Wayzata Planning Commission

Meeting Agenda

Monday, November 2, 2015

Community Room,
600 Rice Street East,
Wayzata, Minnesota

7:00 p.m. **1. Call to Order and Roll Call, and Approval of Minutes**

a. Approval of the October 5th Planning Commission Meeting Minutes

7:05 p.m. **2. Regular Agenda Old Business Items:**

a. 1120 Wayzata Blvd E – The Davis Group
   i. Design Review

7:45 p.m. **3. Workshop Items:**

a. Alternative Energy Ordinance discussion with presentation by Brian Ross

8:55 p.m. **4. Other Items:**

a. Review of Development Activities

b. Other items

9:00 p.m. **5. Adjournment**

NOTES:

[1] Time(s) are estimated and provided for informational purposes only.
[2] Members of the Planning Commission and some staff may gather at the Wayzata Bar and Grill immediately after the meeting for a purely social event. All members of the public are welcome.

WAYZATA PLANNING COMMISSION
MEETING MINUTES
OCTOBER 5, 2015

AGENDA ITEM 1. Call to Order and Roll Call.

Chair Vanderheyden called the meeting to order at 7:00 p.m.

Present at roll call were Commissioners: Vanderheyden, Iverson, Ramy, Gnos, Gonzlez, Young and Gruber. Absent and excused: None. Interim City Planner Eric Zweber (AICP), City Manager Heidi Nelson, City Attorney David Schelzel, and City Attorney Paul Kaminski were also present.

a. Approval of the August 17 Planning Commission and City Council Workshop Minutes

Chair Vanderheyden explained these minutes were back in front of the Planning Commission for approval because there had not been a majority of commissioners present at the last meeting who could approve the minutes.

Commissioner Gruber stated on page 7 of the packet, line 35, change “is” to “it”.

Commissioner Gruber made a motion, Seconded by Commissioner Gonzalez, to approve the August 17, 2015 Planning Commission and City Council Workshop Minutes as amended. The motion carried; 5-ayes, 2-abstain (Young, Vanderheyden).

b. Approval of the August 17 Planning Commission Regular Meeting Minutes

Commissioner Gruber made a motion, Seconded by Commissioner Gonzalez, to approve the August 17, 2015 Planning Commission Regular Meeting Minutes as presented. The motion carried; 5-ayes, 2-abstain (Young, Vanderheyden).

c. Approval of the September 8 Planning Commission Workshop Minutes

Commissioner Gnos made a motion, Seconded by Commissioner Gruber, to approve the September 8, 2015 Planning Commission Workshop Minutes as presented. The motion carried; 4-ayes, 3-abstain (Young, Gonzalez, Vanderheyden).

AGENDA ITEM 2. Regular Agenda Public Hearing Items:

a. 1120 Wayzata Blvd E – The Davis Group

i. **Design Review**

Interim City Planner Zweber stated the Davis Group is proposing to construct a 16,000 square foot, 2-story, medical specialty building at 1120 Wayzata Boulevard East. The site is currently occupied by a 2-story medical office building located roughly in the middle of the site with parking provided between the building and Wayzata Blvd. The proposed building would be located along the Wayzata Blvd. frontage with a joint access with the property to the east running along the east side of the site. The site is adjacent to Heritage Park and an apartment building to the west, a multiple tenant retail building to the east and Colonial Square shopping is located to the north, across Wayzata Boulevard. This property and the property to the east are proposing to share features such as access drive, trash enclosures, and parking. If this project is approved, an easement would be required to ensure that these shared features are available in the future if one of the properties were to be sold. Mr. Zweber reviewed applicable hardcover calculations and lot areas, zoning analysis, building height, parking calculations, landscaping plan, tree inventory, preservation, and removal plan, and preliminary floor plans for the project.

Commissioner Gonzalez asked why the Planning Commission was not reviewing a variance application as well since the R5 District requires a 50-foot setback.

Mr. Zweber stated Staff and the Applicant have not had specific conversations regarding that particular setback.

City Attorney Schelzel clarified if the proposed building does not meet the applicable setback requirements of the Zoning Code, then a variance application would be required.

Chair Vanderheyden asked what the setback was for the current structure.

Mr. Zweber stated this appears to be 25-30-feet.

Commissioner Gonzalez requested that applicants be reminded that the Planning Commission needs to be able to read everything submitted as part of the application. Some of the documents submitted as part of the application were difficult to read.

Mr. Mark Davis, Davis Group, 2487 Crown Hill Road, Minnetonka, stated the Minnetonka Medical Building, on Highway 7, was a recent project they had done and it has several of the same design elements they are proposing for this project. He explained they had not applied for a variance because they did not know it would be required. They had originally met with Staff and been asked to move the building closer to Wayzata Blvd, and they have moved it further from the R-5 zoning than it currently sits. He said that Staff had requested they design a streetscape in the front and put the parking lot in the back of the facility. He explained they are proposing the second entry point because as a healthcare facility, it is difficult to have the only entrance to the facility not be located near the parking. They are willing to increase the size of trees they are proposing to plant to meet the requirement. He explained, based on the size of the building, they are not expecting to have more than 10 physicians or dentists in the building at any one time. Based on this, they expect to meet the parking stall requirements. He clarified the awnings they are proposing would be better than the canvas awnings required in the design code.

Commissioner Ramy asked what the square footage was for the existing building.

Mr. Davis stated the existing building is 11,400 square feet.

Commissioner Gruber stated Wayzata values trees. She asked if there was a way to locate more of the parking in the adjacent lot in order to save more trees.

Mr. Davis stated they always try to preserve as many trees as possible. This particular site is confined and does not provide an opportunity for reconfiguring the parking lot or building layout. He stated the trees that are proposed to be removed have not been evaluated to determine the species and if these would be considered desirable trees by the City. They would not like to reduce the amount of parking planned because this would create problems for patients going forward. They would fit more trees into the plan if possible.

Commissioner Iverson asked if the majority of the fill that would be brought to the site would be going where the trees were being removed and if the amount of fill had been calculated.

Mr. Davis stated there would a retaining wall along the back of the parking lot and the fill would be used to level the parking lot. He stated he did not know the amount of fill that would be required but he would provide this information to the Planning Commission.

Commissioner Gonzalez stated the Design Standards require the second floor to be recessed 6-feet but the project is proposed to have the second floor recessed only 5-feet. She asked why the Planning Commission should consider a deviation from this standard.

Mr. Patrick Giordana, BDH and Young, 7001 France Avenue S., for the Applicant, clarified there are two (2) step backs occurring along this façade. The first one drops back 1-foot 4-inches and the next one drops back 5-feet. The canopies on the building are also projected beyond the face of the building in order to make it appear the façade moves in and out.

Chair Vanderheyden clarified from the center of the front of the building to the furthest, deepest, setback is 6-foot 4-inches. He asked for clarification on the four (4) new proposed parking stalls that appear to be in the drive path to BMO Harris' drive thru.

Mr. Davis stated as people come off Wayzata Boulevard they could take the first or second ingress into the Bank parking lot rather than going to the third ingress. There is a circulation pattern that works and what they have done is combine the parking lots to make it efficient parking for both buildings without impacting the circulation.

Chair Vanderheyden asked if the Applicant would consider using two (2) types of brick on the trash enclosure.

Mr. Davis stated they could use two (2) types of brick on the trash enclosure but based on the height of this enclosure it may not be a visual improvement. They could look at alternative

locations. He stated he would present the Planning Commission with renderings showing this wall with a single brick style and with two (2) types of brick for consideration.

Mr. Davis explained they had not applied for a setback variance because other communities look at adjacent properties when looking at setbacks and in this case the adjacent setback is the C3 District. He has not seen other communities use the point where the three properties adjoin and use this as a setback. The neighboring property is setback 10-feet and Staff had requested this building be moved forward in order to create a streetscape and preserve the natural areas of the parcel.

Commissioner Iverson asked if the Applicant had an estimate of the amount of traffic this site would have each day.

Mr. Davis stated they had not done this analysis. The traffic would be less than if the property were retail.

Commissioner Iverson suggested the Applicant have traffic counts and a traffic study done for the project.

Commissioner Gruber asked if the City's Design Code required a building to have awnings.

Mr. Zweber stated a building is not required to have awnings under the Design Standards. The Applicant is not asking that the awnings be counted as one of the elements required by the Design Code to break the façade of the building. The Planning Commission could classify these building elements as canopies then they would not be counted as design elements.

Mr. Giordana clarified the materials they would be using, the locations and other design elements that were incorporated in the canopies to create architectural interest.

Commissioner Ramy asked if additional landscaping had been considered along the side of the building facing the park.

Mr. Davis stated they would look at this area of the building and see what type of landscaping they may be able to add.

Chair Vanderheyden asked about the parking requirements for a medical building versus an office building, and if the requirements would be less for a medical office building if there were ten (10) or less doctors in this location.

Mr. Zweber explained this project is titled a medical specialty office but the site plan has the parking calculations based on being an office building. If they want to submit the plan as a medical office the Applicant would need to revise this table and commit to the number of doctors that would be located in the building.

Mr. Giordana explained when they were preparing the application they were not sure about the mix of doctors they would have at this location. They have completed some of the tenant negotiations and would be able to recalculate the parking requirements as a medical office building.

Mr. Davis stated there would not be a general office component to the project.

Mr. Zweber stated there had been discussion about including a retail component in the project, and this would need to be included in the parking calculations.

Mr. Davis clarified the retail could include an eyeglass shop or the retail component of a dermatology location. He asked if this would fit the retail classification.

Mr. Vanderheyden stated this would need to be clarified. He stated the Commission has been looking at revising the Parking Ordinance, and he would be interested in what the impact these revisions would have on the parking and on tree loss, if it were in place.

Mr. Zweber stated the existing Ordinance does include a shared parking component, and this may apply. They would have to discuss this with the owners of 1200 Wayzata Boulevard.

Mr. Davis stated he would not recommend reducing the amount of parking available in the project.

Chair Vanderheyden stated he would be interested in a total site view to see if there were opportunities for shared parking.

Mr. Davis stated he would work with the owner of the property to see if there were any other efficiencies they could do for parking and the trash enclosure.

Commissioner Iverson stated when looking at the proposed parking locations and the Boardwalk housing facility, the headlights for the cars parking in the lot would shine into the apartments once the trees are removed. She asked the Applicant to look at adding more year round landscaping for protection and privacy.

Mr. Giordana stated they would need a fencing material along the top of the retaining wall that would be constructed, and they could look at adding vines or having the fence be more opaque.

Commissioner Iverson expressed concerns about the amount of trees that would be removed with the project.

Commissioner Gonzalez stated the Design Standards state the front of all building would have window planters or boxes, and this would need to be a condition of approval if the project moves forward.

Mr. Davis stated they would include plantings near the door on the street side.

Chair Vanderheyden opened the public hearing at 8:00 p.m.

Mr. Craig Alshouse, 5389 Linden Drive West, stated he currently owns the building at 1120 and 1200 Wayzata Boulevard, and the existing building at 1120 Wayzata Boulevard is close to the property line. There are 50-75 feet of trees between the property line and the Boardwalk apartments that would not be removed. He clarified that a majority of the trees that would be removed were cottonwood and box elder trees. He would like to see as many cottonwood trees removed as possible. He asked if the building at 1120 Wayzata Boulevard was closer to the apartment buildings than the proposed building would be.

Chair Vanderheyden stated this is the case.

Mr. Alshouse stated the parking at 1120 Wayzata Boulevard is not typically more than half used during the day so this leaves several stalls available to accommodate a shared use. He clarified that the existing building is a total of 10,800 square feet and half of this is office, and half is medical.

Commissioner Gonzalez clarified if the project moves forward the shared parking should be a condition of approval, and this requirement would be attached to the property so future owners would be aware of the shared parking requirements.

Mr. Alshouse stated there were existing easements on the east side of the existing building that would need to be removed.

Ms. Sarah Rockswold, 208 Central Avenue South, Wayzata, stated removing all of the cottonwood and box elder trees would completely remove all of the shelter between her home and the project.

Chair Vanderheyden closed the public hearing at 8:08 p.m.

Commissioner Iverson pointed out the Commission had not discussed the noise and light pollution, and how these would affect the neighborhood. She would like to see additional trees added between the project and Central Avenue. She stated there is not a storm water management plan included with the application, and she is concerned about the protection of the wetlands.

Mr. Giordana stated the hours of operation for a medical building would be about 7:00 a.m. to 6:00 p.m. They would have the lighting system equipped with a shutdown that would meet the City's requirement. They could also look at lowering the poles slightly to meet photometrics. They worked with the City Engineer on the storm water management.

Mr. Zweber stated the City Engineer does have concerns about the catch basin on the south side and how it is constructed due to the proximity of the retaining wall. He had also reviewed the perforated pipe, and it does meet the 1-inch runoff requirement

Chair Vanderheyden summarized the additional information and requests that had been made by Commissioners during the discussion thus far: number and size of trucks of fill would that would be required; the rights with the adjacent property owners and the drive thru; additional screening on the west side; potential reconfiguration of the parking lot and a parking analysis across the entire site; maximizing cover on the west side of the property; planters near the entrances; additional photometric light data; storm water management per the City Engineer's concern on the catch basin on the south side; traffic data for medical office buildings; and shared parking options.

Commissioner Gonzalez stated the Commission has typically required samples of the building materials that would be used as part of design review.

Commissioner Iverson stated the City Engineer also has concerns about the amount of retaining wall and grading in the southwest corner, and this should be addressed by the Applicant. She requested the Applicant provide a rendering of what the retaining wall would look like, and what the perforated pipe would look like.

Chair Vanderheyden requested a new landscape plan that included the suggestions for the west of the parcel.

Commissioner Gonzalez stated she would like to have staff address the legal question of whether a variance on the setback would be required under the zoning code for the project as presented or not.

Commissioner Iverson stated she would prefer the trash enclosure be finished in one brick rather than two (2) as suggested.

Commissioner Young stated the Commission should spend more time on the Storm Water Management plan and the parking issues. It is important to look at the context of what is needed for parking, especially for shared parking. He does not think the addition of the four (4) parking stalls that disrupt the traffic flow would be considered an improvement.

Commissioner Iverson stated she would like to see more trees added to the Landscape Plan to get closer to the amount of caliper inches that is being removed. There is significant tree loss with the proposed project and 68% of those trees being removed are considered significant trees. She acknowledged that the proposed building is being pushed forward at the City's request, but that it would not be in harmony with the other buildings along the street. She asked if the Applicant had considered leaving the footprint where it is in order to save the trees on the site.

Chair Vanderheyden stated the Design Standards and the Comprehensive Plan guide the development of this area, and this would include moving the building forward toward the street to create a streetscape and move the parking to the back of the buildings.

Commissioner Iverson asked where the snow would be pushed to on the parcel and requested this information be provided to the Commission.

Chair Vanderheyden clarified the Commission is requesting that the Applicant come back with plan revisions and the requested information prior to the Commission action on the application and moving it forward to the City Council.

Commissioner Gonzalez made a motion, Seconded by Commissioner Gnos, to continue consideration of the application for design approval at 1120 Wayzata Boulevard East to a future meeting. The motion carried unanimously.

b. 240 Manitoba Avenue S – David Frey

i. Rear Yard and Lot Coverage Variance for a Second Garage Stall

Interim City Planner Zweber stated David Frey has submitted a development application requesting approval to construct an approximately 10-feet wide by 24-feet long, 228-square foot second garage stall onto an existing garage. The application requests approval of a variance to encroach into the 20-foot rear yard setback to a distance of 10.2-feet to allow for the location of the second garage stall in place of an existing driveway. Additionally a lot coverage variance is requested to allow the lot coverage to exceed the 30% lot coverage requirement by 1.4%. He reviewed the Zoning Ordinances, zoning requests, and analysis.

Commissioner Gonzalez stated because this property is a corner lot, the owner is required to comply with the front yard setbacks on two sides rather than the standard front yard and side yard setbacks.

Applicant David Frey, 240 Manitoba Avenue South, Wayzata, explained he had worked to stay within the C-1 District setbacks because this is a residential use.

Chair Vanderheyden opened the public hearing at 8:42 p.m.

There being no one wishing to speak on the application, Chair Vanderheyden closed the public hearing at 8:43 p.m.

Chair Vanderheyden explained he would prefer to have a covered parking pad or garage instead of an exposed parking pad. He clarified the project would not increase the amount of impervious surface on the property.

Commissioner Gonzalez made a motion, seconded by Commissioner Young for the Planning Commission to direct Staff to prepare draft findings of fact based on discussions and a recommendation of approval of the variance from the 20-foot rear yard setback requirement and the variance for 30% lot coverage requirement for a residential structure in the C-1 Office and Limited Commercial District. The motion carried unanimously.

Chair Vanderheyden recessed the Planning Commission meeting at 8:48 p.m.

Chair Vanderheyden reconvened the Planning Commission meeting at 8:54 p.m.

Ms. Nelson introduced the new Director of Planning and Building, Mr. Jeff Thomson. He will begin working with the City October 15, 2015.

Mr. Thomson introduced himself, and reviewed his background and experience with the City of Minnetonka.

c. Telecommunications Ordinance – City of Wayzata

i. Repeal existing City Code § 801.31 and replace it with draft Telecommunications Ordinance

Interim City Planner Zweber stated as part of the Telecommunications Study the City has engaged in, the City Council and Planning Commission have been working on updates to the City's Telecommunications Ordinance in order to better regulate the use and location of new cellular towers and other equipment. On August 17, the City Council and Planning Commission conducted a joint workshop to review a draft Ordinance, which included testimony from the City's four major telecommunications providers. Based on this workshop, a number of changes have been made to the August 11 draft Ordinance. He reviewed the proposed changes, comments from Verizon and AT&T, and provided a summary of other communities regulations for antennas mounted on existing buildings. He explained the City would need to repeal the existing Telecommunications Ordinance and then adopt the new Telecommunications Ordinance.

City Attorney Kaminski stated the main thing that the City Attorney's office has been concerned about in the recent round of revisions is the impact of a relatively recent change to the federal Telecommunication Statute that prohibits a city from denying a modification to an existing tower or base station. The telecommunication providers have been helpful in providing input to the drafting this Ordinance, and staff has incorporated their comments where they felt it was appropriate. Staff has let the telecommunication vendors know that the City understands it would have limited ability to deny modifications to existing equipment or towers if there is not a substantial change in the dimensions of the equipment. Within the last day, AT&T had provided input on where language to this effect could be placed in the draft Ordinance but the City Attorney's office has not had time to review this recommendation.

Mr. Zweber summarized that the issues the Commission should discuss and clarify are the Federal Regulations, and the vendor's interpretation versus the City Attorney's,s and how strong the language should be for common ground equipment.

Commissioner Gonzalez stated she had not been given adequate time to review the draft and the additional comments from Verizon and AT&T. She felt the Commission should have reviewed the draft at a workshop prior to holding the public hearing.

Chair Vanderheyden opened the public hearing at 9:19 p.m.

Mr. Jay Littlejohn, 150 South 5th Street, Minneapolis, Attorney for Verizon, stated Verizon is not prepared to make an application for any new equipment or facilities at this time, which allows the City additional time to review and prepare the new Ordinance. He stated the FCC has determined that network reliability is a primary public safety concern. Verizon's efforts have been to show the City how they can use stealth technologies, and he is concerned with some of the restrictions the City may be including in the Ordinance that would limit this use and require variances. He would not recommend the use of Planned Unit Developments because this is extra work the City should not need to go through. The decision should be if the location is appropriate and the equipment screening is in character with the neighborhood. He explained the best time for maintenance to be done on the equipment is when there is less use, which would be nighttime/early morning hours. Requiring this maintenance to occur during business hours would create problems for users with service interruption. If there were a need to switch antennas, then this work would be done during the day.

Commissioner Gruber asked if the City Attorney had been able to review Verizon's concerns and questions in order to provide guidance to the Planning Commission.

City Attorney Kaminski stated most of the issues raised by Verizon could be discussed by the Commission but, in his view, these are policy decisions not legal issues.

Commissioner Gonzalez stated the reason for the restricted hours is because there is noise, lights, and other disturbances that disrupt the peace in neighborhoods. She asked how the City could accommodate the vendor's needs and those of the City.

Mr. Littlejohn stated once a site is built, it is operated remotely and they would only be at the site to make improvements or test the facility. They would not expect to have someone at these sites more than once a month and this does not generate a lot of traffic. The vehicles used are similar to the SUVs driven by residents. He stated the restrictions could be imposed under the right circumstances but may not be appropriate for businesses that do not want these improvements done when customers are on site.

City Attorney Kaminski suggested either restricting the hours of access on larger City owned sites, and building the hours into the approval for those areas that are sensitive, or the City could keep the language that restricts the hours for repairs and maintenance throughout the City.

Mr. Littlejohn suggested the City add language that the City may impose conditions for hours of operation for those areas that impact residents. The City could also impose the condition due to health, safety or welfare of the residents.

Commissioner Gruber stated the Commission should discuss when maintenance should be done in greater detail, and she is not comfortable sending this draft to the City Council without those discussions.

Ms. Amy Jacobs-Dresch, 2727 Patton Road, Roseville, stated due to the City's trees, it may be more feasible in some areas for antennas to be located on roof tops with screening versus on the side of the buildings.

Mr. Zweber explained that Staff and the vendors would be able to work out the language that references roof top parapets.

Valarie Bargeman, Director of External Legislative Affairs for AT&T, 901 Market Avenue, Minneapolis, explained underground cabinets are not easy to do in this area due to the space needed. She explained that the hours for repairs and maintenance may not be something that can be easily controlled because these need to be done to keep the network working for the health and safety of the residents.

Chair Vanderheyden closed the public hearing at 9:39 p.m.

Commissioner Iverson stated the vendors have stated it would be acceptable to take an additional two (2) weeks to go through the draft prior to moving it forward to the City Council.

Mr. Zweber asked the Commission to provide direction to Staff on the outstanding items so that the changes could be incorporated in the proposed Ordinance prior to the next meeting.

Chair Vanderheyden stated Section 5.R references the time regulations for working on equipment. He stated he would be receptive to restricting the time only for City owned property.

Commissioner Gruber stated Staff had provided the phrase "or otherwise agreed to by the City". This allows the flexibility the vendors are looking for. She asked how practical this would be in emergencies.

Commissioner Gonzalez asked if Section 5.G. should be removed because underground equipment was not feasible in this area.

Mr. Zweber suggested removing Section G and leaving Section 5.H.

Chair Vanderheyden stated he would like to leave Section 5.G because this is something the City is striving for. There is no harm in having it in the Ordinance in the event these facilities become feasible in the future.

Commissioner Gruber asked if the intent was to have all the vendors in one facility.

Commissioner Iverson stated it is possible to have them separated by locked doors but all be under one roof.

Mr. Littlejohn stated this would turn a small facility into a relatively large facility. He stated it would not make sense to have someone overbuild a site to start with because this may be a

location that is not appealing to other vendors. This would leave an overly large facility for one vendor. The intent is to have these facilities go unnoticed.

Chair Vanderheyden stated he would be in favor of expanding a nonconforming building if it meant expanding technology utilizing existing structures.

Mr. Zweber stated the Planned Unit Development Ordinance would address the possibility of including this technology and for those structures that do not currently have a PUD, they would have to convert to a PUD to make this accommodation. The C1 and C3 Districts would need to apply for a Conditional Use Permit.

City Attorney Schelzel stated the PUD is a flexible device in which the City may exercise a great deal discretion and set up the parameters for this kind of use. PUD amendments are not necessarily an onerous task because you would not have to go through every aspect of the PUD, only those aspects of the existing PUD where the amendment is needed.

Mr. Zweber clarified that roof top parapet walls is a defined term in the City's Ordinances and Design Standards, and this is intended to be setback from the façade of the building. Staff will work with the vendors on clarifying this language.

Commissioner Gonzalez stated the Design Standards limits the height of the screening walls. She asked what these walls would screen.

Mr. Zweber stated the screening would be for some of the height of the antenna and some of the ancillary equipment.

Mr. Zweber stated Verizon asked the definition of towers be amended to include only towers taller than 30-feet rather than taller than 15-feet in Section 2.O. Currently anything under 15-feet tall does not have to have a CUP under the proposed Ordinance. The request would mean that anything under 30-feet would not have to be located in the designated areas, and it would expand the amount of equipment that vendors can have. He stated he would work with City Engineer Kelley to look at the height of other equipment in the City, such as streetlights or telephone poles. This would provide a better visual reference for the Planning Commission.

Mr. Jason Hall, 7365 Kirkwood Court North, Maple Grove, representing AT&T, stated the reason AT&T suggested 30-feet because there are several communities in the 7-County Metro area that use 30-feet as the standard tower height. As a vendor and provider they are looking for as much flexibility as possible. He stated they would be flexible and work with Staff.

Mr. Zweber stated he would be reluctant to change Section 4.B.iii by removing "within a right-of-way". AT&T is requesting this be changed to allow a new antenna on any public utility structure anywhere. He recommended keeping the right-of-way language and adding other locations to allow flexibility but not allowing them anywhere.

Mr. Hall stated the reason AT&T redlined this language was because their internal legal counsel had stated that cities typically have structures in other areas such as conservation easements or other public areas that are not considered right-of-way.

Chair Vanderheyden stated Staff would look at this language to see if it could be expanded to accommodate other City owned locations.

Mr. Zweber stated Staff would review Section 4.C. and work with the vendors on this. The vendors are requesting to limit the use of noise dampening equipment to within 100-feet of residential areas in Section 5.M. He would not recommend limiting the use of this equipment to only residential areas.

Chair Vanderheyden stated an acoustical analysis should be required in all situations.

Mr. Zweber stated he would not recommend removing Section 5.X. He would recommend that the City look at the advances in technology for new antennas and not existing antennas.

Chair Vanderheyden agreed that the City should not require vendors to upgrade existing equipment whenever the City wants it done. But requiring the use of advances in technology for new antennas is a reasonable expectation. If the City aesthetically approves a tower today, they should allow the vendor to commercially improve this same tower tomorrow.

Mr. Zweber stated Staff would work with the vendors on language that would meet these goals.

Commissioner Gonzalez stated she would recommend leaving the language in Section 5.X as written.

Commissioner Young agreed with Chair Vanderheyden and this section is overreach by the City. He would recommend softening the language or remove the section completely. Being this restrictive could have a negative impact on the City where vendors do not want to improve coverage within the City.

Commissioner Gruber suggested keeping the section and changing the language so that the vendors are providing the City with information on advances in technology and educating the City.

Commissioner Gnos agreed that vendors would be commercially motivated to use equipment that is smaller, faster, and more advanced to provide better service to their customers.

Mr. Zweber recommended changing the language so that vendors provide a study on the new technologies, and why they would be installing any proposed equipment.

Commissioner Iverson asked how often vendors would have to provide the City with updates on the advances in technology.

Mr. Zweber stated as it is written, it would be the City that would review existing equipment with new technologies but this could be changed to apply to the replacement of existing equipment and new equipment.

Chair Vanderheyden stated it would be reasonable for the City to request information on the technology being used and what technology is available for replacement to existing equipment or new equipment.

Chair Vanderheyden stated the Commission would be agreeable to 120 days instead of 60 days in Section 5.Y.

Commissioner Gonzalez moved, Seconded by Commissioner Iverson to continued discussions on the Telecommunications Ordinance to a future meeting to allow Staff to make the recommended changes. The motion carried unanimously.

AGENDA ITEM 3. Other Items:

a. Review of Development Activities

Mr. Zweber stated there would be a public hearing at the next meeting on the proposed Tree Preservation Ordinance, incorporating City Forester Manuel's comments. The 1120 Wayzata Boulevard application may also be on the next meeting agenda.

b. Other Items

Ms. Nelson stated the City Council had discussed the proposed Mill Street parking ramp.

Commissioner Gruber stated the next Heritage Preservation Board meeting would be a panel discussion on why people renovate their homes, and she would provide an update at the next Commission meeting.

AGENDA ITEM 4. Adjournment.

There being no further business, Commissioner Young made a motion, seconded by Commissioner Ramy, to adjourn the meeting. The motion passed unanimously.

The meeting was adjourned at 10:25 p.m.

Respectfully submitted,

Tina Borg
TimeSaver Off Site Secretarial, Inc.

CITY OF WAYZATA

PLANNING DEPARTMENT

MEMORANDUM

To:	Planning Commission
From:	Jeff Thomson, Director of Planning and Building
Date:	October 29, 2015
Re:	1120 Wayzata Blvd E Design Review

Background
The Planning Commission reviewed the development application for 1120 Wayzata Boulevard East at its October 5th meeting. The planning report from the meeting is provided in Attachment A. At the meeting, the Planning Commission requested additional information from the applicant regarding the site and building design. The Planning Commission requested the following information:

- Number of trucks expected to deliver fill to the site.
- The rights allowed by the existing easements and the easements that would be needed to be created for the joint parking and trash enclosure.
- Screening of the west elevation.
- Shared parking analysis with 1200 Wayzata Blvd.
- Fencing and vegetative screening of the parking lot.
- Additional explanation of the stormwater design
- Traffic study.
- Annual planter and/or window box plantings.
- Consideration of adjusting parking lot light fixtures to lessen the glare towards the west.
- Building materials samples.
- Additional information on the retaining wall design and the stormwater's designs impact on the retaining wall.
- Compliance with the setback to the apartment building property line.
- How snow storage will be handled.

The applicant has submitted a letter and revised plans which address the comments and questions that the Planning Commission had. The letter and plans are provided in Attachment B and Attachment C. In addition to the information provided by the applicant, staff is providing the following additional information and comments:

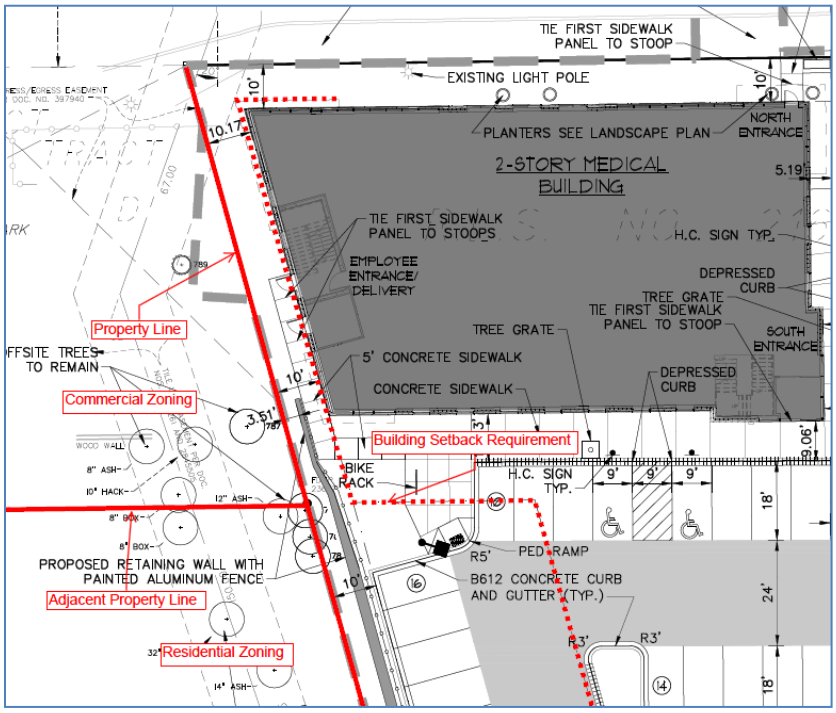
Parking
The applicant has revised the site plan to maintain the drive aisle connection from Wayzata Boulevard to the south side of the existing drive aisle on the adjacent property to the east. The

revised plan provides for 57 on-site parking stalls for the proposed medical building. The City's parking requirements for a medical clinic are based on the number of doctors practicing at the clinic. The requirement is a minimum of six (6) parking stalls for each doctor. Based on the proposed 57 parking stalls, the medical clinic could have up to nine practicing physicians.

The applicant has submitted a shared parking plan for both properties, as requested by the Planning Commission. The retail building to the east has surplus parking that could be utilized by the proposed development under a cross parking agreement. The retail building to the east currently has 72 parking stalls, but two stalls would be removed for the construction of the shared trash enclosure. The remaining 70 parking stalls is greater than the 52 stalls the site is required to have by the zoning ordinance based on the current occupants. The applicant's narrative states that the adjacent property owner is agreeable to a shared parking agreement, which could be included as a condition of approval. The number of physicians practicing within the clinic would depend on the number of parking stalls included in the cross parking agreement.

Setback Requirement from West Property Line

At the Planning Commission meeting on October 5th, there was discussion about the setback requirement for the building from the west property line. The C-3 zoning district requires a minimum building setback of 10 feet, except from a property line abutting a residential district where a 50-foot setback is required. The west property line abuts two separate parcels – Heritage Park which is zoned C-3/Service District, and Boardwalk Apartment building, which is zoned R-5/Average Density Residential District. Staff has reviewed the setback requirement and determined that the building would meet the setback requirement. The issue is that the uses abutting the west property line vary given the adjacent parcel configuration. By definition, setbacks are measured perpendicular to a property line, so the following diagram outlines the setback requirement:



Design
City staff has updated the Design Review for the proposal based on the revised plans, which is included as Attachment D. Based on the revised Design Review, the Planning Commission should evaluate and discuss the following design standards for the development:

- Awnings: The building design includes awnings constructed of metal composite panels at the corners of the building. The design standards (§801.09.11.1 I.) state that awnings must be constructed of heavy canvas in dark solid colors, highly detailed, ornate metal in dark colors, or glass. The proposed awnings do not meet these material requirements.

  Staff Recommendation: City Staff recommends that the metal awnings/canopies be removed from the proposed building design.

- Building Entrance: The building design locates the main entry on the south side, or back of the building, facing the parking lot. There is a door onto Wayzata Boulevard on the northeast corner of the building, but the internal floor plan does not indicate that this would be a main entry to the building. The design standard (§801.09.10.1) states that "main entries" shall face the primary street at sidewalk grade.

  Staff Recommendation: City Staff recommends that the north entrance to the building be made more formal by providing a comparable design to what is provided on the south side of the building, such as providing double doors. Additionally, the accent brick material could be added to the corners of the first floor elevation to mimic the design element at the center of the building, and provide a more congruent design across the entire first floor street frontage.

- Boulevard Trees: The applicant is proposing three 1.5-inch Japanese tree lilacs along the front of the building for the boulevard landscaping. The design standards (§801.09.14.1 D. and §801.09.14.3) state that trees with a minimum of three caliper inches shall be planted no more than 26 feet apart within a landscaped boulevard. The proposed trees would meet the spacing requirement, but the trees are undersized from what is required by the design standards.

  Staff Recommendation: City Staff recommends that the Japanese Lilac Trees be replaced with deciduous trees that are 3 caliper inches in diameter.

Design Standard Deviations
The zoning ordinance allows for deviations from the Design Standards. A deviation from any section of the Design Standards shall require a finding by the City Council (after considering the Planning Commission's recommendation) that the negative impact of such deviation is outweighed by one or more of the following factors:

1. The extent to which the project advances specific policies and provisions of the City's Comprehensive Plan.
2. The extent to which the deviation permits greater conformity with other Standards, policies behind the Standards, or with other Zoning Ordinance standards.
3. The positive effect of the project on the area in which the project is proposed.

4. The alleviation of an undue burden, taking into account current leasing, housing and commercial conditions.
5. The accommodation of future possible uses contemplated by the Design Standards, the Zoning Ordinance or the Comprehensive Plan.
6. A national, state or local historic designation.
7. The project is the remodeling of an existing building which largely otherwise conforms to the Design Standards.

Action Steps
After considering the items outlined in this Report, the Planning Commission should pursue the following as an action step:

1. Direct staff to prepare a *Planning Commission Report and Recommendation*, with appropriate findings, reflecting a recommendation on the Application for review and adoption at the next Planning Commission meeting.

Attachments:
Attachment A: October 5th Planning Report
Attachment B: Supplemental Information from Applicant
- Attachment B-1: Letter from BDH & Young
- Attachment B-2: Memorandum from Alliant Engineering
- Attachment B-3: Letter from The Davis Group
- Attachment B-4: Building Material Samples

Attachment C: Revised Plans
- Attachment C-1: Cover Sheet (T001)
- Attachment C-2: Removals Plan (C0.0)
- Attachment C-3: Site Plan (C1.0)
- Attachment C-4: Parking Calculation (C1.1)
- Attachment C-5: Grading, Erosion and Sediment Containment Plan (C2.0)
- Attachment C-6: Erosion and Sediment Control Notes and Details (C2.1)
- Attachment C-7: Utility Plan (C3.0)
- Attachment C-8: Landscape Plan (L1.0)
- Attachment C-9: Tree Inventory, Preservation & Removal Plan (L2.0)
- Attachment C-10: Preliminary Floor Plans (PZ-1)
- Attachment C-11: Preliminary Exterior Elevations (PZ-2)
- Attachment C-12: Photometric Plan

Attachment D: City Staff Design Critique

Planning Report
Monday, October 5, 2015
Wayzata Planning Commission Meeting

Applicant:	The Davis Group
Address of request:	1120 Wayzata Blvd East
PID number:	05-117-22-32-0076
Prepared By:	Eric Zweber, Interim City Planner
Project Summary:	Development Application requests Design Review to construct a new two-story 16,000 square foot building.

Section 1. Development Application

1.1. General. The Davis Group (the "Applicant") is proposing to construct a 16,000 square foot, tow story medical specialty building at 1120 Wayzata Blvd East (the "Property"). The site is currently occupied by a two story medical office building located roughly in the middle of the site with parking provided between the building and Wayzata Blvd. The Davis Group building will be located along the Wayzata Blvd frontage with a joint access with the property to the east running along the east side of the site. This access will provide connection to the 63 parking stall constructed to the south and east of the building. There are two entries to the building proposed, one in the northeast corner of the building leading to the Wayzata Blvd sidewalk and one in the southeast corner of the building leading to parking area.

The site is adjacent to Heritage Park and an apartment building to the west, a multiple tenant retail building (Jimmy John's) to the east and Colonial Square shopping is located to the north across Wayzata Blvd. This property and the property to the east (Jimmy John's) are both owned by the same company, Alshouse Company LLC. The two properties are proposed to share features such as the access drive, the trash enclosure and parking. If this project is approved, easement will be required to ensure that these shared features are available in the future if one of the properties were to be sold.

A narrative describing the Project is included as Attachment A. Existing Conditions and Proposed Site plans of the proposed expansion are included as Attachment B.

1.2 Relevant Property Information.

Zoning:	C-3 Service District
Comp Plan:	Mixed Use Commercial
Tenant Space:	16,000 sq ft medical and/dental offices

1.3 Legal Description.

A copy of the legal description for the subject properties are on file and available for viewing at City Hall. The following property description includes the subject Property in the Application:

1120 Wayzata Blvd East	05-117-22-32-0076	Alshouse Company LLC

Image 1.1: Context Aerial

1.4 Public Notice Requirements.

Zoning Ordinance Section 801.05 requires the Planning Commission to hold a public hearing on the Application. The Notice of Public Hearing was published in the Lakeshore Weekly on September 22, 2015. A copy of the Notice of Public Hearing was also mailed to all property owners located within 350 feet of the subject property on September 21, 2015.

1.5 Project Description.

The proposed Project is demolishing an existing two-story office building and construct a new two-story 16,000 sq feet medical office building.

Section 2: Summary of Issues

2.1 Surrounding Uses

A summary of land uses and their respective zoning classifications for the immediate area:

Adjacent property uses are:

Adjacent Property	Zoning	Uses
North	C-2: Shopping Center District	Commercial Shopping Center
South	R-2A: Single Family Residential District	City Park
East	C-3: Service District	Multiple Tenant Commercial
West	C-3: Service District and R-5: Average High Density Residential District	City Park and Apartments

Heritage Park is located directly west of this site; an apartment building is located to the southwest of the site; the Wayzata nature center is located to the south; a multiple tenant retail building (including Jimmy John's) is located to the east and the Colonial Square Center is located to the north across Wayzata Blvd.

The Planning Commission should pay particular attention to the proximity of the proposed building from Heritage Park. The building is proposed to be located at the Code minimum of ten (10) feet from Heritage Park and no special measures (such as increased setbacks, pedestrian features or private recreational features) are proposed to buffer between Heritage Park and the proposed building.

2.2 Project Hardcover Calculations and Lot Areas

The Property has the following proposed hardcover as part of the Project:

Item	Proposed	Percentage
Impervious Surface	31,100 SF	75%
Landscaped Space	9,240 SF	22%

City Code § 801.77.6 F. requires that at least 20% percent of a C-3 zoned site be landscaped and maintained.

2.3 Zoning Analysis.

A comparison of the C-3 Standards and the proposed Project is as follows:

C-3 District	Code Standard	Proposed
Minimum Lot Area	15,000 sq ft	41,425 sq ft
Minimum Lot Width	N/A	177 ft
Minimum Lot Depth	N/A	300 ft
Front Yard Setback (min.)	10 ft	10 ft
Side Yard Setback (Northwest C-3 Zoning)	10 ft	10 ft
Side Yard Setback (Southwest R-5 Zoning)	50 ft	***~25 ft***
Rear Yard Setback (R2-A Zoning)	50 ft	~240 ft
Lot Coverage	50%	19%
Floor to Area Ratio	1.0	0.38

The proposed building location violates the building side yard setback to a residential property (§ 801.77.6 B. 2.) requirement of 50 feet. The proposed building is about 25 feet from the Boardwalk Partners' apartment building (R-5 zoning) property line to the southwest.

2.4 Building Height.

The C-3: Service District allows a building height of thirty (30) feet or two (2) stories, whichever is lesser. Additionally, City Code § 801.19.2 B. allow parapets to exceed the building height by no more than five (5) feet. The majority of the building is proposed to be twenty eight (28) feet, with the center Wayzata Blvd façade and the southeast corner of the building over the entrance extending up to thirty (30) feet. The rooftop parapet in the middle of the building screening the rooftop mechanicals extends up to a height of thirty five (35) feet. The proposed building elevations comply with the C-3 building height standards.

2.5 Stormwater Management.

The site is currently 57% impervious surface and is proposed to be expanded to 75% impervious surface (0.17 acre increase). The only stormwater retention proposed to handle this increase is the construction of two perforated sump catch basins with in the parking lot. The remaining runoff heads to the south and eventually into the wetland within the Wayzata nature preserve.

2.6 Parking Calculations.

Parking for the Property is provided through expanding the existing parking lot to the south and the east. This expansion is accomplished by removing existing trees and the construction of a new retaining wall. The Applicant would provide 63 parking spaces (four of which are handicapped stalls), but only 59 of these stalls are located on their site. The four (4) additional stall are created on the property to the east by removing the southern portion of north/south access aisle to install the four new stalls. Based on the calculations below, it is unclear if the Applicant meets the required number of parking spaces under Section 801.20.

Parking Calculations:

Use	**Code Requirement**	**Number Required**
Medical and Dental Office	Six (6) stalls per doctor.	*Number of doctors was not provided*
Office other than Medical or Dental	One stall per 250 sq ft (16,000 sq ft/250) = 64 stalls	64 stalls
Project Parking Required		**64 stalls (Maximum of 11 doctors or dentists)**
Project Parking Provided		**63 stalls**

The Planning Commission should consider is the parking is adequate for a 16,000 square foot medical specialty office building, particularly since four (4) of the stalls are constructed on the property to the east across an ingress/egress easement. The 59 stalls constructed on this site would allow for the construction of a 14,750 square foot general office building or allow for 10 doctors or dentists to occupy this building.

2.7 Site Access and Internal Circulation.

Access to the site is being maintained in its current location on Wayzata Blvd. This location is a joint access to this site and the multiple tenant commercial site to the east. This joint access is guaranteed through an access easement over entry drive. No other access to the site is proposed. There is a current ingress/egress easement to the access across Heritage Park to the west. The City Engineer has requested that this easement be vacated as a part of this approval.

The internal circulation is the joint access onto Wayzata Blvd leading to the rear parking lot. Within the rear parking lot, circulation is directed through the construction of concrete islands at the end of the parking lanes. The circulation flow on this site, but the proposed site, but the proposal eliminates the access aisle to the back portion of the site to the east with the construction of additional stall across the ingress/egress easement. The Planning Commission should determine if the construction of these additional stalls would diminish the circulation on the site to the east.

2.8 Landscaping.

Currently, there are 51 trees on the site. The Applicant is proposing to remove 34 trees (67% removal) for the development: five (5) for the construction of the building; three (3) for the construction of the sidewalks and pedestrian facilities and 26 for the construction of the parking lot. In caliper inches of trees, there are currently 816 inches of trees onsite and the applicant is proposing to remove 585 inches of trees (72% removal).

The Applicant would preserve the remaining 17 trees and plant an additional nine (9) new trees (16.5 caliper inches) on the site for a proposed total of 26 trees on the site. Thus, there would be a net reduction of 25 trees and 568 caliper inches for the entire site. The Applicant was included a tree removal and landscaping plan in Attachment B. No significant efforts are made to screen the building and site from Heritage Park and the apartments to the west.

2.10 Design.

The Project is subject to the Wayzata Blvd District of the Design Standards. A Design Review of the proposal is included as Attachment D. Additional design sketches and material descriptions are included in Attachment B.

2.11 Trash Enclosure.

The current trash enclosure on the site is being demolished and a new trash enclosure is being proposed to be constructed behind the Jimmy John's on the property to the east. The property to the east is currently owned by the same LLC as the proposed development. Constructing the trash enclosure on the property to the east may be acceptable if an easement is recorded on the eastern property to ensure that the trash services will always be provided if either property were to sell.

The trash enclosure is designed to be constructed of the utility brick of the proposed building. As described in Attachment D, the enclosure is required to be constructed of the materials of the principal building. The Planning Commission should consider if the utility brick should be incorporated into the trash enclosure,

Section 3. Applicable Code Provisions for Review

3.1 Design Standards City Code §801.09.
The City States that the purpose of the Design Standards are:

> The design standards set forth in this Section 9 of the Wayzata City Zoning Ordinance are referred to collectively as the "Design Standards" or the "Standards". The purpose of the Design Standards is to shape the City's physical form and to promote the quality, character and compatibility of new development in the City. The Standards function to:

1. To guide the expansion and renovation of existing structures and the construction of new buildings and parking, within the commercial districts of the City;
2. To assist the City in reviewing development proposals;
3. To improve the City's public spaces including its streets, sidewalks, walkways, streetscape, and landscape treatments.

The relevant design criteria for the "Wayzata Blvd Design District" are as reflected in the Design Critique attached to this Report as Attachment D.

The building and site design complies with many of the site standards, but there are a few areas where the design is deficient. These deficiencies include:

- §801.09.05.1 B. requires that 25% of the second floor façade along Wayzata Blvd be recessed at least six (6) feet. It appears that 25% of the façade is recessed, but only five (5) feet instead of the required six (6) feet.

- §801.09.10.1 states that "main entries" shall face the primary street at sidewalk grade. There is an entry onto Wayzata Blvd at the northeast corner of the building and an entry at the southeast corner near the parking stalls. The overall building design treats both entries similarly, but the Wayzata Blvd entry has a single three (3) foot wide door and the parking lot entry has a set of double 4.5 foot wide doors. The Planning Commission should consider if the Wayzata entry is a "main" entry.

- §801.09.11.1 B. states that the surface materials of all free standing buildings must be the same on all facades of the building. The medical specialty building is primarily a combination of utility brick and accent brick, while the trash enclosure is only utility brick. The Planning Commission should consider if the trash enclosure should contain both utility and accent brick as the main building does.

- The building design includes awnings constructed of metal composite panels ate the corners of the building. §801.09.11.1 I. state that awning may be constructed only of heavy canvas in dark solid colors; highly detailed, ornate metal in dark colors; or glass. The applicant is not requesting that the awnings to be counted as one of the three breaks required in §801.09.4.1. The Planning Commission should consider if awnings would be allowed on a building if they do not meet the material requirements.

- §801.09.14.1 D. and §801.09.14.3 requires that three (3) caliper inch trees be planted and the applicant is proposing 1.5 inch japanese tree lilacs.

Section 4: Department Comments

City Engineer

- Will need Hennepin County permit to work in Wayzata Blvd (Page C3.0).
- Contact City Public Works for salvaging on street light impacted by Project (Page C0.0).
- The catch basin in NW corner to be abandoned (Page C0.0).
- Contractor must provide traffic control plan to City Engineer and Hennepin County for review and approval prior to construction work.
- Would need to vacate ingress/egress access easement over adjacent City Park to the west.
- How will perforated pipe system affect proposed retaining wall?
- Concern about the amount of retaining wall and grading on SW slope.
- Existing water service is four inch (4”); existing sewer service is four inch (4”) Schedule 40.
- Existing utility services must be physically disconnected by contractor prior to issuance of demolition permit. City will require that the existing water service be capped at the tee, in front of the adjacent property. Pipe may be abandoned in-place, provided it is capped on each end. This water service abandonment should coincide with the new service installation (night work) to minimize water shut down.
- Erosion control measures must be in place prior to demolition.
- For the installation of the six inch (6”) water connection in Wayzata Blvd, the contractor will need a permit from Hennepin County to complete work, and also may need a City approval for work at night, as the City would need to shut off water from Birch Bend, West to intersection of Wayzata Blvd and CR 101. A six inch (6”) T would need to be cut into existing six inch (6”) water main to complete six inch (6”) water service installation. It should be noted that there is a ten inch (10”) concrete section in Wayzata Blvd with approximately four inch (4”) to six inch (6”) of asphalt on top of concrete section that the County would require to be saw cut, removed, work completed, and concrete reinstalled with dowels into existing concrete panels along with asphalt replacement.
- City and Minnehaha Creek Watershed District (MCWD) require minimum of six inches (6”) of topsoil. See planting note #1 on Page L1.0.

City Parks

- Coordinate protection of irrigation system on NW side of property.
- Follow City Tree Ordinance
- Need to provide a Tree Survey

Fire Marshal

- Must meet requirements of Minnesota State Fire Code.

Section 5: Action Steps

After considering the items outlined in this Report, the Planning Commission should pursue the following as an action step:

1. Direct staff to prepare a *Planning Commission Report and Recommendation*, with appropriate findings, reflecting a recommendation on the Application for review and adoption at the next Planning Commission meeting.

b d h+young
interiors | architecture

10.22.2015

City of Wayzata
Planning Department

Regarding:
Wayzata Specialty Center
1120 Wayzata Blvd. East
Wayzata, MN

This letter is in response to the email received on October 7th, 2015 from Eric Zweber regarding the proposed Wayzata Specialty Center at 1120 Wayzata Blvd.

- *Number of trucks expect to deliver fill to the site.*
  It is expected that the site will need approximately 400 - 500 cubic yards of material for both fill and site pavement/floor slab base. This equates to approximately 50 trucks of material with 10 CY per truck.

- *The rights allowed by the existing easements and the easements that will need to be created for the joint parking and trash enclosure.*
  Mark Davis with the Davis Group and Craig Alshouse the current property owner of the adjacent property to the East have met and agreed to a cross easement arrangement for both parking and the trash enclosure. See the attached revised Parking Calculation Plan C1.1 that shows that the total parking requirement for the two properties will be met when combining the parking spaces from both sites.

- *Screening of the West Elevation.*
  See revised landscape plan L1.0 which shows the addition of Techny Arborvitae between Heritage Park and the west elevation of the proposed new building.

- *Shared parking analysis with the 1200 Wayzata Blvd.*
  See the attached revised Parking Calculation Plan C1.1 that shows that the total parking requirement for the two properties will be met when combining the parking spaces from both sites. In addition, the revised site plan provides a traffic aisle leading from the entrance off of Wayzata Boulevard to the south end of the site to facilitate bank drive through traffic and improve overall traffic circulation within the site. This is a modification that was requested by the Planning Commission and staff.

- *Fencing and vegetative screening of the parking lot.*
  See revised site plan C.1 identifying the black aluminium fencing to be installed at the top of the retaining wall and the revised Landscape Plan L1.0 showing the addition of Englemann Ivy to be planted at the base of the retaining wall along the west side of the proposed property.

7001 France Avenue South, Suite 200, Edina, Minnesota 55435
952.893.9020 (Phone) 952.893.9299 (Fax)

- *Additional Explanation of the stormwater design (particularly addressing Engineer Kelly's concerns).*
  See attached Memorandum from Alliant Engineering discussing the Stormwater management System.

- *Traffic study.*
  See attached memo regarding estimated traffic numbers.

- *Annual planter and/or window box plantings.*
  Annual planters have been added along Wayzata Boulevard. See revised Landscape Plan L.1

- *Consideration of adjusting parking lot light fixtures to lessen the glare towards the west.*
  The height of the light poles have been reduced in order to eliminate any foot-candles of light onto the adjacent residential site. See revised photometric site lighting plan.

- *Building Materials sample.*
  See materials sample board.

- *Additional information on the retaining wall design and the stormwater designs impact on the retaining wall.*
  See attached Memorandum from Alliant Engineering discussing the Stormwater management System.

- *Compliance with the setback to the apartment building property line.*
  In discussions with the Planning Department, the proposed site plan meets the setback requirements.

- *How snow storage will be handled.*
  See revised site plan C.1 for the proposed snow storage area at the S.W. corner of the site.

Patrick J. Giordana AIA
Vice President / Architecture

ALLIANT
ENGINEERING

Memorandum

TO: Eric Zweber c/o the City of Wayzata

FROM: Mark Rausch, PE

DATE: October 22, 2015

SUBJECT: Wayzata Specialty Center Summary of Stormwater Management System

---

This memo has been prepared at your request to provide a brief summary of the stormwater management system proposed for the Wayzata Specialty Center. Please also refer to the provided stormwater management study which provides the detailed calculations and supplement maps as necessary.

A stormwater management study has been conducted to analyze the stormwater treatment requirements for the proposed specialty center development within the City of Wayzata. The proposed project is 0.95 acres in size with disturbance limits of 0.92 acres. Since the project site and disturbance area is less than 1 acre in size no stormwater management permits are required from the local watershed or for NPDES. The project does propose to increase net site impervious surface by more than 0.1 acre or 10% and so is required to retain stormwater volume from the additional impervious surface in accordance with the City's Surface Water Management Plan. The study shows that the proposed stormwater management facilities are capable of mitigating the effects of the proposed small increase impervious surface. The storm water analysis includes the 0.951 acre site as well as the inclusion of 0.652 acres of offsite catchment that drains through the site from the property to the east

The stormwater management plan for the proposed conditions meets the requirements of the City of Wayzata for stormwater management. The following criterion was used in designing the stormwater management system:

- Volume control retained on site in accordance with the City Stormwater Management Plan and per direction of the City Engineer. Volume equivalent to 1" of instant runoff over the proposed additional impervious surface.
- Analyze the post-development peak runoff rate from the site for the 2, 10 and 100-year 24-hour Type II storm events using Atlas 14 rainfall amounts.

Existing Conditions

The site is currently home to an existing medical building (formally Edina Realty) and parking lot. The site currently has no onsite stormwater treatment and has 0.545 acres of impervious surface. The site also collects sheet runoff from part of the adjacent commercial development parking lot. The property drains to existing storm sewer that either discharges to the northwest to a trunk storm from East Wayzata Boulevard or to storm sewer in the south part of the site. Both storm sewer outlets drain to a wooded swale along the west property line and ultimately out of the southwest site corner to an existing wetland to the south.

Proposed Conditions

The project's stormwater management system will include the construction of perforated underground storm sewer collection and storage system. The stormwater runoff from most of the new impervious surfaces will be collected by storm sewer and piped to the proposed stormwater BMP facilities for volume control. The site's stormwater will ultimately be discharged to the south and southwest similar to the existing conditions.

The stormwater captured by the proposed storm sewer will routed into the perforated storage pipe and manholes for rate and volume control. The storm sewer system provides "retained" runoff storage below the outlet control structure weir. The stored volume is designed to exfiltrate stormwater from the system via pipe perforations and rock bedding. The proposed storage system will also be capturing runoff from the adjacent 1200 East Wayzata Boulevard development parking lot which is currently draining freely via storm sewer to the south.

The proposed stormwater management plan results in reduction in peak discharge rate to Wayzata Boulevard storm sewer in all events and a reduction in the composite peak 100 year discharge rate to the south. There is a minor increase in the composite 2 and 10 year peak discharge rates. Refer to the proposed conditions drainage map and HydroCAD report sheets for additional information.

To analyze peak discharge rates for the existing and proposed conditions, flows were analyzed at three discharge points including: NW (northwest direction to Wayzata Boulevard Storm Sewer), SW (offsite towards wetland), and Total (composite of NW and SW). Existing and Proposed runoff rates as calculated by HydroCAD are listed in the table below:

Event	Existing Totals	Proposed Totals
2 year (2.88" 24hr)	5.07 cfs	5.34 cfs
10 year (4.29" 24hr)	8.06 cfs	8.29 cfs
100 year (7.38" 24hr)	14.79 cfs	14.62 cfs

Stormwater Volume Control and Water Quality

The project is required to provide stormwater volume control in accordance with the City Wayzata criteria. The proposed plan proposes 0.712 acres of impervious surface which is 0.168 acres of additional impervious surface. Since the project proposes to increase the impervious surface by more than 0.1 acres or 10%, the City requires volume control storage equivalent to the instant runoff from a 1" storm over the additional impervious surface. The additional 0.168 acres of impervious surface requires onsite storage or retention of 608 cf of stormwater. As the site and disturbance limit area is <1 acre, no specific stormwater management controls for water quality beyond volume control storage is required, however, sumped manholes are proposed to provide runoff pre-treatment.

BMP	Volume Retained (cf)	Volume Control Credit	Controlled Volume
Underground Storage - Perf. Pipe, Rock Envelope and Perf MH's	857	100%	857

THE DAVIS GROUP
Corporate Real Estate Services

October 26, 2015

Mr. Jeffrey R. Thompson
Director of Planning and Bldg.
City of Wayzata
600 Rice Street E
Wayzata, MN 55391

Re: Parking Overview

Dear Jeff:

As requested by the Planning Commission, we have reviewed our proposed medical office building development and have attempted to evaluate the traffic impacts to the adjacent roadway network in comparison to what currently exists on the site today. Here's a quick recap of the facts:

Current Building Size:	11,000 sq. ft.
New Proposed Development:	16,000 sq. ft.
Net Additional Space:	5,000 sq. ft.
Additional Physicians/Dentists:	Two (2.5)

If we assume that the two additional providers each have a staff of 3-4 (3.5) employees and see 3 patients per hour, the trip generation that would occur is as follows:

A.M. Trips	**IN**	**Out**	**P.M. Trips**	**IN**	**Out**
	11	5		5	11
	30	30		30	30
Total	**41**	**35**		**35**	**41**

As you can see, other than A.M. and P.M. commute by clinic staff, the additional 5,000 sq. ft. only equates to an average additional trip generation of 8.75 cars per hour, which is a very nominal impact to current traffic conditions in the area.

Please let me know if there's anything else we can provide at this time. Thanks.

Sincerely,

Mark A. Davis

612.338.4000 | Phone www.davisrealestatemn.com 612-341-3529 | Fax

222 South 9th Street, Suite 3255 | Minneapolis, MN 55402

WAYZATA

SPECIALTY CENTER

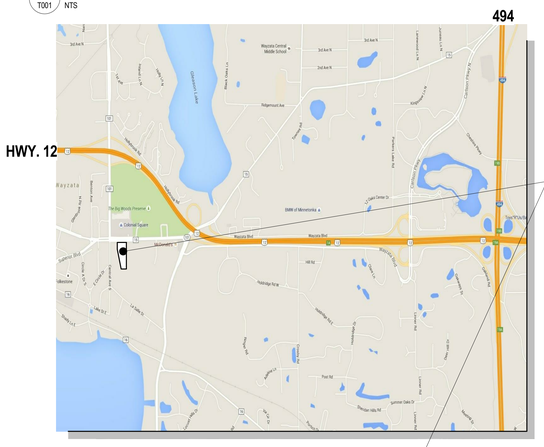
THE DAVIS GROUP
Healthcare Real Estate Services

bdh&young
interiors | architecture

WAYZATA SPECIALTY CENTER

1120 EAST WAYZATA BLVD, WAYZATA

1 / T001 BUILDING RENDERING
NTS



2 / T001 SITE LOCATION MAP
NTS

N

GENERAL NOTES

1. DO NOT SCALE DRAWINGS!
2. REPORT ANY DISCREPANCES TO DESIGNER/BUILDER OWNDER.
3. ALL WORK TO CONFORM TO STATE & LOCAL CODES.
4. ALL WORK TO BE PERFORMED TO INDUSTRY STANDARDS.
5. NO SUBSTITUTIONS WITHOUT ARCHITECTS/DESIGNERS APPROVAL.
6. ALL EXPOSED SURFACES TO BE PREPARED TO RECEIVE NEW FINISHES.
7. SUB-CONTRACTORS ARE RESPONSIBLE TO REVIEW ALL CONSTRUCTION DRAWINGS, ELEVATIONS, & DETAILS.
8. PATCH TO MATCH ADJACENT SURFACES WHERE DEMOLITION OCCURS.
9. PROVIDE & INSTALL FIRE RETARDANT BLOCKING IN WALLS AS REQUIRED AT ALL AREAS WITH BUILT-IN COUNTERS, SHELVING, CABINETS, ETC.
10. BEFORE STARTING ANY WORK EACH CONTRACTOR SHALL EXAMINE WORK PERFORMED BY OTHERS TO WHICH HIS WORK ADJOINS OR IS APPLIED. REPORT TO THE DESIGNER ANY CONDITIONS THAT WILL PREVENT SATISFACTORY COMPLETION OF WORK.
11. THE CONTRACTOR SHALL GIVE TO THE PROPER AUTHORITIES ALL NOTICES AS REQUIRED BY LAW & OBTAIN ALL OFFICIAL BUILDING PERMITS.
12. UPON COMPLETION OF WORK, THE TENANT SPACE PREMISES, & ADJOINING AREAS SHALL BE MADE NEAT, CLEAN, WHOLE, TIGHT & FIT FOR INNEDIATE OCCUPANCY. EACH INDIVIDUAL CONTRACTOR IS RESPONSIBLE TO CLEAN UP & MAKE AREAS NEAT THAT WERE AFFECTED BY THEIR WORK.
13. ANY PENETRATIONS THROUGH NEW OR EXISTING (1) HOUR FIRE RATED WALLS ARE TO BE SEALED WITH FIRESTOP CAULK AS REQUIRED BY CODE TO MAINTAIN (1) HOUR FIRE RATED SEPARATION. ALL SUB-CONTRACTORS RESPONSIBLE.
14. ALL MECHANICAL, ELECTRICAL, & SPRINKLER SYSTEM WORK TO BE PERFORMED ON A DESIGN-BUILD FORMAT. MECHANICAL, ELECTRICAL & SPRINKLER CONTRACTORS TO PROVIDE ALL DRAWINGS, SPECIFICATIONS, & CALCULATIONS AS REQUIRED BY STATE & LOCAL CODES.
15. CONTRACTOR TO PROVIDE & INSTALL FIRE EXTINGUISHERS AS REQ'D BY FIRE MARSHALL ALL OFFICE EXTINGUISHERS TO BE RECESSED. ALL WAREHOUSE EXTINGUISHERS TO BE WALL MOUNTED.
16. PHONE BOARD TO BE FIRE RETARDANT, INTERIOR SOUND GRADE (2) - B-D INT APA - UTILITY PANEL WITH ONE SOLID SIDE FOR A SMOOTH PAINTED SURFACE.
17. ALL PARTITIONS IN EXCESS OF 30' LENGTHS SHALL HAVE FULL HEIGHT CONTROL JOINTS INSTALLED WITH 30' MAXIMUM SPACING.
18. ALL RATED DOORS ARE TO BE LABELED AS A SMOKE & DRAFT CONTROL DOOR MEETING THE REQUIRED UL17B4 DOOR TESTED USING NFPA 252.
19. ALL RATED SIDELIGHTS REQ'D TO MEET NFPA 257 TESTING.

CONTACT LIST

OWNER REPRESENTATIVE

DAVIS SERVICES REAL ESTATE GROUP
222 SOUTH 9TH STREET
SUITE 3255
MINNEAPOLIS, MN 55402
MARK DAVIS
EMAIL: DAVIS2333@AOL.COM
PHONE: 612.341.3242

ARCHITECT

BDH + YOUNG INTERIORS | ARCHITECTURE
7001 FRANCE AVENUE SOUTH
SUITE 200
EDINA, MN 55435
PATRICK J. GIORDANA, AIA
EMAIL: PGIORDANA@BDHYOUNG.COM
PHONE: 952.345.8306

GENERAL CONTRACTOR

TIMCO CONSTRUCTION
14700 28TH AVENUE
SUITE 40
PLYMOUTH, MN 55447
TIM MCKEE
EMAIL: TMCKEE@TIMCO-CONST.COM
PHONE: 763-694-0250

CIVIL ENGINEER

ALLIANT ENGINEERING
233 PARK AVENUE SOUTH
SUITE 300
MINNEAPOLIS, MN 55415
MARK RAUSCH, P.E.
EMAIL: MRAUSCH@ALLIANT-INC.COM
PHONE: 612-767-9339

STRUCTURAL ENGINEER

KRECH, O'BRIEN, MUELLER & ASSOCIATES
6115 CAHILL AVENUE
INVER GROVE HEIGHTS, MN 55076
MATT J. VAN HOOF
EMAIL: MVANHOOF@KOMAINC.COM
PHONE: 651.789.4129

LANDSCAPE ARCHITECT

ALLIANT ENGINEERING
233 PARK AVENUE SOUTH
SUITE 300
MINNEAPOLIS, MN 55415
MARK RAUSCH, P.E.
EMAIL: MRAUSCH@ALLIANT-INC.COM
PHONE: 612-767-9339

SHEET INDEX

Sheet Number	Sheet Name
TITLE	
T001	TITLE SHEET, BUILDING REDERING, SITE LOCATION MAP, CONTACT LIST, SHEET INDEX, & GENERAL NOTE
LANDSCAPE	
L1.0	LANDSCAPE PLAN, PLANTING DETAILS AND NOTES
L2.0	TREE INVENTORY, PRESERVATION, & REMOVAL
CIVIL	
---	EXISTING SITE SURVEY
C0.0	REMOVALS PLAN
C1.0	SITE PLAN
C1.1	PARKING CALCULATIONS
C2.0	GRADING, EROSION AND SEDIMENT CONTROL PLAN
C2.1	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C3.0	UTILITY PLAN
ARCHITECTURAL	
A200	FIRST FLOOR BUILDING SHELL FLOOR PLAN
A210	ROOF PLAN
A300	EXTERIOR ELEVATIONS
A301	EXTERIOR ELEVATIONS
A400	WALL SECTIONS
A401	WALL SECTIONS
A600	FIRST FLOOR REFLECTED CEILING PLAN
A700	FIRST AND SECOND FLOOR FINISH PLAN

b d h+young
interiors | architecture
7001 France Avenue South, Suite 200, Edina, Minnesota 55435
952-893-9020 Fax 952-893-9299
www.bdhyoung.com

Project Information

WAYZATA SPECIALTY CENTER

1120 E. WAYZATA BLVD.

1120 EAST WAYZATA BLVD.
WAYZATA

.

THE DAVIS GROUP
Healthcare Real Estate Services

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A Y LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA

PATRICK J. GIORDANA
Printed Name

Signature

09.15.2015 — *Date*
21609 — *Lic #*

Issue Record

No.	Date	Description
A	9.15.2015	PLANNING & ZONING
B	9.18.2015	PRELIMINARY PRICING

Sheet Title

TITLE SHEET, BUILDING REDERING, SITE LOCATION MAP, CONTACT LIST, SHEET INDEX, & GENERAL NOTE

Sheet Information

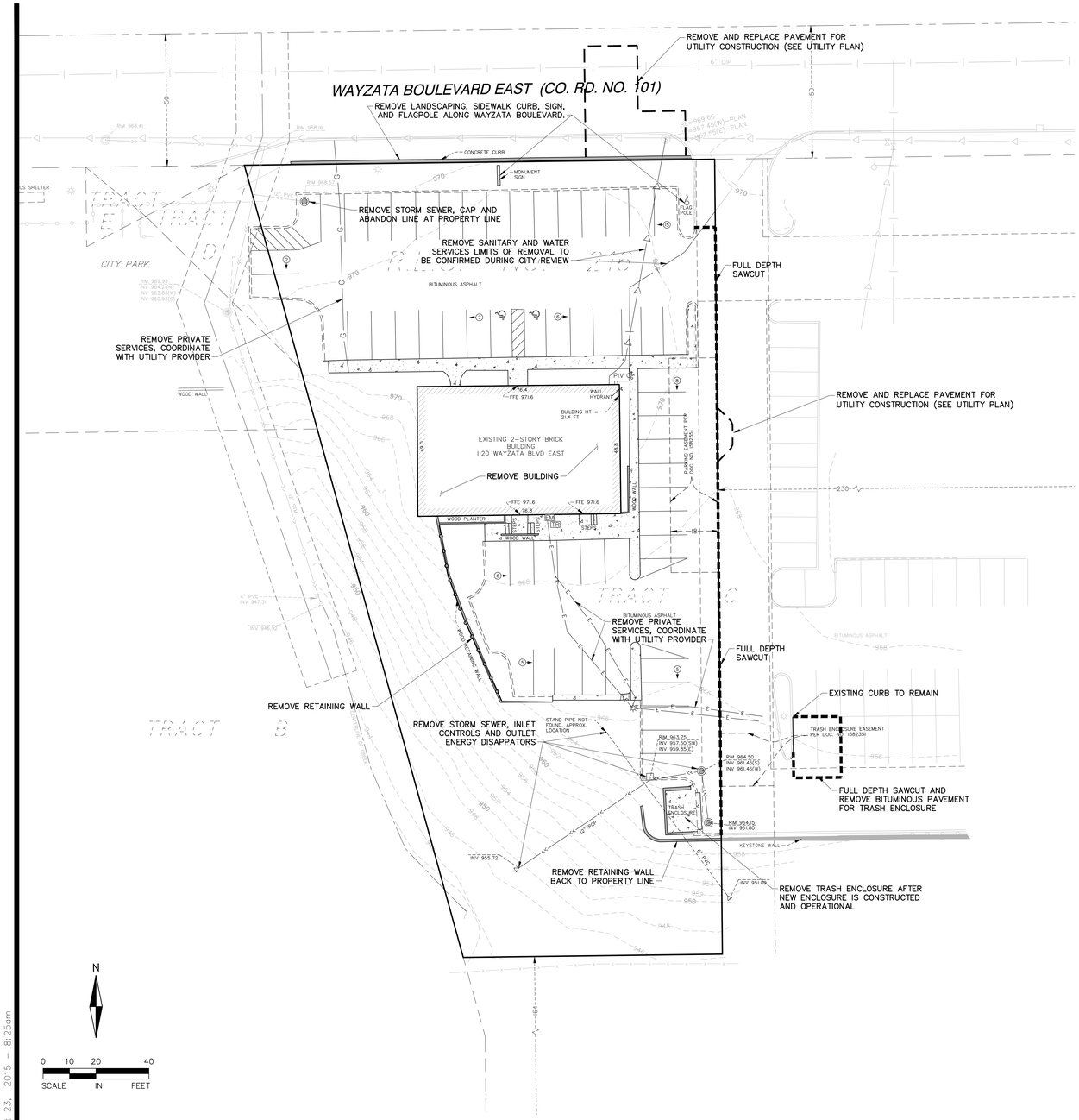
Job Code A-DAVISWAYZATAMB
Drawn By KF *Reviewed By* MWO

Date
09.16.2015

T001

© 2009 BDH & YOUNG DESIGN

Drawing File: G:\2015 Revit Local\A-DAVISWAYZATAMB - Central_MattHan.rvt



REMOVAL NOTES:

1. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
2. NOTIFY GOPHER STATE ONE CALL 48 HOURS PRIOR TO START OF CONSTRUCTION.
3. PRIOR TO STARTING CONSTRUCTION, ALL PERIMETER EROSION CONTROL DEVICES MUST BE INSTALLED IN ACCORDANCE WITH GRADING & EROSION CONTROL PLAN, NINE MILE CREEK WATERSHED DISTRICT AND THE CITY OF WAYZATA, SEE SHEET C2.0 FOR DETAILS.
4. REMOVAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND PROTECTING ALL UTILITY LINES PRIOR TO DIGGING AND DEMOLITION. OWNER AND ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR PUBLIC OR PRIVATE UTILITY LOCATIONS.
5. REMOVAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL EXISTING STRUCTURES AND OBJECTS THAT INTERFERE WITH THE PROPOSED CONSTRUCTION AS SHOWN IN THIS DRAWING PACKAGE. MATERIALS SALVAGED FOR REUSE ON-SITE SHALL NOT BE STORED ON ANY PUBLIC RIGHT OF WAY.
6. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE CITY OF WAYZATA.
7. ALL WORK WITHIN THE PUBLIC R.O.W. STALL COMPLY WITH THE CITY OF WAYZATA ENGINEERING DESIGN STANDARDS.
8. CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES, SUCH AS EXISTING GUTTER GRADES AT THE PROPOSED DRIVEWAY'S CONNECTIONS, PRIOR TO THE START OF SITE WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES OF VARIATIONS FROM THE PLANS.
9. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH MN MUTCD AND/ OR MNDOT TEMOPORARY TRAFFIC CONTROL ZONE LAYOUTS MANUAL, DURING ANY WORK WITHIN PUBLIC R.O.W..
10. CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE TO PREVENT AND ELIMINATE ANY DUST NUISANCE OCCASIONED BY AND DURING CONSTRUCTION, UNTIL THE PROJECT HAS BEEN COMPLETED.
11. CONTRACTOR SHALL PROTECT ADJOINING PROPERTIES AND STRUCTURES FROM HAZARDS ASSOCIATED WITH HIS CONSTRUCTION ACTIVITIES AND SHALL BE RESPONSIBLE FOR ALL DAMAGES TO PROPERTIES AND STRUCTURES THAT OCCUR AS A RESULT OF THESE ACTIVITIES.
12. CONTRACTOR SHALL NOT IMPEDE EXISTING TRAFFIC CIRCULATION TO ADJACENT BUSINESSES.
13. ANY DAMAGED PUBLIC R.O.W. PAVEMENT AND CURBING SHALL BE REPLACED WITH THE EQUIVALENT PAVEMENT SECTION.
14. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF THE EXISTING BITUMINOUS. BITUMINOUS SHALL BE SAWCUT OR JACK HAMMERED FOR STRAIGHT EDGES. TACK SHALL BE USED ON BITUMINOUS EDGE PRIOR TO PATCHING. MATCH EXISTING GRADES.
15. CONTRACTOR SHALL COORDINATE PRIVATE/PUBLIC UTILITIES RELOCATES, SUCH AS TRAFFIC SIGNAL HANDHOLES, AND WIRING , ETC.

GENERAL NOTES:

1. ALL DIMENSIONS, GRADES, EXISTING AND PROPOSED INFORMATION SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO INFORMATION SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
2. PROTECT EXISTING CONCRETE SIDEWALKS AND CURBING AND BITUMINOUS TRAILS AND PARKING LOT PAVEMENT TO REMAIN DURING ALL PHASES OF CONSTRUCTION. CONTRACTOR TO REPLACE ANY CRACKED OR BROKEN CONCRETE PANELS OR DAMAGED BITUMINOUS PAVEMENTS CAUSED BY SITE CONSTRUCTION.
3. CONTRACTOR SHALL PERFORM SWEEPING ON PRIVATE PARKING AREAS AND PUBLIC STREETS AT LEAST ONCE A WEEK, ONCE A DAY IF NEEDED.
4. CONTRACTOR SHALL PROVIDE TEMPORARY STREET SIGNS, LIGHTING, AND ADDRESSES DURING CONSTRUCTION PERIOD.
5. ALL CONSTRUCTION AND POST CONSTRUCTION PARKING SHALL BE ON-SITE, NO ON-STREET PARKING/LOADING/UNLOADING ALLOWED.
6. ALL PUBLIC SIDEWALKS AND TRAILS SHALL NOT BE OBSTRUCTED.
7. STORAGE OF MATERIALS OR EQUIPMENT SHALL NOT BE ALLOWED ON PUBLIC STREETS OR WITHIN PUBLIC RIGHT OF WAY.
8. CONTRACTOR TO PROVIDE TEMPORARY TRAFFIC CONTROL IN COMPLIANCE WITH MnDOT "TEMPORARY TRAFFIC ZONE LAYOUTS – FIELD MANUAL DATED JANUARY 2014, FOR CONSTRUCTION WITHIN PUBLIC RIGHT OF WAY.

LEGEND:

- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATERMAIN
- EXISTING SANITARY MANHOLE
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- EXISTING WELL
- EXISTING TRANSFORMER
- EXISTING GATE VALVE
- CONCRETE SIDEWALK REMOVAL
- EXISTING GAS LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING LIGHT POLE
- EXISTING CURB & GUTTER TO REMAIN
- CURB & GUTTER TO BE REMOVED
- EXISTING PROPERTY LINE
- EXISTING EASEMENT

FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION

THE DAVIS GROUP
Corporate Real Estate Services

ALLIANT ENGINEERING
233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

WAYZATA SPECIALITY CENTER
1120 EAST WAYZATA BLVD.
WAYZATA, MN 55391

SITE PLAN REVIEW

REMOVALS PLAN

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

MARK RAUSCH, PE

Date License No.

QUALITY ASSURANCE/CONTROL

BY DATE

DATE	ISSUE
7-31-15	SITE PLAN REVIEW
9-15-15	SITE PLAN REVIEW
10-22-15	SITE PLAN REVIEW

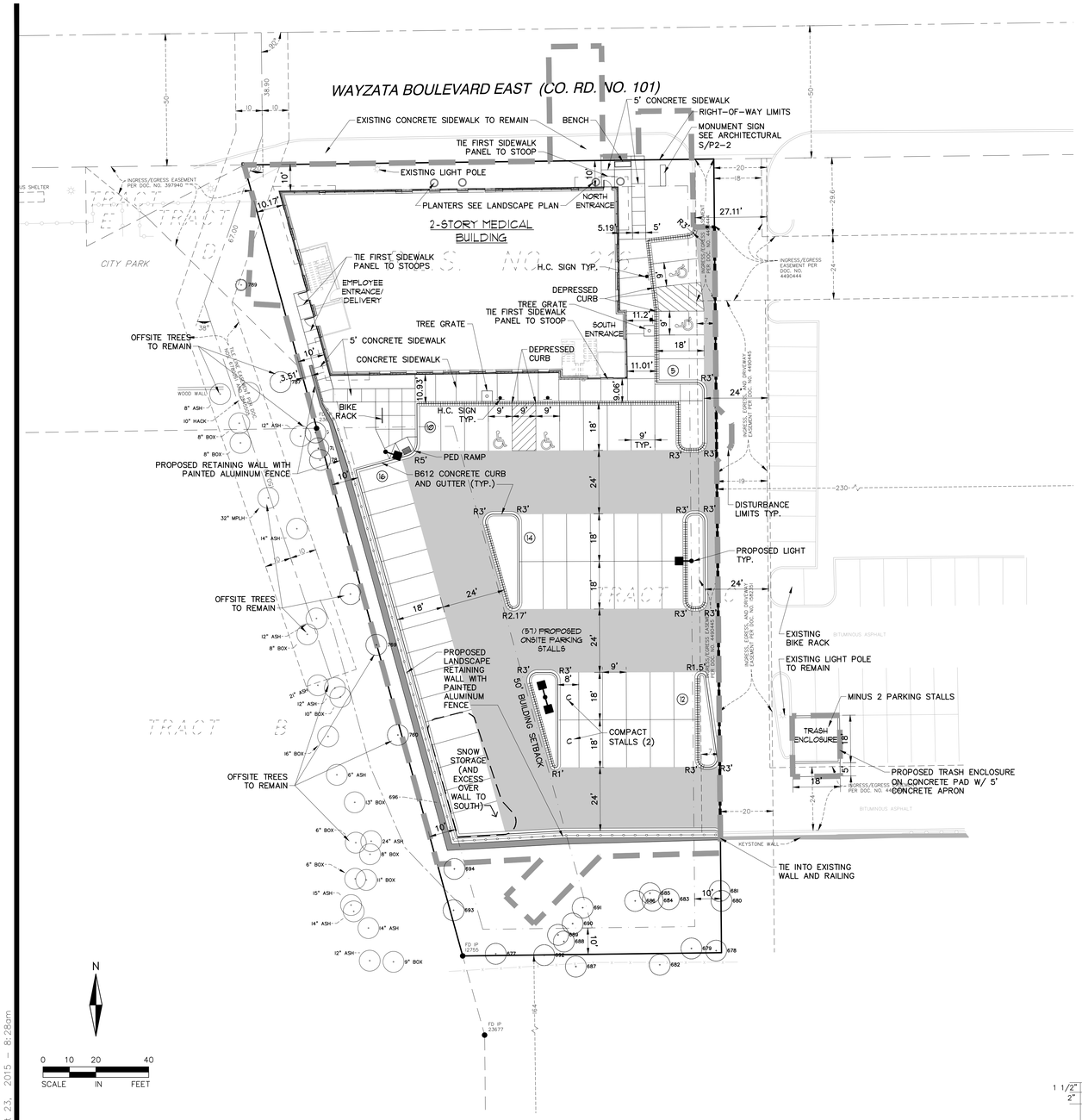
PROJECT TEAM DATA

DESIGNED:	MPR
DRAWN:	ELL
PROJECT NO:	215-0035

C0.0

SHEET 1 of 8

Drawing name: X:\2015\15035\plan sheets\site plan review\15035rem.dwg Oct 23, 2015 - 8:25am



LEGEND:

- EASEMENT LINE
- SETBACK LINE
- PROPERTY LINE
- FULL DEPTH SAWCUT
- HEAVY DUTY BITUMINOUS PAVING
- LIGHT DUTY BITUMINOUS PAVING
- OUTFALL CURB
- CONSTRUCTION LIMITS
- LIGHT POLE

REMOVAL NOTES:

1. NOTIFY GOPHER STATE ONE CALL 48 HOURS PRIOR TO START OF CONSTRUCTION.
2. PRIOR TO STARTING CONSTRUCTION, ALL PERIMETER EROSION CONTROL DEVICES MUST BE INSTALLED IN ACCORDANCE WITH GRADING & EROSION CONTROL PLAN, AND THE CITY OF WAYZATA.
3. REMOVAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND PROTECTING ALL UTILITY LINES PRIOR TO DIGGING AND DEMOLITION. OWNER AND ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR PUBLIC OR PRIVATE UTILITY LOCATIONS.
4. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL REMOVED MATERIALS.
5. REMOVAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL EXISTING STRUCTURES AND OBJECTS THAT INTERFERE WITH THE PROPOSED CONSTRUCTION AS SHOWN IN THIS DRAWING PACKAGE.
6. ALL WORK WITHIN THE PUBLIC R.O.W. SHALL COMPLY WITH THE CITY OF WAYZATA ENGINEERING DESIGN STANDARDS.
7. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL DURING DEMOLITION OF EXISTING CURBCUT ACCESS ON PUBLIC R.O.W..
8. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF THE EXISTING BITUMINOUS PER PLAN. BITUMINOUS SHALL BE SAWCUT OR JACK HAMMERED FOR STRAIGHT EDGES. TACK SHALL BE USED ON BITUMINOUS EDGE PRIOR TO PATCHING. MATCH EXISTING GRADES.
9. CONTRACTOR SHALL COORDINATE PRIVATE/PUBLIC UTILITIES RELOCATES, AS NECESSARY SUCH AS TRAFFIC SIGNAL HANDHOLES, WIRING, ETC.

SITE DATA

LOT SUMMARY:
LOT AREA 0.952 AC

PARKING SUMMARY:
SEE SHEET C1.1 FOR PARKING CALCULATION

IMPERVIOUS SURFACE:
EXISTING IMPERVIOUS = 0.545 AC
PROPOSED IMPERVIOUS = 0.712 AC (74.8%)

CONSTRUCTION LIMITS/DISTURBED AREA = 0.915 AC

GENERAL NOTES:

I. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY.

3. ALL DIMENSIONS, GRADES, EXISTING AND PROPOSED INFORMATION SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO INFORMATION SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

4. CONTRACTOR SHALL PROTECT ADJOINING PROPERTIES & STRUCTURES FROM HAZARDS ASSOCIATED WITH HIS CONSTRUCTION ACTIVITIES & SHALL BE RESPONSIBLE FOR ALL DAMAGES TO PROPERTIES & STRUCTURES THAT OCCUR AS A RESULT OF THESE ACTIVITIES.

5. CONTRACTOR SHALL NOT IMPEDE EXISTING TRAFFIC CIRCULATION TO ADJACENT PROPERTIES.

6. CONTRACTOR SHALL PERFORM SWEEPING ON PRIVATE PARKING AREAS AND PUBLIC STREETS AT LEAST ONCE A WEEK, IF NEEDED.

7. CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE TO PREVENT AND ELIMINATE ANY DUST NUISANCE OCCASIONED BY AND DURING CONSTRUCTION, UNTIL THE PROJECT HAS BEEN COMPLETED.

8. CONTRACTOR SHALL PROVIDE TEMPORARY STREET SIGNS, LIGHTING, AND ADDRESSES DURING CONSTRUCTION PERIOD.

9. ALL CONSTRUCTION AND POST CONSTRUCTION PARKING SHALL BE ON-SITE, NO ON-STREET PARKING/LOADING/UNLOADING ALLOWED.

10. ALL PUBLIC TRAILS OR WALKS SHALL NOT BE OBSTRUCTED DURING CONSTRUCTION UNLESS APPROVED BY CITY ENGINEER.

11. STORAGE OF MATERIALS OR EQUIPMENT SHALL NOT BE ALLOWED ON PUBLIC STREETS OR WITHIN PUBLIC RIGHT OF WAY.

12. CONTRACTOR TO PROVIDE TEMPORARY TRAFFIC CONTROL IN COMPLIANCE WITH MnDOT "TEMPORARY TRAFFIC CONTROL ZONE LAYOUT-FIELD MANUAL, LATEST EDITION, FOR ANY CONSTRUCTION IN PUBLIC ROW.

13. A FIELD INSPECTION OF ALL CURB, SIDEWALK AND PAVEMENT SUBGRADE, STRING LINES AND FORM WORK BY GENERAL CONTRACTOR OR OTHER APPROVED REPRESENTATIVE IS REQUIRED PRIOR TO ANY PAVEMENT INSTALLATION.

SITE PLAN NOTES:

1. ALL DIMENSIONS ARE TO FACE OF BUILDING AND/OR FACE OF CURB.

2. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE STOOPS ADJACENT TO PROPOSED BUILDING.

3. CONTINUOUS CONCRETE CURB & GUTTER WHICH CHANGES TYPE SHALL HAVE A FIVE FOOT TRANSITION.

4. ALL CONCRETE CURB AND GUTTER ADJACENT TO CONCRETE WALK BE SEPARATED BY A 1/2 INCH EXPANSION JOINT.

5. STRIPING SHALL BE 4 INCH WHITE UNLESS NOTED OTHERWISE.

6. CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES, SUCH AS EXISTING GUTTER GRADES AT THE PROPOSED DRIVEWAY, PRIOR TO THE START OF SITE GRADING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES OF VARIATIONS FROM THE PLANS.

7. REFER TO PHOTOMETRIC PLAN FOR LIGHTING LOCATIONS, FOOTCANDLE CALCULATIONS AND SPECIFICATIONS.

8. ALL RETAINING WALLS TO BE MODULAR BLOCK WALLS, ANY WALLS IN EXCESS OF 4 FEET IN HEIGHT REQUIRE DESIGN BY STRUCTURAL ENGINEER. CITY SHALL REVIEW AND APPROVE DESIGN PRIOR TO CONSTRUCTION. INSTALL RAILING OR FENCE AS REQUIRED. REFER TO GEOTECHNICAL REPORT FOR BACKFILL REQUIREMENTS.

9. INSTALL CURB AND GUTTER JOINTS AS FOLLOWS:
   1. ALIGN JOINTS ACROSS ABUTTING SIDEWALKS, CURBS, AND PAVEMENTS PAYING PARTICULAR ATTENTION TO SPACING OF EXPANSION JOINTS AND SPECIAL SCORING PATTERNS INDICATED ON PLANS.
   2. DIVIDE PANELS INTO NOMINALLY EQUAL AREAS WITH CONTRACTION JOINTS UNLESS INDICATED OTHERWISE.
   3. SAWN JOINTS ARE PERMITTED ONLY AS INDICATED ON THE PLANS OR TO INCREASE THE DEPTH OF TOOLED CONTRACTION JOINTS FOR THE CONTRACTOR'S CONVENIENCE.

   A. EXPANSION JOINTS
      1. INSTALL TRANSVERSE JOINTS AT THE FOLLOWING NOMINAL INTERVALS
         a. SIDEWALKS AND MAINTENANCE STRIPS: 40 FEET
         b. CURBS: 60 FEET, 5 FEET EACH SIDE OF CURB DRAIN INLETS, END OF CURVED SECTIONS
      2. INSTALL LATERAL JOINTS AGAINST ABUTTING SURFACES WHERE CONCRETE IS CONFINED BETWEEN OR PENETRATED WITH RIGID STRUCTURES OR FURNISHINGS SUCH AS BUILDINGS AND STOOPS, PLANTERS, POLE SUPPORTS OR BASES, UTILITIES AND SLEEVES, THICKER PAVEMENT SECTIONS, ETC.

   B. CONTRACTION JOINTS
      1. INSTALL JOINTS AT THE FOLLOWING NOMINAL INTERVALS.
         a. SIDEWALKS AND MAINTENANCE STRIPS: 5 FEET
         b. CURBS AND APRONS: 10 FEET, 6 FEET ON CURVED SECTIONS
      2. TOOL OR SAW JOINTS TO 1/3 THE NOMINAL THICKNESS OF THE PAVEMENT SECTION OR CURB.

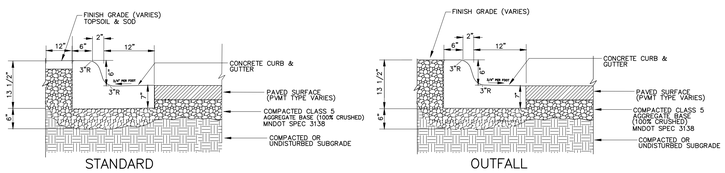
10. ALL CONCRETE EQUIPMENT PADS SHALL HAVE A SUBBASE INCLUDING 4 FEET OF FREE DRAINING GRANULAR MATERIAL MEETING MNDOT SPEC 3149.

11. REFER TO SOIL ENGINEER'S REPORT FOR ALL SOIL CORRECTIONS, PAVEMENT AND SUBBASE REQUIREMENTS AND DIRECTION, AND COMPACTIONS REQUIREMENTS.

12. FOR CONSTRUCTION OF NEW PAVED AREAS, ORGANIC SOILS SHALL BE STRIPPED TO A MINIMUM OF 3 FT BELOW PROPOSED PAVEMENT SUBGRADE. SUBGRADE SHALL BE COMPACTED TO A MIN OF 100% STANDARD PROCTOR WITHIN 3 FT OF PROPOSED SUBGRADE AND 95% STANDARD PROCTOR IF BELOW 3 FT.

13. PAVEMENT SUBGRADE SHALL BE PROOF ROLLED AND APPROVED BY THE INDEPENDENT GEOTECHNICAL ENGINEER PRIOR TO INSTALLING FINAL PAVEMENT SECTION.

14. ANY AFFECTED OR REMOVED PUBLIC R.O.W. PAVEMENT AND CURBING SHALL BE REPLACED WITH THE EQUIVALENT PAVEMENT SECTION.

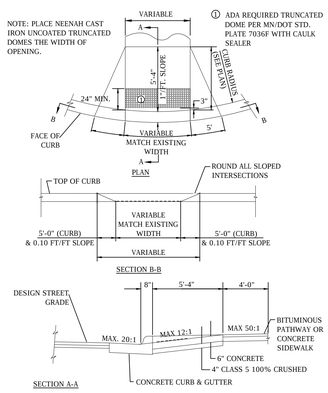


B612 CURB AND GUTTER

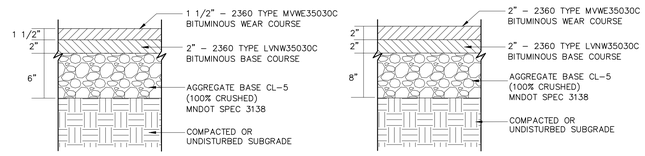
NOTE:
INSTALL CURB AND GUTTER JOINTS AS FOLLOWS:
1. ALIGN JOINTS ACROSS ABUTTING SIDEWALKS, CURBS, AND PAVEMENTS PAYING PARTICULAR ATTENTION TO SPACING OF EXPANSION JOINTS AND SPECIAL SCORING PATTERNS INDICATED ON PLANS.
2. DIVIDE PANELS INTO NOMINALLY EQUAL AREAS WITH CONTRACTION JOINTS UNLESS INDICATED OTHERWISE.
3. SAWN JOINTS ARE PERMITTED ONLY AS INDICATED ON THE PLANS OR TO INCREASE THE DEPTH OF TOOLED CONTRACTION JOINTS FOR THE CONTRACTOR'S CONVENIENCE.

A. EXPANSION JOINTS
1. INSTALL TRANSVERSE JOINTS AT THE FOLLOWING NOMINAL INTERVALS.
   a. SIDEWALKS AND MAINTENANCE STRIPS: 40 FEET
   b. CURBS: 60 FEET, 5 FEET EACH SIDE OF CURB DRAIN INLETS, END OF CURVED SECTIONS
2. INSTALL LATERAL JOINTS AGAINST ABUTTING SURFACES WHERE CONCRETE IS CONFINED BETWEEN OR PENETRATED WITH RIGID STRUCTURES OR FURNISHINGS SUCH AS BUILDINGS AND STOOPS, PLANTERS, POLE SUPPORTS OR BASES, UTILITIES AND SLEEVES, THICKER PAVEMENT SECTIONS, ETC.

B. CONTRACTION JOINTS
1. INSTALL JOINTS AT THE FOLLOWING NOMINAL INTERVALS.
   a. SIDEWALKS AND MAINTENANCE STRIPS: 5 FEET
   b. CURBS AND APRONS: 10 FEET, 6 FEET ON CURVED SECTIONS
2. TOOL OR SAW JOINTS TO 1/3 THE NOMINAL THICKNESS OF THE PAVEMENT SECTION OR CURB.

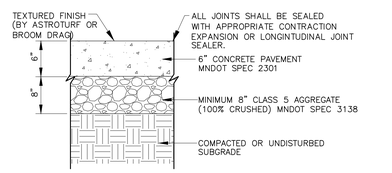


PEDESTRIAN RAMP



LIGHT DUTY BITUMINOUS PAVEMENT SECTION

HEAVY DUTY BITUMINOUS PAVEMENT SECTION



CONCRETE WALK SECTION

ALL CONCRETE DRIVEWAY PAVEMENT* SHALL BE REINFORCED CONCRETE BY INSTALLATION OF:

1. 1" EPOXY COATED DOWELS BARS @ 12" O.C. ALONG TRANSVERSE JOINTS.

CONCRETE PAD SECTION

FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION

THE DAVIS GROUP
Corporate Real Estate Services

ALLIANT ENGINEERING
233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

WAYZATA SPECIALITY CENTER
1120 EAST WAYZATA BLVD.
WAYZATA, MN 55391

SITE PLAN REVIEW

SITE PLAN

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

MARK RAUSCH, PE

Date License No.

QUALITY ASSURANCE/CONTROL

BY	DATE

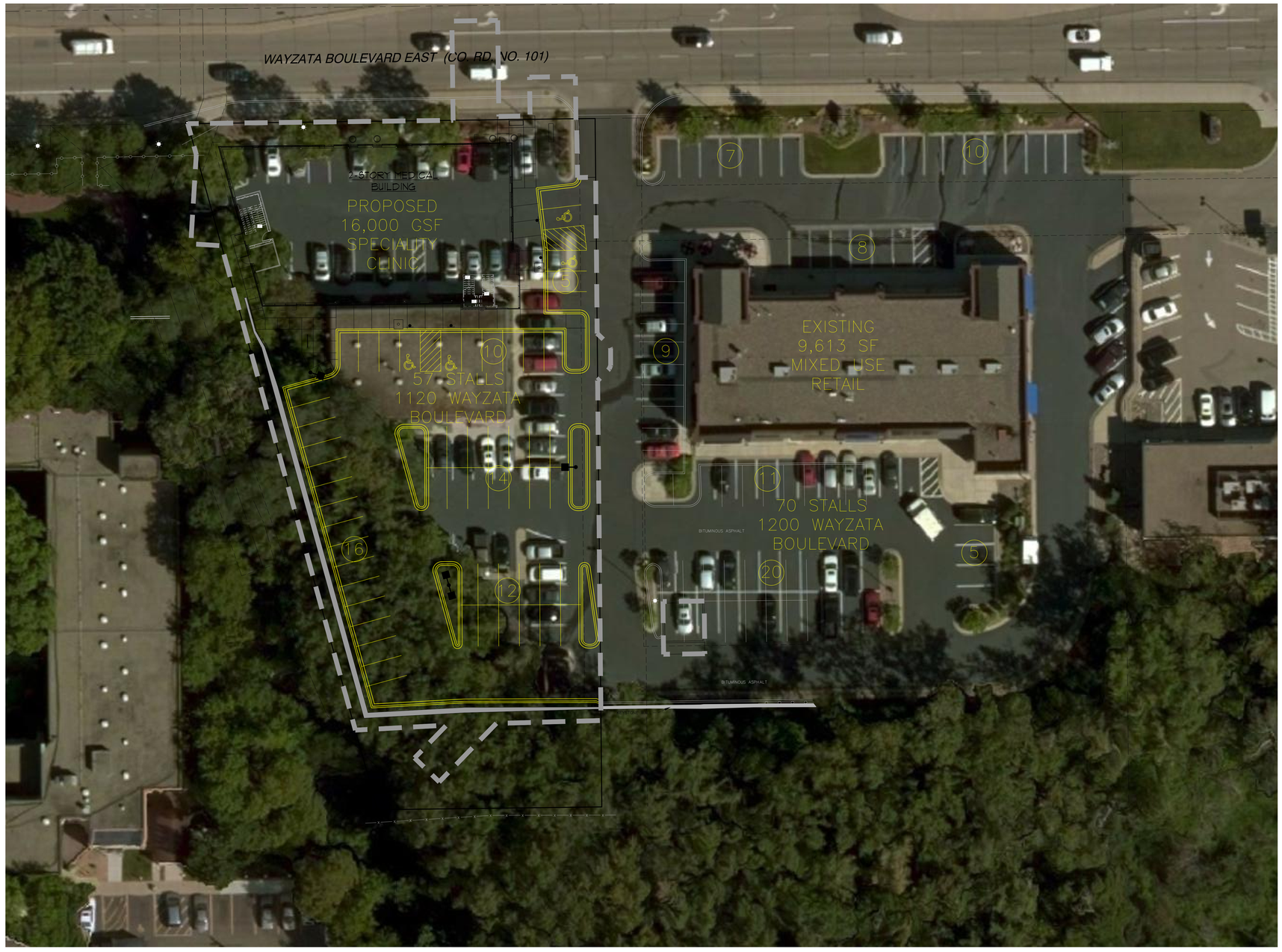
DATE	ISSUE
7-31-15	SITE PLAN REVIEW
9-15-15	SITE PLAN REVIEW
10-22-15	SITE PLAN REVIEW

PROJECT TEAM DATA
DESIGNED: MPR
DRAWN: ELL
PROJECT NO: 215-0035

C1.0

SHEET 2 of 8

Drawing name: X:\2015\150035\plan sheets\site plan review\150035site.dwg Oct 23, 2015 - 8:28am



LEGEND:

- EASEMENT LINE
- SETBACK LINE
- PROPERTY LINE
- FULL DEPTH SAWCUT

JOINT PARKING CALCULATIONS

1120 EAST WAYZATA BOULEVARD:

TOTAL PROPOSED GROSS SQUARE FOOTAGE	= 16,000 SF
PARKING REQUIRED @ 1/250 RSF	= 64 STALLS

1200 EAST WAYZATA BOULEVARD:

CALCULATION AS PRESENTED IN ARCHITECTURAL CONSORTIUM, LLC SITE PLAN FOR 1120/1200 WAYZATA BOULEVARD RETAIL PROJECT (ISSUE DATE 04/22/08)

TOTAL EXISTING GROSS SQUARE FOOTAGE	= 9,613 SF
BANK	= 6,110 SF
RETAIL	= 1,627 SF
SANDWICH SHOP	= 1,680 SF (1,000 SF DINING AREA + 680 SF KITCHEN AREA)
BANK PARKING REQUIRED @ 1/250 GSF	= 27 STALLS
RETAIL PARKING REQUIRED @ 1/250 GSF	= 7 STALLS
SANDWICH SHOP PARKING REQUIRED	
@ 1/40 SF (DINING AREA)	= 20 STALLS
@ 1/80 SF (KITCHEN AREA)	= 9 STALLS
PARKING REQUIRED FOR MIXED USED RETAIL	= 63 STALLS (PER APPROVED PLAN)
PARKING REQUIRED FOR PROPOSED 1120 AND EXISTING 1200 BUILDINGS	= 127 STALLS
PARKING PROPOSED ON 1120 PROPERTY	= 57 STALLS
EXISTING PARKING ON 1200 PROPERTY	= 70 STALLS
TOTAL PARKING PROVIDED	= 127 STALLS

N

0 10 20 40
SCALE IN FEET

FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION

THE DAVIS GROUP
Corporate Real Estate Services

ALLIANT ENGINEERING
233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

WAYZATA SPECIALITY CENTER

1120 EAST WAYZATA BLVD.
WAYZATA, MN 55391

SITE PLAN REVIEW

PARKING CALCULATION

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

MARK RAUSCH, PE

Date License No.

QUALITY ASSURANCE/CONTROL

BY	DATE

DATE	ISSUE
7-31-15	SITE PLAN REVIEW
9-15-15	SITE PLAN REVIEW
10-22-15	SITE PLAN REVIEW

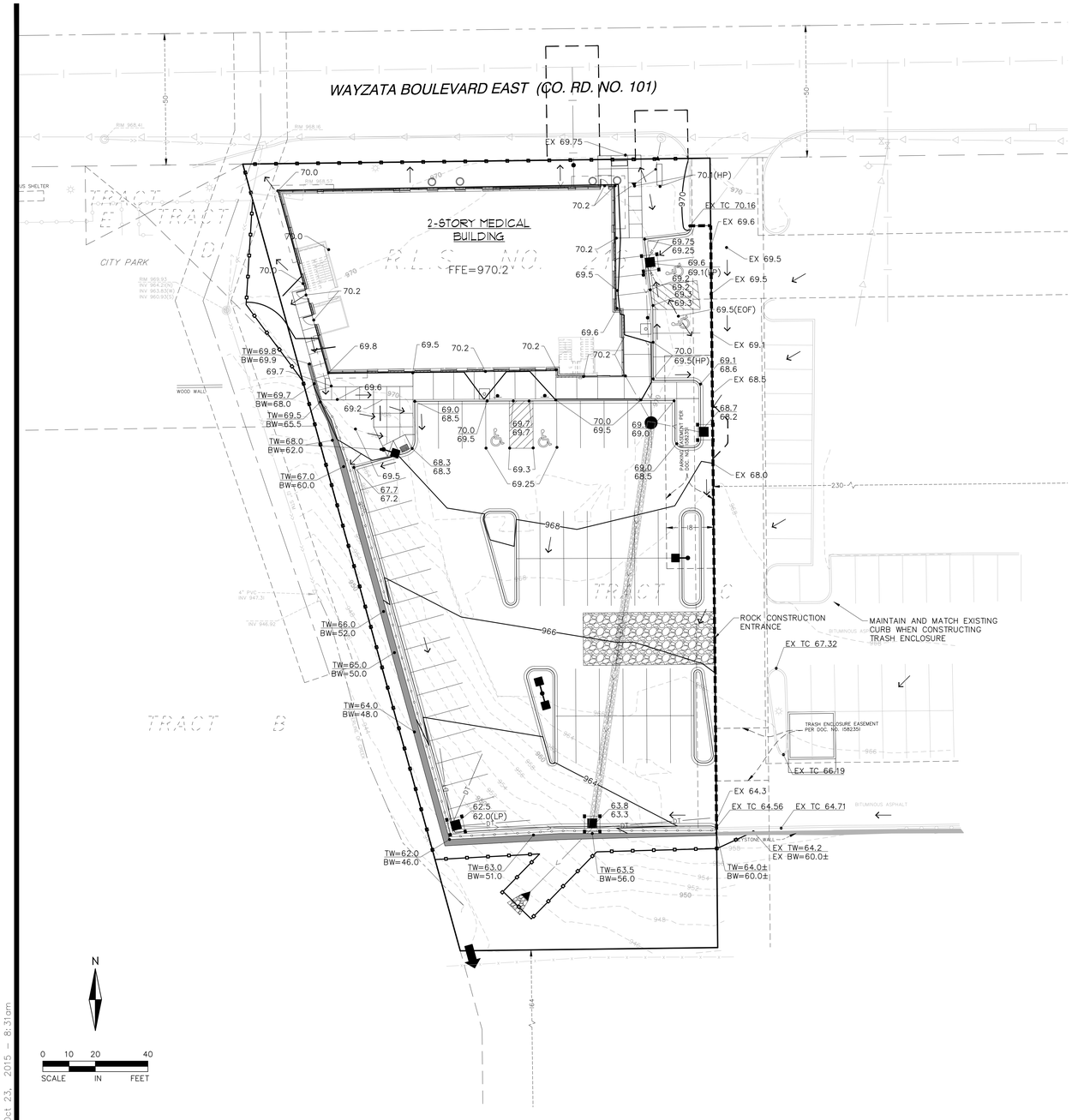
PROJECT TEAM DATA

DESIGNED:	MPR
DRAWN:	ELL
PROJECT NO:	215-0035

C1.1

SHEET 3 of 8

Drawing name: X:\2015\150035\plan sheets\site plan review\150035site.dwg Oct 23, 2015 - 8:30am



GRADING LEGEND:

953	EXISTING CONTOUR
953	PROPOSED CONTOURS
	PROPOSED CATCH BASINS
52.50	PROPOSED SPOT ELEVATION *ADD 900 FT TO ELEVATIONS
	DRAINAGE ROUTING
LP(HP) 52.00	LOWPOINT(HIGHPOINT) ELEVATION
	EMERGENCY FLOOD ROUTING
	PROPOSED STORM SEWER
	EXISTING STORM SEWER
	SILT FENCE
	RETAINING WALL
TW 50.0 BW 50.0	TOP OF WALL BOTTOM OF WALL
59.5 59.0	TOP OF CURB ELEVATION GUTTER ELEVATION
	EASEMENT
	PROPERTY LINE
	INLET PROTECTION
	ROCK CONSTRUCTION ENTRANCE

EARTHWORK:

ESTIMATED UNADJUSTED EARTHWORK QUANTITIES

Cut	Fill	Net
777 CY	1,786 CY	1,009 CY <Fill>

NOTES:

1. CALCULATION REPRESENTS SURFACE TO SURFACE ESTIMATE WITHOUT FILL ADJUSTMENT FACTOR AND DOES INCLUDE PAVEMENT SECTION AND BUILDING SECTION IN QUANTITIES.
2. CALCULATION IS FOR ESTIMATING NET ELEVATION CHANGE ON THE SITE.
3. NET ELEVATION CHANGE = 1,009 CY OR 27,243 CF OF FILL, WHICH EQUATES TO AN AVERAGE 0.66' FILL ON SITE.
4. ROUGHLY 0.71 AC OR 31,015 SF OF PARKING LOT PAVEMENT, SIDEWALK PAVEMENT AND BUILDING SLAB ARE PROPOSED. THE REQUIRED PAVEMENT SECTIONS EQUATE TO 25,846 CF OR 957 CY OF REQUIRED FILL ASSUMING A 10" AVERAGE SUBCUT AND SUBSEQUENT PAVEMENT CONSTRUCTION.
5. ESTIMATES DO NOT MAKE ASSUMPTION FOR REQUIRED DEMOLITION REMOVALS OF 0.55 AC OF EXISTING IMPERVIOUS PARKING LOT PAVEMENT, SIDEWALKS AND BUILDING. THE ONSITE REMOVALS NECESSARY COULD INCREASE REQUIRED IMPORT DEPENDING ON WHETHER EXISTING PAVEMENT RECYCLING IS POSSIBLE.
6. EXPECTED HAULING VEHICLE TRIPS IS HIGHLY VARIABLE BASED ON THE AMOUNT OF EXISTING MATERIAL THAT IS SALVAGEABLE FOR REUSE. THE HIGH ESTIMATE OF REQUIRED COMMON BORROW IMPORT WOULD BE THE NET OF REQUIRED BORROW MINUS PROPOSED PAVEMENT FILL (57 CY) PLUS THE FULL EXISTING PAVEMENT SECTION (734 CY). ESTIMATED VEHICLE TRIPS TO IMPORT COMMON BORROW ASSUMING A 10-14 CY DUMP TRUCK ARE UP TO 53 LOADS AT THE HIGH END.

SWPPP BMP QUANTITIES:

SILT FENCE =	624 LF
EROSION BLANKET =	AS NEEDED
INLET PROTECTION =	4 EA

GRADING NOTES:

1. ALL FINISHED GRADES SHALL SLOPE AWAY FROM PROPOSED BUILDINGS AT MINIMUM GRADE OF 2.0%.
2. THE CONTRACTOR SHALL KEEP THE ADJACENT ROADWAYS FREE OF DEBRIS AND PREVENT THE OFF-SITE TRACKING OF SOIL IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND MNDOT.
3. NOTIFY GOPHER STATE ONE CALL, AT (800)252-1166, 48 HOURS PRIOR TO START OF CONSTRUCTION TO VERIFY LOCATION OF ALL PRIVATE UTILITIES.
4. ALL IMPROVEMENTS TO CONFORM WITH CITY, AND COUNTY OR STATE CONSTRUCTION STANDARDS SPECIFICATION, LATEST EDITION.
5. CONTRACTOR TO KEEP A COPY OF THE EROSION CONTROL PLAN ON SITE AT ALL TIMES.
6. REFER TO SOIL ENGINEER'S GEOTECHNICAL REPORT AND PROJECT MANUAL, FOR SOIL CORRECTION REQUIREMENTS, SOIL TESTING REQUIREMENTS AND PAVEMENT AND SUBBASE RECOMMENDATIONS.
7. STRIP TOPSOIL PRIOR TO ANY CONSTRUCTION. REUSE STOCKPILE ON SITE.
8. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
9. IMMEDIATELY FOLLOWING GRADING OF (3:1 OR GREATER) SIDE SLOPES AND DRAINAGE SWALES, WOOD FIBER BLANKET OR OTHER APPROVED SOIL STABILIZING METHOD (APPROVED BY ENGINEER) SHALL BE APPLIED OVER APPROVED SEED MIXTURE AND A MINIMUM OF 4" TOPSOIL.
10. THE GENERAL CONTRACTOR MUST DISCUSS DEWATERING PLANS WITH ALL SUBCONTRACTORS TO VERIFY REQUIREMENTS. IF DEWATERING IS REQUIRED DURING CONSTRUCTION CONTRACTOR SHOULD CONSULT WITH EROSION CONTROL INSPECTOR AND ENGINEER TO DETERMINE APPROPRIATE METHOD.
11. HAUL ROUTES AND DISPOSAL AREAS SHOULD BE DISCUSSED WITH CITY OF WAYZATA PRIOR TO IMPORTING OR EXPORTING MATERIAL OFFSITE.
12. FOR CONSTRUCTION OF NEW PAVED AREAS, ORGANIC SOILS SHALL BE STRIPPED TO A MINIMUM OF 3 FT BELOW PROPOSED PAVEMENT SUBGRADE. SUBGRADE SHALL BE COMPACTED TO A MIN OF 100% STANDARD PROCTOR WITHIN 3 FT OF PROPOSED SUBGRADE AND 95% STANDARD PROCTOR IF BELOW 3 FT.
13. SEE SITE PLAN FOR PAVEMENT SECTIONS. PAVEMENT SUBGRADE SHALL BE PROOF ROLLED AND APPROVED BY THE INDEPENDENT GEOTECHNICAL ENGINEER PRIOR TO INSTALLING FINAL PAVEMENT SECTION.

RETAINING WALL NOTES:

RETAINING WALL MASS GRADING PREPARATION

1. ALL RETAINING WALLS SHALL BE ROUGH GRADED AT A 2:1 SLOPE WITH BASE OF PREP. SLOPE AT PROPOSED WALL FACE.
2. PROPOSED RETAINING WALL AREAS BETWEEN BUILDING PADS ARE TO BE ROUGH GRADED AT A 2:1 SLOPE WITH BASE OF SLOPE COINCIDING WITH COMMON LOT LINE.
3. THE RETAINING WALL SLOPE AREAS ARE TO BE MAINTAINED UNTIL RETAINING WALL CONSTRUCTION OCCURS. ANY EROSION SHALL BE REMEDIED AND RESTORED.
4. BUILDING PERMITS ARE REQUIRED FOR ALL RETAINING WALLS GREATER THAN 4 FEET IN HEIGHT AND THOSE WALLS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER WITH DESIGN REVIEWED AND APPROVED BY THE CITY PRIOR TO INSTALLATION.
5. INSTALL SAFETY RAILING AS REQUIRED ATOP WALLS.

EROSION AND SEDIMENT CONTROL NOTES:

SEE SHEET C2.1 FOR EROSION AND SEDIMENT CONTROL DETAILS AND NOTES.

EROSION CONTROL RESPONSIBLE PARTIES:

DEVELOPER:
THE DAVIS GROUP
222 SOUTH 9TH STREET, SUITE 3255
MINNEAPOLIS, MN 55442

CONTRACTOR:
TBD

SWPPP INSPECTION:
N/A

FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION

THE DAVIS GROUP
Corporate Real Estate Services

ALLIANT ENGINEERING
233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

WAYZATA SPECIALITY CENTER
1120 EAST WAYZATA BLVD.
WAYZATA, MN 55391

SITE PLAN REVIEW

GRADING, EROSION AND SEDIMENT CONTROL PLAN

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

MARK RAUSCH, PE

Date License No.

QUALITY ASSURANCE/CONTROL

BY DATE

DATE	ISSUE
7-31-15	SITE PLAN REVIEW
9-15-15	SITE PLAN REVIEW
10-22-15	SITE PLAN REVIEW

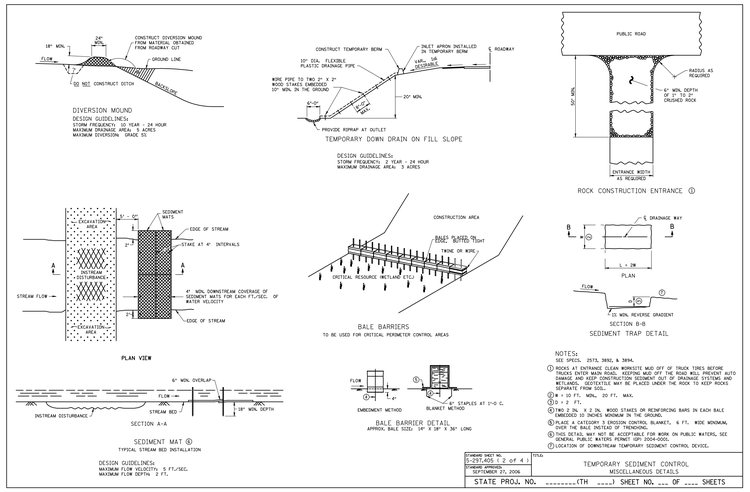
PROJECT TEAM DATA

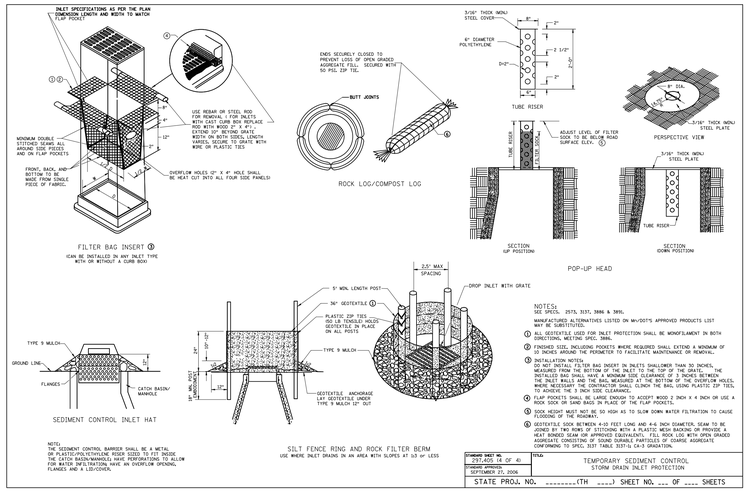
DESIGNED:	MPR
DRAWN:	ELL
PROJECT NO:	215-0035

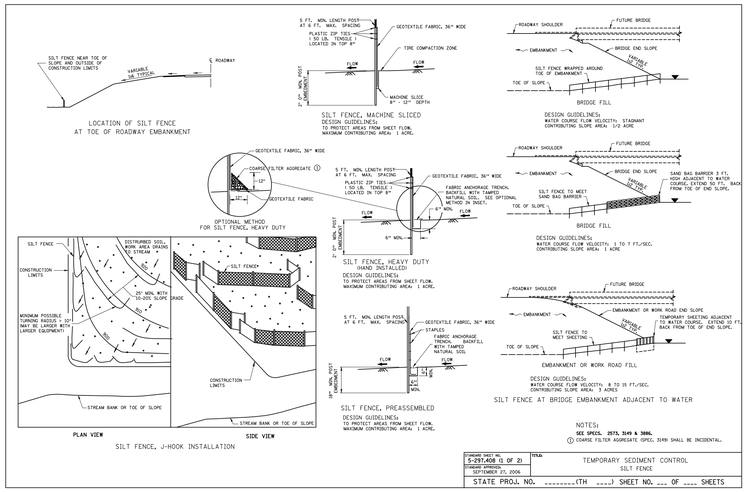
C2.0

SHEET 4 of 8

Drawing name: X:\2015\150035\plan sheets\site plan review\150035grad.dwg Oct 23, 2015 - 8:31am







EROSION CONTROL GENERAL NOTES:

1. NO LAND DISTURBING ACTIVITY SHALL OCCUR UNTIL A GRADING PERMIT HAS BEEN ISSUED FROM CORRESPONDING MUNICIPALITY.
2. BEST MANAGEMENT PRACTICES (BMP'S) REFER TO EROSION AND SEDIMENT CONTROL PRACTICES DEFINED IN THE MPCA PROTECTING WATER QUALITY IN URBAN AREAS AND THE MINNESOTA CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL PLANNING HANDBOOK.
3. ALL BMP'S SELECTED SHALL BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND ESTIMATED DURATION OF USE.
4. ALL WORK AND MATERIALS SHALL BE CONSTRUCTED ACCORDING TO THE APPROVED PLANS. ANY DEVIATION FROM THE APPROVED PLANS SHALL REQUIRE WRITTEN APPROVAL FROM THE ENGINEER OF RECORD.
5. A COPY OF THESE PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
6. THE BOUNDARIES OF THE LAND DISTURBANCE LIMITS SHOWN ON THE PLANS SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. NO DISTURBANCE BEYOND THE DISTURBED LIMITS.
7. WHEREVER POSSIBLE, PRESERVE THE EXISTING TREES, GRASS AND OTHER VEGETATIVE COVER TO HELP FILTER RUNOFF.
8. ESTABLISH A PERMANENT VEGETATIVE COVER ON ALL EXPOSED SOILS WHERE LAND COMING OUT OF AGRICULTURAL PRODUCTION. PLANT AS SOON AS POSSIBLE TO ESTABLISH DENSE GRASS FILTER PRIOR TO CONSTRUCTION AND TO MINIMIZE WEED GROWTH.
9. ALL TREES NOT LISTED FOR REMOVAL SHALL BE PROTECTED. DO NOT OPERATE EQUIPMENT WITHIN THE DRIPLINE, ROOT ZONES OR WITHIN TREE PROTECTION FENCE AREAS.
10. ALL EROSION AND SEDIMENT CONTROL FACILITIES (BMP'S) SHALL BE INSTALLED AND IN OPERATION PRIOR TO LAND DISTURBANCE ACTIVITIES AND THEY SHALL BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR EROSION HAS PASSED.
11. SILT FENCE IS REQUIRED AT DOWN GRADIENT PERIMETER OF DISTURBED AREAS AND STOCKPILES. PROTECT WETLANDS, WATERCOURSES AND ADJACENT PROPERTIES FROM SEDIMENTATION AND STORMWATER RUNOFF.
12. THE BMP'S SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS FOR THE ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND UNEXPECTED OR SEASONAL CONDITIONS DICTATE, THE PERMITTEE/CONTRACTOR SHALL ANTICIPATE THAT MORE BMP'S WILL BE NECESSARY TO ENSURE EROSION AND SEDIMENT CONTROL ON THE SITE. DURING THE COURSE OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY CONSTRUCTION ACTIVITIES AND/OR CLIMATIC EVENTS AND TO PROVIDE ADDITIONAL BMP'S OVER AND ABOVE THE MINIMUM REQUIREMENTS SHOWN ON THE PLANS, AS MAY BE NEEDED TO PROVIDE EFFECTIVE PROTECTION OF WATER AND SOIL RESOURCES.
13. THE BMP'S SHALL BE INSPECTED DAILY BY THE PERMITTEE/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. SILT FENCES CLEANED OR REPLACED AT SEDIMENT BUILDUP OF 1/3 OF THE FENCE HEIGHT.
14. LAND DISTURBING ACTIVITIES SHALL OCCUR IN INCREMENTS OF WORKABLE SIZE SUCH THAT ADEQUATE BMP CONTROL CAN BE PROVIDED THROUGHOUT ALL PHASES OF CONSTRUCTION. THE SMALLEST PRACTICAL AREA SHALL BE EXPOSED OR OTHERWISE DISTURBED AT ANY ONE TIME.
15. OPERATE TRACK EQUIPMENT (DOZER) UP AND DOWN EXPOSED SOIL SLOPES ON FINAL PASS, LEAVING TRACK GROOVES PERPENDICULAR TO THE SLOPE. DO NOT BACK-BLADE. LEAVE A SURFACE ROUGH TO MINIMIZE EROSION.
16. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED FROM EROSION WITHIN 15 DAYS OF SUBSTANTIAL COMPLETION OF GRADING IN THAT AREA. TEMPORARY SEED AND MULCH SHALL COVER ALL EXPOSED SOILS IF GRADING COMPLETION IS DELAYED LONGER THAN 15 DAYS. PERMANENT SEED AND MULCH IS REQUIRED WITHIN 15 DAYS OF COMPLETION OF FINAL GRADING.
17. GENERAL TEMPORARY SEED SHALL BE MNDOT MIX 190 @ 100 LBS. PER ACRE OR APPROVED EQUAL. PERMANENT SEED SHALL BE MNDOT MIX 270 @ 120 LBS. PER ACRE OR APPROVED EQUAL. (PLANTING DATES PER SPEC 2575) MULCH SHALL BE MNDOT TYPE 1 (CLEAN OAT STRAW) @ 2 TONS PER ACRE AND DISK ANCHORED IN PLACE OR APPROVED EQUAL. FERTILIZER SHALL BE 80-80-80 NPK PER ACRE (UNLESS P RESTRICTIONS APPLY) AND INCORPORATED INTO THE SEED BED.
18. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY DISPOSED OF WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.
19. REPORT ALL FOUND FIELD TILES TO THE ENGINEER FOR EVALUATION.
20. TEMPORARY DIVERSION BERMS SHALL BE CONSTRUCTED TO DIRECT STORM WATER RUNOFF DURING CONSTRUCTION TO SEDIMENT CONTROL DEVICES SUCH AS TEMPORARY SEDIMENT BASINS.

EROSION AND SEDIMENT CONTROL MAINTENANCE PROGRAM:

1. INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. IMMEDIATELY REPAIR FAILED OR FAILING SILT FENCE.
2. REPLACEMENT – FABRIC SHALL BE REPLACED PROMPTLY WHEN IT DECOMPOSES OR BECOMES INEFFECTIVE BEFORE THE BARRIER IS NO LONGER NECESSARY.
3. SEDIMENT REMOVAL – SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE–THIRD THE HEIGHT OF THE BARRIER. ANY SEDIMENT REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER FABRIC IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH EXISTING GRADE, PREPARED, AND SEEDED WITH THE APPROPRIATE SEED MIX, OR SODDED AS DIRECTED BY THE ENGINEER.
4. REMOVAL OF SILT FENCE – SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPWARD SLOPING AREA HAS BEEN PERMANENTLY STABILIZED. IF THE UPWARD SLOPING AREA IS TO BE EXPOSED LONGER THAN SIX (6) MONTHS, THAT AREA SHALL BE COVERED WITH TEMPORARY VEGETATION WHEN FIRST EXPOSED.
5. THE CONTRACTOR MUST ROUTINELY INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS.
6. ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION MUST BE RECORDED IN WRITING AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE:

   A. DATE AND TIME OF INSPECTIONS;
   B. NAME OF PERSON(S) CONDUCTING INSPECTIONS;
   C. FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS;
   D. CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVIES.
   E. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 1/2 INCH (0.5 INCHES) IN 24 HOURS:
   F. DOCUMENTS OF CHANGES MADE TO THE SWPPP AS REQUIRED IN PART III.A.4.

7. WHERE PARTS OF THE CONSTRUCTION SITE HAVE UNDERGONE FINAL STABILIZATION, BUT WORK REMAINS ON OTHER PARTS OF SITE, INSPECTIONS OF THE STABILIZED AREAS MAY BE REDUCED TO ONCE PER MONTH. WHERE WORK HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, THE REQUIRED INSPECTIONS AND MAINTENANCE MUST TAKE PLACE AS SOON AS RUNOFF OCCURS AT THE SITE OR PRIOR TO RESUMING CONSTRUCTION, WHICHEVER COMES FIRST.

POLLUTION PREVENTION MANAGEMENT MEASURES:

THE CONTRACTOR SHALL IMPLEMENT THE FOLLOWING POLLUTION PREVENTION MANAGEMENT MEASURES ON THE SITE:

1. SOLID WASTE: COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.
2. HAZARDOUS MATERIAL: OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.
3. EXTERNAL WASHING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES MUST BE LIMITED TO A DEFINED AREA OF THE SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE.

SEDIMENT CONTROL PRACTICES:

1. SEDIMENT CONTROL PRACTICES MUST MINIMIZE SEDIMENT FROM ENTERING SURFACE WATERS, INCLUDING CURB AND GUTTER SYSTEMS AND STORM SEWER INLETS.
2. SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED ON ALL DOWN GRADIENT PERMITERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED.
3. THE TIMING OF THE INSTALLATION OF SEDIMENT CONTROL PRACTICES MAY BE ADJUSTED TO ACCOMMODATE SHORT–TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES. ANY SHORT–TERM ACTIVITY MUST BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL PRACTICES MUST BE INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED. HOWEVER, SEDIMENT CONTROL PRACTICES MUST BE INSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE ACTIVITY IS NOT COMPLETE.
4. ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED.
5. TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCES OR OTHER EFFECTIVE SEDIMENT CONTROLS, AND CANNOT BE PLACED IN SURFACE WATERS, INCLUDING STORM WATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES.
6. SITE CONSTRUCTION ENTRANCES WILL BE AS SHOWN ON THE PLAN. ROCK CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT EACH ENTRANCE.

WINTER STABLIZATION:

GRADING CONTRACTOR REQUIREMENTS IN THE CASE WHERE THE ONSET OF WINTER DOES NOT ALLOW FOR COMPLETION OF MASS GRADING AND FINAL SOIL STABLIZATION IN FALL 2015:

1. MASS GRADING ACTIVITIES SHALL BE PLANNED AND PHASED IN A MANNER TO AVOID ANY UNNECESSARY SOIL DISTURBANCE PRIOR TO WINTER SHUT DOWN.
2. ALL FINAL GRADED AREAS SHALL BE STABILIZED PERMANENTLY BY GRADING CONTRACTOR WITH SEEDING, MULCHING, BLANKET, ETC. IN ACCORDANCE WITH PLANS PRIOR TO CONTRACTOR LEAVING THE SITE AT WINTER SHUT DOWN.
3. THE GRADING CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL TEMPORARY OR INCOMPLETE GRADING AREAS INCLUDING ALL STOCKPILES ARE STABILIZED WITH TEMPORARY SEEDING (MNDOT MIX 190@100#/AC, MULCH (MNDOT TYPE 1) BEFORE LEAVING THE SITE AT WINTER SHUT DOWN.
4. ALL SIGNIFICANT DRAINAGE SWALES (TEMPORARY OR PERMANENT) SHALL BE STABILIZED WITH MNDOT CATEGORY 3 EROSION CONTROL BLANKET BY GRADING CONTRACTOR PRIOR TO LEAVING THE SITE AT WINTER SHUT DOWN.

FINAL STABILIZATION:

THE CONTRACTOR MUST ENSURE FINAL STABILIZATION OF THE SITE. THE CONTRACTOR MUST SUBMIT A NOTICE OF TERMINATION (NOT) WITHIN 30 DAYS AFTER FINAL STABILIZATION IS COMPLETE, OR ANOTHER OWNER/OPERATOR (PERMITTEE) HAS ASSUMED CONTROL OF ALL AREAS OF THE SITE THAT HAVE NOT UNDERGONE FINAL STABILIZATION. FINAL STABILIZATION CAN BE ACHIEVED IN ONE OF THE FOLLOWING WAYS:

ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND ALL SOILS MUST BE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70 PERCENT OVER THE ENTIRE PERVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSIVE CONDITIONS AND;

A. ALL DRAINAGE DITCHES, CONSTRUCTED TO DRAIN WATER FROM THE SITE AFTER CONSTRUCTION IS COMPLETE, MUST BE STABILIZED TO PRECLUDE EROSION;

B. ALL TEMPORARY SYNTHETIC, AND STRUCTURAL EROSION PREVENTION AND SEDIMENT CONTROL BMPS (SUCH AS SILT FENCE) MUST BE REMOVED AS PART OF THE SITE FINAL STABILIZATION; AND

C. THE CONTRACTORS MUST CLEAN OUT ALL SEDIMENT FROM CONVEYANCES AND FROM TEMPORARY SEDIMENTATION BASINS THAT ARE TO BE USED AS PERMANENT WATER QUALITY MANAGEMENT BASINS. SEDIMENT MUST BE STABILIZED TO PREVENT IT FROM BEING WASHED BACK INTO THE BASIN, CONVEYANCES OR DRAINAGE WAYS DISCHARGING OFF–SITE OR TO SURFACE WATERS. THE CLEAN OUT OF PERMANENT BASINS MUST BE SUFFICIENT TO RETURN THE BASIN TO DESIGN CAPACITY.

EROSION CONTROL SCHEDULE:

1. PRIOR TO ANY CONSTRUCTION OR DEMOLITION, SILT FENCE AND FILTERS SHALL BE INSTALLED AS SHOWN TO INTERCEPT RUNOFF.
2. ALL EROSION CONTROL INSTALLATIONS SHALL REMAIN IN PLACE AND BE MAINTAINED IN GOOD CONDITION BY THE CONTRACTOR UNTIL THE SITE HAS BEEN RE–VEGETATED. CONTRACTOR MAY REMOVE NECESSARY SILT FENCING/FILTERS TO CONSTRUCT ROADWAYS, WHILE MAINTAINING ADEQUATE EROSION CONTROL IN ADJACENT AREA.
3. SUFFICIENT TOPSOIL SHALL BE STOCKPILED TO ALLOW FOR THE REPLACEMENT OF 6" OF TOPSOIL FOR DISTURBED AREAS TO BE RE–VEGETATED.
4. THE CONTRACTOR SHALL SCHEDULE SITE GRADING, UTILITY INSTALLATION AND PAVEMENT CONSTRUCTION SO THAT THE GENERAL SITE CAN BE MULCHED AND RE–SEEDED SOON AFTER DISTURBANCE. AREAS THAT WILL NOT BE SUBJECT TO CONSTRUCTION TRAFFIC SHALL BE SEEDED (MnDOT MIX 190 @ 100#/AC AND MULCHED OR SODDED WITHIN SEVEN (7) DAYS OF BEING DISTURBED.
5. CONTRACTOR SHALL INSTALL EROSION CONTROL DEVICES AS INDICATED ON THIS EROSION CONTROL PLAN AND ANY ADDITIONAL REQUIRED BASED ON MEANS, METHODS AND SEQUENCES OF CONSTRUCTION.

CONCRETE WASHOUT :

1. CONCRETE DELIVERED BY TRUCK SHALL HAVE WASHOUTS COMPLETED ON A TRUCK TO TRUCK BASIS AND DONE WITH A MOBILE WASHOUT SYSTEM PROVIDED AND COMPLETED BY THE CONCRETE CONTRACTOR.
2. IN CASES WHERE CONCRETE IS SUPPLIED ONSITE BY A SPEC. MIX TOWER, THE CONTRACTOR SHALL HAVE A PLAN IN PLACE TO CONTROL AND CONTAIN ALL SPILLS UNDER AND AROUND THE TOWERS.

DEWATERING :

1. IF ANY TEMPORARY DEWATERING IS REQUIRED ONSITE THE CONTRACTOR SHALL DISPOSE OF STORMWATER OR GROUND WATER BY USE OF PUMPS AND HOSES TO ADJACENT ONSITE STORM SEWER EITHER TO THE EAST OR SOUTH OF THE PROPOSED EXPANSION WORK.
2. TEMPORARY PUMP DISCHARGE HOSES SHALL BE PLACED IN LOCATIONS THAT RESULT IN THE LEAST POSSIBLE IMPACT TO ONSITE TRAFFIC. PUMPING SOUTH TO THE EXISTING STORM SEWER MAY PROVIDE THE BEST LOW IMPACT SOLUTION TO TRAFFIC. A SECOND OPTION IS PUMPING EAST TO THE EXISTING STORM SEWER. THE EAST OPTION IS THE SHORTEST ROUTE TO SEWER BUT MAY REQUIRE TRAFFIC TO PERIODICALLY DRIVE OVER HOSES.
3. THE ONSITE STORM SEWER DISCHARGES TO THE STORMWATER POND IN THE SOUTHEAST CORNER OF THE SITE. THE CONTRACTOR SHALL INSPECT POND IN DEWATERING SITUATIONS TO DETERMINE IF ANY SEDIMENT HAS COLLECTED AS A RESULT OF CONSTRUCTION AND/OR DEWATERING. ANY SEDIMENT THAT IS COLLECTED IN THE POND AS A RESULT OF DEWATERING OR CONSTRUCTION ACTIVITIES SHALL BE REMOVED POST CONSTRUCTION.
4. ANY ACCUMULATED SEDIMENT ALONG EXISTING CURB AND GUTTER THAT HAS COLLECTED AS A RESULT OF DISCHARGING DEWATERING HOSES SHALL BE IMMEDIATELY REMOVED AND PROPERLY DISPOSED OF AFTER EACH DISCHARGING EVENT.

FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION

THE DAVIS GROUP
Corporate Real Estate Services

ALLIANT ENGINEERING
233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

WAYZATA SPECIALITY CENTER
1120 EAST WAYZATA BLVD.
WAYZATA, MN 55391

SITE PLAN REVIEW

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

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

MARK RAUSCH, PE

Date License No.

QUALITY ASSURANCE/CONTROL

BY	DATE

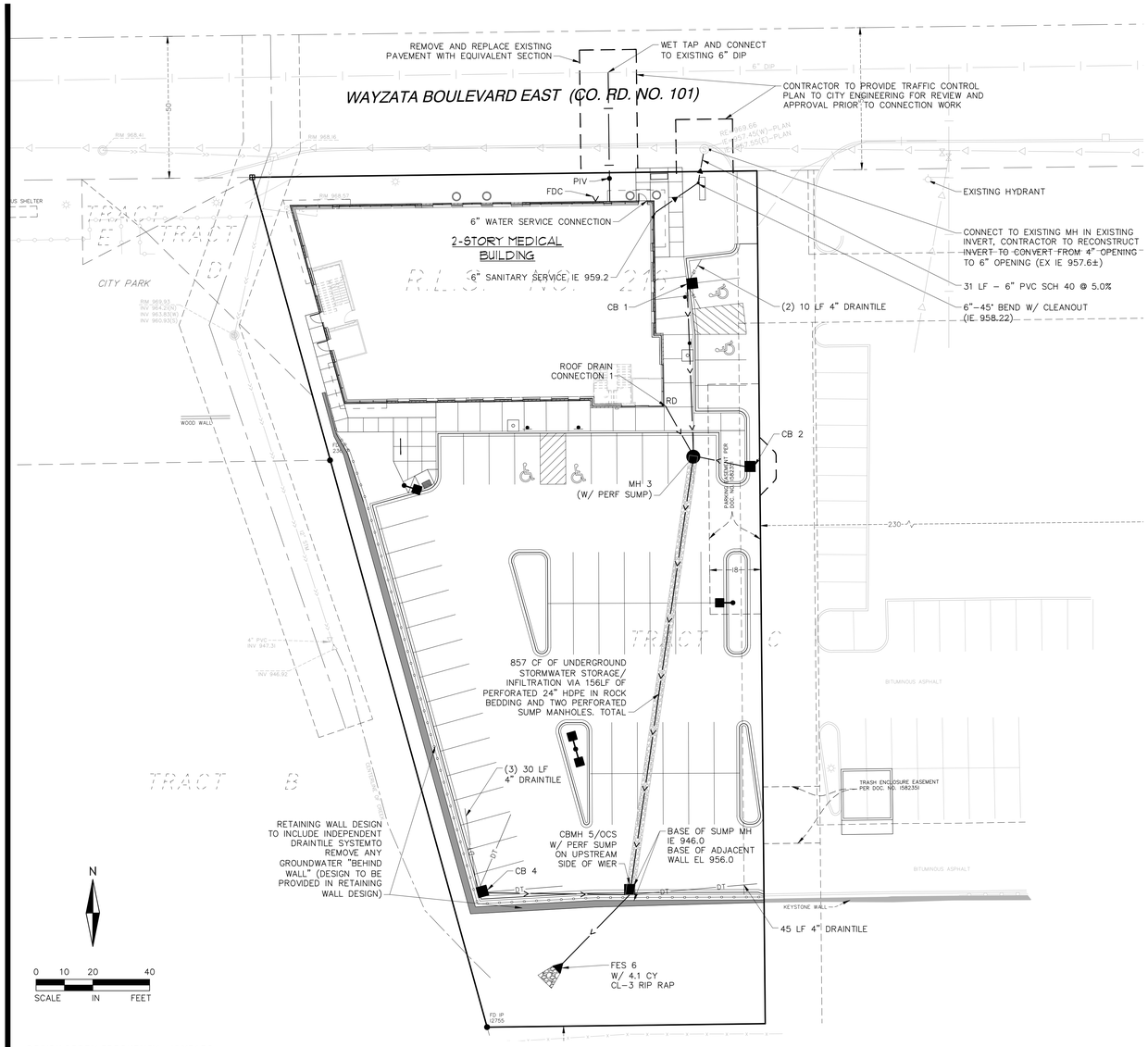
DATE	ISSUE
7-31-15	SITE PLAN REVIEW
9-15-15	SITE PLAN REVIEW
10-22-15	SITE PLAN REVIEW

PROJECT TEAM DATA
DESIGNED: MPR
DRAWN: ELL
PROJECT NO: 215-0035

C2.1

SHEET 5 of 8

Drawing name: X:\2015\150035\plan sheets\site plan review\150035grad2.dwg Oct 23, 2015 - 8:31am



LEGEND:

- PROPOSED STORM SEWER
- PROPOSED 4" DRAINTILE
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN
- PROPOSED CATCH BASIN
- PROPOSED SANITARY/STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING SANITARY MANHOLE
- EXISTING STORM MANHOLE/CATCH BASIN
- EXISTING HYDRANT
- EXISTING GAS
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND TELEPHONE

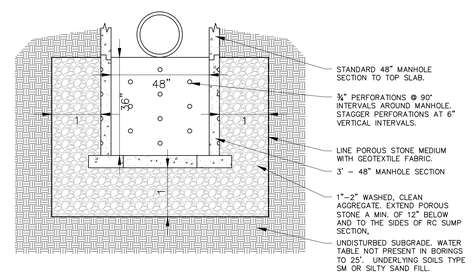
GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS PRIOR TO THE START OF CONSTRUCTION.
2. ALL CONSTRUCTION AND POST CONSTRUCTION PARKING SHALL BE ON-SITE, NO ON-STREET PARKING/LOADING/UNLOADING ALLOWED.
3. ALL PUBLIC SIDEWALKS/TRAILS SHALL NOT BE OBSTRUCTED.
4. STORAGE OF MATERIALS OR EQUIPMENT SHALL NOT BE ALLOWED ON PUBLIC STREETS OR WITHIN PUBLIC RIGHT OF WAY.
5. REFER TO EROSION CONTROL PLAN. ALL EROSION CONTROL MEASURES MUST BE IN PLACE PRIOR TO UTILITY CONSTRUCTION.
6. ALL PROJECT RELATED UTILITIES WILL BE PRIVATELY OWNED.
7. NOTIFY GOPHER STATE ONE CALL 48 HOURS IN ADVANCE OF ANY CONSTRUCTION TO VERIFY LOCATION OF ALL PRIVATE UTILITIES.
8. PROVIDE TEMPORARY TRAFFIC CONTROL IN COMPLIANCE WITH MNDOT "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS-FIELD MANUAL" LATEST REVISION, FOR ANY CONSTRUCTION WITHIN PUBLIC R.O.W.

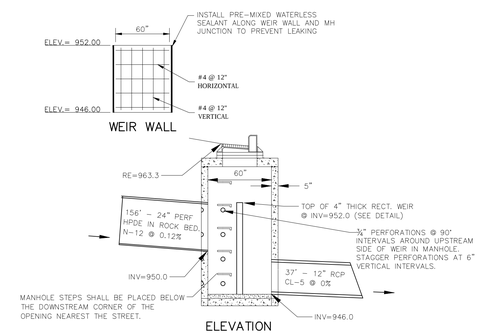
UTILITY NOTES:

1. EXISTING UTILITIES, SERVICE LOCATIONS AND ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR IN FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCIES TO PLANS SHALL BE IMMEDIATELY DISCUSSED WITH OWNER AND ENGINEER PRIOR TO COMMENCING ON PROPOSED WORK.
2. MAINTAIN A MIN 18" VERTICAL SEPARATION AT ALL PIPE CROSSINGS.
3. PROVIDE POLYSTYRENE (4" THICK) INSULATION FOR ALL WATERMAIN AND STORM SEWER CROSSINGS WHERE VERTICAL OR HORIZONTAL SEPARATION IS LESS THAN 36".
4. CONTRACTOR TO PROVIDE COORDINATION FOR TELEPHONE, GAS, AND ELECTRIC SERVICE CONNECTION WITH THE RESPECTIVE SERVICE COMPANY.
5. WATERMAIN SHALL BE INSTALLED WITH MINIMUM 7.5' OF COVER.
6. ALL SANITARY MANHOLES SHALL BE MADE WITH WATER TIGHT MATERALS TO PREVENT INFILTRATION.
7. WATERMAIN SHALL BE C-900 PVC AND CONTRACTOR SHALL USE 8 GA. TRACING WIRE LAID DIRECTLY UNDER ALL PIPE AND FITTINGS. TRACING WIRE SHALL BE CONNECT TO ALL VALVES AND HYDRANTS.
8. IF DEWATERING IS REQUIRED DURING CONSTRUCTION CONTRACTOR SHOULD CONSULT WITH EROSION CONTROL INSPECTOR AND ENGINEER TO DETERMINE APPROPRIATE METHOD.
9. ALL UTILITY INSTALLATIONS SHALL COMPLY WITH THE CITY OF WAYZATA STANDARD DETAILS AND ENGINEERING GUIDELINES.
10. ALL UTILITY INSTALLATION BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SOIL TESTING AGENCY REQUIREMENTS AND/OR SPECIFICATIONS. SOILS REPORT RECOMMENDATIONS INCLUDE PLACING BACKFILL AND FILL IN LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS. THE COMPACTED DENSITY OF THE FILL SHALL BE THE FOLLOWING PERCANTAGES OF STANDARD PROCTOR:
   - BELOW FOUNDATIONS = 100%
   - BELOW FLOOR SLABS = 98%
   - WITHIN 3 FEET OF PAVEMENT = 100%
   - BELOW 3 FEET OF PAVEMENT = 98%
   - BELOW LANDSCAPE SURFACES = 95%

   FILL SHOULD BE WITHIN 2 PERCENTAGE POINTS OF ITS OPTIMUM MOISTURE CONTENT, HOWEVER, CLAYEY FILL SHOULD BE PLACED WITHIN 3 PERCENTAGE POINTS ABOVE AND 1 PERCENT BELOW ITS OPTIMUM MOISTURE CONTENT.
11. CONTRACTOR TO INSTALL SAFL BAFFLE ON CBMH #4.



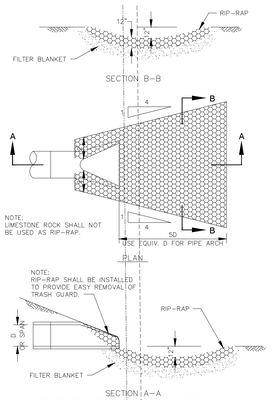
36" DEEP PERFORATED SUMP MH 2
(NOT TO SCALE)



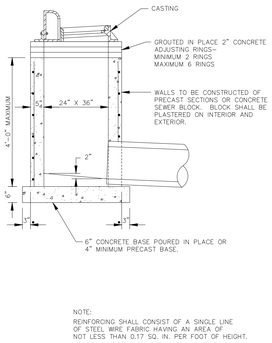
OCS/CBMH 5 DETAIL
(NOT TO SCALE)

DESIGN STORM FREQUENCY = 10 YEARS

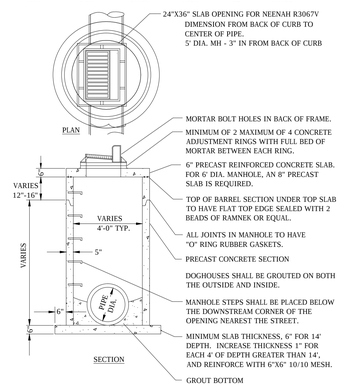
MH/CB FROM	MH/CB TO	AREA [SF] TOTAL	AREA [SF] IMPERVIOUS	AREA [AC] INCR.	AREA [AC] CUM.	IMP %	RUNOFF C	A*C INCR.	A*C CUM.	TIME OF CONC. [MIN] PIPE	TIME OF CONC. [MIN] CUM.	INTENSITY i	Q [CFS] INCR.	Q [CFS] CUM.	P. DIA. D [IN]	P. SLOPE S [FT./FT]	P. Mat	MANNING'S n	P. CAP. Q [CFS]	P. VELOCITY MAX [FT./S]	PIPE LENGTH [FT]	CAP. OVER Q [CFS]	FROM INVERT	TO INVERT	RIM ELEV	Cover [FT]	STR. TYPE	CAST TYPE	Sump Depth [FT]	BUILD [FT]	Pipe Type
RD 1	MH 3	8517	8517	0.196	0.196	100%	0.90	0.176	0.176	8.00	8.00	6.11	1.075	1.075	8	0.0500	PVC	0.010	3.51	20.00	35.1	2.4378	963.00	961.24	970.20	7.20			0.00	7.20	SDR-35
CB 1	MH 3	2031	1543	0.047	0.047	76%	0.73	0.034	0.034	8.00	8.00	6.11	0.208	0.208	12	0.0200	HDPE	0.011	5.95	7.58	60.6	5.7462	965.40	964.19	969.10	3.70	24x36	R-3067-V	3.00	6.70	N-12
CB 2	MH 3	7985	7173	0.183	0.379	90%	0.83	0.152	0.328	8.00	8.00	6.11	0.928	2.003	12	0.0200	HDPE	0.011	5.95	7.58	18.5	3.9517	964.50	964.13	968.20	3.70	24x36	R-3067-V	3.00	6.70	N-12
MH 3	CBMH 5	0	0	0.000	0.196	0%	0.20	0.000	0.176	0.13	8.13	6.07	0.000	1.069	24	0.0013	HDPE	0.011	9.64	3.07	156.2	8.5709	950.20	950.00	968.20	18.00	48	R-2501	3.00	21.00	N-12
CB 4	CBMH 5	16041	15406	0.368	0.368	96%	0.87	0.321	0.321	8.00	8.00	6.11	1.962	1.962	12	0.0200	HDPE	0.011	5.95	7.58	53.6	3.9925	958.30	957.23	962.00	3.70	24x36	R-3067-V	3.00	6.70	N-12
CBMH 5	FES 6	25961	25156	0.596	0.964	97%	0.88	0.523	0.845	0.85	8.98	5.86	3.068	4.951	12	0.0035	RCP	0.012	2.28	2.91	36.8	-2.6679	946.00	945.87	963.30	17.30	60	R-3067-V	0.00	17.30	CL-5



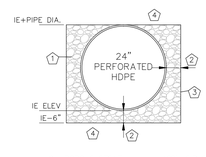
RIP-RAP INSTALLATION
(NOT TO SCALE)



SHALLOW CATCH BASIN
(NOT TO SCALE)

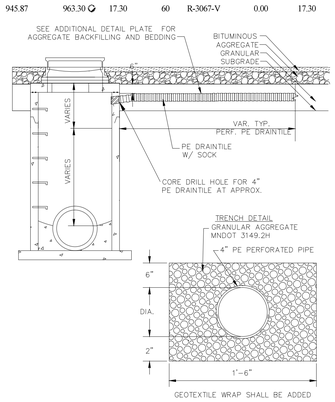


CATCH BASIN / MANHOLE
(NOT TO SCALE)

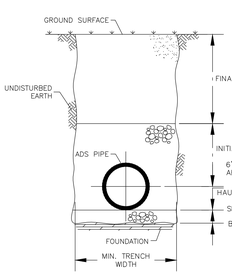


1. POROUS STONE MINIMUM 40% VOID SPACE. (1"-2" WASHED, CLEAN AGGREGATE. EXTEND POROUS STONE A MIN. OF 12" BELOW AND TO THE SIDES OF RC SUMP SECTION)
2. EXTEND POROUS STONE 6" BELOW AND TO THE SIDES OF HDPE
3. LINE POROUS STONE MEDIUM WITH NON-WOVEN GEOTEXTILE FABRIC
4. STRUCTURAL FILL

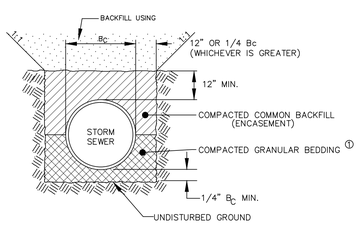
24" PERFORATED HDPE ROCK BEDDING DETAIL
(NOT TO SCALE)



4" PERF. DRAINTILE INSTALLATION
(NOT TO SCALE)



HDPE TRENCH INSTALLATION DETAIL
(NOT TO SCALE)



① GRANULAR BEDDING AND BACKFILL MATERIALS SHALL BE APPROVED BY THEN ENGINEER PRIOR TO PLACEMENT. ALL BEDDING AND BACKFILL SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE.

CONCRETE PIPE BEDDING
(NOT TO SCALE)

FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION

THE DAVIS GROUP
Corporate Real Estate Services

ALLIANT ENGINEERING
233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

WAYZATA SPECIALITY CENTER
1120 EAST WAYZATA BLVD.
WAYZATA, MN 55391

SITE PLAN REVIEW

UTILITY PLAN

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

MARK RAUSCH, PE

Date License No.

QUALITY ASSURANCE/CONTROL

BY	DATE

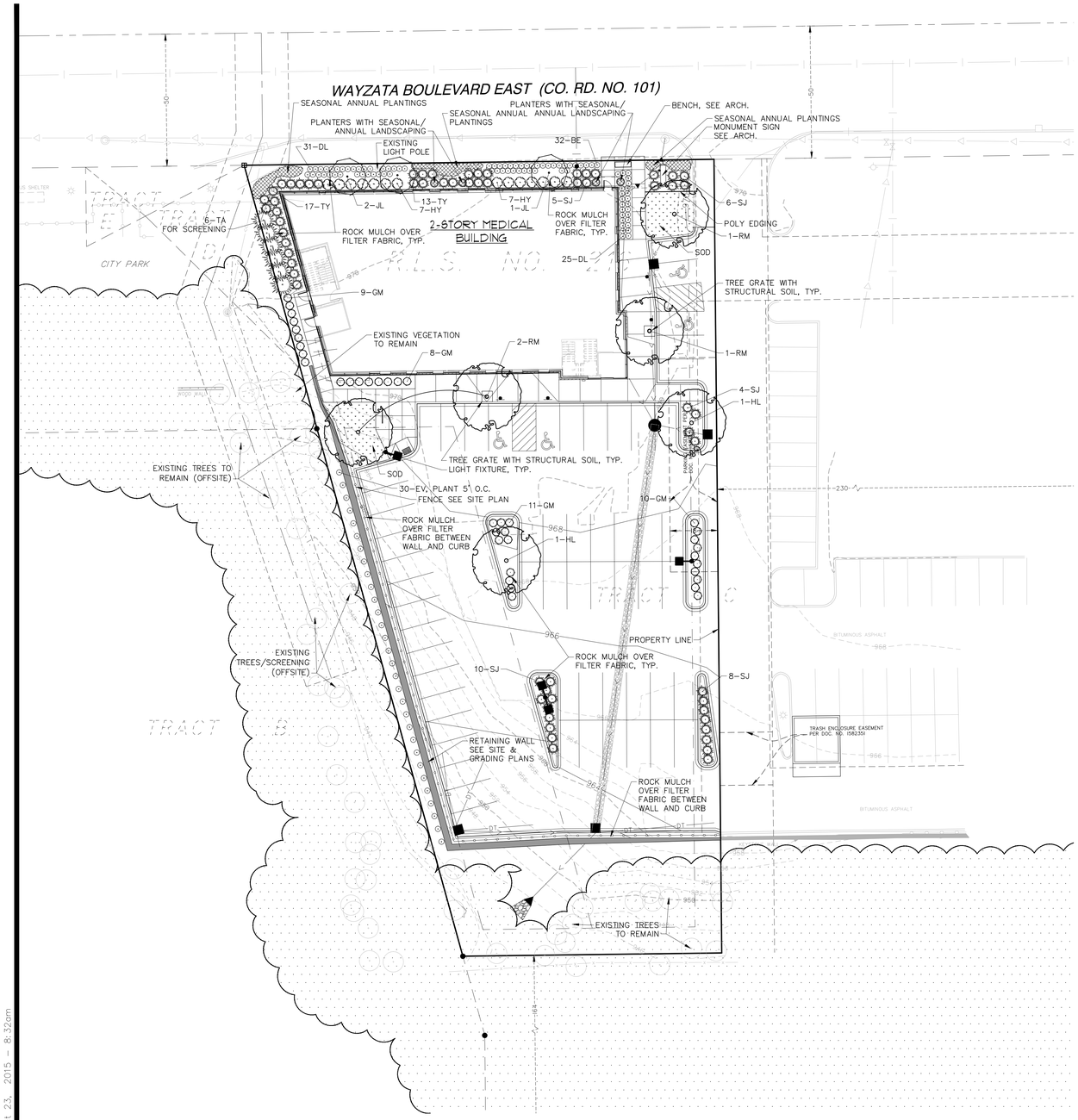
DATE	ISSUE
7-31-15	SITE PLAN REVIEW
9-15-15	SITE PLAN REVIEW
10-22-15	SITE PLAN REVIEW

PROJECT TEAM DATA
DESIGNED: MPR
DRAWN: ELL
PROJECT NO: 215-0035

C3.0

SHEET 6 of 8

Drawing name: X:\2015\150035\plan sheets\site plan review\150035util.dwg Oct 23, 2015 - 8:32am



LANDSCAPE SCHEDULE

QTY.	KEY	COMMON NAME/ BOTANICAL NAME	SIZE	REMARKS
		OVERSTORY TREES		
2	HL	SKYLINE HONEYLOCUST Gleditisia triacanthos var. inermis 'Skyline'	2" CAL. B&B	STRAIGHT TRUNK NO V-CROTCH
4	RM	RED MAPLE Acer x freemanii 'Bailston'	2" CAL. B&B	STRAIGHT TRUNK NO V-CROTCH
		ORNAMENTAL TREES		
3	JL	JAPANESE TREE LILAC Syringa reticulata 'Ivory Silk'	1.5" CAL. B&B	STRAIGHT TRUNK NO V-CROTCH
		SHRUBS		
38	GM	GOLDMOUND SPIREA Spirea x 'Goldmound'	24" HT. CONT.	MIN. 5 CANES AT HT. SPEC.
14	HY	LITTLE LIME HYDRANGEA Hydrangea paniculata 'Limelight'	24" HT. CONT.	MIN. 5 CANES AT HT. SPEC.
30	SJ	SCANDIA JUNIPER Juniperus sabina 'Scandia'	18" DIA. CONT.	MIN. 5 CANES AT DIA. SPEC.
6	TA	TECHNY ARBORVITAE Thuja occidentalis 'Techny'	4' HT. B&B	MIN. 5 CANES AT HT. SPEC.
30	TY	TAUNTON YEW Taxus x media 'Taunton'	24" DIA. CONT.	MIN. 5 CANES AT DIA. SPEC.
		PERENNIALS		
32	BE	BLACK EYED SUSAN Rudbeckia 'Little Gold Star'	1 GAL. CONT.	
56	DL	PARDON ME DAYLILY Hemerocallis 'Pardon Me'	1 GAL. CONT.	
30	EV	ENGLEMANN IVY Parthenocissus quinquefolia 'Engelmanni'	1 GAL. CONT.	

NOTES: QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN EVENT OF DISCREPANCY.

PLANTING NOTES:

1. INSTALL 4" MIN. TOP SOIL TO ALL SOD AND SHRUB AREAS. FINE GRADE ALL SOD AREAS. INSTALL 12" TOP SOIL TO ALL PERENNIAL AND ANNUAL AREAS.
2. STAKE OR MARK ALL PLANT MATERIAL LOCATIONS PRIOR TO INSTALLATION. HAVE OWNERS REPRESENTATIVE APPROVE ALL STAKING PRIOR TO INSTALLATION.
3. ALL SHRUB AREAS UNLESS SPECIFIED AS OTHER, TO BE BED MULCHED WITH 4" DEPTH OF LANDSCAPE ROCK OVER FILTER FABRIC. POLY-EDGER TO BE VALLEY VIEW BLACK DIAMOND OR APPROVED EQUAL.
4. INSTALL 4-6" DEPTH SHREDDED HARDWOOD MULCH AROUND ROOT SAUCER OF ALL TREES ISOLATED FROM PLANT BEDS.
5. PLANT SOIL SHALL BE 1:1:1 CONSISTING OF 33% SELECT LOAMY TOPSOIL, 33% PEAT MOSS, 33% PIT RUN SAND.
6. COMPLETELY GUARANTEE ALL WORK FOR A PERIOD OF TWO YEARS BEGINNING AT THE DATE OF ACCEPTANCE. MAKE ALL REPLACEMENTS PROMPTLY (AS PER DIRECTION OF OWNER).
7. ALL MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMEN.
8. ALL TREE TRUNKS SHALL BE WRAPPED WITH BROWN CREPE TREE WRAP. APPLY WRAP IN NOVEMBER AND REMOVE IN APRIL.
9. CALL GOPHER STATE ONE CALL AT 651-454-0002 FOR LOCATING ALL UNDERGROUND UTILITIES AND TO AVOID DAMAGE TO UTILITIES DURING THE COURSE OF THE WORK.
10. MAINTAIN ALL PLANT MATERIALS, INCLUDING WATERING, UNTIL THE TIME OF ACCEPTANCE.
11. COORDINATE LANDSCAPE INSTALLATION WITH GENERAL CONTRACTOR.
12. STAKING AND GUYING OF TREES OPTIONAL: MAINTAIN PLUMBNESS OF TREES FOR DURATION OF WARRANTY PERIOD.
13. SWEEP AND WASH ALL PAVED SURFACES AND REMOVE ALL DEBRIS RESULTING FROM LANDSCAPE OPERATIONS DAILY.
14. SUPPLY DESIGN AND INSTALLATION FOR NEW IRRIGATION SYSTEM WITH COVERAGE OF SOD AND PLANTING AREAS. USE RAINBIRD OR APPROVED EQUAL. COORDINATE INSTALLATION WITH G.C. SOD AND SHRUB AREAS TO BE ON SEPARATE ZONES. PROVIDE RAIN SENSOR. COORDINATE PROTECTION OF EXISTING IRRIGATION SYSTEM ON ADJACENT PROPERTY TO THE NORTHWEST.
15. PROTECT EXISTING TREES TO REMAIN DURING CONSTRUCTION, SEE TREE PRESERVATION PLAN.

LANDSCAPE REQUIREMENTS

REQUIRED: 20% OF TOTAL LOT SHALL BE LANDSCAPED AND MAINTAINED.
.2*41,425 SF = 8,285 SF REQUIRED

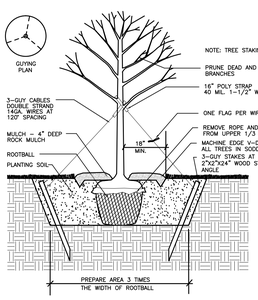
PROVIDED: 9,361 SF PROVIDED LANDSCAPE AREA

LEGEND

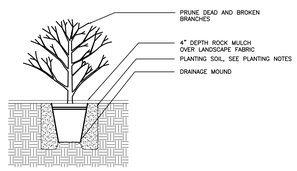
- DECIDUOUS OVERSTORY TREES
- ORNAMENTAL TREES
- FLOWERING & EVERGREEN SHRUBS
- PERENNIALS
- SEASONAL ANNUAL PLANTINGS
- SOD
- POLY EDGING
- FENCE SEE SITE PLAN
- EXISTING TREES TO REMAIN PROTECT DURING CONSTRUCTION

N

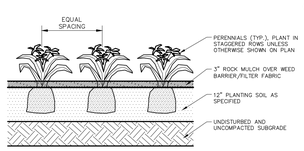
0 10 20 40
SCALE IN FEET



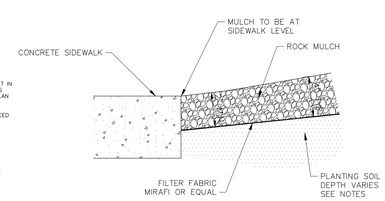
1 **TREE PLANTING DETAIL**
NOT TO SCALE



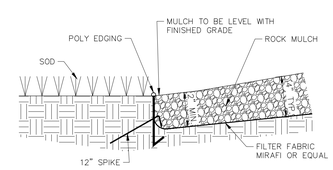
2 **SHRUB PLANTING DETAIL**
NOT TO SCALE



3 **PERENNIAL PLANTING DETAIL**
NOT TO SCALE



4 **ROCK MULCH AT SIDEWALK DETAIL**
NOT TO SCALE



5 **ROCK MULCH AT SOD DETAIL**
NOT TO SCALE

FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION

THE DAVIS GROUP
Corporate Real Estate Services

ALLIANT ENGINEERING
233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

WAYZATA SPECIALITY CENTER
1120 EAST WAYZATA BLVD.
WAYZATA, MN 55391

SITE PLAN REVIEW

LANDSCAPE PLAN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed LANDSCAPE ARCHITECT under the laws of the State of MINNESOTA

MARK KRONBECK, PLA, ASLA

Date License No.

QUALITY ASSURANCE/CONTROL

BY	DATE

DATE	ISSUE
7-31-15	SITE PLAN REVIEW
9-15-15	SITE PLAN REVIEW
10-22-15	SITE PLAN REVIEW

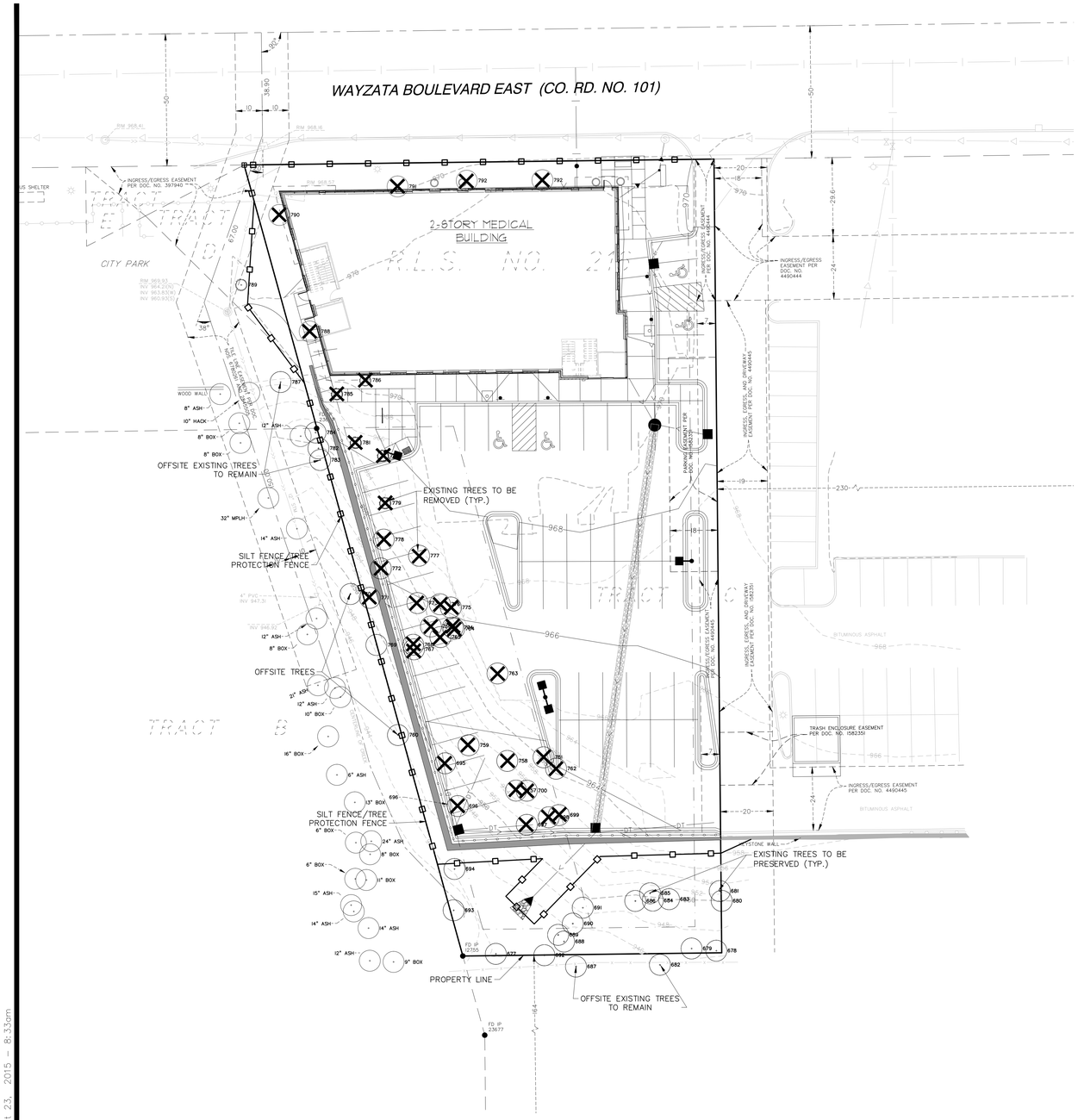
PROJECT TEAM DATA

DESIGNED:	MK
DRAWN:	EMK
PROJECT NO:	215-0035

L1.0

SHEET 7 of 8

Drawing name: X:\2015\150035\plan sheets\site plan review\150035land.dwg Oct 23, 2015 - 8:32am



ONSITE TREE INVENTORY

TAG ID	DIAMETER INCHES	TOTAL DIAMETER INCHES	TREE SPECIES	NOTES	REMOVE	REMOVE INCHES
677	7	7	ELM			
678	26	26	COTTON WOOD			
679	20	20	COTTON WOOD			
680	7	7	BOXELDER			
681	7	7	BOXELDER			
683	8	8	BOXELDER			
684	7	7	BOXELDER			
685	11	11	BOXELDER			
686	14	14	BOXELDER			
688	21	21	COTTON WOOD			
689	13	13	COTTON WOOD			
690	10	10	ELM			
691	30	30	COTTON WOOD			
692	12	12	ELM			
693	14	14	ELM			
694	16	16	ELM			
695	30	30	COTTON WOOD		X	30
696	8	8	ELM		X	8
697	28	28	COTTON WOOD		X	28
698	10	10	BOXELDER		X	10
699	20	20	BOXELDER		X	20
700	8–6	14	BOXELDER		X	14
757	108	108	BOXELDER		X	108
758	8	8	BOXELDER		X	8
759	24-26	50	COTTON WOOD		X	50
761	14	14	BOXELDER		X	14
762	11	11	BOXELDER		X	11
763	12	12	MAPLE		X	12
764	7	7	BOXELDER		X	7
765	14	14	COTTON WOOD		X	14
766	21-19	40	COTTON WOOD		X	40
767	16	16	COTTON WOOD		X	16
768	10	10	ELM		X	10
769	8	8	BOXELDER			
771	16	16	ELM		X	16
772	19	19	ELM		X	19
773	14	14	COTTON WOOD		X	14
774	7	7	BOXELDER		X	7
775	18	18	COTTON WOOD		X	18
776	7	7	COTTON WOOD		X	7
777	14	14	ELM		X	14
778	6	6	BOXELDER		X	6
779	7	7	PINE		X	7
780	6	6	PINE		X	6
781	7	7	PINE		X	7
785	11	11	SPRUCE		X	11
786	10	10	CHERRY		X	10
788	16	9	ASH		X	9
790	15	15	ASH		X	15
791	11	11	ASH		X	11
792	8	8	ASH		X	8

Total Significant Trees (onsite)= 51
Total Diameter Inches (onsite) = 816
Total Diameter Inches to be Removed = 585
Percentage of Total Diameter Inches to be Removed= 72%
Total Significant Trees to be Removed= 34
Percentage of Significant Trees to be Removed= 67%

No offsite trees will be removed

OFFSITE TREE INVENTORY

TAG ID	DIAMETER INCHES	TOTAL DIAMETER INCHES	TREE SPECIES	NOTES	REMOVE	REMOVE INCHES
682	19	19	COTTON WOOD	OFFSITE		
687	11	11	BOXELDER	OFFSITE		
760	19	19	BOXELDER	OFFSITE		
770	14	14	ELM	OFFSITE		
782	19	19	ELM	OFFSITE		
783	13	13	ELM	OFFSITE		
784	7	7	BOXELDER	OFFSITE		
787	15-16	31	BOXELDER	OFFSITE		
789	7	7	PINE	OFFSITE		
	8	8	ASH	OFFSITE		
	10	10	HACKBERRY	OFFSITE		
	8	8	BOXELDER	OFFSITE		
	8	8	BOXELDER	OFFSITE		
	32	32	MAPLE	OFFSITE		
	14	14	ASH	OFFSITE		
	12	12	ASH	OFFSITE		
	8	8	BOXELDER	OFFSITE		
	21	21	ASH	OFFSITE		
	12	12	ASH	OFFSITE		
	10	10	BOXELDER	OFFSITE		
	16	16	BOXELDER	OFFSITE		
	6	6	ASH	OFFSITE		
	13	13	BOXELDER	OFFSITE		
	6	6	BOXELDER	OFFSITE		
	24	24	ASH	OFFSITE		
	8	8	BOXELDER	OFFSITE		
	6	6	BOXELDER	OFFSITE		
	11	11	BOXELDER	OFFSITE		
	15	15	ASH	OFFSITE		
	14	14	ASH	OFFSITE		
	14	14	ASH	OFFSITE		
	12	12	ASH	OFFSITE		
	9	9	BOXELDER	OFFSITE		

Total Significant Trees (offsite)= 33
Total Diameter Inches (offsite) = 437
Total Diameter Inches to be Removed = 0
Percentage of Total Diameter Inches to be Removed= 0%
Total Significant Trees to be Removed= 0
Percentage of Significant Trees to be Removed= 0%

DENOTES TREES TO BE REMOVED

TREE PRESERVATION NOTES:

1. BEFORE ANY CONSTRUCTION OR GRADING OF DEVELOPMENT PROJECT IS TO OCCUR, A TREE PROTECTION FENCE (AT LEAST 4 FEET IN HEIGHT AND STAKED WITH POSTS NO LESS THAN EVERY 5 FEET) SHALL BE INSTALLED AROUND THE DRIP LINE OF WOODED AREAS, THE DRIP LINES OF EXISTING TREES TO BE PRESERVED OR AT THE PERIMETER OF THE CRITICAL ROOT ZONE (WHICHEVER IS GREATER). SIGNS SHALL BE PLACED ALONG THIS FENCE LINE IDENTIFYING THE AREA AS A TREE PROTECTION AREA AND PROHIBITING GRADING BEYOND THE FENCE LINE. THIS FENCE MUST REMAIN IN PLACE UNTIL ALL GRADING AND CONSTRUCTION ACTIVITY IS TERMINATED.
2. NO EQUIPMENT, CONSTRUCTION MATERIALS OR SOIL MAY BE STORED WITHIN THE DRIP LINES OF ANY SIGNIFICANT TREES TO BE PRESERVED.
3. NO ENCROACHMENT, LAND DISTURBANCE, GRADE CHANGE, TRENCHING, FILLING, COMPACTION OF CHANGE IN SOIL CHEMISTRY SHALL OCCUR WITHIN FENCED AREAS PROTECTING SIGNIFICANT TREES.
4. CONTRACTOR TO PREVENT THE CHANGE IN SOIL CHEMISTRY DUE TO CONCRETE WASHOUT AND LEAKAGE OR SPILLAGE OF TOXIC MATERIALS, SUCH AS FUELS OR PAINTS.
5. DRAINAGE PATTERNS ON THE SITE SHALL NOT CHANGE CONSIDERABLY CAUSING DRASTIC ENVIRONMENTAL CHANGES IN THE SOIL MOISTURE CONTENT WHERE TREES ARE INTENDED TO BE PRESERVED.
6. DEAD, DISEASED OR DYING SIGNIFICANT TREES WERE NOT INCLUDED AS PART OF THE EXISTING TREE INVENTORY.
7. NO SIGNIFICANT TREES SHALL BE REMOVED UNTIL THIS TREE PRESERVATION PLAN IS APPROVED BY THE CITY OF WAYZATA.
8. A SIGNIFICANT TREE, PER CITY CODE, IS A HEALTHY TREE WHICH IS 6 INCHES IN DIAMETER (DBH) FOR DECIDUOUS TREES OR GREATER THAN 8 FEET IN HEIGHT FOR CONIFEROUS TREES.
9. A CITY TREE REMOVAL PERMIT IS REQUIRED FOR ANY REMOVAL TOTALING OVER 32 INCHES IN DIAMETER.
10. SEE LANDSCAPE PLAN FOR LOCATION OF PROPOSED REPLACEMENT TREES.

LEGEND

694 EXISTING TREE TO BE PRESERVED

694 EXISTING TREE TO BE REMOVED

SILT FENCE/TREE PROTECTION LIMITS

N

0 10 20 40
SCALE IN FEET

FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION

THE DAVIS GROUP
Corporate Real Estate Services

ALLIANT ENGINEERING
233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

WAYZATA SPECIALITY CENTER
1120 EAST WAYZATA BLVD.
WAYZATA, MN 55391

SITE PLAN REVIEW

TREE INVENTORY, PRESERVATION & REMOVAL PLAN

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

MARK KRONBECK, PLA, ASLA

Date License No.

QUALITY ASSURANCE/CONTROL

BY DATE

DATE	ISSUE
8-24-15	CLIENT REVIEW
9-15-15	SITE PLAN REVIEW
10-22-15	CLIENT REVIEW

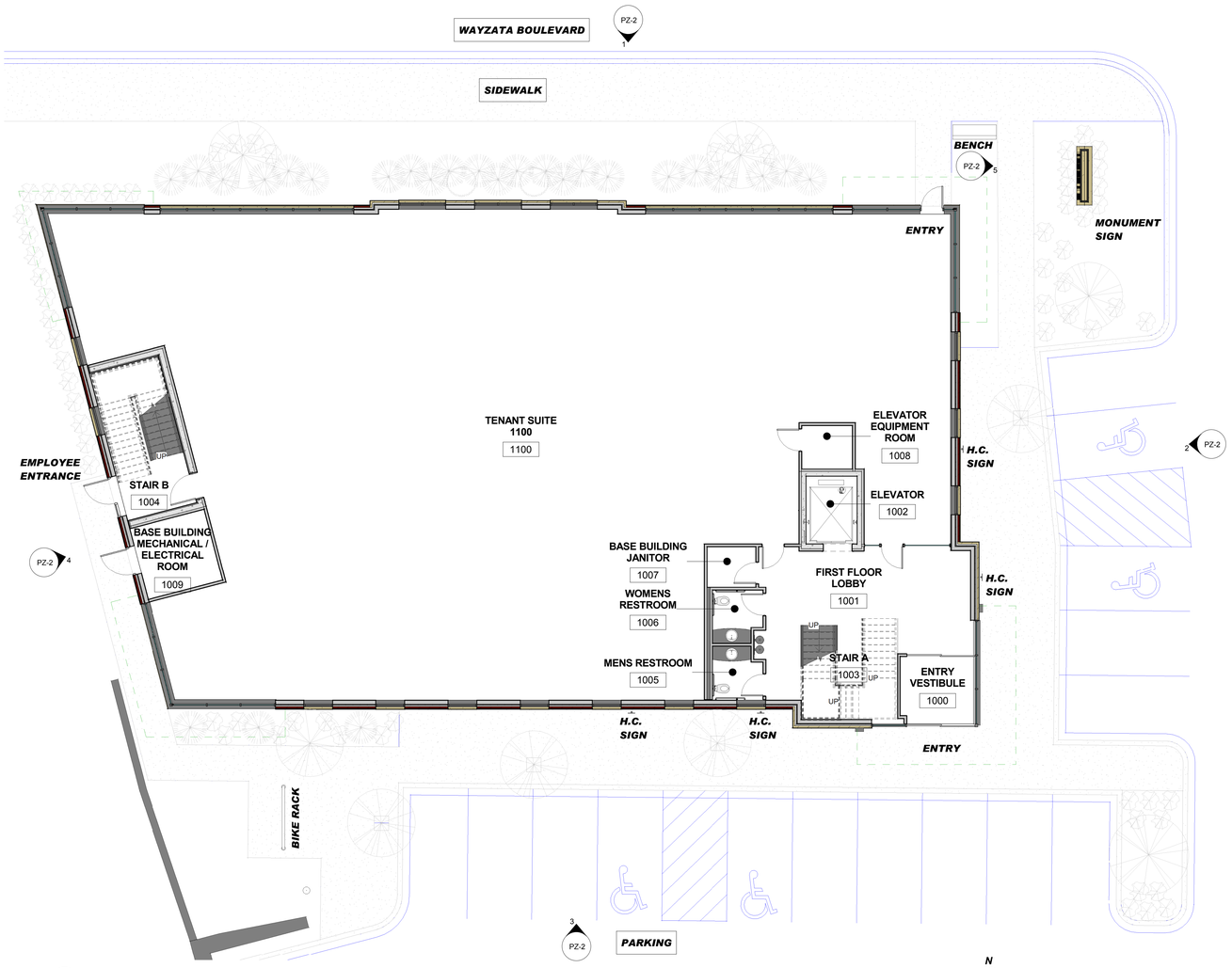
PROJECT TEAM DATA

DESIGNED: EMK
DRAWN: EMK
PROJECT NO: 215-0035

L-2.0

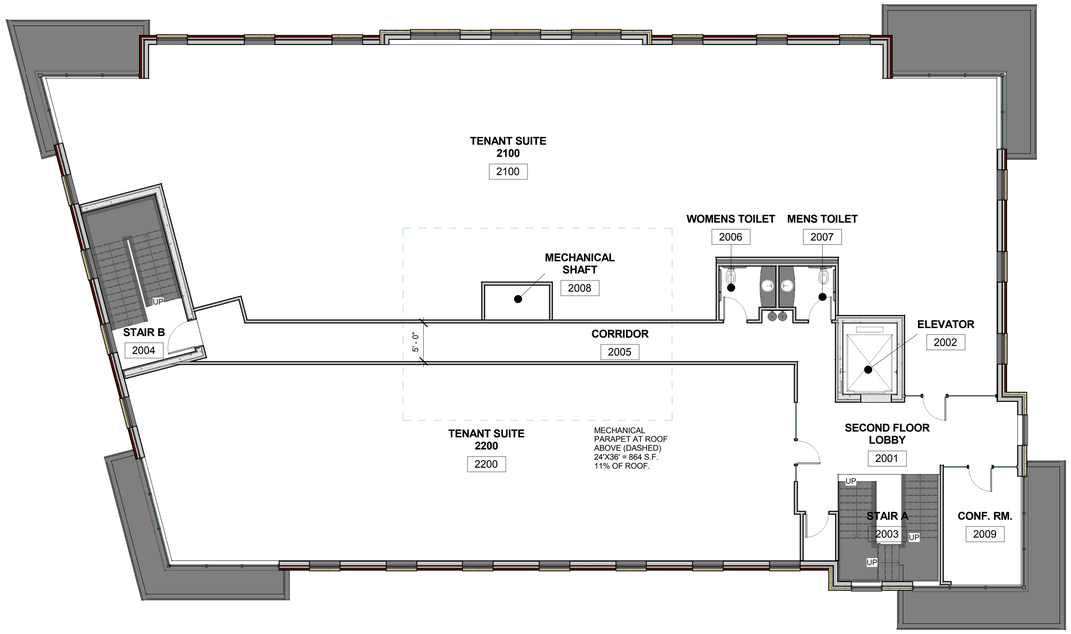
SHEET 8 of 8

Drawing name: X:\2015\150035\plan sheets\site plan review\150035tree.dwg Oct 23, 2015 - 8:33am



1 PZ-1 PRELIMINARY SPACE PLAN - FIRST FLOOR
1/8" = 1'-0"

N



2 PZ-1 PRELIMINARY SPACE PLAN - SECOND FLOOR
1/8" = 1'-0"

N

b d h+young
interiors | architecture
7001 France Avenue South, Suite 200, Edina, Minnesota 55435
952-893-9020 Fax 952-893-9299
www.bdhyoung.com

Project Information

WAYZATA SPECIALTY CENTER

1120 E. WAYZATA BLVD.

1120 EAST WAYZATA BLVD.
WAYZATA

.

THE DAVIS GROUP
Healthcare Real Estate Services

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A Y LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA

PATRICK J. GIORDANA
Printed Name

Signature

09.15.2015 — *Date*
21609 — *Lic #*

Issue Record

No.	Date	Description
	9.15.2015	PLANNING & ZONING

Sheet Title

PRELIMINARY FLOOR PLANS

Sheet Information

Job Code A-DAVISWAYZATAMB
Drawn By KF *Reviewed By* MWO

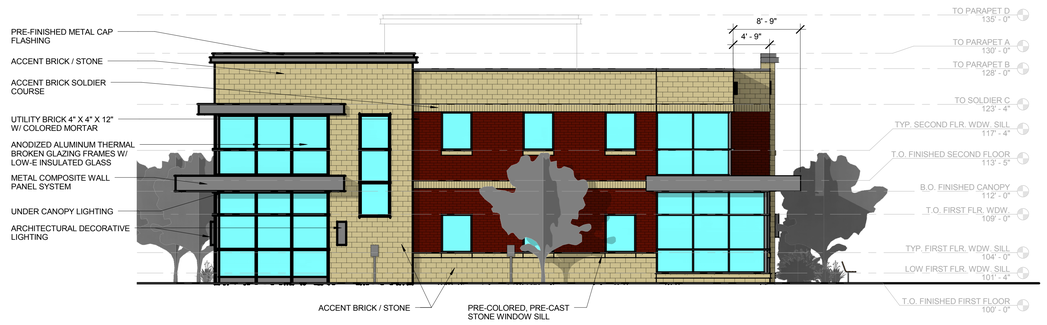
Date
09.16.2015

PZ-1

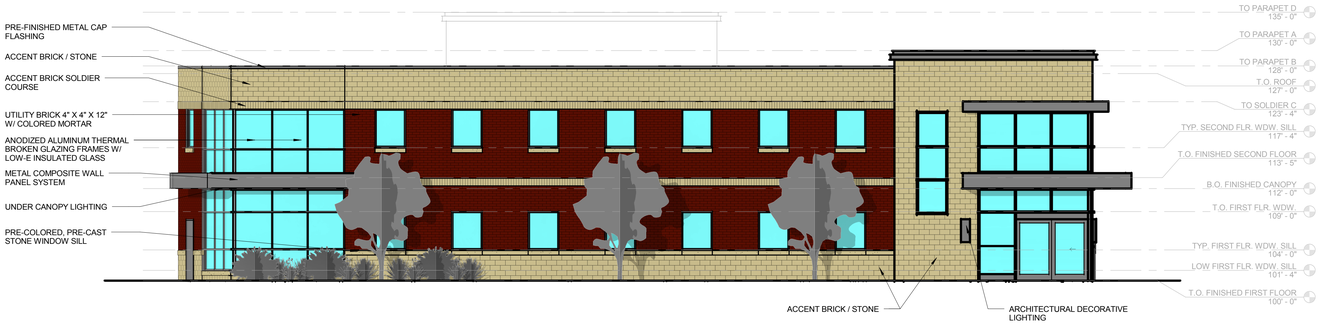
© 2009 BDH & YOUNG SPACE DESIGN

Drawing: Plot: © 2015 Time: 9:16:15 AM Plotted by: jon Plot Scale: 1:1 Drawing: J:\DAVISWAYZATAMB - DAVIS WAYZATA\Revit\Models\Davis Wayzata Core.rvt

1 PZ-2 EXTERIOR ELEVATION NORTH (WAYZATA BOULEVARD)
1/8" = 1'-0"



2 PZ-2 EXTERIOR ELEVATION EAST
1/8" = 1'-0"



3 PZ-2 EXTERIOR ELEVATION SOUTH
1/8" = 1'-0"

4 PZ-2 EXTERIOR ELEVATION WEST
1/8" = 1'-0"

NORTH FACADE FINISH MATERIALS:

TOTAL S.F. OF NORTH FACADE: 3,656 S.F.

CLASS-1 FINISHES:	S.F. OF FINISH	% OF FACADE
UTILITY BRICK (4"X4"X12"): (666 S.F. / 3,656 S.F.)	666 S.F.	18%
ACCENT BRICK / STONE (8"X4"X24") : (1,244 S.F. / 3,656 S.F.)	1,244 S.F.	34%
COMPOSITE METAL PANELS: (157 S.F. / 3,656 S.F.)	157 S.F.	5%
GLASS: (1,286 S.F. / 3,656 S.F.)	1,286 S.F.	35%
PRE-CAST CONCRETE SILLS/ SOLDIER COURSE: (303 S.F. / 3,656 S.F.)	303 S.F.	8%

EAST FACADE FINISH MATERIALS:

TOTAL S.F. OF EAST FACADE: 2,130 S.F.

CLASS-1 FINISHES:	S.F. OF FINISH	% OF FACADE
UTILITY BRICK (4"X4"X12"): (496 S.F. / 2,130 S.F.)	496 S.F.	23%
ACCENT BRICK / STONE (8"X4"X24") : (648 S.F. / 2,130 S.F.)	648 S.F.	31%
COMPOSITE METAL PANELS: (173 S.F. / 2,130 S.F.)	173 S.F.	8%
GLASS: (712 S.F. / 2,130 S.F.)	712 S.F.	33%
PRE-CAST CONCRETE SILLS/ SOLDIER COURSE: (101 S.F. / 2,130 S.F.)	101 S.F.	5%

SOUTH FACADE FINISH MATERIALS:

TOTAL S.F. OF SOUTH FACADE: 3,252 S.F.

CLASS-1 FINISHES:	S.F. OF FINISH	% OF FACADE
UTILITY BRICK (4" x 4" x 12"): (1,030 S.F. / 3,252 S.F.)	1,030 S.F.	32%
ACCENT BRICK / STONE (8"X4"X24") : (949 S.F. / 3,252 S.F.)	949 S.F.	29%
COMPOSITE METAL PANELS: (167 S.F. / 3,252 S.F.)	167 S.F.	5%
GLASS: (914 S.F. / 3,252 S.F.)	914 S.F.	28%
PRE-CAST CONCRETE SILLS/ SOLDIER COURSE: (192 S.F. / 3,252 S.F.)	192 S.F.	6%

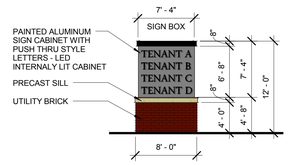
WEST FACADE FINISH MATERIALS:

TOTAL S.F. OF WEST FACADE: 2,011 S.F.

CLASS-1 FINISHES:	S.F. OF FINISH	% OF FACADE
UTILITY BRICK (4" x 4" x 12"): (589 S.F. / 2,011 S.F.)	589 S.F.	29%
ACCENT BRICK / STONE (8"X4"X24") : (428 S.F. / 2,011 S.F.)	428 S.F.	21%
COMPOSITE METAL PANELS: (115 S.F. / 2,011 S.F.)	115 S.F.	6%
GLASS: (681 S.F. / 2,011 S.F.)	681 S.F.	34%
PRE-CAST CONCRETE SILLS/ SOLDIER COURSE: (198 S.F. / 2,011 S.F.)	198 S.F.	10%

WAYZATA BOULEVARD:

- (801.09.4.1) BUILDING WIDTH DESIGN STRATEGIES
  1. SPECIAL TREATMANT AT ENTRANCE
  2. VARIATIONS IN ROOF LINES AND PARAPET DETAILING
  3. BUILDING SETBACKS AND ARTICULATION OF THE FACADE
  4. RHYTHM OF ELEMENTS (SYMMETRY)
- (801.09.5.1) UPPER STORY SETBACKS
  1. 15' CORNER ELEMENTS RECESSED 4'-9" PLUS 4' ROOF OVERHANG = 8'-9".
  2. 30'/120' = 25% OF FACADE LENGTH
- (801.09.6.2) ROOF MATERIALS
  1. FLAT ROOF: ROOFING TO BE BALLASTED RUBBER MEMBRANE ROOF.
- (801.09.7) SCREENING OF ROOFTOP EQUIPMENT
- (801.09.7.2)
  1. MECHANICAL EQUIPMENT PARAPET IS 24'X36' = 864 S.F. = 11.5% OF ROOF AREA. (SEE ROOF PLAN) HEIGHT IS 35' (MAX. HEIGHT OF 30'+5' PARAPET ALLOWANCE).
- (801.09.8.4) FACADE TRANCPARENCY
  FACADE TRANSPARENCY (GROUND LEVEL) (786 S.F. GLASS / 1,530 S.F. TOTAL SURFACE) 51%
- (801.09.9.1) GROUND LEVEL EXPRESSION
  THE GROUND LEVEL IS DISTINGUISHED FROM SECOND LEVEL.
  1. SOLDIER COURSE ACCENT BRICK CORNICE LINE @ 12'-0" A.F.F.
  2. DIFFERENCE IN BUILDING MATERIALS
  3. OFFSET IN FACADE AT STEP BACK CORNERS
  4. BRICK CORBELS / SOLDIER COURSES
- (801.09.10.1) ENTRIES
  PRIMARY ENTRANCE ALONG WAYZATA BLVD. WITH LANDSCAPING (SEE LANDSCAPE PLAN)
- (801.09.11) BUILDING MATERIALS AND QUALITY
  - PRIMARY OPAQUE SURFACES
  1. GLASS
  2. BRICK - MODULAR
  3. STONE
  4. CAST STONE
- SIGNS
  1. WALL SIGNS
     NORTH ELEVATION: 100 S.F.
  2. MONUMENT SIGN - 50 S.F.

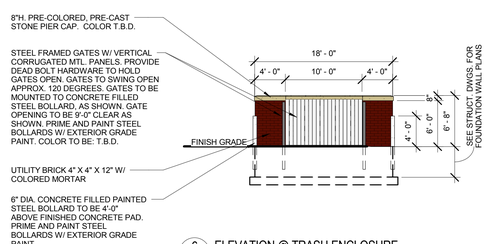


5 PZ-2 ELEVATION @ MONUMENT SIGN
1/8" = 1'-0"

TOTAL SIGNAGE:

MONUMENT SIGNAGE ALLOWED PER CITY OF WAYZATAWALL SIGNS W/ MAX. 60 S.F.

NORTH FACADE:	
TENANT #1:	50 S.F.
TENANT #2:	50 S.F.
MONUMENT SIGN:	50 S.F.
TOTAL:	150 S.F.



6 PZ-2 ELEVATION @ TRASH ENCLOSURE
1/8" = 1'-0"

b d h+young
interiors | architecture
7001 France Avenue South, Suite 200, Edina, Minnesota 55435
952-893-9020 Fax 952-893-9299
www.bdhyoung.com

Project Information

WAYZATA SPECIALTY CENTER

1120 E. WAYZATA BLVD.

1120 EAST WAYZATA BLVD.
WAYZATA

THE DAVIS GROUP
Healthcare Real Estate Services

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A Y LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA

PATRICK J. GIORDANA
Printed Name

Signature

09.15.2015 — *Date*
21609 — *Lic #*

Issue Record

No.	Date	Description
	9.15.2015	PLANNING & ZONING

Sheet Title

PRELIMINARY EXTERIOR ELEVATIONS

Sheet Information

Job Code A-DAVISWAYZATAMB
Drawn By KF *Reviewed By* MWO

Date
09.16.2015

PZ-2

© 2009 BOSH & YOUNG ARCH DESIGN

Drawing File: G:\2015 Proof Loop\AA\SWAYZATA\B5 - Central_Mid\WesO.rvt

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	Lum. Watts
	2	AA	SINGLE	N.A.	0.900	MCGRAW GLEON-AE-03-LED-E1-5WQ MOUNT AT 22FT	157
	1	BB	SINGLE	N.A.	0.900	MCGRAW GLEON-AE-02-LED-E1-SL4 MOUNT AT 22FT	107
	2	XX2	BACK-BACK	20500	0.720	EXIST TWIN 250W MH MOUNTED ON 24FT POLE WITH 30IN BASE	250
	1	XX1	SINGLE	20500	0.720	EXIST SINGLE 250W MH MOUNTED ON 24FT POLE WITH 30IN BASE	250

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
SITE GROUND	Illuminance	Fc	0.79	5.7	0.0	N.A.	N.A.
WEST PROPERTY LINE	Illuminance	Fc	0.20	0.5	0.0	N.A.	N.A.
PAARKING LOT	Illuminance	Fc	1.44	2.7	0.3	4.80	9.00

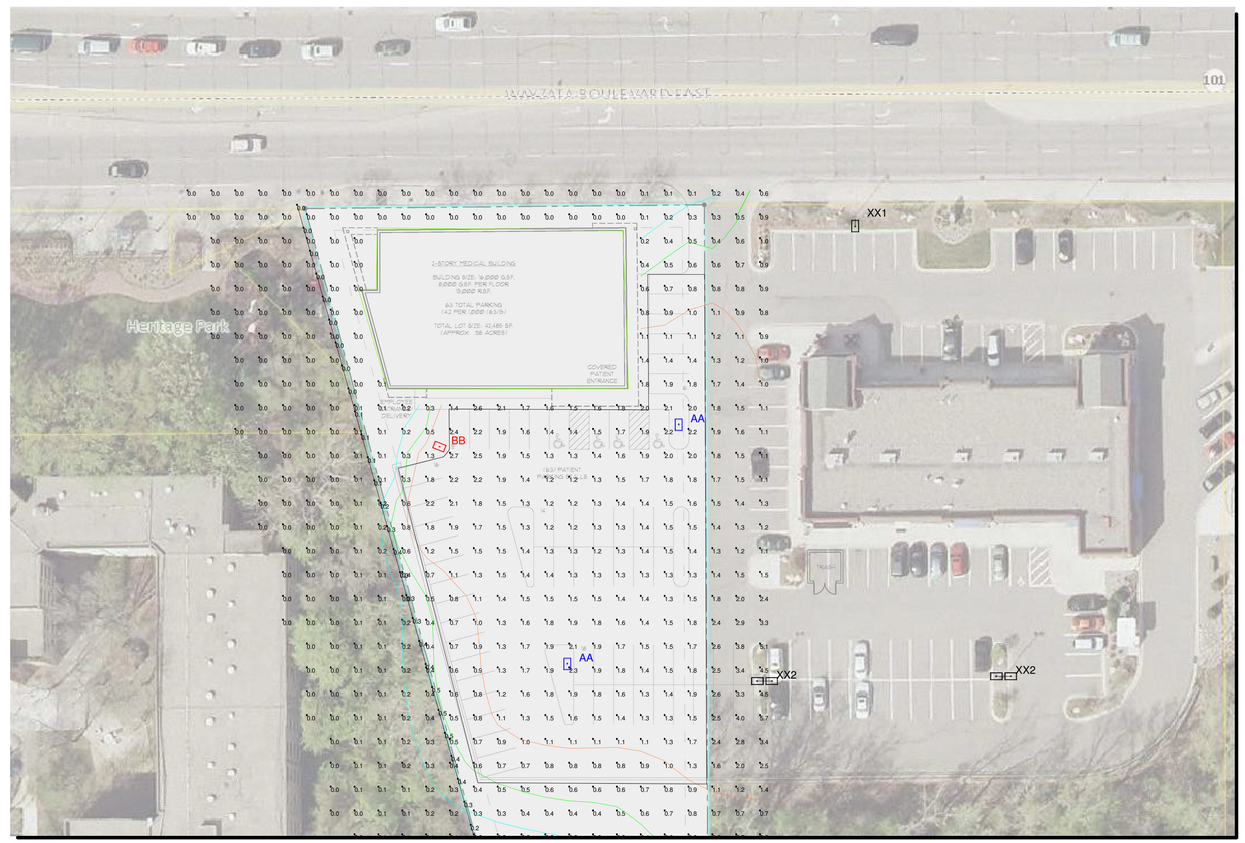
Luminaire Location Summary						
LumNo	Label	X	Y	Z	Orient	Tilt
24	AA	345.4	174	22	90	0
25	BB	291.8	265.1	22	338.356	0
27	XX2	428.1	166.8	26.5	0	0
28	XX2	528.3	168.8	26.5	0	0
29	XX1	466.1	360.6	26.5	270	0
30	AA	392.1	274.3	22	90	0

GENERAL NOTES:

A. PULSE PRODUCTS DOES NOT ASSUME RESPONSIBILITY FOR THE INTERPRETATION OF THIS CALCULATION OR COMPLAINCE TO THE LOCAL, STATE, OR FEDERAL LIGHTNG CODES OR ORDINANCES.

B. LIGHTING LAYOUT IS NOT INTENDED FOR CONSTRUCTION DOCUMENTS BUT ONLY TO ILLUSTRATE THE PERFORMANCE OF THE PRODUCT.

C. ALL READINGS/CALCULATIONS SHOWN ARE SHOWN ON OBJECTS/SURFACES.



Plan View
Scale: 1 inch= 30 Ft.

PULSE never ordinary

#	Date	Comments

Revisions

Drawn By: SANDY
Checked By: TRENT
Date:10/8/2015

Scale: AS NOTED

WAYZATA MEDICAL

1120 Wayzata Blvd E. – David Group Medical Specialty Center
Design Critique (Revised Based on 10/23/2015 Submittals)
October 29, 2015

		Comments		Compliance
Building Recesses				
801.09.3.1.A – All Districts Building facades shall be articulated through the use of pilasters and/or recesses that create visible shadow lines and dimensions especially on the street level		The proposed buildings utilize recesses and changes in materials to break up the façade.		Yes
801.09.3.1.B Street level landscaped courtyards, outdoor seating areas and gathering areas shall be incorporated into building and site plan design.		The Project proposes landscaping around the exterior of the development and in driveway islands. In addition, the Project includes a bench along the sidewalk leading to the Wayzata Blvd entrance.		Yes
Building Width				
801.09.4.1 All Districts – New Buildings In order to reduce the scale of longer façades and to eliminate the long horizontal expressions of buildings, divisions or breaks in materials shall be included and at least three of the following design strategies shall be incorporated into the design: 1. Window bays 2. Special treatment at entrances 3. Variations in roof lines or parapet detailing 4. Awnings 5. Building setbacks or articulation of the facade 6. Rhythm of elements		The Project incorporates the following items: 1. Rhythm of elements. 2. Articulations of the façade, between stone and brick elements 3. Special treatment at the north entrances with the parapet element. The Project includes awnings, but the awnings do not comply with the materials allowed for awnings.		Evaluate

Upper Story Setbacks				
801.09.5.1.A – All Districts – New Buildings Building height shall conform to the height of the applicable zoning district. Where three (3) story buildings are permitted, the third (3rd) story must be recessed from all façades fronting public right of ways at least a distance equal to the vertical distance of the 3rd story height from the second (2nd) floor footprint, or an average of ten (10) feet across the facade, but no portion of the 3rd story structure shall be closer than six (6) feet to the 2nd story façade. The 3rd story façade shall be designed with railings, pillars, dimensional windows, building recesses or other similar design techniques to break up the 3rd story façade.		This section is not applicable as the David Group building is a two story structures.		Not Applicable.
801.09.5.1.B – All Districts – New Buildings The façades fronting public right-of-ways of every two and three story building, longer than sixty (60) feet, must have a recessed second story of approximately twenty-five percent (25%) of the façade's length, setting back a minimum of six (6) feet from the face of the first floor façade. The required third floor setback must follow the frontal plane of the second story setback.		The building has recesses for 25% which are 6 feet or greater in depth.		Yes
<u>801.09.5.1.C – All Districts – New Buildings</u> Wintertime sun orientation, solar access, and views of Lake Minnetonka are significant issues within the Design Districts. Building height should not negatively and significantly impact neighboring properties.		The building height of the building is 26 ft to the top of the flat roof and has a series of parapets that extend up to 35 feet in height. The proposed building would meet all setback requirements.		Yes

Roof Design				
<u>801.09.6.1 – All Districts</u> "Green" roofs, roof garden terraces, arbors and other similar structures are encouraged on roofs of building.		The project does not include a green roof structure.		Not Applicable.

<u>801.09.6.2.A – All Districts – Roof Materials</u> The roof material for all sloped roofs in all districts shall be slate, untreated copper, pre-finished metal, cedar shake or asphalt shingle in dark colors. <u>801.09.6.2.B – All Districts – Roof Materials</u> The roof material for all flat roofs in all districts shall be treated synthetic membrane or other similar material in dark colors.		The proposed roof material for the flat roof will be a ballasted rubber membrane material. The color of the roof is not provided.		Yes.

Screening of Rooftop Equipment				
<u>801.09.7.2 – Wayzata Blvd District</u> All mechanical equipment shall be completely screened behind a parapet wall, so as not to be visible from adjacent properties and pedestrian view vantage points from adjacent sidewalks. No enclosure shall be larger than 25% of the roof area. .		The mechanical equipment will be located on the roof deck and screened behind the parapet wall.		Yes.

		Comments		Compliance
Facade Transparency				
<u>801.09.8.4 – Wayzata Blvd District</u> No less than fifty percent (50%) of ground level façades for buildings containing commercial or office uses fronting Wayzata Blvd shall be transparent glass.		The building has windows occupying 50% of the Wayzata Blvd ground floor and 35% of the total Wayzata Blvd façade.		Yes
Ground Level Expression				
801.09.9.1 – All Districts				
In multi-story buildings, the ground floor shall be distinguished from the floors above by the use of at least three of the following elements: 1. An intermediate cornice line 2. A difference in building materials or detailing 3. An offset in the façade 4. An awning, trellis, or loggia 5. Arcade 6. Special window lintels 7. Brick/stone corbels		The Project includes the following items: 1. Intermediate cornice line. 2. A difference in building materials and detailing. 3. An offset in the façade.		Yes

Entries				
<u>801.09.10.1 – All Districts</u> The front facade of all buildings shall be landscaped with window boxes or planters with seasonally appropriate plantings. The main entries shall face the primary street at sidewalk grade.		The building will have a landscape islands at the front façade of the building. The landscape plan also includes planters with seasonal annual landscaping along Wayzata Boulevard.		Yes

<u>801.09.11.1.A – Primary Opaque Surfaces – All Districts</u> Other than the accent materials listed in 801.09.11.G, ninety percent (90%) of the non-glass surfaces of each elevation of the exterior building façade shall be composed of one or more of the following materials: 1. Brick 2. Stone 3. Cast stone 4. Factory finished and certified wood, including, but not limited to: a. Wood shingles (cedar shingles six (6) inch maximum exposure) b. Lap-siding (six (6) inch maximum width) 5. Stucco 6. Brick 7. Stone 8. Cast stone 9. Factory finished and certified wood, including, but not limited to: a. Wood shingles (cedar shingles six (6) inch maximum exposure) b. Lap-siding (six (6) inch maximum width) 10. Stucco		The building is primarily of brick, stone, metal, and glass with the following percentages: North Elevation: Glass: 35% Utility Brick: 34% Metal: 5% Accent Brick/Stone: 34% Cast Sills/Soldier Course: 8% East Elevation: Glass: 33% Utility Brick: 23% Metal: 8% Accent Brick/Stone: 31% Cast Sills/Soldier Course: 5% South Elevation: Glass: 28% Utility Brick: 32% Metal: 5% Accent Brick/Stone: 29% Cast Sills/Soldier Course: 6% West Elevation: Glass: 34% Utility Brick: 29% Metal: 6% Accent Brick/Stone: 21% Cast Sills/Soldier Course: 10%		Yes.
<u>801.09.11.1.B – Façade Coverage – All Districts</u> The primary opaque surface materials of all free standing buildings must be the same on all facades of the building.		Brick, stone, and metal are included on all four sides of medical building.		Yes

<u>801.09.11.1.C – Type of Brick – All Districts</u> On all facades of a free-standing building where brick is used, full course modular, Roman, Norman or other standard size brick must be used.		The brick will be full course brick of a standard size.		Yes.

<u>801.09.11.1.D – Façade Detail – All Districts</u> 1. Brick and/or stone façades shall be well detailed and dimensionally designed in order to avoid fractional cuts and odd pieces. All outside brick corners must be full bricks (custom if necessary), with no mitering, forming continuous vertical joints. 2. The narrow face of an exposed stone butt joint, at corners, must be a minimum dimension of two (2) inches. Mitered and quirked stone corners are also acceptable.		This is a condition of approval.		Yes.
<u>801.09.11.1.E – Brick Joints – All Districts</u> 1. The mortar for brick must be dark grey or in the color range of the brick. All joints must be concave or 'v' joint. No mortar may be used beyond the face of the brick. 2. All brick walls must be built to avoid efflorescence		This is a condition of approval.		Yes.
<u>801.09.11.1.F – Stone Joints – All Districts</u> Stone joints shall be no larger than one-fourth (1/4) inch.		This is a condition of approval.		Yes.

<u>801.09.11.1.G – Accent Materials – All Districts</u> Only the following materials may be used for lintels, sills, cornices, bases, and decorative accent trims, and must be no more than 10 percent (10%) of the non-glass surfaces of each elevation of the exterior building façade: 1. Stone 2. Cast stone 3. Copper (untreated) 4. Rock faced stone 5. Aluminum or painted steel structural shapes 6. Fiber cement board 7. Premium grade wood trim with mitered outside corners. Examples of premium grade wood are cedar, redwood, and fir. 8. EIFS		Metal is utilized for less than 10% of the façade on the building.		Yes.
<u>801.09.11.1.H - Parapets, Flashing, Coping – All Districts</u> 1. Only the following materials may be used for parapets, flashing and coping: a. copper (untreated) b. brick c. stone d. cast stone e. premium grade wood. *2.* Pre-finished, painted .032 aluminum may only be used as a standard parapet coping with a maximum exposed edge of five (5) inches.		This is a condition of approval.		Yes.

<u>801.09.11.1.I – Awnings – All Districts</u> 1. Only the following types of awnings may be used: a. Fabric awnings of a heavy canvas in dark solid colors or other colors that are approved as part of the design review process b. Highly detailed, ornate metal in dark colors c. Glass awnings 2. Backlit awnings are prohibited. 3. Awnings with text or graphic material may be permitted but require approval via the sign permit process of the Zoning Ordinance.		The awnings are metal composite wall panel, which is not an allowed material, but the applicant is not requesting the awnings to be counted as one of the three breaks required in 801.09.4.1.		Evaluate.
<u>801.09.11.1.J – Balconies – All Districts</u> Balconies shall be accessible and useable by persons. Fake or unusable balconies are prohibited. All balconies shall remain within the property line. Metal railings with members painted dark, or glass panels are permitted.		This section is not applicable, as there are no balconies proposed.		Not Applicable.
<u>801.09.11.1.K – Glass – All Districts</u> Glass shall not be mirrored, reflective or darkened. Slight green, bronze and grey tints are acceptable. Spandrel glass shall not be counted as transparent glass for the purposes of calculations under the transparency requirements of Section 801.09.8 of the Standards, but may be used for detailing purposes. Environmentally appropriate glass, such as Low-emissivity glass, shall be used in all projects		The glass shall meet the standards of the ordinance.		Yes.
<u>801.09.11.1.L – Doors – All Districts</u> Unless there are building security concerns, main entry doors shall be primarily glass. If, for security reasons, a main entry door is not possible or practical, a main entry door must be well detailed. Appropriately designed wood doors may be utilized for retail and office buildings.		The proposed entry doors will be glass.		Yes.

		Comments		Compliance
Franchise Architecture				
801.09.12.1				
A. Typical or standardized franchise architecture (including building design that is the trade dress of, or identified with a particular chain, franchise or business and is repetitive in nature) is prohibited. B. Large, bold or bright signage, trade dress or logos must be altered and scaled down to meet the purpose of these standards as articulated herein, and must not be repeated on the facades of the principal structure more than once. All new, altered and/or proposed signage for buildings must be submitted for review under Section 801. 09.18 by the Planning Commission at the time of Design Standards Review application		The building will not be a franchise.		Not Applicable.
Walkways				
801.09.13.2 – Bluff District A. Continuous sidewalks at least five (5) feet in width shall be provided along all public street frontages. The sidewalk street grid shall be maintained and extended wherever possible. B. Where the sidewalk street grid is interrupted by steep slopes or other topographic variations, walkways or stairways shall be built to maintain pedestrian continuity.		Sidewalks exist on Wayzata Blvd adjacent to the Project. The Applicant is proposing to install sidewalks to connect with Wayzata Blvd.		Yes.

		Comments		Compliance
Landscaping				
<u>801.09.14.1 – All Districts</u> A. Seasonal landscaping shall be used in all Design Districts, including use of window boxes, hanging flowers baskets, vines and/or other similar seasonal landscaping. If feasible, garden areas and ornamental trees shall be used at the street level. B. Window boxes, hanging baskets and planters with seasonally appropriate plantings shall be used around entries to buildings. C. Vines shall be used to cover walls with more than one hundred (100) square feet of uninterrupted surface area. D. Streetscaping shall include all of the following: 1. Boulevard species trees, with at least three (3) caliper inches. 2. Exposed aggregate sidewalks with brick accents 3. Street lights 4. Benches (if building length is 50 feet or greater), which utilize existing city bench designs. 5. Flowers		The Applicant has proposed a mixture of trees and shrub around the perimeter of both of the new buildings. A landscape plan is included with the Applicant submittal materials.		Yes
<u>801.09.14.3 – Bluff and Wayzata Blvd Districts</u> Trees with a minimum of three (3) caliper inches shall be planted no more than twenty-six (26) feet apart within a landscaped boulevard.		The Applicant is proposing to install 1.5-inch japanese tree lilacs.		Evaluate

		Comments		Compliance
Parking Lot Landscaping				
801.09.15.1 – All Districts A landscaped buffer strip at least five (5) feet wide shall be provided between all parking areas and the sidewalk or street. The buffer strip shall consist of shade trees appropriately spaced for the particular Design District, and a decorative metal fence, masonry wall or hedge. A solid wall or dense hedge shall be no less than three (3) feet and no more than four (4) feet in height.		The project proposes an approximately 12 ft landscaped buffer of shrubbery between Wayzata Blvd and the parking lot.		Yes.
Surface Parking				
<u>801.09.16.1 – All Districts</u> A. Off-street parking shall be located to the rear of buildings. When parking must be located in a side yard adjacent to the street, a landscaped buffer shall be provided in accordance with the Design Standards. The street frontage occupied by parking shall not exceed sixty (60) feet per property. B. Side-by-side parking lots creating a parking area frontage longer than sixty (60) feet are prohibited, except where a heavily landscaped buffer of at least twenty (20) feet wide completely separates both lots. C. Side yard parking shall not extend beyond the front yard setback of the primary building on the property. D. Front yard parking is prohibited. E. There shall be no corner parking.		The proposed parking area is in the interior (rear) and side of the site, away from the public facades on Wayzata Blvd.		Yes.

		Comments		Compliance
<u>801.09.16.2 – All Districts – Bicycle Parking</u> Commercial developments requiring more than twenty (20) parking spaces shall provide at least four (4) bicycle parking spaces in a convenient, visible, preferably sheltered location.		The Applicant proposes a bicycle rack to the south of the building adjacent to the parking.		Yes.
Parking Structures				
<u>801.09.17.1 – All Districts</u> Parking structures shall meet the following standards, along with all other applicable building code standards: A. The ground floor façade abutting any public street or walkway shall be architecturally compatible with surrounding commercial or office buildings. B. The parking structure shall be designed in such a way that sloped floors do not dominate the appearance of the façade. C. Windows or openings shall be similar to those of surrounding buildings. D. Vines and other significant landscaping shall be used to minimize the visual impact of the parking structure.		This section is not applicable, as there is no parking ramp associated with the request.		Not Applicable.

		Comments		Compliance
Signs				
<u>801.09.18.1 – All Districts</u> A. Compatibility 1. Signs shall be architecturally compatible with the style, composition, materials, colors and details of the building, and with other signs on nearby buildings. Signs shall be an integral part of the building and site design. 2. A sign plan shall be developed for buildings which house more than one (1) business. Signs need not match, but shall be compatible with one another. Franchise or national chains must comply with these Sign Standards to create signs compatible with their context. 3. When illuminated signs are proposed, only the text and/or logo portion of the sign may be illuminated. Illuminated signs must be compatible with the location. Illumination of the sign to highlight architectural details is permitted. Fixtures shall be small, shielded, and directed towards the sign rather than toward the street, so as to minimize glare for pedestrians and adjacent properties. 4. Sign plans must be submitted for review as part of an Applicant for Design Approval. Proposed signs must also conform to the requirements of Section 801.27 of the Wayzata Zoning Ordinance.		The building proposes the following signage: North Elevation: - Two tenant signs of 50 SF each Monument Sign: - Cabinet sign: 50 SF		Yes.

		Comments		Compliance
Parking Lot and Building Lighting				
<u>801.09.19.1 – All Districts</u> A. Parking lot lighting shall be designed in such a way as to be in scale with its surroundings, and reduce glare. B. Cutoff fixtures shall be located below the mature height of trees located in parking lot islands so as to minimize ambient glow and light pollution. C. Pedestrian-scale lighting, not exceeding thirteen (13) feet in height, shall be located on walkways and adjacent to store entrances. All sidewalk lighting must be projected downwards. City light standard shall be followed for all public streets. D. Light posts shall be of a dark color. E. Lighting fixtures shall be compatible with the architecture of the building. F. Lights attached to buildings shall be screened by the building's architectural features to eliminate glare to adjacent properties. All façade lighting must be projected downwards. G. All lighting fixtures shall comply with City Code Section 801.16.6 as it relates to glare.		All lighting fixtures attached to the building are designed to be downcast lit.		Yes.

CITY OF WAYZATA

PLANNING DEPARTMENT

MEMORANDUM

To:	Planning Commission
From:	Jason Peters, Management and Planning Intern
Date:	October 28, 2015
Re:	Presentation on Alternative Energy Systems

During the September 21, 2015 Planning Commission workshop on a possible alternative energy ordinance for the City of Wayzata, several Commissioners expressed interest in inviting an alternative energy expert to come and speak to the Planning Commission regarding how alternative energy systems may work in Wayzata. Mr. Brian Ross has agreed to do a presentation and sit for any questions you may have at our November 2, 2015 workshop. Mr. Ross is a member of the American Institute of Certified Planners and is a LEED Green Associate. Mr. Ross was formerly a Principal with CR Planning and is currently the Senior Program Director for Great Plains Institute for Sustainable Development (GPI). GPI is a non-profit headquartered in Minneapolis whose stated mission is to "transform the way we produce, distribute, and consume energy to be both environmentally and economically sustainable." He is an expert on Wind and Solar Energy systems and has worked with "dozens of communities across four Midwestern states on solar energy ordinances and permitting" and has provided "assistance to communities on wind and other alternative energy issues".

Mr. Ross has also drafted Model Ordinances for both Wind (Attachment A) and Solar (Attachment B). Many of the example ordinances included in recent Planning Commission packets have included elements of his work.

Attachments:

Attachment A:	Model Wind Energy Ordinance
Attachment B:	Model Solar Energy Ordinance
Attachment C:	Local Government "Toolkit" for Solar Energy

WAYZATA CITY HALL
600 EAST RICE STREET WAYZATA, MINNESOTA 55391-1799
(P) 952-404-5300 - (F) 952-404-5318

INTRODUCTION

The growth in the number of wind energy conversion systems (WECS) in Minnesota over the last 15 years is a remarkable measurement of sustainability. Wind energy has no harmful emissions, reduces greenhouse gases, captures local resources for economic gain, and is frequently cost-competitive with other forms of electric generation. But WECS have impacts on other land uses that are found in areas of wind resources, including residential homes, some agriculture, natural resources, and on the character of the community. As the market for wind energy increases and the cost drops, increasing numbers of local governments find themselves trying to address proposed WECS without the proper policies or zoning tools in place.

Although most of Minnesota's wind energy resource is in rural areas, even urban areas are having to address these issues. Increasing numbers of urban residents and businesses are looking for opportunities to improve sustainability and energy independence. The land use conflicts between WECS and other uses are even greater in the suburban and urban environment. Cities must draw a clear line as to where wind energy systems are appropriate and where the nuisances and conflicts outweigh the benefits of wind energy.

Understand Your Goals

The first step in creating a wind energy ordinance is to identify the community's goal to be achieved by the regulation. Some communities want to encourage renewable energy generation. Other communities are primarily concerned with mitigating conflicts between wind energy systems and other land uses. The first goal leads to the question of where should the community give priority to wind energy. This in turn requires the community to understand where there might be a meaningful wind energy resource; trees, buildings, and topography all have a substantial effect on the viability of the local wind resource. The second goal leads to the question of whether wind energy is appropriate for the community, and how extensively to restrict it. Communities can choose to prohibit WECS, except for those installations that in the regulatory province of the State. Prohibiting WECS in locations were the wind resource is poor or nonexistent can actually have a positive effect on developing local energy opportunities, by directing land owners to focus on energy efficiency, solar energy or other resources more suitable for their site.

Large WECS, Small WECS

In order to address the issues associated with WECS, local governments must understand that WECS come in many different sizes and designs, with dramatically different impacts on and benefits to the community. The first distinction communities need to make in addressing WECS in their development regulations is between systems that are primarily designed as electric power generators for utility systems or wholesale power markets, and those systems that are designed primarily to provide power to a single resi-

Model Wind Energy Ordinance

This ordinance is based primarily on the model ordinance for county governments created in 2005 by the Clean Energy Resource Teams and the Minnesota Project. The ordinance was created to help counties address the evolving dilemmas associated with utility-scale wind development (large turbines typically with over one megawatt (1 MW) of capacity). The accompanying guide to the CERTS model ordinance may be found at: www.mncounties3.org/macpza/OrdinanceLinks/wind%20ord1.pdf

This model also adopts standards for large turbines set by the Minnesota Public Utilities Commission in its 2008 order, Docket E,G-999/M-07-l 102.

Additional sources include:

- *In the Public Interest: How and Why to Permit for Small Wind Systems - A Guide for State and Local Governments, September 2008*
- *Permitting Small Wind Turbines: A Handbook, California Energy Commission, AWEA, September 2003*
- *Small Wind Electric Systems: A Minnesota Consumers' Guide, U.S. DOE, 2007*
- *Small Wind Energy Guide: Kandiyohi County, Minnesota, August 2007*
- *City of Minneapolis Wind Energy Ordinance*
- *City of Mahtomedi WECS Ordinance*
- *City of Pipestone WECS Ordinance*
- *City of St. Louis Park WECS Ordinance*

dence or business. The former use utility-scale turbines with a capacity measured in megawatts, rise hundreds of feet into the air, and are typically (but not always), part of a wind farm system with other similar turbines. The latter are, by contrast, quite small in terms of generating capacity, height, and frequency in the landscape. Small wind systems are sometimes further divided into two categories of very small systems and larger systems. Where these divisions are made is highly dependent upon the character of the community, the type of local government, and the magnitude of the wind resource.

Why Zone for Small Wind Systems?

Your family's electric bill has climbed to $400 per month and you expect it go higher. You are worried how global warming will affect your kids. And you don't want to wait around for others to fix these problems. Generating your own, clean power sounds like a great idea, and something you may even be able to afford with the rebate program your state offers for small wind turbines. So you spend months researching equipment, your neighborhood's wind resource, and ways to pay for a new turbine. All your ducks are finally in line, but when you apply for a building permit, the county office has never heard of small wind systems, or if they have, only of rumors that they are noisy and kill birds. This technology is also nowhere to be found in the zoning code and it is hard for the zoning office to find out information about how to treat this unique structure. Or, since the closest thing the zoning office has dealt with before is large, utility-scale turbines, your 5 kilowatt turbine is treated the same as a 50,000 kilowatt power plant and the permitting requirements and costs are impossibly out of reach.

Source: In the Public Interest: How and Why to Permit for Small Wind Systems, A Guide for State and Local Governments, American Wind Energy Association, September 2008

Elements of a WECS Ordinance

Counties, cities, and townships are enabled to regulate land use under Minnesota Statutes 394 and 462 for the purpose of: "promoting the health, safety, morals, and general welfare of the community." How wind energy land use issues affect each type of community will significantly change the structure and focus of the WECS ordinance. Some common elements to consider in all communities are noted below.

A. **Distinguish between Types of Wind Energy Applications**

As noted earlier in the introduction, the community will likely need to distinguish between the different sizes of wind energy systems relative to the typical lot size, density, natural resources, and wind resource. Two or three categories of WECS may need to be identified in the ordinance: large scale (commercial), smaller scale (non-commercial), very small (micro).

B. **Define Necessary Permits**

Some WECS can be listed as permitted uses, but others should be considered conditional uses, and some applications should be prohibited. Large-scale WECS should always be conditional, in order to ensure that the specific design of the system minimizes nuisances and allow for public comment. Non-commercial WECS in rural areas should probably be permitted uses. Conditional use permits may be justified for non-commercial systems where housing density is greater than a rural setting. WECS on lots smaller than one acre become problematic, although in certain circumstances half-acre lots can accommodate micro-WECS. Genuine urban density areas (either in existence or planned) should not include WECS as a permitted or conditional use, barring a change in technology that allows for decreased visual, safety, and noise impacts.

If the community chooses to utilize a wind-energy overlay district, a greater degree of flexibility should be built into the development process. Large-scale projects should probably still be conditional, but fewer conditions will allow the district to serve as an encouragement for sustainable development of local wind resources.

C. **Identify Wind Resource Standards**

Communities should identify where optimal wind resources are located, or identify the conditions that define legitimate wind resources. Installing WECS in areas with minimal wind resources is bad for both the landowner and the community. The Minnesota Department of Commerce has wind resource maps for the entire state at a 500 meter resolution. Alternatives to the statewide maps include site-specific certification by a certified wind energy assessor or installer, or performance criteria that identify the turbine will be above trees and buildings for a minimum radius distance.

D. **Establish Setbacks**

Communities need to identify setbacks that protect surrounding land uses and community character but still allow the community's wind resource to be developed. Examples of land uses that could dictate setbacks include:

1. Residential homes, distinguishing between homes of people who are financially participating in the project and those who are not.
2. Property lines and road rights-of-way
3. Designated conservation or wildlife areas, wetlands, scenic river bluffs,

E. **Establish Safety Standards**

Communities need to identify safety standards that protect without effectively prohibiting the WECS. Requiring engineering certification on very small systems may have the same effect as prohibiting WECS. Residential areas may need some consideration of a tower as an attractive nuisance, and reasonable fall zones should always be considered.

F. **Establish Design Standards**

Design standards need to be matched to the type of WECS. Commercial systems should always have tubular towers. Treatment of power lines, color, lighting, signage, and substation should be specified. Non-commercial systems, depending on the allowed height and the surrounding land uses, may also have specific design considerations that must be followed. All WECS other than the very small category should have a decommissioning plan and provisions.

G. **Establish Other Applicable Standards**

Noise standards are particularly important for non-commercial systems in non-agricultural areas for the satisfaction of surrounding land owners and protection of the WECS owner from unwarranted complaints. Minnesota state law is based on a standard of 50 decibels at the nearest house). Electric code compliance and FAA regulations may also need to be addressed. Cities and rural areas near may need to address visual impacts

H. **Minimize Infrastructure Impacts**

Commercial systems need to address the risk to roads for both initial transportation of components and on-going maintenance of the WECS. Any system (commercial or non-commercial) that includes excavations for creating a foundation needs to protect drainage systems. Telecommunications infrastructure can be affected if care is not taken. Green infrastructure can also be affected, including habitat systems and natural viewsheds that define community character.

I. Wind Energy Conversion System Ordinance

A. **Purpose** - This ordinance is established to regulate the installation and operation of Wind Energy Conversion Systems (WECS) within Model Community not otherwise subject to siting and oversight by the State of Minnesota under the Minnesota Power Plant Siting Act (MS 116C.51-116C.697.), encourage local wind energy development in priority wind energy areas, and meet Model Community's Comprehensive Plan goals, including the following:

1. Goal - Encourage the sustainable use of local economic resources.
2. Goal - Encourage development that helps meet Model Community's and the State of Minnesota's climate protection goals.
3. Goal - Minimize conflicts between desirable land uses that may need to coexist in the same area.

B. **Interpretation, Conflict and Separability**

1. **Interpretation** - In interpreting these regulations and their application, the provisions of these regulations shall be held to be the minimum requirements for the protection of public health, safety and general welfare. These regulations shall be constructed to broadly promote the purposes for which they are adopted.
2. **Conflict** - These regulations are not intended to interfere with, abrogate or annul any other ordinance, rule or regulation, statute or other provision of law except as provided in these regulations. No other provision of these regulations that impose restrictions different from any other ordinance, rule or regulation, statute or provision of law, the provision that is more restrictive or imposes higher standards shall control.
3. **Separability** - If any part or provision of these regulations or the application of these regulations to any developer or circumstances is a judged invalid by any competent jurisdiction, the judgment shall be confined in its operation to the part, provision or application directly involved in the controversy in which the judgment shall be rendered and shall not affect or impair the validity of the remainder of these regulations or the application of them to other developers or circumstances.

C. **Enforcement, Violations, Remedies and Penalties** - Enforcement of the Wind Energy Conversion System Ordinance shall be done in accordance with process and procedures established in Section ____ of the Model Community Zoning Ordinance.

Adapting the Model Standards

The initial sections of this model ordinance was written primarily for county or township governments, and targeted for situations typical for rural agricultural areas of Minnesota. Many standards will need to be adapted for communities that are less rural or that have lower quality or more sporatic wind resources due to forested lands or topography. Most cities can disregard virtually all of the commercial WECS provisions except for the possibility of isolated utility-scale turbines on very large parcels that are unlikely to be subdivided or redeveloped (industrial or institutional areas). Local units of government will need to assess their own community standards and may choose alternative thresholds than shown here.

Interpretation, Conflict and Separability

The community may wish to examine the Interpretation, Conflict and Separability language in its other ordinances and utilize consistent language.

D. **Definitions**

Aggregated Project - Aggregated projects are those which are developed and operated in a coordinated fashion, but which have multiple entities separately owning one or more of the individual WECS within the larger project. Associated infrastructure such as power lines and transformers that service the facility may be owned by a separate entity but are also included in the aggregated project.

Blade Arc - The arc created by the edge of the rotor blade that is farthest from the nacelle.

Commercial WECS - A WECS of equal to or greater than 100 kW in total name plate generating capacity.

Non-Commercial WECS - A WECS less than 100 kW in total name plate generating capacity.

Fall Zone - The area, defined as the furthest distance from the tower base, in which a guyed tower will collapse in the event of a structural failure. This area is less than the total height of the structure.

Feeder Line - Any power line that carries electrical power from one or more wind turbines or individual transformers associated with an individual wind turbine to the point of interconnection with the electric power grid, in the case of interconnection with the high voltage transmission systems the point of interconnection shall be the substation serving the WECS.

Meteorological Tower - For the purposes of this Wind Energy Conversation System Ordinance, meteorological towers are those tower which are erected primarily to measure wind speed and directions plus other data relevant to siting WECS. Meteorological towers do not include towers and equipment used by airports, the Minnesota Department of Transportation, or other similar applications to monitor weather conditions.

Micro-WECS - Micro-WECS are WECS of two (2) kW nameplate generating capacity or less mounted on a tower of 70 feet or less.

Property Line - The boundary line of the area over which the entity applying for WECS permit has legal control for the purposes of installation of a WECS. This control may be attained through fee title ownership, easement, or other appropriate contractual relationship between the project developer and landowner.

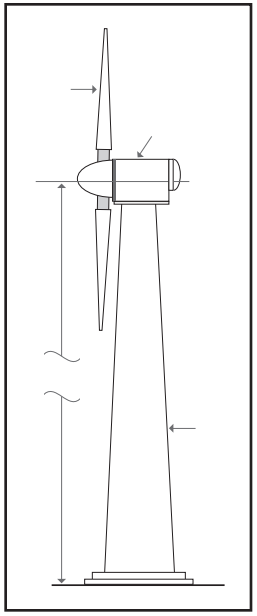
Public Conservation Lands - Land owned in fee title by State or Federal agencies and managed specifically for conservation purposes, including but not limited to State Wildlife Management Areas, State Parks, State Scientific and Natural Areas, federal Wildlife Refuges and Waterfowl Production

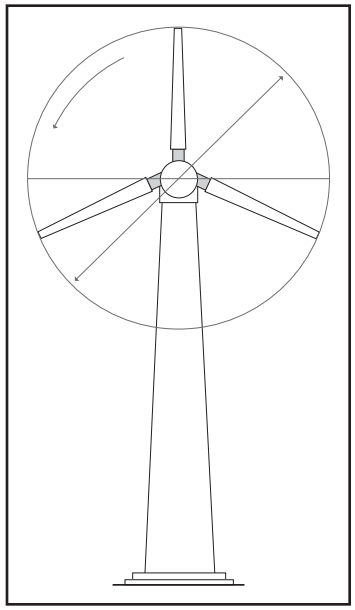
Commercial, Non-Commercial

Different communities will set different thresholds to distinguish between commercial and non-commercial wind energy systems. Under existing Minnesota law renewable energy projects with a electric generating capacity of less than 40 kW qualify for "net metering," in which electric generation in excess of on-site demand is purchased by the electric utility at the retail rate. While the net metering threshold seems reasonable, the standard is actually somewhat artificial. The land use and nuisance characteristics of a 40 kW system and a 100 kW system are quite similar, especially in rural communities. Federal and state laws have established relatively favorable procedures and rates for interconnecting renewable generators of under 100 kW capacity. Some communities may find that turbines of up to 100 kW are fully consistent with other land uses and reasonably quality for a less rigorous (non-commercial) set of standards and review procedures.

Micro-WECS

This model ordinance recognizes a separate category for very small WECS that has a lower threshold for land use approval. The example here uses a capacity threshold of two kW, quite small for a generator, on a 60-foot tower, the minimum height for meaningful production. Urban communities may consider regulation for shorter towers and building mounted systems (see Minneapolis reference at the end of the ordinance) but these systems are unproven and are little more than curiosities; technology does not currently exist to generate meaningful energy in turbulent and low speed urban wind.





Areas. For the purposes of this section public conservation lands will also include lands owned in fee title by non-profit conservation organizations. Public conservation lands do not include private lands upon which conservation easements have been sold to public resource management agencies or non-profit conservation organizations.

Rotor Diameter - The diameter of the circle described by the moving rotor blades.

Substations - Any electrical facility designed to convert electricity produced by wind turbines to a voltage greater than (35,000 KV) for interconnection with high voltage transmission lines shall be located outside of the road right of way.

Total Height - The highest point, above ground level, reached by a rotor tip or any other part of the WECS.

Transmission Line - Those electrical power lines that carry voltages of at least 69,000 volts (69 KV) and are primarily used to carry electric energy over medium to long distances rather than directly interconnecting and supplying electric energy to retail customers.

Tower - Towers include vertical structures that support the electrical generator, rotor blades, or meteorological equipment.

Tower Height - The total height of the WECS exclusive of the rotor blades.

WECS - Wind Energy Conversion System - An electrical generating facility comprised of one or more wind turbines and accessory facilities, including but not limited to: power lines, transformers, and substations that operate by converting the kinetic energy of wind into electrical energy. The energy maybe used on-site or distributed into the electrical grid.

Wind Turbine - A wind turbine is any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy through the use of airfoils or similar devices to capture the wind.

E. **Procedures for Permits -** Zoning, Land Use, and Conditional Use permits and Variances shall be applied for and reviewed under the procedures established in this Ordinance, except where noted below.

1. The application for all WECS shall include the following information:
   a. The names of project applicant
   b. The name of the project owner

c. The legal description and address of the project

d. A description of the project including: number, type, name plate generating capacity, tower height, rotor diameter, and total height of all wind turbines and means of interconnecting with the electrical grid.

e. Location of property lines, wind turbines, electrical wires, interconnection points with the electrical grid, and all related accessory structures, including distances and drawn to scale.

f. Location and height of all buildings, structures, above ground utilities and trees located within five hundred (500) feet of each proposed non-commercial WECS and within three rotor diameters of each commercial WECS.

g. For commercial WECS, identification of the primary and secondary wind axis.

g. An elevation drawing accurately depicting the proposed WECS and its relationship to structures on the subject site and adjacent lots.

h. Engineer's certification of tower structure and foundation. Manufacturer certification and specification sheets may, at the discretion of Model Community, be used in place of engineering study for non-commercial WECS.

i. Documentation of land ownership or legal control of the property.

j. Non-commercial WECS shall submit a copy of the interconnection agreement with the utility or documentation that an interconnection agreement is not necessary.

k. Non-commercial WECS that are not connected to the electric grid shall identify location of battery or other storage device.

2. The application for commercial WECS shall also include:

a. The latitude and longitude of individual wind turbines.

b. A USGS topographical map, or map with similar data, of the property and surrounding area, including any other WECS within 10 rotor diameters of the proposed WECS.

c. Location of lakes, wetlands, parks, federal or state habitat areas, other protected natural areas, and County Biological Survey sites within 1,320 feet of the proposed WECS.

d. An acoustical analysis documenting the sound level within 1000 feet of the turbine

e. FAA Permit Application

f. Location of all known communications towers within 2 miles of the proposed WECS

g. Decommissioning Plan

Objects Within 500 Feet

Identifying structures and trees within 500 feet of the proposed WECS helps the community document that the WECS is being installed in an area with legitamate wind resources. Turbines generally must be 20-40 feet above trees and buildings within 500 feet to operate as designed.

Aggregated Projects

Large electric generating facilities are regulated by the State rather than by local governments. Aggregated projects having a combined capacity equal to or greater than the threshold for State oversight as set forth in MS Statute 216F.01 through 216F.09 (currently 5 MW for wind energy projects, except as noted below) shall be regulated by the State of Minnesota. Commercial wind developments (wind farms) are, however, sometimes broken into phases, or separated by ownership but not by geography. In 2007, the Statute setting regulatory thresholds was changed to allow counties the option of regulating wind energy projects of up to 25 MW (216.F.08), if they follow the process defined in Statute.

Alternatives to Zoning District Regulation

An alternative to setting commercial WECS standards for each zoning district is to establish a Wind Energy Development Overlay District. The community can pro actively identify where the conditions are good and bad for large scale wind development based on community priorities such as viewshed protection, natural resource areas, or ultimate build-out for rural residential or urban development. The community would map an overlay with a separate set of WECS standards. The overlay concept could also be applied to small (non-commercial) WECS in some circumstances.

h. Identification of nearby WECS and description of potential impacts on wind resources on adjacent properties.

F. **Procedure for Aggregated Projects** - Aggregated projects may jointly submit a single application and be reviewed under a single proceeding, including notices, hearings, reviews and approvals. Permits will be issued and recorded separately. Joint applications will be assessed fees as one project.

G. **District Regulations** - WECS will be permitted, conditionally permitted or not permitted based on the generating capacity and land use district as established in the table below:

District	Non-Commercial*	Commercial	Meteorological Tower*
Agriculture (A-1, A-2, A-3)	Permitted	Conditionally Permitted	Permitted
Rural Residential	Conditionally permitted	Not permitted	Not Permitted
Rural Town Site	Not permitted	Not permitted	Not Permitted
General Business District	Not permitted	Not Permitted	Not permitted
Highway Commercial	Conditionally permitted	Not Permitted	Permitted
Light Industry	Permitted	Conditionally Permitted	Permitted
Heavy Industry	Permitted	Conditionally Permitted	Permitted
Shoreland	[may depend upon the lake and the specific district]	Not permitted	Not permitted
Urban Expansion Overlay District	Conditionally permitted	Not permitted	Not permitted
Conservation / Special Protection	[depends on the district purpose, the protected resource and the impacts of a turbine on that resource]		
Shoreland	Conditionally permitted	Not permitted	Not permitted
Wild and Scenic River	Conditionally permitted	Not permitted	Not permitted

* Non-Commercial WECS and Meteorological towers shall require a conditional use permit if over _____ feet in height in accordance with the Model Community Zoning Ordinance.

	Wind Turbine – Non- Commercial	Wind Turbine - Commercial WECS	Meteorological Towers
Property Lines	1.1 times the total height in Agricultural or Industrial Land Use Districts only, or the distance of the fall zone, as certified by a professional engineer + 10 feet.	5 rotor diameters along the primary wind axis, 3 rotor diameters along the secondary wind axis (rotor diameters are between 250-400 feet)	The fall zone, as certified by a professional engineer, + 10 feet or 1.1 times the total height.
Residential Dwellings, participating*		750 feet	The fall zone, as certified by a professional engineer, + 10 feet or 1.1 times the total height.
Residential Dwelling, non-participating		1,000 feet	The fall zone, as certified by a professional engineer, + 10 feet or 1.1 times the total height.
Road Rights-of-Way**	The distance of the fall zone as certified by a professional engineer + 10 feet or 1 times the total height.	1 times the height, may be reduced for minimum maintenance roads or a road with Average Daily Traffic count of less than 10.	The fall zone, as certified by a professional engineer, + 10 feet or 1 times the total height.
Other Rights-of-Way (Railroads, power lines, etc)	The lesser of 1 times the total height or the distance of the fall zone, as certified by a professional engineer + 10 feet.	To be considered by the planning commission	The fall zone, as certified by a professional engineer, + 10 feet or 1 times the total height.
Public conservation lands	NA	600 feet	600 feet
Wetlands, USFW Types III, IV and V	NA	600 feet	600 feet
Other Structures		To be considered	
Other Existing WECS	NA	Several factors to be considered in order to minimize or eliminate impact on existing WECS includes: the relative size of the existing and proposed WECS, the alignment of the WECS relative to the predominant winds, topography, the extent of wake interference impacts on existing WECS, and other considerations. Waived for internal setbacks in multiple turbine projects including aggregated projects.	
_____ River Bluff	500	[1,000 / 1,320]	

* The setback for dwellings shall be reciprocal in that no dwelling shall be constructed within 750 feet of a commercial wind turbine.

** The setback shall be measured from future rights-of-way if a planned changed or expanded right-of-way is known.

> ***Meteorological Towers***
>
> *The community may have an existing tower ordinance in place, and may choose to regulate meteorological towers under that ordinance.*

H. **Setbacks, Wind Turbines and Meteorological Towers**

1. **Setbacks** - All towers shall adhere to the setbacks established in the above table.
2. **Substations and Accessory Facilities** - Minimum setback standards for substations and feeder lines shall be consistent with the standards established in the Model Community General Development Standards for Essential Services.

River Bluff Setback (previous page)

The intent of the setback from river bluffs is to minimize the impact on the scenic qualities of major rivers valleys such as the Mississippi, St. Croix and Minnesota. Care should be taken to avoid excessive setbacks, particularly from bluffs overlooking smaller tributaries to the major river. Wabasha County Minnesota has adopted ¼ mile setbacks (1,325 feet) from bluffs overlooking tributaries as well as the Mississippi River. This effectively creates a broad corridor where WECS are prohibited. Areas with complex terrain are better suited to use the overlay concept rather than District-based setbacks.

Substations and Accessory Facilities (previous page)

Many zoning ordinances address "essential services" which includes electric power lines and substations. Most substations are sited adjacent to the road ROWs. This conserves farm land and reduces costs for such facilities, but creates concerns for road authorities including sight lines, snow drifting, and financial liabilities during road re-construction. Substations associated with WECS should be regulated in a manner consistent with essential service regulations. However, if not regulated under a separate standard, the WECS ordinance should establish specific setbacks for substations and lines.

Established Wind Resource

These are alternative ways the community can ensure that WECS are meeting the community's renewable energy, climate protection, or energy independence goals.

I. **Requirements and Standards**

1. **Safety Design Standards**

   a. **Engineering Certification** - For all WECS, applicant must provide engineering certification of turbine, foundation, and tower design is within accepted professional standards, given local soil and climate conditions. For non-commercial and micro-WECS, certification can be demonstrated by the manufacturer's engineer or another qualified engineer.

   b. **Rotor Safety**. Each non-commercial WECS shall be equipped with both a manual and automatic braking device capable of stopping the WECS operation in high winds (40 mph or greater).

   c. **Warnings**

      i. For all commercial WECS, a sign or signs shall be posted on the tower, transformer and substation warning of high voltage. Signs with emergency contact information shall also be posted on the turbine or at another suitable point.

      ii. For all guyed towers, visible and reflective objects, such as plastic sleeves, reflectors or tape, shall be placed on the guy wire anchor points and along the outer and innermost guy wires up to a height of 8 feet above the ground. Model Community may require that visible fencing be installed around anchor points of guy wires.

      iii. Consideration shall be given to painted aviation warning on metrological towers of less than 200 feet.

   d. **Energy Storage** - Batteries or other energy storage devices shall be designed consistent with the Minnesota Electric Code and Minnesota Fire Code.

2. **Equipment Design and Performance Standards**

   a. Established Wind Resource - All WECS shall only be installed where there is an established wind resource. An established wind resource can be documented in the following ways:

      i. The planned turbine site has a minimum 11 MPH average wind speed at the designed hub height, as documented on the Minnesota Department of Commerce statewide wind speed maps.

      ii. The planned turbine has a minimum hub height of eighty (80) feet and the blade arc is 30 feet higher, on a vertical measurement, than all structures and trees within 300 feet of the tower.

iii. The applicant submits an analysis conducted by a certified wind energy installer or site assessor (North American Board of Certified Energy Professional, NABCEP, or equivalent) that includes estimates of wind speed at turbine height based on measured data, estimated annual production, and compliance with the turbine manufacturer's design wind speed.

iv. The proposed turbine is within the community's designed wind energy overlay district.

b. **Total Height, Non-Commercial WECS** - Non-Commercial WECS shall have a total height, including tower and rotor at its highest point, of less than 200 feet in rural and industrial zoning districts, and a maximum height of 125 feet in residential and commercial districts.

c. **Turbine Certification** - Non-commercial and micro WECS turbines shall be certified or in the process of being certified the Small Wind Certification Council (SWCC) Micro-generation Certification Scheme (MCS), or must be listed by the Interstate Turbine Advisory Council.

d. **Meteorological Towers Exempt from Zoning District Height Standards** - In those districts where meteorological towers are a permitted use, meteorological towers of less than 200 feet shall be exempt from the Conditional Use requirement for other land uses.

e. **Tower Configuration**

i. All wind turbines that are part of a commercial WECS shall be installed with a tubular, monopole type tower.

ii. Meteorological towers may be guyed.

f. **Color and Finish**

i. All wind turbines and towers that are part of a commercial WECS shall be white, grey and another non-obtrusive color. Blades may be black in order to facilitate deicing. Finishes shall be matt or non-reflective.

ii. Exceptions may be made for metrological towers, where concerns exist relative to aerial spray applicators.

g. **Lighting** - Lighting including lighting intensity and frequency of strobe, shall adhere to but not exceed requirements established by Federal Aviation Administration permits and regulations. Red strobe lights are preferred for nighttime illumination to reduce impacts on migrating birds. Red pulsating incandescent lights should be avoided. Exceptions may be made for

NABCEP Certification

Certification processes for small wind installers and site assessers are currently ramping up, and only a few certified professionals are currently available.

Turbine Certification

Third-party certification helps ensure that the WECS is actually able to produce electricity to meet the community's energy or climate protection goals.

Third-Party Certifiers

Several examples are given of entities that certify turbines. There is currently no single centralized place for certifying turbines.

Meteorological Towers Exempt from Zoning District Standards

This subsection presumes that land uses with a height greater than 100' require a conditional use permit (common in county zoning ordinances). Communities should ensure consistency between the Standards section and District Regulations.

Essential Services

The model ordinance references the Essential Services Ordinance for determining substation and feeder line setbacks (Substations on previous page, Feeder Lines on current page). The intent is not to necessarily define the feeder lines as an essential service. The model ordinance anticipates that there will be projects that run feeder lines to interconnection points that are off site. The ordinance does not intend to provide commercial projects with the same prerogatives as a essential services, but rather to simplify determination of setbacks and placement of substations and feeder lines relative to rights-of-ways.

Feeder Lines

The requirement to bury all feeder lines may, in some communities, need to include provisions for exceptions.

Discontinuation and Decommissioning

Provisions for decommissioning the site after productive use has stopped protects the community in a variety of ways. Removal of the tower and accessory structures will limit the potential for blight and safety concerns associated with un-maintained equipment. An alternative to removal is restoration of the site, in which subterranean fixtures/foundations are also removed. Restoration will facilitate the return of the site to agricultural production or other uses.

The community should also require that the developer post a decommissioning bond or other financial assurance. The local government should not bear the risk of decommissioning should the wind developer go bankrupt.

metrological towers, where concerns exist relative to aerial spray applicators.

h. **Other Signage** - All signage on site shall comply with the Model Community sign ordinance. The manufacturer's or owner's company name and /or logo may be placed upon the nacelle, compartment containing the electrical generator, of the WECS.

i. **Feeder Lines** - All communications and feeder lines, equal to or less than 34.5 kV in capacity, installed as part of a WECS shall be buried where reasonably feasible. Feeder lines installed as part of a WECS shall not be considered an essential service, as described in Model Community's General Development Standards

j. **Waste Disposal** - Solid and hazardous wastes, including but not limited to crates, packaging materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site promptly and disposed of in accordance with all applicable local, state and federal regulations.

3. **Discontinuation and Decommissioning**

a. **Abandonment**. A WECS shall be considered abandoned after one (1) year without energy production, unless a plan is developed and submitted to the Model Community Zoning Administrator outlining the steps andfa schedule for returning the WECS to service. All WECS and accessory facilities shall be removed to [ground level / four feet below ground level] within 80 days of abandonment.

b. **Decommissioning Plan Required** - Each WECS, other than micro-WECS, shall have a decommissioning plan outlining the anticipated means and cost of removing WECS at the end of their serviceable life or upon abandonment. The cost estimates shall be made by a competent party; such as a Professional Engineer, a contractor capable of decommissioning or a person with suitable expertise or experience with decommissioning. The plan shall also identify the financial resources that will be available to pay for the decommissioning and removal of the WECS and accessory facilities.

4.. **Orderly Development**

Upon issuance of a conditional use permit, all commercial WECS shall notify the Environmental Quality Board Power Plant Siting Act program Staff (or successor State regulator) of the project location and details on the survey form specified by the Environmental Quality Board or successor agency.

J. **Other Applicable Standards**

1. **Noise** - All WECS shall comply with Minnesota Rules 7030 governing noise, or shall not exceed

fifty (50) dB(A) when measured from the outside of the nearest residence, business, school, hospital, religious institution, or other inhabited structure. The audible noise from wind energy facilities may periodically exceed allowable noise levels during extreme wind events (winds above 30 mph or greater).

2. **Electrical Codes and Standards** - All WECS and accessory equipment and facilities shall comply with the National Electrical Code and other applicable standards.
3. **Federal Aviation Administration** - All WECS shall comply with FAA standards.

K. **Interference** - The applicant shall minimize or mitigate any interference with electromagnetic communications, such as radio, telephone, microwaves, or television signals cause by any WECS. The applicant shall notify all communication tower operators within ___ miles of the proposed WECS location upon application to Model Community for permits. No WECs shall be constructed so as to interfere with Model Community or Minnesota Department of Transportation microwave transmissions.

Interference

The radius for notification of all communications tower operators will range from two to five miles, depending on the community.

L. **Avoidance and Mitigation of Damages to Public Infrastructure by Commercial WECS**

1. **Roads** - Applicants for commercial WECS shall:
   a. Identify all county, city or township roads to be used for the purpose of transporting WECS, substation parts, cement, and/or equipment for construction, operation or maintenance of the WECS and or substation and obtain applicable weight and size permits from impacted road authority(ies) prior to construction.
   b. At the request of the road authority, the applicant shall post bonds or other financial assurance, subject to approval of Model Community, sufficient to restore the road(s) to pre-construction conditions.
2. **Drainage System** - The Applicant shall be responsible for immediate repair of damage to public drainage systems stemming from construction, operation or maintenance of the WECS.
3. **Green Infrastructure** - The Applicant shall meet the Minnesota Department of Natural Resources Guidance for Wind Projects, June, 2009 version or most recent version, for siting wind energy facilities and mitigation of risk to natural resources, including the following standards:
   a. Provide the following information in the application:
      i. natural heritage concerns within the project
      ii. public lands within one mile of the project
      iii. conservation easements and other officially protected natural areas within a quarter mile

Avoidance and Mitigation of Damages

Transporting large wind turbines and components to remote sites sometimes requires using roads that are not rated for the weight of the turbine. Developers should notify local road authorities and mitigate for damage risk prior to transporting the turbine and equipment.

Similar provisions should be made for green infrastructure. The USFWS and the Minnesota DNR have adopted guidelines for identifying risks and best management practices for mitigating those risks. If the community uses a wind overlay approach rather than the district-based regulation outlined here, the DNR guidelines can help define the overlay district.

Standards for Micro-WECS

Communities should also consider standards for very small (micro) WECS. In particular, cities and counties with large-lot residential development (2 - 10 acre lots) are likely to need to address interest in wind energy installations for residential homes. These installations will likely be less than 10kW and be 60 to 100 feet in height. Some urban areas allow small WECS with even smaller towers. At tower heights lower than 60 feet, however, the wind resource becomes turbulent and loses much of its power, and is thus of small value as a energy source.

Urban Lots

This ordinance includes provisions for wind turbines on urban lots, in this case meaning lots smaller than one acre in size. Unless the tower is kept quite low, installations on lots smaller than one acre cannot meet setback requirements. Lower towers mean that the turbine is a questionable energy resource. Communities should consider not allowing WECS in areas where the turbine will dramatically under perform its rated capacity. Community sustainability is not enhanced by putting up a dramatically under-utilized wind turbine.

of the project

iv. shoreland areas, wildlife corridors and habitat complexes, and designated scenic views.

b. Demonstrate how the project integrates the United State Fish and Wildlife Service (USFWS) best management practices for minimizing impacts to wildlife from wind energy projects.

M. **Micro-Turbine Standards**

1. **Urban Lots** - Micro- WECS shall be allowed on lots of less than one acre provided the following conditions are met:

   a. WECS are a permitted. conditional, or allowed accessory land use in the district,

   b. The tower shall meet all setback requirements applicable to the lot. In all cases the base of the tower shall be setback from all property lines by a minimum of the height of the tower plus 10 feet.

   c. The tower height is less than 70 feet.

   d. The proposed system must be certified to operated at noise levels lower than 50 db at a distance no longer than the distance from the base of the tower to the closest property line.

2. **Suburban Lots** - Micro- WECS shall be allowed on lots between two and five acres provided the following conditions are met:

   a. WECS are a permitted or conditional land use in the district,

   b. Provisions of Section I.2.a (Established Wind Resource) are met,

   c. The setback requirements applicable to the lot are met. In all cases the base of the tower shall be setback from all property lines by a minimum of the height of the tower plus 10 feet. For guyed towers the setback can be reduced if the documented fall zone is less than the tower height, but in no case shall the setback be less than the distance from the base of the tower to the nearest building off the site, plus 10 feet.

   d. The tower height is less than 101 feet.

   e. The proposed system must be certified to operated at noise levels lower than 50 db at a distance no longer than the distance from the base of the tower to the closest property line.

3. **Building Mounted Systems** - Building mounted WECS shall be setback from property lines by a distance equal to the tower height, and shall provide engineering documentation that the structure upon which the wind energy conversion system is to be mounted shall have the structural integrity to carry the weight and wind loads of the wind energy conversion system and have minimal vibration impacts on the structure.

Urban WECS Ordinance, Minneapolis (partial)

Conditional uses - *Freestanding wind energy conversion systems may be allowed as a conditional use, subject to the provisions of Chapter 525, Administration and Enforcement, sections 535.740 and 535.750, and the following location and lot size restrictions:*

1. *Residence and office residence districts - Freestanding wind energy conversion systems in the residence and office residence districts shall only be located on institutional use sites.*
2. *Downtown area - Freestanding wind energy conversion systems shall be prohibited in the downtown area including all downtown districts and the area bounded by the Mississippi River, I-35W, I-94, I-394, and 3rd Avenue North (extended to the river).*
3. *Minimum lot area - No freestanding wind energy conversion system shall be established on a zoning lot less than one (1) acre in area. A maximum of one wind energy conversion system per acre of lot area shall be allowed.*

Source: City of Minneapolis Zoning Code 535.730

Urban WECS Ordinance, St. Louis Park (Partial)

Design requirements. *All WECS shall meet the following design requirements.*

(1) Monopole tower. All towers shall be of a free standing monopole type that does not utilize guyed wires or any other means to support the tower.

(2) Roof mounting. Roof mounted WECS are prohibited.

(3) Minimize visual impact. WECS design and location shall minimize visual impact. . . (more)

(5) Tower lighting. WECS shall not be artificially lighted, except to the extent required by the FAA or other federal or state law or regulation that preempts local regulations.

(6) Signs and displays. The use of any portion of a WECS for displaying flags and signs, other than warning or equipment information signs, is prohibited.

(7) Associated equipment. Ground equipment associated with a WECS shall be housed in a structure. Structures housing equipment shall meet the architectural design standards of the Zoning Ordinance. Control wiring and power-lines shall be wireless or underground.

(8) Braking system required. All WECS shall have an automatic braking, governing or feathering system to prevent uncontrolled rotation, overspeeding and excessive pressure on the tower structure, rotor blades and turbine components.

(9) Design height. The applicant shall provide evidence that the proposed height of the WECS does not exceed the height recommended by the manufacturer or distributor of the system.

(10) Interconnection agreement. The applicant shall provide a copy of the utility notification requirements for interconnection, unless the applicant intends, and so states on the application, that the system will not be connected to the electricity grid.

(11) Technology standards. WECS must meet the minimum standards of a WECS certification program recognized by the American Wind Energy Association, such as AWEA's Small Wind Turbine Performance and Safety Standard, the Emerging Technologies program of the California Energy Commission, or other 3rd party standards acceptable to the City.

Source: City of St. Louis Park Zoning Code, Section 36-369

Urban WECS Ordinance, Mahtomedi (Partial)

Performance Standards.

a. Number of Systems. No more than one (1) wind energy conversion system (WECS) shall be permitted per lot.

b. Capacity. A wind energy conversion system shall have a nameplate capacity of forty (40) kilowatts or less.

c. Height. The permitted maximum height of a WECS shall be determined in one of the following two ways. In determining the height of the WECS, the total height of the system shall be measured from the base of the tower to the center of the systems hub (also known as the hub height).

(1) A ratio of one foot to one foot (1':1') between the distance of the closest property line to the base of the WECS to the height of the system.

(2) A maximum system height of one hundred twenty – five (125) feet. The City Council, at its discretion, may waive the maximum system height requirements provided the City Council finds that the overall height is not feasible for the WECS to function properly in the proposed location based on meteorological data that was taken. . . (More)

d. Setbacks. WECS shall be set back a distance equal to its height from the following:

(1) Any public road right-of-way, unless written permission is granted by the governmental entity with jurisdiction over the road;

(2) Any overhead utility lines, unless written permission is granted from the affected utility; and

(3) All property lines, unless written permission is granted from the affected property owner or neighbor.

e. Rotor Size. All WECS rotors shall not have rotor diameters greater than forty – five (45) feet.

f. Rotor Clearance. Blade arcs created by the WECS shall have a minimum of thirty (30) feet of clearance over any structure or tree within a two hundred (200) foot radius.

g. Rotor Safety. Each WECS shall be equipped with both a manual and automatic braking device capable of stopping the WECS operation in high winds (40mph or greater).

Source: City of Mahtomedi Zoning Ordinance, Subd. 9.4 A.

From Policy to Reality

Updated

^ Model Ordinances for Sustainable Development

2000
Environmental Quality Control Board

2008
Minnesota Pollution Control Agency

2013
Minnesota Department of Commerce, Divisino of Energy Resources

Updates funded by a 2008 Minnesota Pollution Control Agency Sustainable Communities Grant
Subsequent changes funded through U.S. Department of Energy Sunshot Initiative Rooftop Solar Challenge
February, 2014

Prepared for the Minnesota Division of Energy Resources by:

Brian Ross

501 Main Street SE #711
Minneapolis, MN 55414
612-588-4904
bross@crplanning.com

INTRODUCTION

In spite of its cold and dark reputation, Minnesota has good solar potential, as good as Houston, Texas and many parts of Florida. As solar energy system components have become more efficient and less costly an increasing number of solar energy installations have been installed in Minnesota. Since 2005, the interest in solar energy has rapidly increased such that many communities have had to address solar installations as a land use issue. Solar energy components continue to improve in efficiency and decline in price; the U.S. Department of Energy forecasts that solar energy will start to reach widespread cost parity with retail electric costs by 2016.

But solar energy is much more than an alternative (or supplement) to utility power. Solar energy has become a symbol of energy self-sufficiency and environmental sustainability. The growth in solar installations is attributable more to the non-economic benefits than as an economic substitute for the electric utility. Households and businesses wanting to reduce their carbon footprint see solar energy as a strong complement to energy efficiency. Volatility in natural gas prices makes free solar fuel look attractive as a price hedge.

Solar energy issues

Local governments will need to address solar energy installations in their development regulation in the near future. Three primary issues tie solar energy to development regulations:

1) *Nuisance and safety considerations*. Solar energy systems have few nuisances, but visual impacts and safety concerns by neighbors sometimes create opposition to solar installations. Good design and attention to aesthetics can answer most concerns. But the misperception that solar energy systems are ugly and unsafe, rooted in poorly designed 1970s solar installations, have sometimes resulted in unnecessary regulation or outright prohibitions.
2) *Protecting access to solar resources*. Development regulations can limit a property owner's ability to access their solar resource. Moreover, solar access can be limited by buildings or vegetation on adjacent lots, and should be a consideration in zoning districts that allow tall buildings or in developing communities where subdivisions should enhance or protect homeowner's access direct sunlight.
3) *Climate protection goals*. Local governments that have committed to meeting climate protection goals can meet some of their commitment by removing regulatory barriers to solar energy and incorporating low or no-cost incentives in development regulations to spur solar investment.

Model Solar Energy Standards

This ordinance is based primarily on the model solar energy ordinance created for Solar Minnesota, under a Million Solar Roofs grant from the U.S. Department of Energy. It has been updated several times to reflect different needs of Minnsota communities and the evolving solar industry, last updated February, 2014

Statutory Solar Access Requirement

Local governments within the seven-county metropolitan region are required under state law to address solar access in their comprehensive plans, and thus indirectly in their development regulation that implements the comprehensive plan (Minn. Stat. 473.859, Subd. 2[b]). Refer to the Metropolitan Council Land Planning Handbook for more information.

Components of a solar standards ordinance

Solar energy standards should consider the following elements:

- Remove regulatory barriers and create a clear regulatory path (an as-of-right installation) to solar development for both accessory and (if appropriate) principal uses such as solar farms and ground-mount community shared solar installations.
- Address solar access issues within the subject property to ensure reasonable access not unduly limited by height, setback, or coverage limitation, recognizing the distinct design and function of solar technologies.
- Define aesthetic standards that retain an as-of-right installation while balancing design concerns in urban neighborhoods, historic districts, and new subdivisions.
- Address solar access issues across property lines in subdivisions and zoning districts that allow taller buildings on smaller (urban density) lots.
- Encourage solar-ready subdivision and building design.
- Incorporate regulatory incentives that can spur private-sector solar investment.

Urban and rural communities

The model ordinance language addresses concerns that are primarily in cities rather than counties or townships. Issues of solar access and nuisances associated with solar energy systems are of less consequence outside urban density areas, where lot sizes are almost always greater than one acre. Aesthetic issues or solar access issues might come into play in lakeshore areas or conservation development areas, where homes are closer together or protected trees might limit solar access. The incentive potion of the model ordinance can also be applied in rural areas. Some provisions of this model are applicable to low-density or rural areas, but more appropriate language is provided in the model County ordinance provided in a separate document.

Principal and accessory uses

This ordinance addresses solar energy as an accessory use to the primary residential or commercial use in an urban area. Solar energy systems are also sometimes the primary use as on "solar farms" that are large arrays of hundreds or thousands of ground or pole-mounted panels, or in the case of solar thermal power plants, such as seen in the desert southwest. These land uses have different issues and need to be addressed in a substantially different manner than discussed in this model. Sample language addressing these principal solar land uses is provided in the county model solar ordinance.

I. Scope - This article applies to all solar energy installations in Model Community.

II. Purpose - Model Community has adopted this regulation for the following purposes:

A. **Comprehensive Plan Goals** - To meet the goals of the Comprehensive Plan and preserve the health, safety and welfare of the Community's citizens by promote the safe, effective and efficient use of active solar energy systems installed to reduce the on-site consumption of fossil fuels or utility-supplied electric energy. The following solar energy standards specifically implement the following goals from the Comprehensive Plan:

1. **Goal** – Encourage the use of local renewable energy resources, including appropriate applications for wind, solar, and biomass energy.
2. **Goal** – Promote sustainable building design and management practices in residential, commercial, and industrial buildings to serve the needs of current and future generations.
3. **Goal** – Assist local businesses to lower financial and regulatory risks and improve their economic, community, and environmental sustainability.
4. **Goal** – Efficiently invest in and manage public infrastructure systems to support development and growth.

B. **Climate Change Goals** - As a signatory of the Cool Cities program, Model Community has committed to reducing carbon and other greenhouse gas emissions. Solar energy is an abundant, renewable, and nonpolluting energy resource and that its conversion to electricity or heat will reduce our dependence on nonrenewable energy resources and decrease the air and water pollution that results from the use of conventional energy sources.

C. **Infrastructure** - Distributed solar photovoltaic systems will enhance the reliability and power quality of the power grid and make more efficient use of Model Community's electric distribution infrastructure.

D. **Local Resource** - Solar energy is an under used local energy resource and encouraging the use of solar energy will diversify the community's energy supply portfolio and exposure to fiscal risks associated with fossil fuels.

E. **Improve Competitive Markets** - Solar energy systems offer additional energy choice to consumers and will improve competition in the electricity and natural gas supply market.

Comprehensive Plan Goals

Tying the solar energy ordinance to Comprehensive Plan goals is particularly important when the solar standards include regulatory incentives or solar requirements as described in the last section of this ordinance. If the Comprehensive Plan does not include goals that could address solar energy, and the community does not have some of policy foundation for encouraging private investment in solar energy (such as climate protection goals) the community should consider creating a local energy plan.

Climate Protection Strategies

Solar energy should be part of every community's portfolio for addressing climate change or energy transitions (also known as "peak oil") considerations. Local governments that are participating in the Cities for Climate Protection program, Mayor's Climate Protection signatories, or the Cool Cities/Cool Counties program can use private solar investment as a vehicle for meeting goals. Additional community benefits that improve sustainability are also spelled out in the findings section.

III. Definitions

Active Solar Energy System - A solar energy system whose primary purpose is to harvest energy by transforming solar energy into another form of energy or transferring heat from a collector to another medium using mechanical, electrical, or chemical means.

Building-integrated Solar Energy Systems - An active solar energy system that is an integral part of a principal or accessory building, rather than a separate mechanical device, replacing or substituting for an architectural or structural component of the building. Building-integrated systems include but are not limited to photovoltaic or hot water solar energy systems that are contained within roofing materials, windows, skylights, and awnings.

Grid-intertie Solar Energy System - A photovoltaic solar energy system that is connected to an electric circuit served by an electric utility company.

Off-grid Solar Energy System - A photovoltaic solar energy system in which the circuits energized by the solar energy system are not electrically connected in any way to electric circuits that are served by an electric utility company.

Passive Solar Energy System - A solar energy system that captures solar light or heat without transforming it to another form of energy or transferring the energy via a heat exchanger.

Photovoltaic System - An active solar energy system that converts solar energy directly into electricity.

Renewable Energy Easement, Solar Energy Easement - An easement that limits the height or location, or both, of permissible development on the burdened land in terms of a structure or vegetation, or both, for the purpose of providing access for the benefited land to wind or sunlight passing over the burdened land.

Renewable Energy System - A solar energy or wind energy system. Renewable energy systems do not include passive systems that serve a dual function, such as a greenhouse or window.

Roof Pitch - The final exterior slope of a building roof calculated by the rise over the run, typically but not exclusively expressed in twelfths such as 3/12, 9/12, 12/12.

Solar Access - Unobstructed access to the solar resource (see definition below) on a lot or building, including access across adjacent parcel air rights, for the purpose of capturing direct sunlight to operate a solar energy system.

Solar Definitions

Not all these terms are used in this model ordinance, nor is this a complete list of solar definitions. As a community develops its own design standards for solar technology, many of the concepts defined here may be helpful in meeting local goals. For instance, solar daylighting devices may change the exterior appearance of the building, and the community may choose to distinguish between these devices and other architectural changes.

Solar Resource - A view of the sun from a specific point on a lot or building that is not obscured by any vegetation, building, or object for a minimum of four hours between the hours of 9:00 AM and 3:00 PM Standard time on any day of the year.

Solar Collector - A device, structure or a part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical, or electrical energy.

Solar Collector Surface - Any part of a solar collector that absorbs solar energy for use in the collector's energy transformation process. Collector surface does not include frames, supports and mounting hardware.

Solar Daylighting - A device specifically designed to capture and redirect the visible portion of the solar spectrum, while controlling the infrared portion, for use in illuminating interior building spaces in lieu of artificial lighting.

Solar Energy - Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.

Solar Energy Device - A system or series of mechanisms designed primarily to provide heating, cooling, electrical power, mechanical power, solar daylighting or to provide any combination of the foregoing by means of collecting and transferring solar generated energy into such uses either by active or passive means. Such systems may also have the capability of storing such energy for future utilization. Passive solar energy systems shall clearly be designed as a solar energy device such as a trombe wall and not merely a part of a normal structure such as a window.

Solar Energy System - A device or structural design feature, a substantial purpose of which is to provide daylight for interior lighting or provide for the collection, storage and distribution of solar energy for space heating or cooling, electricity generating, or water heating.

Solar Heat Exchanger - A component of a solar energy device that is used to transfer heat from one substance to another, either liquid or gas.

Solar Hot Air System - (also referred to as Solar Air Heat or Solar Furnace) – An active solar energy system that includes a solar collector to provide direct supplemental space heating by heating and re-circulating conditioned building air. The most efficient performance typically uses a vertically mounted collector on a south-facing wall.

Solar Hot Water System (also referred to as Solar Thermal**)** - A system that includes a solar collector and a heat exchanger that heats or preheats water for building heating systems or other hot water needs, including residential domestic hot water and hot water for commercial processes.

Solar Resource

Understanding what defines a "solar resource" is foundational to understanding how land use regulation affects solar development. Solar energy resources are not simply where sunlight falls. A solar resource has minimum spatial and temporal characteristics, and needs to be considered not only today but also into the future. Solar energy equipment can not function as designed if installed in partial shade, with too few hours of daily or annual direct sunlight, or without southern or near-southern exposure. Many provisions of the model ordinance are predicated on the concept that a solar resource has definable characteristics that are affected by local land use decisions and regulation.

Height - Rooftop System

This ordinance notes exceptions to the height standard when other exceptions are granted in the ordinance. Communities should directly reference the exception language, rather than use the placeholder language here.

Height - Ground or Pole Mounted

This ordinance sets a 20-foot height limit, assuming a standard that is higher than typical height limits for accessory structures, but lower than the principal structure. Communities may want to consider balancing height with setback, allowing taller systems if set back farther, for instance, an extra foot of height for every additional two feet of setback.

Building Integrated PV

Building integrated solar energy systems can include solar energy systems built into roofing (existing technology includes both solar shingles and solar roofing tiles), into awnings, skylights, and walls. This ordinance only addresses building integrated PV, but examples of building integrated solar thermal applications may also be available.

Roof-Mounted Solar Energy Systems

This ordinance sets a threshold for solar panels that they not be steeper than the finished roof pitch. Mounted systems steeper than the finished roof pitch change the appearance of the roof, and sometimes create additional considerations in regard to the wind and drift load on structural roof components. Safety risks can be mitigated through structural review or roof structure modification if the aesthetic impacts are not a concern to the community.

Solar Mounting Devices - Racking, frames, or other devices that allow the mounting of a solar collector onto a roof surface or the ground.

Solar Storage Unit - A component of a solar energy device that is used to store solar generated electricity or heat for later use.

IV. Permitted Accessory Use - Active solar energy systems shall be allowed as an accessory use in all zoning classifications where structures of any sort are allowed, subject to certain requirements as set forth below. Active solar energy systems that do not meet the visibility standards in C. below will require a conditional use permit, except as provided in Section V. (Administrative Variances).

A. **Height** - Active solar energy systems must meet the following height requirements:

1. Building- or roof- mounted solar energy systems shall not exceed the maximum allowed height in any zoning district. For purposes for height measurement, solar energy systems other than building-integrated systems shall be given an equivalent exception to height standards as building-mounted mechanical devices or equipment.
2. Ground- or pole-mounted solar energy systems shall not exceed 20 feet in height when oriented at maximum tilt.

B. **Set-back** - Active solar energy systems must meet the accessory structure setback for the zoning district and primary land use associated with the lot on which the system is located.

1. **Roof-mounted Solar energy systems** - In addition to the building setback, the collector surface and mounting devices for roof-mounted solar energy systems shall not extend beyond the exterior perimeter of the building on which the system is mounted or built, unless the collector and mounting system has been explicitly engineered to safely extend beyond the edge, and setback standards are not violated. Exterior piping for solar hot water systems shall be allowed to extend beyond the perimeter of the building on a side yard exposure.
2. **Ground-mounted Solar energy systems** - Ground-mounted solar energy systems may not extend into the side-yard or rear setback when oriented at minimum design tilt.

C. **Visibility** - Active solar energy systems shall be designed to blend into the architecture of the building or be screened from routine view from public right-of-ways other than alleys. The color of the solar collector is not required to be consistent with other roofing materials.

1. **Building Integrated Photovoltaic Systems** - Building integrated photovoltaic solar energy systems shall be allowed regardless of whether the system is visible from the public right-of-way, provided the building component in which the system is integrated meets all required setback,

land use or performance standards for the district in which the building is located.

2. **Solar Energy Systems with Mounting Devices** - Solar energy systems using roof mounting devices or ground-mount solar energy systems shall not be restricted if the system is not visible from the closest edge of any public right-of-way other than an alley. Roof-mount systems that are visible from the nearest edge of the street frontage right-of-way shall not have a highest finished pitch steeper than the roof pitch on which the system is mounted, and shall be no higher than twelve (12) inches above the roof.

3. **Coverage** - Roof or building mounted solar energy systems, excluding building-integrated systems, shall allow for adequate roof access to the south-facing or flat roof upon which the panels are mounted. The surface area of pole or ground mount systems shall not exceed half the building footprint of the principal structure.

4. **Historic Buildings** - Solar energy systems on buildings within designated historic districts or on locally designated historic buildings (exclusive of State or Fedferal historic designation) will require an administrative variance, as provided in this ordinance.

D. **Approved Solar Components** - Electric solar energy system components must have a UL listing and solar hot water systems must have an SRCC rating.

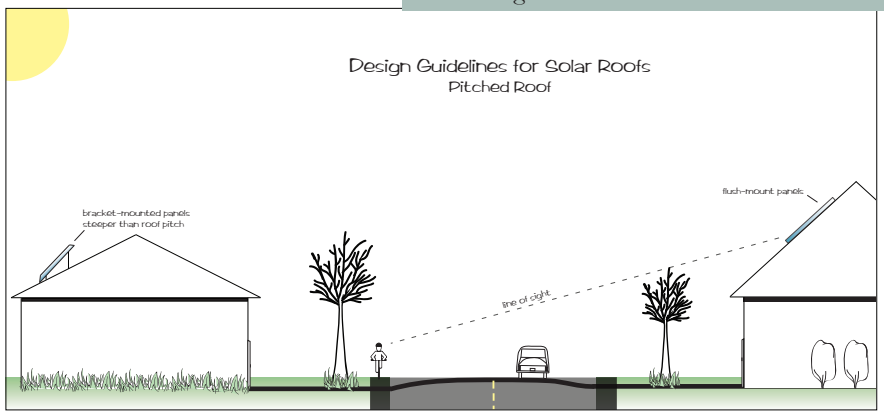
E. **Plan Approval Required** - All solar energy systems shall require administrative plan approval by Model Community zoning official.

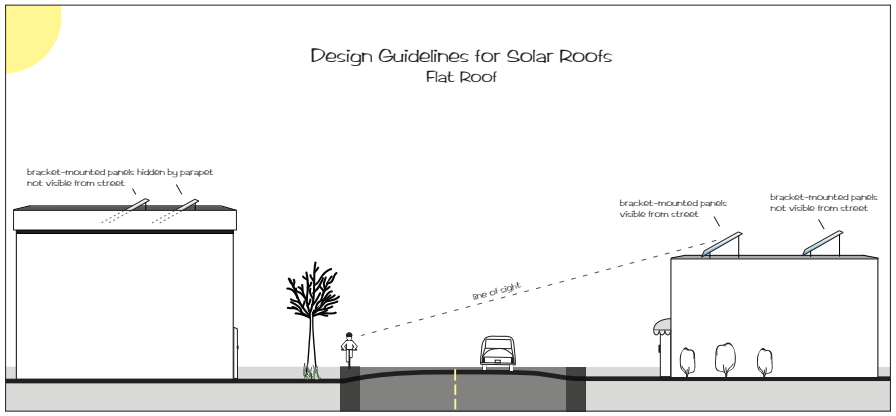
1. **Plan Applications** - Plan applications for solar energy systems shall be accompanied by to-scale horizontal and vertical (elevation) drawings. The drawings must show the location of the system on the building or on the property for a ground-mount system, including the property lines.

   a. **Pitched Roof Mounted Solar Energy Systems** - For all roof-mounted systems other than a flat roof the elevation must show the highest finished slope of the

Coverage

Roof coverage limitations are generally not necessary, as some of the roof is likely to be shaded or otherwise not suitable for solar energy. Coverage is an issue of concern in order to ensure ready roof access in the event of a fire. Coverage limits can be a percentage limition, such as 80% of the total south-facing roof, or a required setback from one or more edges.





solar collector and the slope of the finished roof surface on which it is mounted.

b. **Flat Roof Mounted Solar Energy Systems** - For flat roof applications a drawing shall be submitted showing the distance to the roof edge and any parapets on the building and shall identify the height of the building on the street frontage side, the shortest distance of the system from the street frontage edge of the building, and the highest finished height of the solar collector above the finished surface of the roof.

2. **Plan Approvals** - Applications that meet the design requirements of this ordinance, and do not require an administrative variance, shall be granted administrative approval by the zoning official and shall not require Planning Commission review. Plan approval does not indicate compliance with Building Code or Electric Code.

F. **Compliance with Building Code** - All active solar energy systems shall meet approval of local building code officials, consistent with the State of Minnesota Building Code, and solar thermal systems shall comply with HVAC-related requirements of the Energy Code.

G. **Compliance with State Electric Code** - All photovoltaic systems shall comply with the Minnesota State Electric Code.

H. **Compliance with State Plumbing Code** - Solar thermal systems shall comply with applicable Minnesota State Plumbing Code requirements.

I. **Utility Notification** - All grid-intertie solar energy systems shall comply with the interconnection requirements of the electric utility. Off-grid systems are exempt from this requirement.

Administrative Variance

This model language uses an administrative variance process to balance between aesthetic design considerations and the building owner's choice to use the property for generating renewable energy. Administrative variances allow staff to departures from the design standards when such departures are necessary in order to allow for efficient harvest of solar energy, without having to get Planning Commission approval or pay additional fees. The administrative variance standards spell out the conditions that staff would use to judge if the system genuinely could not be designed consistently with Section IV. (such as a lack of solar access except on the front of the building), and the metrics by which staff would judge screening or visual integration with the building. Some communities will have other means to allow this, or will have a conditional use permit process that does not create burdensome additional regulation.

V. Administrative Variance (or conditional use) - Model Community encourages the installation of productive solar energy systems and recognizes that a balance must be achieved between character and aesthetic considerations and the reasonable desire of building owners to harvest their renewable energy resources. Where the standards in Section IV. A., B., or C. cannot be met without diminishing, as defined below, the minimum reasonable performance of the solar energy system, an administrative variance (or CUP) may be sought from the zoning official. An administrative variance (or CUP) shall be granted if the standards are met.

A. **Minimum Performance Design Standards** - The following design thresholds are necessary for efficient operation of a solar energy system:

1. **Fixed-Mount Active Solar Energy Systems** - Solar energy systems must be mounted to face within 45 degrees of south (180 degrees azimuth).

Restrictions on Solar Energy Systems

One of the most common barriers to solar energy in developing areas are restrictive covenants in new subdivisions. The covenants are intended to maintain an the appearance of homes, property values, and saleability. If, however, the local government provides solar design standards that protect against poor design of solar accessory uses, it is reasonable to prevent the developer or homeowner's association from creating unwarranted restrictions on a sustainable source of energy.

2. **Solar Electric (photovoltaic) Systems** - Solar collectors must have a pitch of between 20 and 65 degrees.
3. **Solar Hot Water Systems** - Solar collectors need to be mounted at a pitch between 40 and 60 degrees.
4. **System Location** - The system is located where the lot or building has a solar resource.

B. **Standards for an Administrative Variance** (CUP) - A variance shall be granted by the zoning official if the applicant meets the following safety, performance and aesthetic conditions:

1. **Aesthetic Conditions** - The solar energy system must be designed to blend into the architecture of the building or be screened from routine view from public right-of-ways other than alleys to the maximum extent possible while still allowing the system to be mounted for efficient performance.
2. **Safety Conditions** - All applicable health and safety standards are met.
3. **Non-Tracking Ground-Mounted Systems** - Pole-mounted or ground-mounted active solar energy systems must be set back from the property line by one foot.

VI. Restrictions on Solar Energy Systems Limited - No homeowners' agreement, covenant, common interest community, or other contract between multiple property owners within a subdivision of Model Community shall restrict or limit solar energy systems to a greater extent than Model Community' solar energy standards.

VII. Solar Access - Model Community encourages solar access to be protected in all new subdivisions and allows for existing solar to be protected consistent with Minnesota Statutes.

A. **Solar Easements Allowed** - Model Community has elected to allow solar easements to 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 from or granted by owners of neighboring properties and can apply to buildings, trees, or other structures that would diminish solar access.

B. **Easements within Subdivision Process** - Model Community may require new subdivisions to identify and create solar easements when solar energy systems are implemented as a condition of a PUD, subdivision, conditional use, or other permit, as specified in Section 8 of this ordinance.

Solar Easements

Minnesota allows the purchase and holding of easements protecting access to solar and wind energy. The easement must specify the following information:

Required Contents *- Any deed, will, or other instrument that creates a solar or wind easement shall include, but the contents are not limited to:*

(a) A description of the real property subject to the easement and a description of the real property benefiting from the solar or wind easement; and
(b) For solar easements, a description of the vertical and horizontal angles, expressed in degrees and measured from the site of the solar energy system, at which the solar easement extends over the real property subject to the easement, or any other description which defines the three dimensional space, or the place and times of day in which an obstruction to direct sunlight is prohibited or limited;
(c) A description of the vertical and horizontal angles, expressed in degrees, and distances from the site of the wind power system in which an obstruction to the winds is prohibited or limited;
(d) Any terms or conditions under which the easement is granted or may be terminated;
(e) Any provisions for compensation of the owner of the real property benefiting from the easement in the event of interference with the enjoyment of the easement, or compensation of the owner of the real property subject to the easement for maintaining the easement;
(f) Any other provisions necessary or desirable to execute the instrument.

Source: Minnesota Stat. 500.30 Subd. 3.

Renewable Energy Conditions (previous page)

The community can use traditional development tools such as conditional use permits, PUDs, or other discretionary permits to encourage private investment in solar energy systems. This model ordinance notes these opportunities for consideration by local governments. In most cases, additional ordinance language would need to be inserted into the community's ordinances. For instance, a provision that PUDs incorporate solar energy would need to be included in the community's PUD ordinance, or if a condition of a CUP was to make the building solar-ready, this would need to be included in the conditional use permit section of the ordinance.

Solar Roof Incentives

This section of the model ordinance includes a series of incentives that can be incorporated into development regulation. Most cities and many counties make requirements or use incentives to ensure that certain public amenities are included in development. These same tools and incentives can be used to encourage private investment in solar energy. Communities will not want to use all these incentives, but should select which ones make the most sense in their community (or create some other incentive that encourages solar energy). As with any incentive, an important element of creating the incentive is to engage planning or economic development staff in the creation of the incentive, so that staff can assist the developer in taking advantage of the provisions.

VIII. Renewable Energy Condition for Certain Permits

A. **Condition for Rezoning or Conditional Use Permit** - Model Community may, in an area where the local electric distribution system was installed more than twenty years ago, or where the local electric utility has documented a near-term need for additional distribution substation or conductor capacity, require on-site renewable energy systems as a condition for a rezoning or a conditional use permit.

1. The renewable energy condition may only be exercised for new construction or major reconstruction projects.
2. The renewable energy condition may only be exercised for sites that have 90% unimpeded solar or wind energy access, and for which the renewable energy system can reasonably meet all performance standards and building code requirements.

B. **Condition for Planned Unit Development (PUD) Approval** - Model Community may require on-site renewable energy systems as a condition for approval of a PUD permit, in order to mitigate for:

1. Risk to the performance of the local electric distribution system,
2. Increased emissions of greenhouse gases,
3. Other risks or effects inconsistent with Model Community's Comprehensive Plan.

IX. Solar Roof Incentives

- Model Community has identified the following incentives for development applications or subdivisions that will include buildings using active solar energy systems.

A. **Density Bonus** - Any application for subdivision of land in the ___ Districts that will allow the development of at least four new lots of record shall be allowed to increase the maximum number of lots by 10% or one lot, whichever is greater, provided all building and wastewater setbacks can be met with the increased density, if the applicant enters into a development agreement guaranteeing at each one kilowatt of PV or 64 square feet of solar hot water collector installed for each new residence.

B. **Vacant Lot Preference** - When Model Community disposes of vacant parcels of land that are under City ownership through auction, Model Community shall award a 10% bid preference up to $5,000 for every kilowatt of solar capacity that is to be incorporated into the fully-built out parcel, when awarding the bid. The bidder must also meet all land use and dimensional requirements, and must post a bond for the amount of the bid preference granted.

C. **Solar-Ready Buildings –** Model Community encourages builders to use solar-ready design in buildings. Buildings that submit a completed U.S. EPA's Renewable Energy Ready Home Solar Photovoltaic Checklist and associated documentation will be certified as a Model Community solar ready

home, a designation that will be included in the permit home's permit history.

D. **Solar Access Variance** - On a site where the solar access standards of the subdivision ordinance are difficult to meet due to topography or road connectivity, the zoning administrator shall grant an administrative exception from the solar access standards provided the applicant meets the following conditions:

1. **Solar Access Lots Identified** - At least __% of the lots, or a minimum of __ lots, are identified as solar development lots.
2. **Covenant Assigned** - Solar access lots are assigned a covenant that homes built upon these lots must include an active solar energy system. Photovoltaic systems must be at least one (1) KW in capacity and solar thermal systems must have at least 64 square feet of collector area.
3. **Additional Fees Waived** - Model Community will waive any additional fees for filing of the covenant.

E. **Affordable Housing Offset** - On a site where 90% of the potential solar access is unimpeded, and the local electrical distribution system was installed more than twenty years ago, Model Community may substitute a requirement for grid-intertie photovoltaic systems or active solar thermal systems for up to 50% of the affordable housing requirement. For each unit of affordable housing for which a solar energy substitution is made:

1. The photovoltaic system must have at least 2 kilowatts (KW) of capacity with 90% unobstructed solar access.
2. The active solar thermal system must be sized and have sufficient solar access to generate 75% of the estimated domestic hot water load for a family of four.

F. **Commercial Parking Requirement Offset** - On a site where 90% of the potential solar access is unimpeded, and which has access to mass transit within a block of the development site or which has an approved Travel Demand Management (TDM) plan, or which has entered into a shared parking arrangement with another commercial business that has distinct peak parking profiles, Model Community may substitute a requirement for grid-intertie photovoltaic systems or an active solar thermal systems for up to 50% of the parking requirement, up to a maximum of 5 spaces. For each parking space for which a solar energy substitution is made:

1. The photovoltaic system must have at least one (1) kilowatt (KW) of capacity with 90% unobstructed solar access; or
2. An active solar thermal system must have at least 64 square feet of solar collector, and must have sufficient summer load to utilize collector output.

Grow Solar

Local Government Solar Toolkit

PLANNING, ZONING, AND PERMITTING

Minnesota

Grow Solar

Local Government Solar Toolkit

The Grow Solar Local Government Toolkit is a 3-state collaborative project funded by the U.S. Department of Energy.

Acknowledgment: The information, data, or work presented herein was funded in part by the Office of Energy Efficiency and Renewable Energy (EERE), U.S. Department of Energy, under Award Number DE-0006544.

Disclaimer: the information, data, or work presented herein was funded in part by an *agency* of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

Contact Information

If you have any questions regarding planning, zoning, and permitting for solar energy please contact:

Brian Ross, AICP, LEED Green Associate
Great Plains Institute
betterenergy.org
Office: 612-767-7296
Mobile: 612-501-1531
bross@gpisd.net

Abby Finis, Associate Planner
Great Plains Institute
betterenergy.org
W:612-767-7295
C: 612-245-4070
afinis@gpisd.net

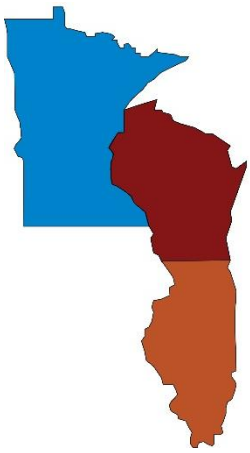
GREAT PLAINS INSTITUTE | Better Energy. Better World.

Grow Solar

Rooftop Solar Toolkit Summary

Planning, Zoning, and Permitting

As part of the Grow Solar Partnership, toolkits have been assembled to equip local governments in Minnesota, Wisconsin, and Illinois with information regarding solar development as it relates to planning, zoning, and permitting. The purpose of these toolkits is to provide resources that will assist communities in addressing barriers to solar energy installations in a manner tailored to each community's needs. The following is a summary of materials that can be found in each of the toolkits.



Solar Overview

State Solar Policy Summary

Solar policy plays an important role in the development of solar energy. This document includes highlights from each state in both the regulatory arena as well as financial incentives that are available to support solar. Additionally, the State Solar Policy Summary includes statutes that enable local governments to regulate solar in planning, zoning, and permitting. This document can be used as reference guide specific to each state.

Three State Regional Analysis

The Three State Regional Analysis looks at the 3-state region of Minnesota, Wisconsin, and Illinois to identify similarities and differences in state law and typical practices in permitting, planning, and zoning for solar energy development. This document serves as the foundation for the toolkits that were developed for each state. Using this analysis, national best practices were modified so that they could be integrated into each state's regulatory framework insofar as it relates to solar development.

Planning

Comprehensive Plan Guide

The Comprehensive Plan Guide is a tool communities can use when they update their land use plans. This document outlines considerations that communities should make and identifies elements that allow for clear priorities around solar energy objectives. Model language is included to help local governments see the types of goals and policies they could include in their plans.

Zoning

Model Ordinances

All local governments with the authority to regulate zoning should include solar development in their zoning code to recognize the value of solar and alleviate any local concerns. These model ordinances offer language to address a variety of solar land uses, tailored to local conditions and priorities.

Permitting

Local Government Permitting Checklist

Providing a clear and predictable permitting process saves time and money for both contractors and municipalities. Using national best practices, a template has been created that can be adapted locally, with notes on where municipalities might choose to modify standards based on varying circumstances.

State Solar Policy Summary

Minnesota

Minnesota has seen interest in solar grow through changes in policy, the decline in costs, and the availability of various incentives. Because solar is rapidly growing in the state, local governments are increasingly seeing developments come to their communities. The following summarizes state policy that that is driving the market and enabling local government authority.

Solar Policy

In 2013, the State Legislature passed a suite of laws that helped forecast an optimistic outlook for solar in Minnesota. These statutes are provided here:

1. Minnesota Statute 216B.1691, subd. 2f. Requires Minnesota's public utilities to generate or procure 1.5 percent of the utility's retail electricity sales from solar energy.
2. Minnesota Statute 116C.7792. Xcel Energy must provide $5 million in financial incentives each year for 5 years for systems 20 kW or less.
3. Minnesota Statute 216B.1641 establishes the Xcel Energy Community Solar Garden Program.
4. Minnesota Statute 216C.411 is the Made in Minnesota incentive that that provides rebate funding for PV systems under 40 kW that are made in the state.

Prior to the above legislation, the State passed 216B.1691 Renewable Energy Objectives, which requires 25% of total retail electricity sales to be generated from renewable energy sources by 2025. This standard alone did not spur solar development, but helped open the door to a broader mix of renewable energy.

Solar Market

Minnesota has a number of incentives to help spur and finance solar development to reach state goals and mandates. Available incentives are listed here:

- PACE (216C.436) financing for commercial applications
- Made in Minnesota for systems under 40kw are eligible for the Made in Minnesota rebate
- Xcel Energy's Solar Rewards systems under 20 kW may be eligible for
- Additionally, the federal tax credit of up to 30% is available through the end of 2016

Currently, Minnesota has approximately 20 MW of installed solar capacity. Under the solar standard, that number is expected to grow to at least 450 MW in the next 5 years. With the community solar gardens program, the early indication is that these gardens will be very popular and that installed solar will exceed the 1.5% solar standard.

Barriers to Penetration

As solar gets ramped up in Minnesota, there has already been conflict between solar development and local governments. This is particularly true for large solar farms or gardens that are proposed to be installed on large plots of land. Many local governments have not addressed solar development in existing policies and are finding it difficult to regulate.

Statutory Context – Local Authority

Enabling Statutes for addressing solar resources

1. **Solar Zoning**
    a. Minnesota Statute 462.357 Subd.1, (cities) 394.25 Subd.2 (counties) Official Controls: Zoning Ordinance. . . . a municipality may by ordinance regulate on the earth's surface, in the air space above the surface, and in subsurface areas, . . . access to direct sunlight for solar energy systems . . .
2. **Metropolitan Land Planning Act**
    a. Minnesota Statute 473.859 Subd.2 Land Use Plan. (b) A land use plan shall contain a protection element, as appropriate, for historic sites, the matters listed in the water management plan required by section 103B.23, and an element of protection and development of access to direct sunlight for solar energy systems.
3. **Enabling Solar Easements**
    a. Minnesota Statute. 500.30 Subd. 3. Solar and Wind Easements. Allows the purchase and holding of easements protecting access to solar and wind energy.
4. **Allowance for Solar Variance**
    a. Minnesota Statute 394.25 Subd. 7, 462.357 Subd.6(2) Variances; Practical Difficulties. Variances shall only be permitted when they are in harmony with the general purposes and intent of the official control and when the variances are consistent with the comprehensive plan […] Practical difficulties include, but are not limited to, inadequate access to direct sunlight for solar energy systems […].
5. **Enabling solar access in subdivision regulation**
    a. Minnesota Statute 462.358 Subd. 2a. Official Controls: Subdivision Regulation; Dedication. The regulations may prohibit, restrict or control development for the purpose of protecting and assuring access to direct sunlight for solar energy systems.
6. **Power Plant Siting**
    a. Minnesota Statute 216E.021. Solar Energy System Size Determination. The alternating current nameplate capacity of one solar energy generating system must be combined with the alternating current nameplate capacity of any other system that:
        i. Is constructed within the same 12-month period […]
        ii. Exhibits characteristics of being a single development […]
    b. Minnesota Statute 216E.05 Subdivision 1. Local Review. (a) […] an applicant who seeks a site or route permit for one of the projects identified in this section shall have the option of applying to those local units of government that have jurisdiction over the site or route for approval to build the project […]
7. **Property Taxes**
    a. Minnesota Statute 272.02 Subd. 24. Exempt Property. Solar Energy Generating Systems. Personal property consisting of solar energy generating systems […] is exempt.
        i. Principal uses (solar farms or gardens) – the land on which the system is located shall be classified as class 3a property.
        ii. Accessory uses – the solar energy system is disregarded.
    b. Minnesota Statute 272.0295. Solar Energy Production Tax. Applies only to systems with a capacity greater than 1MW and establishes a tax rate of $1.20 per megawatt hour. The production tax is paid to the county in which the system is located.

Grow Solar

Solar in Comprehensive Planning

Purpose

Comprehensive plans are the foundational policy document reflecting a community's priorities and values regarding development and local resources. Solar energy resources are an increasingly valuable local resource — solar development can bring environmental and economic benefits to a community through clean energy production, creation of local jobs and revenue, and improved property values. Communities are acknowledging this valuable resource and incorporating support and guidance for solar energy development into comprehensive plans, sending a strong message of commitment for sustained growth in the solar energy sector.

Communities are not, however, always familiar with the characteristics of solar resources and solar land uses. This document outlines considerations that communities should make and identifies elements that allow for clear priorities around solar energy objectives. Identifying how solar development can benefit the community will help decision-makers determine how solar resources and investments are integrated into the community in a way that balances and protects competing development or resources.

Downtown Solar Resource Map. Rochester, MN

Considerations

When addressing solar development in a comprehensive plan, it is important to acknowledge what makes solar work for a community as well as the inherent conflicts that may arise. Any comprehensive plan that includes a solar component should:

1. Address the solar resource and the different land use forms that solar development can take
2. Acknowledge the multiple benefits of solar development
3. Guide decision-makers on optimizing opportunities when solar development might conflict with other resources or land use forms

Each of these components can help a community identify how they wish to include solar as a resource and to be able to reasonably justify why and where solar development is supported.

Additionally, in Minnesota, The Metropolitan Land Planning Act (Minnesota Statute 473.859 Subd.2) requires communities in the metro area to include solar access protection in comprehensive plans. The statutes states:

> **A land use plan shall contain a protection element, as appropriate, […], and an element of protection and development of access to direct sunlight for solar energy systems.**

Solar Resource

The local landscape (e.g., topography, on-site obstructions, obstructions on adjacent land, potential future obstructions) defines whether or not a given site has a good solar resource. An adequate solar resource is a site that is unshaded for at least 6 hours a day, both now and into the future. Communities can map their solar resource using LiDAR data that is frequently available in urban areas, and in some states even in rural areas. Such a map can allow the community to measure the size of their "solar reserves" identify areas with good and poor resources for prioritizing development in a manner consistent with other land uses, and even distinguish between opportunities for rooftop and ground-mount solar development opportunities. Minnesota has geographic solar resource data available at 1-meter resolution across virtually the entire state. GIS data will be available for downloading soon.

In addition to measuring and recognizing the solar resource, communities should recognize that a variety of methods exist to capture the energy and provide economic value. There are several different types of solar installations a community will want to consider: rooftop, accessory ground-mount, and principal ground-mount. A community can use the comprehensive plan to determine which of these technologies to support and/or promote.

Rooftop Solar, CERTs

Solar Benefits

Communities can realize a number of benefits through solar development, including environmental, energy production, and economic development. Environmental benefits include helping meet local air quality or climate protection goals. Communities with renewable energy or energy independence goals can better achieve these through explicit support of solar energy development. Economically, solar development creates construction jobs for a variety of trades, financially benefits those who install systems on their properties with lower energy bills, and increases the property value of buildings within the local housing market.

Ground Mount System, CERTs

Land Use Conflicts

Like any development, solar may come into conflict with other land uses, and solar resources are often co-located with other important local resources. Recognizing these issues in the comprehensive plan can help to mitigate future problems.

Solar Farm, CERTs

Some conflicts to consider include:

- Agricultural practices
- Urban forests
- Historic resources
- Airport control towers
- Natural areas
- Future housing or commercial development

Each community is different and may see conflicts arise that are not listed here. Identifying and addressing those conflicts in comprehensive planning will need to happen at the community level.

Elements

Common features of a comprehensive plan include a discussion of existing conditions, a presentation of desired outcomes in the form of a vision and goals, and an inventory of policies and actions that support those goals. The following model language are examples of what could be incorporated into a comprehensive plan.

Existing Conditions

Understanding the potential importance of a community's solar resource requires some knowledge of both the availability of the local solar resource and the community's existing energy use. Using a solar map, like the one described above, is a useful way to demonstrate the solar potential across the area. Identifying the areas with the greatest potential can help the community plan and prepare for the best sites to locate solar investment and to achieve the goals outlined in the plan. Understanding the nature of the community's energy use – data that can be obtained from the community's utility providers – can put the solar resource within the appropriate economic and use intensity context. For instance, most communities have sufficient solar resources to theoretically meet a substantial portion of their electric energy consumption, even if only the best resources are used.

Community Rooftop Solar Resource. Rochester, MN

Goals

Among communities that have added renewable energy goals and objectives to their plans, common themes include encouraging solar site design for new subdivisions, improving the energy performance of municipal facilities, removing barriers and creating incentives for small-scale or "distributed" installations, and capturing economic development opportunities associated with renewable energy investment.

Examples of goals may be:

> **Goal 1:** Encourage local production of solar energy on new residential and commercial construction.
>
> **Goal 2:** Maximize the production of solar photovoltaic energy to the extent feasible, while minimizing potential biological, agricultural, visual, and other environmental impacts.

Policies and Actions

In Comprehensive Plans, policies are statements of intent with enough clarity to guide decision-making. Policy statements should be tied to the desired goals and set a clear path to action. Examples of policies are:

> **Policy 1:** Establish clear guidelines for solar ready development in all zoning districts where solar is a permitted use.
>
> **Policy 2:** The City supports the State's effort to achieve the Renewable Portfolio Standard (RPS), which requires utilities to generate 25% of electricity from renewable energy sources, and the State's solar energy goal of having sufficient solar generation to meet 10% of electric use by 2030.

Actions are more specific statements that direct programs, regulations, operational procedures, or public investments. Action statements are intended to guide the implementation of the stated policies. Examples of action statements follow:

> **Action 1:** Provide incentives for developers who build solar-ready residential and commercial structures.
>
> **Action 2:** The City should complete a study to identify opportunities for investment in solar energy resources on public buildings and lands.

Additional Resources:

Planning for Solar Energy, American Planning Association
https://www.planning.org/store/product/?ProductCode=BOOK_P575

Planning Advisory Service Essential Info Packets, Planning and Zoning for Solar Energy
https://www.planning.org/pas/infopackets/open/eip30.htm

Iowa Smart Planning Principles, Statute, Guidance document on-line.
https://rio.urban.uiowa.edu/sites/rio/files/Iowa_Smart_Planning_Overview_0.pdf

Minnesota Solar Planning Requirement – Metropolitan Land Planning Act 473.859. Subd.2b

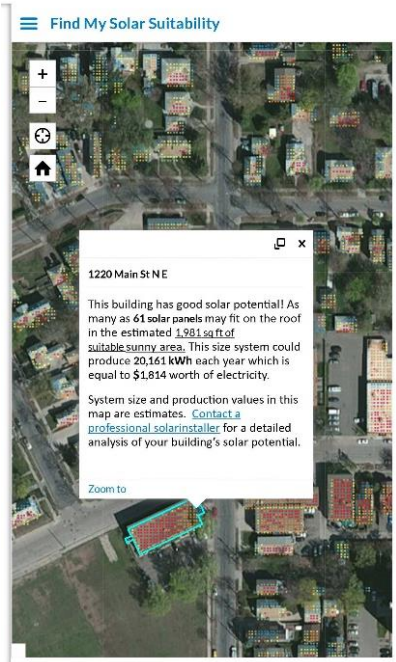
Metropolitan Council Local Planning Handbook

Illinois Planning Authority for Protection Solar Resources ((65 ILCS 5/11-12-5) (from Ch. 24, par. 11-12-5)
http://www.ilga.gov/legislation/ilcs/fulltext.asp?DocName=006500050K11-12-5

Grow Solar

Model Solar Zoning for Minnesota Municipalities

Every Minnesota community should have zoning language that addresses solar energy systems. Solar installations are a form of development, and development regulations, including zoning and subdivision ordinances, need to incorporate the variety of development forms that solar installations can take. Moreover, incorporating solar land uses and development in the ordinances recognizes that the community's solar resources are a valuable asset with economic and environmental value that property owners will want to capture. Solar development regulation can help educate staff and community, as well as alleviate potential conflicts or confusion.



Minneapolis Solar Resource Website

Minnesota state statutes leave most solar development regulation to local governments; the State does not pre-empt or guide solar development except for enabling local governments to take certain options. Most importantly, Minnesota law leaves to local governments the challenge of defining solar "rights," including when property owners have an as-of-right solar development opportunity, when solar rights trump or are trumped by other property rights, and how or whether to protect solar installations from trees or buildings on adjacent properties.

Development regulations that are "solar ready" will have the following characteristics:

- Address all the types of solar land uses that the community is likely to see
- Result in an as-of-right solar installation opportunity for at least accessory use solar and where possible for principal use solar development
- Balance between solar resources and other valuable local resources (trees, soils, historic resources) in the development process

All zoning ordinances include certain basic elements that can, if not considered in the context of solar resources and technologies, create inadvertent barriers to solar development. Basic zoning elements include:

1. **Use.** Which land uses are permitted, which are conditional, which are prohibited in each zoning district? Should the community allow solar farms in industrial districts, or ground-mount accessory solar in the backyards of residential districts?
2. **Dimensional Standards.** What is the minimum or maximum size of building lot, and where on the lot can development be placed? If the solar resource is only viable in the front yard, or only available above the peak of the roof because of the neighbor's trees, should the community allow solar development in those locations? Most communities allow some exceptions to height and setback requirements – does solar meet the same standard to qualify for an exception?
3. **Coverage and Bulk**. How much of the property can be developed consistent with the preferred development pattern for that zoning district? Should solar panels in the backyard count as an accessory structure if the community limits the number of accessory buildings in residential neighborhoods? Does the surface of a solar collector count as impervious surface for storm water standards?

Photo Credit: Great Plains Institute

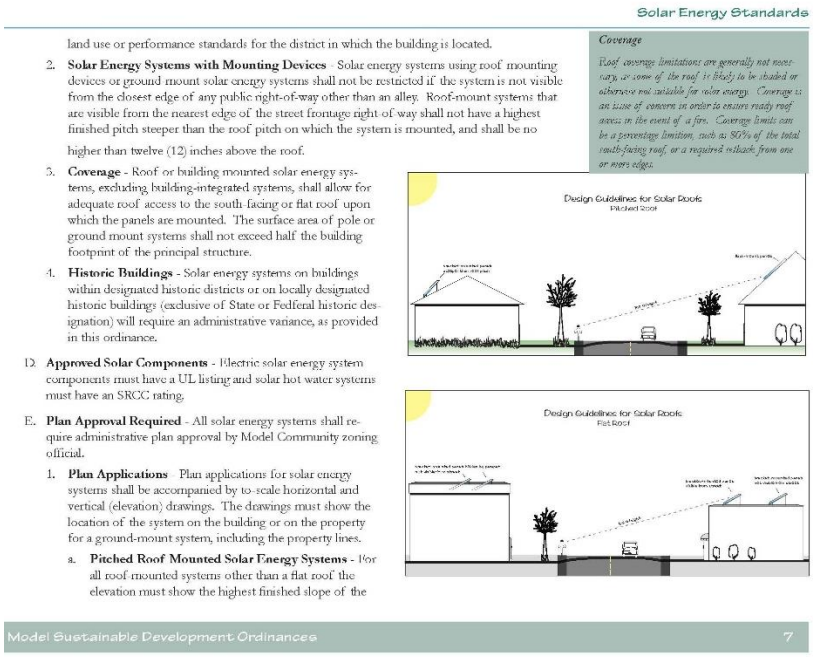
Powered by SunShot U.S. Department of Energy

Some communities' zoning ordinances have more advanced elements that should also be addressed to remove barriers and to take advantage of incentives. Examples include:

- **Design standards** - Are community aesthetic or character standards part of local regulations? How can solar development fit into areas where the community has set design goals?
- **Solar Easements or Cross-Property Protection.** Does local regulation protect the long-term solar resource when someone makes a long-term investment in solar infrastructure? Is there a public purpose in protecting solar access across property lines?
- **Home Owners Associations.** Does the community have an interest in ensuring solar development rights in common interest communities?
- **Integrating with Other Processes.** How does solar development conflict or support agricultural protection, historic preservation, urban forests, urban expansion areas, municipal utility goals?

A number of cities and counties in Minnesota have adopted solar development regulations based on the State of Minnesota's two model solar ordinances. The ordinances were originally developed as part of the State's package of model ordinances for sustainable development *(From Policy to Reality: Model Ordinances for Sustainable Development*), and subsequently evolved with the development of Minnesota's solar markets through the Minneapolis Saint Paul Solar Cities program and the Minnesota Solar Challenge. The two ordinances address two distinct types of communities:

1. Urban communities where the primary form of solar development is accessory uses on rooftops and in yards, and
2. Rural areas, where solar development is more likely to be ground mount accessory and large solar farms or gardens as a principal use.



Minnesota's model solar ordinances offer sample ordinance language that address a variety of solar land uses and local circumstances. The models also provide explanatory text and suggestions for altering the language to tailor the ordinances to local conditions and priorities. The ordinances along with other materials, can be downloaded from the Minnesota Department of Commerce Website (Search for "Minnesota Solar Challenge" or go to http://mn.gov/commerce/energy/businesses/clean-energy/Solar/Minnesota-Solar-Challenge.jsp).

The Resources and Reference Material section at the end of the document provides additional national and state examples and materials to guide local decision-making on making development regulation "solar ready."

Resources and Reference Material:

- Minneapolis Solar Zoning Ordinance: http://www.minneapolismn.gov/www/groups/public/@cped/documents/webcontent/convert_285502.pdf
- Saint Paul Accessory Solar Ordinance, Section 65.921 Saint Paul Municipal Ordinance
- Stearns County Solar Standards, Section 6.51 County Zoning Ordinance http://www.co.stearns.mn.us/Portals/0/docs/Document%20Library/ordinances/ord439.pdf
- National American Planning Association, *Planning for Solar Energy,* https://www.planning.org/store/product/?ProductCode=BOOK_P575
- National American Planning Association, Planners Advisory Service Essential information packet, https://www.planning.org/pas/infopackets/open/eip30.htm
- University of North Carolina, *Planning and Zoning for Solar Energy*, http://sogpubs.unc.edu/electronicversions/pdfs/pandzsolar2014.pdf
- Solar ABCS, *A Comprehensive Review of Solar Access Law in the United States,* http://www.solarabcs.org/about/publications/reports/solar-access/pdfs/Solaraccess-full.pdf
- The Solar Foundation, *A Beautiful Day in the Neighborhood: Encouraging Solar Development through Community Association Policies and Procedures,* http://www.thesolarfoundation.org/a-beautiful-day-in-the-neighborhood-encouraging-solar-development-through-community-association-policies-and-processes/
- National Alliance of Preservation Commissions, *Sample Guidelines for Solar Systems in Historic Districts*, http://www.preservationnation.org/information-center/sustainable-communities/buildings/solar-panels/additional-resources/NAPC-Solar-Panel-Guidelines.pdf
- National Trust for Historic Preservation, Solar Panels and Historic Preservation, http://www.preservationnation.org/information-center/sustainable-communities/buildings/solar-panels/#.VUJ32JNi91A

Grow Solar

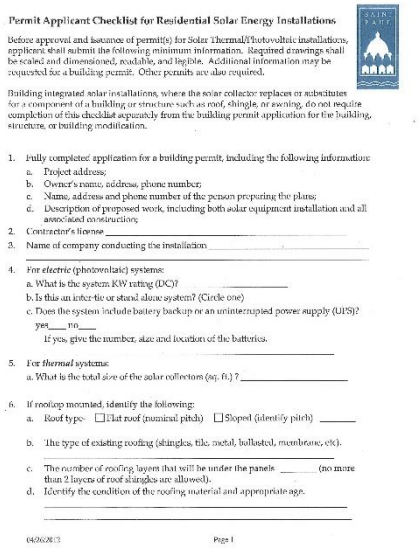
Solar Permitting for Minnesota Municipalities

When a home or business owner makes the decision to install solar, the process begins in earnest for the solar installer. A Minnesota municipality can help reduce the cost of solar development by setting clear and predictable standards for the permitting and inspection process. Making the permit and inspection process transparent and predictable to contractors saves time for both contractors and municipalities. The Solar America Board of Code and Standards (Solar ABCS) developed a set of permitting principals and standards for permitting solar installations based on thousands of installations across the nation and years of data collection and research. These standards are the national best practices that local governments across the nation adapt to their community circumstances.

However, a one-size-fits-all approach does not work for solar permitting in Minnesota municipalities. Communities of different sizes have different processes. Permitting in a rural city will look different than the process in the City of Saint Paul. Cities of similar size have distinct characteristics in their building stock that call for different approaches to permitting. However, all municipalities use an identical Minnesota building code standard, and should rely on the same principals and standards to make the permitting process transparent, predictable, and based on the best evidence and research. With a new and evolving technology such as solar energy, local governments should clarify the technical and administrative processes so permit staff have a roadmap for dealing with technology and installation practices for which they might be unfamiliar.

A template for adapting national permitting best practices to Minnesota cities is provided below. The template provides standardized solar permit language for Midwestern cities, but also notes where local municipalities might choose to modify the standards. The cities of Minneapolis and Saint Paul, Minnesota's "beacon" cities that helped define the national best practices, adapted the national permitting best practices to their particular regulatory standards and building stock. These two solar permitting examples (referenced in the Resources section) demonstrate how two cities can collaborate to set a common permitting standard in spite of differences in administrative procedures and staffing. Minnesota's two "beacon" cities also incorporated additional elements into their permitting processes, such as design standards and heritage preservation.

Additional resources related to permitting processes, standards, and research are included at the end of the document for reference by municipal staff, elected officials and installers.



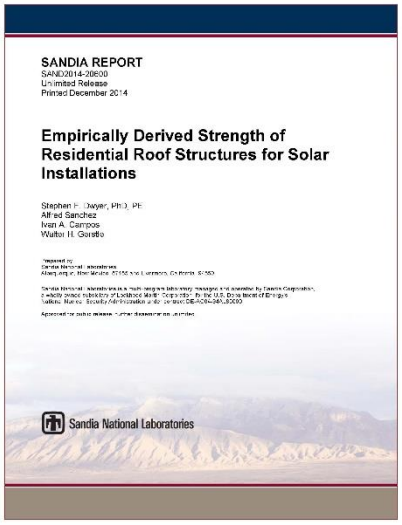
Permit Applicant Checklist for Residential Solar Energy Installations

Before approval and issuance of permit(s) for Solar Thermal/Photovoltaic installations, applicant shall submit the following minimum information. Required drawings shall be scaled and dimensioned, readable, and legible. Additional information may be requested for a building permit. Other permits are also required.

Building integrated solar installations, where the solar collector replaces or substitutes for a component of a building or structure such as roof, shingle, or awning, do not require completion of this checklist separately from the building permit application for the building, structure, or building modification.

1. Fully completed application for a building permit, including the following information:
   a. Project address;
   b. Owner's name, address, phone number;
   c. Name, address and phone number of the person preparing the plans;
   d. Description of proposed work, including both solar equipment installation and all associated construction;
2. Contractor's license _____
3. Name of company conducting the installation _____
4. For *electric* (photovoltaic) systems:
   a. What is the system KW rating (DC)? _____
   b. Is this an inter-tie or stand alone system? (Circle one)
   c. Does the system include battery backup or an uninterrupted power supply (UPS)?
      yes____ no____
      If yes, give the number, size and location of the batteries.
5. For *thermal* systems:
   a. What is the total size of the solar collectors (sq. ft.)? _____
6. If rooftop mounted, identify the following:
   a. Roof type: ☐ Flat roof (nominal pitch) ☐ Sloped (identify pitch) _____
   b. The type of existing roofing (shingles, tile, metal, ballasted, membrane, etc).
   c. The number of roofing layers that will be under the panels _____ (no more than 2 layers of roof shingles are allowed).
   d. Identify the condition of the roofing material and appropriate age.

04/26/2013 Page 1

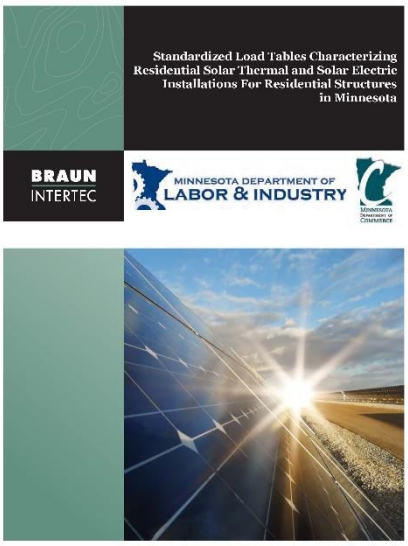


SANDIA REPORT
SAND2014-20800
Unlimited Release
Printed December 2014

Empirically Derived Strength of Residential Roof Structures for Solar Installations

Stephen F. Dwyer, Ph.D., PE
Alfred Sanchez
Ivan A. Campos
Walter H. Gerstle

Sandia National Laboratories



Standardized Load Tables Characterizing Residential Solar Thermal and Solar Electric Installations For Residential Structures in Minnesota

BRAUN INTERTEC

MINNESOTA DEPARTMENT OF LABOR & INDUSTRY

GREAT PLAINS INSTITUTE Better Energy. Better World.

Powered by SunShot U.S. Department of Energy

Standardized Permitting Template

JOB SITE ADDRESS _____

NAME OF BUILDING OWNER _____

JOB VALUATION _____

Installation Contractor	Name _____	
	Address _____	
	City _____	State _____ Zip _____
	State License No. _____	Phone _____

Required Information for Permit:

1. Site plan showing location of major components on the property and a framing cross section that identifies type of support (rafter or truss), spacing, span dimension, and approximate roof slope. The drawings need not be exactly to scale, but it should represent relative location of components. PV arrays on dwellings with a 3' perimeter space at ridge and sides may not need separate fire service review.

> If location of the solar resource on the roof requires installation within three feet of sides or ridge, check with building official to determine if fire service review is needed.

2. Specification sheets and installation manuals for all manufactured components including, but not limited to, PV modules, inverter(s), combiner box, disconnects, and mounting system.
3. *If city manages electric permit process* - Electrical diagram showing PV array configuration, wiring system, overcurrent protection, inverter, disconnects, required signs, and AC connection to building (see accompanying standard electrical diagram).

Step 1: Structural Review of PV Installation Mounting System

1. Is the roof supporting the installation a pitched roof in good condition, without visible sag or deflection, no cracking or splintering of support, or other potential structural defect? ☐ Yes ☐ No
2. Is the roof a rafter system? ☐ Yes ☐ No
3. Is the equipment to be flush-mounted to the roof such that the collector surface is parallel to the roof?

   ☐ Yes ☐ No

> For truss systems, additional information may be needed to ascertain the truss' design loads. The SolarStruc tool (http://www.growsolar.org/wp-content/uploads/2012/06/Solarstruc-2.2.xls) allows contractors to calculate truss capacity for solar installations. Please contact the building official for standards on when structural analysis will be needed.

4. Is the roofing type lightweight? ☐ Yes (composition, lightweight masonry, metal, etc…) ☐ No
5. Does the roof have a single layer roof covering? ☐ Yes ☐ No

If "No" to any of questions 1 -4 above, additional documentation may be required. Documentation may need to demonstrate the structural integrity of the roof and all necessary structural modifications needed to maintain integrity. A statement stamped by a Minnesota licensed/certified structural engineer certifying integrity may be needed. Contact the building official to determine submittal requirements.

6. Identify method and types of weatherproofing for roof penetrations (e.g. flashing, caulk).

   _____

Mounting System Information:

7. Is the mounting structure an engineered product designed to mount PV modules with no more than an 18" gap beneath the module frames? ☐ Yes ☐ No

   If No, provide details of structural attachment certified by a design professional. Manufacturer's engineering specifications are sufficient to meet this requirement.

8. For manufactured mounting systems, fill information on the mounting system below:

   a. Mounting System Manufacturer _____

   b. Product Name and Model #_____

   c. Total Weight of PV Modules and Rails _____ lbs

   d. Total Number of Attachment Points_____ (attachment points must be equally distributed across the array)

   e. Weight per Attachment Point _____ lbs

   f. Maximum Spacing between Attachment Points on a Rail _____inches (see product manual for maximum spacing allowed based on maximum design wind speed).

   g. Total Surface Area of PV Modules (square feet)_____ ft2

   h. Distributed Weight of PV Module on Roof (c÷f)_____ lbs/ft2

> Attaching the rail to each rafter or truss that passes under the array, or to blocking installed between each support, may serve to mitigate for any structural uncertainties on older roofs or wind loading concerns. This approach was used by Minneapolis and Saint Paul based upon engineering studies conducted with their building stock. Contact the building official to determine requirements.

> If distributed weight of the PV system is greater than 5 lbs/ft2, a study or statement demonstrating the structural integrity of the installation, or a statement stamped by a Minnesota licensed/certified structural engineer, may be required. Contact the building official to determine requirements.

Step 2: Electrical Review of PV System

Please document the following information to be issued an electric permit. If the installation does not meet the following thresholds, additional information may be needed, as requested by the permit official.

1. PV modules, utility-interactive inverters, and combiner boxes are identified for use in PV systems.
2. The PV array is composed of 4 series strings or less per inverter.
3. The total inverter capacity has a continuous AC power output 13,440 watts or less
4. The AC interconnection point is on the load side of service disconnecting means (NEC 2011 705.12(D), NEC 2008 690.64(B)).
5. A standard electrical diagram should be used to accurately represent the PV system. Acceptable diagrams, in interactive PDF format, are available at www.solarabcs.org/permitting.

> This section should be included in the permit only if the local government administers electric permits and inspections. Otherwise the electric permit is administered by the State of Minnesota Department Labor and Industry. In either case, the electric permit application can be a separate document, as in some cases the licensed electrician may be a different contractor).

Fill out the standard electrical diagram completely. A guide to the electrical diagram is provided at www.solarabcs.org/permitting to help the applicant understand each blank to fill in. If the electrical system is more complex than the standard electrical diagram can effectively communicate, provide an alternative diagram with appropriate detail.

Step 3: Permit fee for residential installations

____ Fees $100
____ Additional inspection . . . . . $ 50.00
(Per inspection, when needed)

TOTAL FEE = $_____

RECEIPT NO. _____

DATE _____

> Recommended fee for residential or small commercial solar installations is a fixed fee between $50 – 200, consistent with cost for services (permit processing, inspection) incurred by the government unit. Alternatively, the fee can be valuation based, but for a building permit should exclude the value of the solar collectors and electronics.

I HEREBY CERTIFY that I have completed and examined this application and certify that the information contained therein is correct. If a permit is issued, I agree all work will be done in conformance with all applicable ordinances and codes of this City and laws of the State of Minnesota.

_____
CONTRACTOR OR AUTHORIZED AGENT/HOMEOWNER

Resources and Reference Material:

- Minneapolis Solar Permit Checklist, http://www.minneapolismn.gov/www/groups/public/@regservices/documents/webcontent/convert_272925.pdf
- Saint Paul Solar Permit Checklist, http://www.stpaul.gov/DocumentCenter/View/76171
- National Renewable Energy Lab: *Permitting Best Practices* http://www.nrel.gov/docs/fy13osti/57104.pdf
- Interstate Renewable Energy Council: *Solar Permitting Best Practices*: http://www.irecusa.org/solar-permitting-best-practices/
- Solar America Board for Code and Standards (Solar ABCs): *Expedited Permit Process*, with sample line drawings for all installation types: http://www.solarabcs.org/
- Sandia National Laboratories, *Empirically Derived Strength of Residential Roof Structures for Solar Installations*, http://prod.sandia.gov/techlib/access-control.cgi/2014/1420600.pdf
- SolarStruc Tool, http://www.growsolar.org/wp-content/uploads/2012/06/Solarstruc-2.2.xls
- Minneapolis Saint Paul Solar Cities Program, *Standards for Rooftop Solar Thermal Retrofits*,
- Minnesota Division of Energy Resources/Department of Labor and Industry, *Standardized Load Tables Characterizing Residential Solar Thermal and Solar Electric Installations for Residential Structures*, http://mn.gov/commerce/energy/images/FINAL-Standardized-Load-Table-Report.pdf
- Grow Solar Inspection trainings, http://www.growsolar.org/technical-assistance/training-program-development/

The information, data, or work presented herein was funded in part by the Office of Energy Efficiency and Renewable Energy (EERE), U.S. Department of Energy, under Award Number DE-EE0006544