POSITIVE DRAINAGE MUST BE MAINTAINED, BITUMINOUS CURB MAY BE USED AS NECESSARY.

TYPE III BARRICADE W/ "STREET TO BE EXTENDED IN FUTURE SIGN

TEMPORARY SECTION
3" BITUMINOUS
6" AGGREGATE BASE

R=20' MIN.
EDGE OF BITUMINOUS

6' SIDEWALK

100'

R=45'

TEMPORARY ACCESS & UTILITY EASEMENT

TEMPORARY CDS
EDGE OF BITUMINOUS

PLAT BOUNDARY
CURB & SIDEWALK END

28'

60'

STANDARD
SECTION

TEMPORARY CUL-DE-SAC TYPE B

MARCH 2017

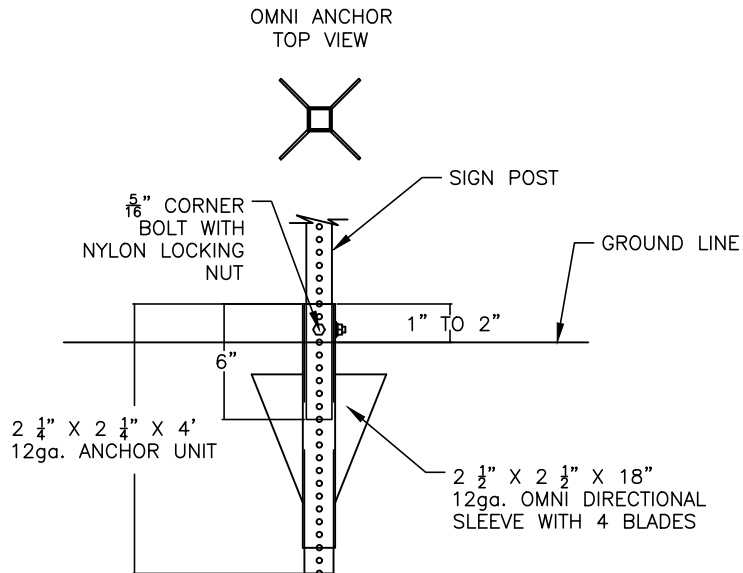
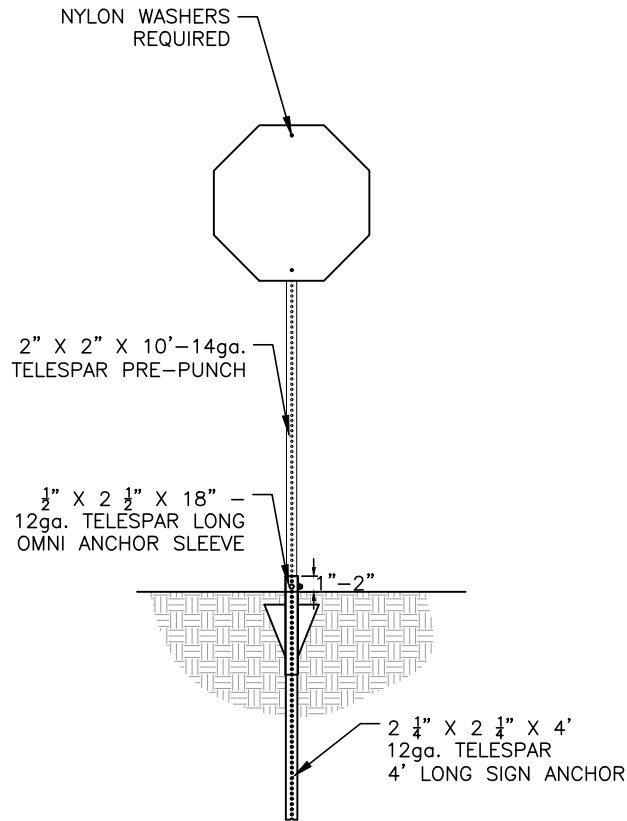


CITY OF LAKE ELMO

STANDARD DRAWING NO.

807B

LAKE ELMO



SQUARE TUBE SIGN STANDARD WITH OMNI BASE

MARCH 2017

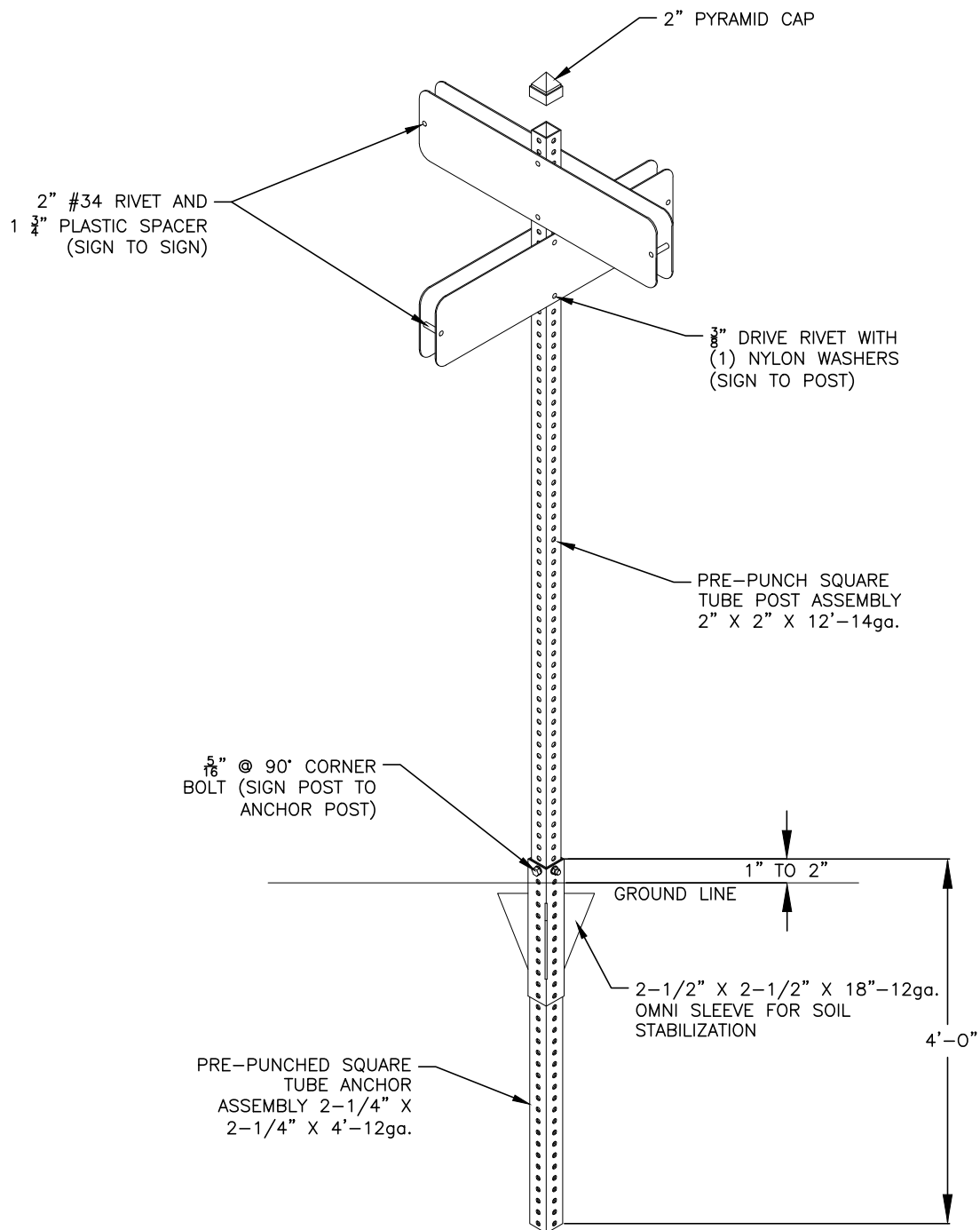


CITY OF LAKE ELMO

STANDARD DRAWING NO.

902

LAKE ELMO



SQUARE TUBE STREET NAME SIGN POST DETAIL

MARCH 2017



CITY OF LAKE ELMO

STANDARD DRAWING NO.

903

LAKE ELMO