

CRYSTAL PLANNING COMMISSION AGENDA

Monday, October 14, 2013 at 7:00 p.m.

Council Chambers, Crystal City Hall

Commissioners, please call 763.531.1142 or email john.sutter@crystalmn.gov if unable to attend

** Items for which supporting materials are included in the meeting packet*

A. CALL TO ORDER

The regular meeting of the Crystal Planning Commission convened at 7:00 p.m. with the following members present:

<input type="checkbox"/> Commissioner (Ward 1) Sears [Vice Chair]	<input type="checkbox"/> Commissioner (Ward 2) Kolb	<input type="checkbox"/> Commissioner (Ward 4) Richter
<input type="checkbox"/> Commissioner (Ward 1) Heigel	<input type="checkbox"/> Commissioner (Ward 3) VonRueden [Chair]	<input type="checkbox"/> Commissioner (Ward 4) Johnson
<input type="checkbox"/> Commissioner (Ward 2) Erickson	<input type="checkbox"/> Commissioner (Ward 3) Buck [Secretary]	<input type="checkbox"/> Commissioner (At-Large) Strand

B. APPROVAL OF MINUTES *

Moved by _____ and seconded by _____ to approve the minutes of the September 9, 2013 regular meeting with the following exceptions:

Motion carried.

C. PUBLIC HEARINGS

1. Consider Application 2013-12 to rezone 5502 West Broadway (Crystal Gallery Mall) to C-2 Planned Development including de-malling the existing building, adding a second, smaller building and revising the parking lot layout *

Staff presented the following:

The following were heard:

Planning Commission discussion:

Moved by _____ and seconded by _____ to
(recommend approval) (recommend denial) (continue consideration) of
Application 2013-12 to rezone 5502 West Broadway (Crystal Gallery Mall) to C-2
Planned Development including de-malling the existing building, adding a
second, smaller building and revising the parking lot layout.

Motion carried.

D. NEW BUSINESS

1. Discuss Metropolitan Council's preliminary 2040 forecasts and possible city response *

E. GENERAL INFORMATION

1. City Council actions on previous Planning Commission items:
 - Adopted an ordinance rezoning 5401 51st Avenue North to R-3 Planned Development to allow a four story building (The Cavanagh)
2. Quarterly Development Status Report *
3. Staff preview of likely agenda items for Tuesday, November 12 meeting **

*** The November meeting has been moved from Monday to Tuesday because November 11 is a legal holiday (Veterans Day)*

F. OPEN FORUM

G. ADJOURNMENT

Moved by _____ and seconded by _____ to adjourn.

Motion carried.

The meeting adjourned at _____ p.m.

CRYSTAL PLANNING COMMISSION MINUTES

Monday, September 9, 2013 at 7:00 p.m.

Council Chambers, Crystal City Hall

A. CALL TO ORDER

The regular meeting of the Crystal Planning Commission convened at 7:00 p.m. with the following members present:

X Commissioner (Ward 1) Sears [Vice Chair]	X Commissioner (Ward 2) Kolb	X Commissioner (Ward 4) Richter
X Commissioner (Ward 1) Heigel	X Commissioner (Ward 3) VonRueden [Chair]	X Commissioner (Ward 4) Johnson
X Commissioner (Ward 2) Erickson	X Commissioner (Ward 3) Buck [Secretary]	X Commissioner (At-Large) Strand

Also attending were staff members John Sutter, Patrick Peters, Gail Van Krevelen and Council Liaison Casey Peak.

B. APPROVAL OF MINUTES

Moved by Commissioner Kolb and seconded by Commissioner Buck to approve the minutes of the July 8, 2013 regular meeting.

Motion carried.

C. PUBLIC HEARINGS

1. Consider Application 2013-411 for The Cavanagh, 5401 51st Avenue North - Rezoning to R-3 Planned Development including revised site and building plans for a four story building.

Staff member, John Sutter, presented the staff report.

Commissioner Kolb questioned the necessity of having to discuss this if the overall height of the building was not exceeding what was previously approved. Mr. Sutter stated that even though the height of the building was not increasing above the previously approved 50 feet, the building would now exceed three stories and so the rezoning to Planned Development designation would be required.

Commissioner Heigel asked whether the number of handicapped parking spaces is sufficient. Mr. Sutter said that it is governed by the state accessibility code which would be confirmed during the building permit plan review. Gary Vogel, architect for Dominion, said that the number of spaces on the plan exceeds the minimum required by the code.

Commissioner Sears asked whether West Metro Fire Rescue District had any concerns with the new design. Mr. Sutter said that they had reviewed the plan and provided comments related to hydrant locations and the fire department connection for the sprinkler system, but they had no major concerns as the building would be fully sprinklered and there are existing buildings in New Hope that are taller than four stories.

Chair Richard VonRueden opened the public hearing.

The following were heard:

Carol Bolin, 5009 Quail Ave N, spoke to the Planning Commission of her concerns regarding the increase in stories, architectural style, exterior building materials, and the flat roof being proposed.

Cathy Morgan, 5046 Quail Ave N, spoke to the Planning Commission of her concerns regarding the increase in stories, architectural style of the building, exterior building materials, and the flat roof being proposed.

Ron Mehl, a developer at Dominion, said that when they held the neighborhood meeting they received a lot of support from the residents. Based on commentary at that meeting, they softened the look of the proposed building to address resident concerns. He also explained that because of increased costs, they cannot build it as a three-story building.

Gary Vogel, an architect for Dominion, explained that the color illustrations in the packet did not fully illustrate the different colors of the building and there is a lot more variety than the images show. He added that they also added detail on top of the building to break up the roof line.

Planning Commission discussion:

Commissioner Johnson asked whether any commission members had attended the open house. Chair VonRueden and Commissioner Strand had and they said that the neighbors were positive about the development.

Commissioner Sears stated that he appreciated the architect's use of a lighter color for the fourth floor, this compared favorably to the dark pitched roof of the original plan, and he was impressed by the overall appearance of the building.

Commissioner Richter asked Mr. Sutter for background information on how the EDA came to purchase the property from the school district for high density development. Mr. Sutter summarized the sequence of events leading up to the plan currently being considered.

Commissioner Kolb stated that, in the interest of continuing a project already underway, he would be voting in favor, but that his opinion might be different if the project were at an earlier stage of consideration.

Moved by Commissioner Kolb and seconded by Commissioner Sears to recommend approval of Application 2013-11 for Rezoning 5401 51st Avenue North (The Cavanagh) to R-3 Planned Development including revised site and building plans for a four story building.

By roll call and voting aye, Sears, Heigel, Erickson, Kolb, VonRueden, Buck, Johnson and Strand. Voting nay, Richter.

Motion carried 8 - 1.

D. NEW BUSINESS

1. City Council actions on previous Planning Commission items:
 - Approved partial vacation of utility easement at 2708 Zane Avenue North and adjacent properties
 - Approved the Preliminary & Final Plat of Crystal Economic Development Authority Sixth Addition (3556 & 3564 Welcome Avenue North)
 - Adopted the revised Section 520 (Site & Building Plan Review)
2. Staff preview of likely agenda items for Monday, October 14 meeting

Mr. Sutter said that the city may receive a site plan to de-mall Crystal Gallery Mall over a 2-3 year period and put a small freestanding building in the northwest corner of the parking lot near the intersection of Bass Lake Road and West Broadway.

F. OPEN FORUM

None were heard.

G. ADJOURNMENT

Moved by Commissioner Sears and seconded by Commissioner Buck to adjourn.

Motion carried.

The meeting adjourned at 7:50 p.m.

MEMORANDUM

DATE: October 8, 2013

TO: Planning Commission (October 14, 2013 meeting)

FROM: John Sutter, City Planner/Assistant Community Development Director 

SUBJECT: Public Hearing: Application 2013-12 for Rezoning 5502 West Broadway (Crystal Gallery Mall) to C-2 Planned Development including de-malling the existing building, adding a second, smaller building and revising the parking lot layout

A. BACKGROUND

The subject property contains 7.74 acres and is occupied by the Crystal Gallery Mall built in 1984. The existing building has a footprint of 82,814 sq. ft. and a gross floor area of 105,314 sq. ft.

The owner proposes to build a secondary, 6,000 sq. ft. building with a drive-through near the northwest corner of the site, "de-mall" the existing, primary building with the reclaimed corridor areas being added to the adjacent tenant spaces, install new exterior finish on the primary building, and reconfigure the parking lot and landscaping.

The property is guided and zoned General Commercial ("C-2"). Planned Development ("PD") rezoning is required to add the new, secondary building and a conditional use permit is required for the drive-through. Site plan review is required for the construction of the new building and the changes to the parking lot and landscaping elsewhere on the site.

Notice of the public hearing was published in the Sun Post on October 3, 2013 and mailed to all property owners within 500 feet of the property. On October 14, 2013 the Planning Commission will hold the public hearing and consider making a recommendation for the City Council to consider at its November 5, 2013 meeting.

The following Exhibits are attached:

- A. Owner's narrative
- B. Spring 2012 aerial photo (wide view and zoomed in)
- C. 2008 Land title survey
- D. Demolition and erosion control plan
- E. Grading, drainage and erosion control plan
- F. Utility plan
- G. Geometric and paving plan

- H. Civil engineering details
- I. Storm water pollution prevention plan
- J. Illustrative landscape plan (color)
- K. Landscape enlargements/plant schedule and notes/details
- L. Photometric Plan
- M. Floor plan and site plan details for secondary building at NW corner of site
- N. Exterior elevations for both buildings (color)
- O. Floor plan and exterior elevations for "de-malling" the primary building

B. STAFF COMMENTS

1. Comprehensive Plan and Zoning Classification

The subject property is guided and zoned C-2 General Commercial.

The proposed rezoning would add 'Planned Development' designation to the current C-2 zoning. Planned Development (City Code 515.57) contains the following development standards:

- a) Each PD must have a minimum area of 2 acres, excluding areas within a public right-of-way, designated wetland or floodplain overlay district

The development site contains 7.74 acres.

- b) The uses proposed within a PD may be used only for a use or uses that are consistent with the comprehensive plan.

The proposed project would be consistent with C-2 zoning; PD rezoning is required to add a secondary building to the site.

- c) Where the site of a proposed PD is designated for more than 1 land use in the comprehensive plan, the city may require that the PD include all the land uses so designated or such combination of the designated uses as the city council deems appropriate to achieve the purposes of this subsection and the comprehensive plan.

Not applicable.

- d) If a particular PD would provide an extraordinary benefit to the community, or if a PD site has extraordinary characteristics that make development difficult, the city council may approve a density of up to 10% more than the maximum identified in the comprehensive plan.

Not applicable.

- e) Hardsurface coverages and floor area ratios are limited as follows:

COMPREHENSIVE PLAN DESIGNATION	MAXIMUM HARDSURFACE COVERAGE	MAXIMUM FLOOR AREA RATIO
General Commercial	75%	1.0
<i>Crystal Gallery Mall - Existing Conditions</i>	85%	0.31
<i>Crystal Gallery Mall - After Proposed Project</i>	83%*	0.33

**The underlying C-2 zoning also has a 75% limit; this means the existing conditions are lawfully nonconforming ("grandfathered in"). By reducing coverage from 85% to 83%, the proposed project is permitted because it reduces the nonconformity in accordance with 515.01 Subd. 8g, even though it fails to meet the 75% limit.*

- f) The minimum setback for all buildings within a PD from any property line directly abutting a street, railroad, or residential district is 30 feet, except that in no case shall the minimum setback be less than the height of the building or more than 100 feet. The city council may waive the setback requirement if the abutting property, or property located directly across a public street, is used for recreational, institutional, commercial, industrial or high density residential purposes. Parking lots and driving lanes must be set back at least five feet from all exterior lot lines of a PD.

The primary building is set back at least 30 feet from all lot lines except the north and east lot lines, where the setback varies but is at least 25 feet. This was approved by the City Council at the time of the mall's development in 1984. The 25 foot setback can be permitted under the PD rezoning because the uses across the streets to the north and east are, respectively, commercial and recreational.

The secondary building would be set back at least 30 feet from all lot lines.

The highest part of the primary building would be approximately 31 feet above grade. The highest part of the secondary building would be approximately 25 feet above grade.

The proposed site plan is in compliance with the 5 foot parking lot setback.

- g) More than 1 building may be placed on 1 platted or recorded lot in a PD.

This is the reason for the requested PD rezoning – so the owner can add a second building without subdividing the parcel.

- h) A PD which involves a single land use type or housing type will be permitted provided that it is otherwise consistent with the objectives of this Code and the comprehensive plan.

The proposed changes to the property are consistent with the description of General Commercial areas in the Comprehensive Plan and purpose of the C-2 district in the Zoning Ordinance.

- i) A residential PD or residential area of a mixed use PD must provide a minimum of 10% of the gross project area in private recreational uses for project residents. Such area must be developed and used for active or passive recreational uses suited to the needs of the residents of the project, including swimming pools, trails, nature areas, picnic areas, tot lots and saunas. This requirement may be waived if the city council finds that adequate recreational opportunities are available sufficiently near the PD to make this requirement duplicative, or if the PD is too small for this requirement to be feasible.

Not applicable.

- j) Property to be included within a PD must be under unified ownership or control or subject to such legal restrictions or covenants as may be necessary to ensure compliance with the approved master development plan as well as the long term maintenance of buildings and site improvements in the development.

The site is a single parcel owned by Crystal Gallery Developers. The proposed project would not subdivide the existing parcel. Prior to construction of the secondary building, the owner will be required to enter into a site improvement agreement which will define the phasing of construction on the site; and if needed, a storm water maintenance agreement will also be required at that time.

- k) Signs are restricted to those that are permitted in a sign plan approved by the city and must be regulated by permanent covenants.

Prior to sign permits being issued for the secondary building, the owner shall submit a sign plan to city staff in accordance with Section 405.31 of city code. The purpose of the sign plan will be to pool the allowable wall sign area for the entire property including the both buildings. This will facilitate the owner's allocation of signage to tenants as they come and go over time. (There is a similar sign plan in effect for the Crystal Shopping Center across West Broadway.)

- l) The requirements contained in sections of this Code pertaining to general regulations and performance standards apply to a PD as deemed appropriate by the city.

The project will be subject to the same general performance standards as other property in the city, except for parking lot lighting which would be allowed to cast more than 1 foot candle on the lot line at three locations on West Broadway. This standard is waived due to the benefit of having additional lighting on the public sidewalk along that lot line.

- m) The uniqueness of each PD requires that specifications and standards for streets, utilities, public facilities and subdivisions may be subject to modification from the city ordinances ordinarily governing them. The city council may therefore approve streets, utilities, public facilities and land subdivisions that are not in compliance with usual specifications or ordinance requirements if it finds that strict adherence to such standards or requirements is not required to meet the intent of this subsection or to protect the health, safety or welfare of the residents of the PD, the surrounding area or the city as a whole.

Except as otherwise noted herein, the proposal is in compliance with the applicable requirements of city code.

- n) A building or other permit may not be issued for any work on property included within a proposed or approved PD nor may any work occur unless such work is in compliance with the proposed or approved PD.

Upon submittal of any building permit applications city staff will review the plans to ensure consistency with the Planned Development rezoning approved by the City Council.

Suggested finding: The submitted proposal to rezone the property to C-2 Planned Development, for the purpose of building a 6,000 sq. ft. secondary building, “de-malling” the primary building with the claimed area being added to individual retail spaces, installing new exterior finish on the primary building and reconfiguring the parking lot and landscaping would be consistent with the Comprehensive Plan and the PD standards in the Zoning Ordinance. Approval of this PD rezoning is specifically tied to the submitted site and building plans, subject to the staff comments and conditions of approval described in this report.

2. Conditional Use Permit - Starbucks drive-through on north and west sides of the secondary building

This project includes a drive-through for Starbucks Coffee, the westerly tenant in the new, secondary building. All drive-through establishments require a Conditional Use Permit (“CUP”). The drive-through would be more than 250 feet from any property zoned residential, and therefore no hours of operation limitations are imposed under 515.49 Subd. 4k. This CUP should be specifically limited to the proposed use because other establishments such as fast food restaurants may generate larger traffic volumes, have different times for peak

traffic, and otherwise have different impacts than the use being proposed in this application.

Suggested finding: The requested CUP for the Starbucks Coffee drive-through would be located in a manner consistent with the Comprehensive Plan, well integrated into the new layout of the site including the revised parking lot, and compatible with surrounding land uses. This CUP is non-transferable in accordance with 515.05 Subd. 3a, unless the City Manager determines that the new user will operate in the same manner as the initial user (Starbucks Coffee). Absent such a determination, any other establishment would need to secure a new CUP before it may use the drive-through.

3. Site and Building Plan Review

- a. The primary building has a footprint of 82,214 sq. ft. and gross floor area of 105,314 sq. ft. The secondary building would add 6,000 sq. ft. for an after-project total gross floor area of 111,314 sq. ft. on the site.
- b. The property would be in compliance with the parking requirements. City Code requires the site to have at least 371 and no more than 445 stalls. Despite the reduction in hard surfacing, the number of parking stalls on the site would increase from 394 to 399 due to a more efficient layout.
- c. Because the project is a modification of an already-developed site, the area to be disturbed is less than 5 acres, and the site will generate less runoff after the project is completed, the City Engineer has determined that the project does not need to be reviewed by the Shingle Creek Watershed Management Organization. The city will require a maintenance agreement whereby developer commits to maintain the stormwater facilities on the site, including a maintenance plan for the rain gardens.
- d. The City Forester has reviewed the landscape plans and requires the following modifications:
 - Little-leaf Lindens possess notoriously weak branch attachments that are prone to failure, often leaving disfigured or structurally unsound trees. Substitute American Linden (*Tilia Americana*) specifically 'Redmond' which is a hardy spreading pyramidal cultivar or 'Boulevard' for a more upright growth habit.
 - 'Franksred' Maple is a good maple, but due to concerns about the number of maples already present in the city, no more than 10% of the 56 proposed deciduous trees should be maples. Therefore, for 5 of the 10 Franksred maples, substitute *Maackia* (*Maackia amurensis*) which is a medium-sized tree (30'-40') or Hackberry (*Celtis occidentalis*) for a larger tree.
 - The use of Aspen (*Populus tremuloides*) in the rain gardens is a problem due to them being a short-lived species that will probably

- need to be replaced during the life of the landscape. Substitute River Birch (*Betula nigra*) for the aspens.
- When planting shrubs in islands adjacent to parking spaces, spacing between shrub and parking area must be determined based on the shrub's mature size.
 - Turf areas and landscaping beds must be irrigated.
- e. West Metro Fire Rescue District requires a hydrant to be located within 100 feet of the fire department connection on the secondary building. Recommend achieving this by running a 6 inch lead from the existing hydrant line near Buffalo Wild Wings to the west, toward the secondary building. For example, the hydrant could be located somewhere near the trash enclosure and the drive-through.
- f. To guarantee completion of the site improvements, the owner will need to provide an executed site improvement agreement and cash escrow deposit. The escrow required for the entire project is \$227,000. However, if the project is broken into smaller phases over 2-3 years as expected, then separate agreements and a pro-rated share of the required escrow will be accepted.
- g. Noodles & Company proposes to have outdoor service including wine and beer in a manner similar to Chipotle. This requires a separate Conditional Use Permit application for outdoor seating concurrent with the liquor license application. Staff has notified the owner and Noodles that the location of the outdoor seating area across the sidewalk would not be permitted under state liquor laws because it would not be contiguous with the licensed establishment. Noodles will need to come up with an alternate configuration for the outdoor seating area which will be considered in detail upon submittal of the outdoor seating CUP and liquor license applications.

Suggested finding: The proposed site and building plans would be in compliance with city code, provided that the staff comments and conditions of approval described in this report are addressed in the submittal of detailed plans for the respective permit applications.

C. RECOMMENDED ACTION

Approve Application 2013-12 for Crystal Gallery Mall subject to the findings of fact and staff comments in Section B of this report which shall become conditions of approval.

Planning Commission action is requested. The City Council would consider the Planning Commission's recommendation at its meeting on November 5, 2013.

September 20, 2013

612 371-6440 T
612 332-0710 F

jagnes@aarchitectsllc.com

City of Crystal

Crystal Gallery
5510-5590 West Broadway Ave.
Crystal, MN 55428

Re: Planned Development Application

PROJECT NARRATIVE

Please find attached the required submittal plans and application for a rezoning of the 7.74 acre property from its current C-2, General Commercial zoning, to a City of Crystal Planned Development.

The Crystal Gallery is proposing three major efforts to revitalize the property, (1) the addition of a new 6,000 s.f. pad building at the corner of Broadway and Base Lake Rd., (2) a redesign and resurfacing of the entire front/west parking lot, and (3) a "de-malling" and exterior remodel of the retail portion of the existing main building.

1. The proposed new pad building, at the most visible location on the property, and anchored by a prominent upscale drive-thru coffee use, is a critical piece towards improving the image and vitality of the existing center. The 6,000 s.f. building will be a one-level, multi-tenant retail/restaurant use with a drive-thru and outdoor patios. New colors and materials will be introduced at the new pad building and brought into the existing retail building to create a harmonious development.
2. The parking lot is proposed to be redesigned to accommodate the new pad building and improve the flow, safety, parking and esthetic impact of the main building and entire site. Pedestrian connections are planned to allow direct access to the main building from both the south and north ends of Broadway, to and through the new pad building, as well as directly from Bass Lake Rd. A reoriented lot simplifies flow in and out of the property and increases pedestrian safety and convenience by separating moving traffic from pedestrians. Abundant landscaping will be added throughout the site, including the addition of ecologically responsible rain gardens and islands, reducing the overall impervious surface by over 5000 sf. Due to a more efficient layout, the parking count will actually increase by five stalls from 394 existing to 399 proposed, while still within the current city requirement for the site (372 stalls min. and 445 stalls max.), the overall ratio of building to parking area will decrease, becoming more consistent with trends to reduce unnecessary seas of parking. Existing utility connections will be maintained.
3. The retail portion of the existing building is proposed to be "de-malled" with the reclaimed area being added to the individual tenant spaces, each tenant having its own entrance, and with modified HVAC to cover the new additional area. The sidewalk at the tenant storefronts will be widened to accommodate the new entries, with the addition of a new colored concrete border. Existing "mall" entries will be converted to tiered planter areas with new "Crystal Gallery" branding and harmonious materials and colors tying back to the new pad building. The existing outdated "solarium" look will be converted to a more functional new metal roof and EIFS tenant

September 20, 2013

sign band, again using colors and materials in harmony with the new pad building. New tenant signage will be standardized with internally lit channel letters complying with the City signage ordinance.

Attached to this submittal package are the following items; we have also included full-sized plans where appropriate:

- Application form and check for review fees
- Written Narrative
- Table of Estimated Project Cost
- Property Survey prepared by HTPO
- Site Photometrics Plan
- Architectural Plans as listed below:
 - SK-1 Pad Building Proposed Floor Plan
 - SK-2 Pad Building Proposed Exterior Elevations
 - SK-3 Main Building Proposed Floor Plan & Exterior Elevations
- Civil Plans as listed below:
 - Hydrology for Crystal Gallery including Existing and Proposed Areas
 - C1.0 Selective Site Demolition Plan
 - C2.0 Grading, Drainage, and Erosion Control Plan
 - C3.0 Utility Plan
 - C4.0 Geometric and Paving Plan
 - C5.0 Civil Details
 - C5.1 Civil Details
 - C6.0 Storm Water Pollution Prevention Plan
- Landscape Plans as listed below:
 - L100 Landscape Plan
 - L101 Enlarged Landscape Plans and Plant Schedule
 - L200 Landscape Notes and Details

Project phasing is anticipated to proceed with the pad building and corresponding surrounding site construction kicking off the development. Site improvements for the remainder of the site will follow with the de-malling and building remodel effort occurring as the tenant vacancies are leased up.

Finally, we believe the proposed plan development will "preserve and enhance the natural and built environment" and the property will "create a harmonious relationship of buildings and open spaces with natural site features and buildings that are in visual relationship".

We ask for your support and approval.


Architects LLC,
Jeffrey P. Agnes AIA
JPA/jpa

Cc:

Greg Hayes – Crystal Gallery Developers
Greg Duginski – Midwest Mechanical and Maintenance



Parcel ID: 05-118-21-44-0046

A-T-B: Both

Map Scale: 1" ≈ 400 ft.

Print Date: 10/8/2013



Owner Name: Crystal Gallery Developers

Market Total: \$4,600,000

Parcel Address: 5502 West Broadway
Crystal, MN 55428

Tax Total: \$200,040.72
(Payable: 2013)

Property Type: Commercial-Preferred

Sale Price:

Home-stead: Non-Homestead

Sale Date:

Parcel Area: 7.74 acres
337,362 sq ft

Sale Code:

This map is a compilation of data from various sources and is furnished "AS IS" with no representation or warranty expressed or implied, including fitness of any particular purpose, merchantability, or the accuracy and completeness of the information shown.

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Ex. B



©2013 HERE



Parcel

Neighborhood

Street

City

County



BASS LAKE ROAD (55th AVE. NORTH)
(C.O. ROAD 10)

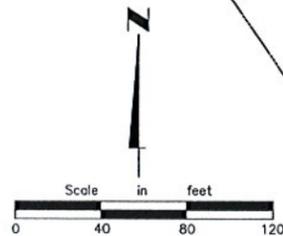
- LEGEND**
- IRON MONUMENT FOUND
 - IRON MONUMENT TO BE SET
 - ⊙ BOLLARD
 - ⊕ POWER POLE
 - ⊕ LIGHT POLE
 - ⊕ GAS VALVE
 - ⊕ GAS METER
 - ⊕ WATER VALVE
 - ⊕ HYDRANT
 - ⊕ CATCH BASIN
 - MANHOLE
 - ⊕ SIGN
 - ⊕ TRANSFORMER
 - ⊕ HANDICAPPED
 - ⊕ TRAFFIC LIGHT
 - ⊕ TRAFFIC BOX
 - ⊕ TELEPHONE BOX
 - ⊕ ELECTRICAL HANDHOLE
- STORM SEWER
--- SANITARY SEWER
--- WATER MAIN
--- GAS LINE
--- TELEPHONE LINE
--- ELECTRICITY
- (M) MEASURED DISTANCE
(P) PLATTED DISTANCE

SCHEDULE B - SECTION TWO EXCEPTIONS:

1. Defects, liens, encumbrances, adverse claims or other matters first appearing or attaching subsequent cannot be plotted.
2. Rights or claims not of public record cannot be plotted.
3. On the date of the survey there was no visible evidence of unrecorded easements, discrepancies, conflicts, shortages or encroachments not of public record other than as shown on the survey.
4. Mechanic's or materialmen's liens cannot be plotted.
5. Real estate taxes cannot be plotted.
6. Levied and pending special assessments cannot be plotted.
7. Real estate taxes cannot be plotted.
8. Rights under un-recorded leases cannot be plotted.
9. Drainage and utility easements according to the plat entitled HRA 3rd ADDITION are as shown on the survey.
10. Minerals and mineral rights cannot be plotted.
11. Limitation of access to County State Aid Highway No. 8, Document No. 4934033, does not encumber the site.
12. Terms and conditions of Contract for Private Development, Document No. 4986603 (abstract) and Document No. 1639719 (Torrens), cannot be plotted.
13. Terms and conditions of Assessment Agreement and Certification of Assessor, Document No. 4986604 (abstract) and Document No. 1639720 (Torrens), cannot be plotted.
14. Terms and Conditions of Lease, Document No. 6375115, Subordinate to the lien of Mortgage, Document No. 6948384 (abstract), Subordination, Non-Disturbance and Assignment Agreement, Document No. 7075025 (abstract), Subordinate to the lien of Mortgage, Document No. 6948388 (abstract), Subordination, Non-Disturbance and Assignment Agreement, Document No. 7075026 (abstract) cannot be plotted.
15. Memorandum of Lease, Document No. 3069664 (Torrens), cannot be plotted.
16. Subordination, Non-Disturbance and Assignment Agreement, Document No. 3114619 (Torrens), cannot be plotted.
17. Subordination, Non-Disturbance and Assignment Agreement, Document No. 3114620 (torrens), cannot be plotted.

NOTES:

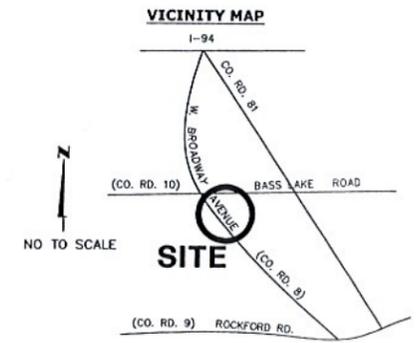
1. All distances are in feet.
2. The basis of bearings is assumed.
3. Parcel designations are for convenience of reference only and do not constitute an integral part of the legal description.
4. The property lies in a flood hazard zone "X" according to the Federal Emergency Management Agency Flood Insurance Rate Map Community Panel No. 27053C0211E, dated 09/02/2004.
5. Zoning Letter, dated 08/26/08, states, "The premises currently complies with parking and setback requirements."
6. Exterior dimensions of all buildings are at ground level.
7. There are a total of 383 non-handicap parking spaces and 11 handicap spaces.
8. The locations of underground utilities are based on field locations, available maps, and records. The locations may not be exact.



CERTIFICATION:
The undersigned surveyor ("Surveyor"), a licensed land surveyor in the state identified below Surveyor's signature, hereby certifies to Crystal Gallery Developers, a Minnesota General Partnership ("Borrower"), H&M Marshall & Halsey Bank ("Lender") and LandAmerica Commonwealth Land Title Insurance Company ("Title Company") as follows:

A. This is a true and correct survey of:
Lot 1, Block 1, HRA 3rd Addition.
Portions of which are Torrens property and are described as follows:
Parcel 1:
That part of Lot 1, Block 1, HRA 3rd Addition, embraced within that part of Lot 2, Block 1, "Fergus J. McArdie's Crystal Manor, Hennepin County, Minnesota" lying West of a line drawn from a point on the North line of said Lot 2 distant 135 feet West of Northeast corner of said Lot 2 to a point on the South line of said Lot 2 distant 139 feet West of the Southeast corner of said Lot 2, according to the plat thereof on file or of record in the office of the Registrar of Titles in and for said County.
Parcel 2:
That part of Lot 1, Block 1, HRA 3rd Addition, embraced within Lots 4, 9, 10 and 12, Block 1, "Fergus J. McArdie's Crystal Manor, Hennepin County, Minnesota", according to the plat thereof on file or of record in the office of the Registrar of Titles in and for said County.
Parcel 3:
That part of Lot 1, Block 1, HRA 3rd Addition embraced within the following described Tracts 1 and 2:
Tract 1:
That part of the North Half of vacated Ethel Place, dedicated in the plat of "Fergus J. McArdie's Crystal Manor Addition, Hennepin County, Minn." lying between the extensions across it of the center line of the vacated alley dedicated in Block 1 of said plat and the extension across it of the East line of Lot 12, Block 1, said plat.
Tract 2:
That part of the vacated alley dedicated in Block 1, "Fergus J. McArdie's Crystal Manor Addition, Hennepin County, Minn.", except those parts of said vacated alley lying Westerly of the center line thereof and between the extensions across said vacated alley of the North and South lines of Lot 11, said Block 1, and except that part of said vacated alley lying West of the center line of said vacated alley and Northerly of a line drawn from the most Westerly Southwest corner of Lot 4, said Block 1, to the Southeast corner of Lot 3, said Block 1.
Parcel 4:
That part of Lot 1, Block 1, HRA 3rd Addition embraced within Tract A, Registered Land Survey No. 516, Files of Registrar of Titles, according to the plat thereof on file or of record in the office of the Registrar of Titles in and for said County.
Parcel 5:
That part of Lot 1, Block 1, HRA 3rd Addition, embraced within Lot 1, Block 1, Carl W. Peterson Addition, according to the plat thereof on file or of record in the office of the Registrar of Titles in and for said County.
(the "Property").
B. This refers to LandAmerica Commonwealth (the "Title Company") Commitment No. 218880 dated July 31, 2008 for the Property.
C. This is to certify that this map or plat and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," jointly established and adopted by ALTA and NSPS in 2005, and includes Items 1 through 4, 6, 7(a), 7(b), 7(c), 8, 9, 10, 11(b), and 13 through 15 of Table A thereof. Pursuant to the Accuracy Standards as adopted by ALTA and NSPS and in effect on the date of this certification, undersigned further certifies that in my professional opinion, as a land surveyor or registered in the State of Minnesota, the Relative Positional Accuracy of this survey does not exceed that which is specified therein.
D. The Property contains 7.7445 acres (i.e. 337,350 square feet).

Borrower, Lender, Title Company, their successors and assigns may rely on this Certification.
Date: 02 September 2009
D. Daniel Thorp, Land Surveyor
Minnesota License Number 16321



**ALTA/ACSM
LAND TITLE SURVEY**

**CRYSTAL GALLERY MALL
LOT 1, BLOCK 1,
HRA 3RD ADDITION**

**HT Engineering - Surveying
PO Landscape Architecture**
HANSEN THORP PELLINEN OLSON, Inc.
7510 Market Place Drive • Eden Prairie, MN 55344
952-829-0700 • 952-829-7806 fax

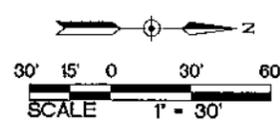
Revision	09/03/08 prkg count	Project No.	08-058
Drawn by	NIC/DRC	Checked by	
Book/Page	N/A	Date	
Client	LUPENT		

EX. C

PROPOSED PLAN SYMBOLS	
CONSTRUCTION LIMITS	---
SILTATION FENCE	---X---
PROPERTY LINE	---
SAWCUT LINE (APPROX.)	---
EROSION CONTROL BLANKET (TEMPORARY)	---X---
BITUMINOUS REMOVAL	---X---
CONCRETE REMOVAL	---X---
PIPE REMOVAL	---
CURB REMOVAL	---
TREE REMOVAL	---

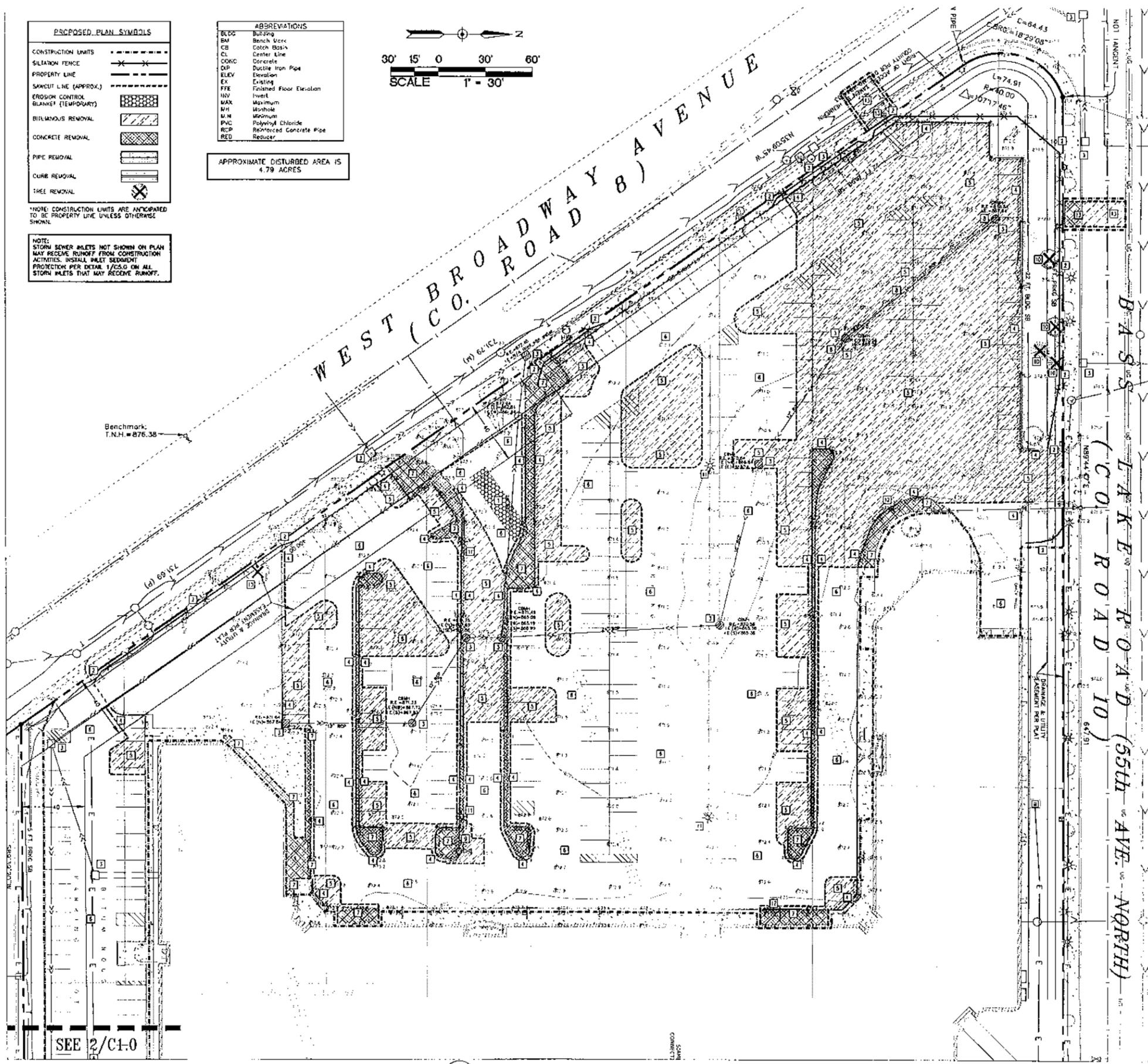
ABBREVIATIONS	
BDDG	Building
BM	Bench Mark
CB	Center Basin
CL	Center Line
CONC	Concrete
DIP	Ductile Iron Pipe
ELEV	Elevation
EX	Existing
FPE	Finished Floor Elevation
INV	Invert
MAX	Maximum
MH	Manhole
M.M	Medium
PVC	Polyvinyl Chloride
RCP	Reinforced Concrete Pipe
RED	Reducer

APPROXIMATE DISTURBED AREA IS 4.79 ACRES



*NOTE: CONSTRUCTION LIMITS ARE ANTICIPATED TO BE PROPERTY LINE UNLESS OTHERWISE SHOWN.

NOTE: STORM SEWER INLETS NOT SHOWN ON PLAN MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INSTALL INLET SEDIMENT PROTECTION PER DETAIL 1/C5.0 ON ALL STORM INLETS THAT MAY RECEIVE RUNOFF.



KEYED NOTES

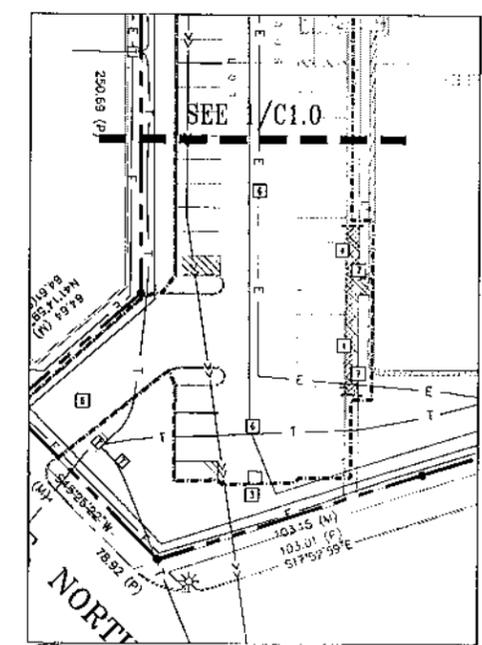
- KEYED NOTES ARE DENOTED BY [] ON PLAN.
- INSTALL ROCK CONSTRUCTION ENTRANCE. REFER TO DETAIL 2/C5.0.
 - INSTALL SILT FENCE. REFER TO DETAIL 3/C5.0.
 - INSTALL INLET SEDIMENT PROTECTION. REFER TO DETAIL 1/C5.0.
 - REMOVE CURB AND GUTTER IN ITS ENTIRETY TO THE EXTENT SHOWN. SAWCUT AND REMOVE AT NEAREST JOINT.
 - SAWCUT AND REMOVE BITUMINOUS PAVEMENT IN ITS ENTIRETY TO THE EXTENTS SHOWN.
 - MILL 1.5-INCHES OFF EXISTING PAVEMENT TO SAWCUT LINES, CURB AND GUTTER, AND CONCRETE PAVEMENTS.
 - REMOVE CONCRETE PAVEMENT/SIDEWALK/MEWAN IN ITS ENTIRETY TO THE EXTENTS SHOWN.
 - REMOVE STORM SEWER IN ITS ENTIRETY TO THE EXTENTS SHOWN. FOLLOW ALL CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS. COORDINATE EXTENT OF REMOVALS WITH UTILITY CONTRACTOR PRIOR TO START OF CONSTRUCTION.
 - REMOVE WATER MAIN, HYDRANTS, AND VALVES IN THEIR ENTIRETY TO THE EXTENTS SHOWN. COORDINATE REMOVAL WITH NEW HYDRANT LOCATION. REFER TO SHEET C3.0. FOLLOW ALL CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS. COORDINATE EXTENT OF REMOVALS WITH UTILITY CONTRACTOR PRIOR TO START OF CONSTRUCTION.
 - REMOVE TREE IN ITS ENTIRETY INCLUDING STUMP.
 - REMOVE EXISTING LIGHT POLE IN ITS ENTIRETY. COORDINATE REMOVAL WITH UTILITY OWNER.
 - REMOVE EXISTING SIGN IN ITS ENTIRETY.
 - REMOVE SIDEWALK, CONCRETE CURB AND GUTTER AND BITUMINOUS PAVEMENT TO APPROXIMATE EXTENTS SHOWN FOR UTILITY INSTALLATION. COORDINATE ALL WORK IN PUBLIC RIGHT OF WAY WITH THE CITY OF CRYSTAL PRIOR TO THE START OF CONSTRUCTION. FOLLOW ALL CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS.

DEMOLITION AND REMOVAL NOTES:

- PRIOR TO START OF DEMOLITION, ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE CITY OF CRYSTAL. ALL SILT FENCES SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY CONSTRUCTION ACTIVITY. SILT FENCES SHALL BE INSTALLED ALONG THE CONTOUR.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION, ELEVATION AND MARK ALL EXISTING UTILITIES 48 HOURS BEFORE CONSTRUCTION STARTS. THE ENGINEER, ARCHITECT OR OWNER DOES NOT GUARANTEE THAT ALL UTILITIES ARE MAPPED, OR IF MAPPED, ARE SHOWN CORRECTLY. CONTACT COPPER STATE ONE CALL AT 888-454-0002 FOR FIELD LOCATING EXISTING UTILITIES. CONTACT UTILITY OWNER IF DAMAGE OCCURS DUE TO CONSTRUCTION.
- THERE MAY BE MISCELLANEOUS ITEMS TO BE REMOVED THAT ARE NOT IDENTIFIED ON THESE PLANS. THE CONTRACTOR SHALL VISIT THE SITE AND REVIEW THE DOCUMENTS TO OBTAIN A CLEAR UNDERSTANDING OF THE INTENDED SCOPE OF WORK.
- ANY UTILITIES NOT INDICATED FOR REMOVAL OR ABANDONMENT, ARE TO BE PROTECTED AT ALL TIMES.
- ALL EXISTING CURB AND GUTTER IS TO BE REMOVED WITHIN THE SCOPE OF THE PROJECT FROM THE SAW CUT LINES TO THE NEAREST JOINT.
- THE BACKGROUND INFORMATION WAS PREPARED BY RLM INCORPORATED.
- ALL WORK IN THE PUBLIC RIGHT OF WAY IS TO BE COORDINATED WITH THE CITY OF CRYSTAL. ROADWAY REPAIRS, BOUNDARY REPAIRS, AND TRAFFIC CONTROL ARE TO BE PER CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS.

GENERAL NOTES:

- CONCRETE CURB AND GUTTER REMOVAL, PAVEMENT REMOVAL, AND UTILITY REMOVAL LIMITS ARE TO BE COORDINATED THE CITY OF CRYSTAL AND UTILITY OWNER. REFER TO ALL CONSTRUCTION DOCUMENTS.
- THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A TRAFFIC CONTROL PLAN WHILE WORKING WITHIN THE RIGHT-OF-WAY. THE TRAFFIC CONTROL PLAN SHALL BE APPROVED BY THE CITY ENGINEERING DEPARTMENT PRIOR TO STREET ENCROACHMENT.
- CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING AND REVIEW ALL CONSTRUCTION DOCUMENTS AND GEOTECHNICAL REPORTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ITEMS THAT SHOULD HAVE BEEN ANTICIPATED BY PERFORMING THE ABOVE.
- THE ROCK CONSTRUCTION ENTRANCE INDICATED ON THE PLAN IS SHOWN IN AN APPROXIMATE LOCATION. FROM THE START OF CONSTRUCTION, THE CONTRACTOR IS TO COORDINATE WITH THE CITY OF CRYSTAL FOR THE EXACT ROCK CONSTRUCTION ENTRANCE LOCATION.



2
C1.0
DEMOLITION AND EROSION CONTROL PLAN
1"=30'

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SUITE 8
MINNEAPOLIS, MN 55426-1603

PROJECT
CRYSTAL GALLERY
PLANNED DEVELOPMENT
5510-5590 W. BROADWAY AVE.
CRYSTAL, MN 55428

SHEET TITLE
DEMOLITION AND EROSION CONTROL PLAN

PROJECT NO.
13418.00

SCALE
AS SHOWN

DATE
09/20/13

REVISION DATE

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET NO.

C1.0

EX. D

PROPOSED PLAN SYMBOLS	
CONSTRUCTION LIMITS	---
SILTATION FENCE	---X---
PROPERTY LINE	---
SAUCUT LINE (APPROX.)	---
PROPOSED CONTOUR	---
DRAIN TILE	---
STORM SEWER	---
CATCH BASIN	---
MANHOLE	---
ROCK CONSTRUCTION ENTRANCE	---
ROCK CONSTRUCTION ENTRANCE	---
DRAINAGE FLOW ARROW	---
SPOT ELEVATION	---
SOIL BORING	---
CONCRETE WASHOUT AREA	---

KEYED NOTES

KEYED NOTES ARE DENOTED BY [] ON PLAN.

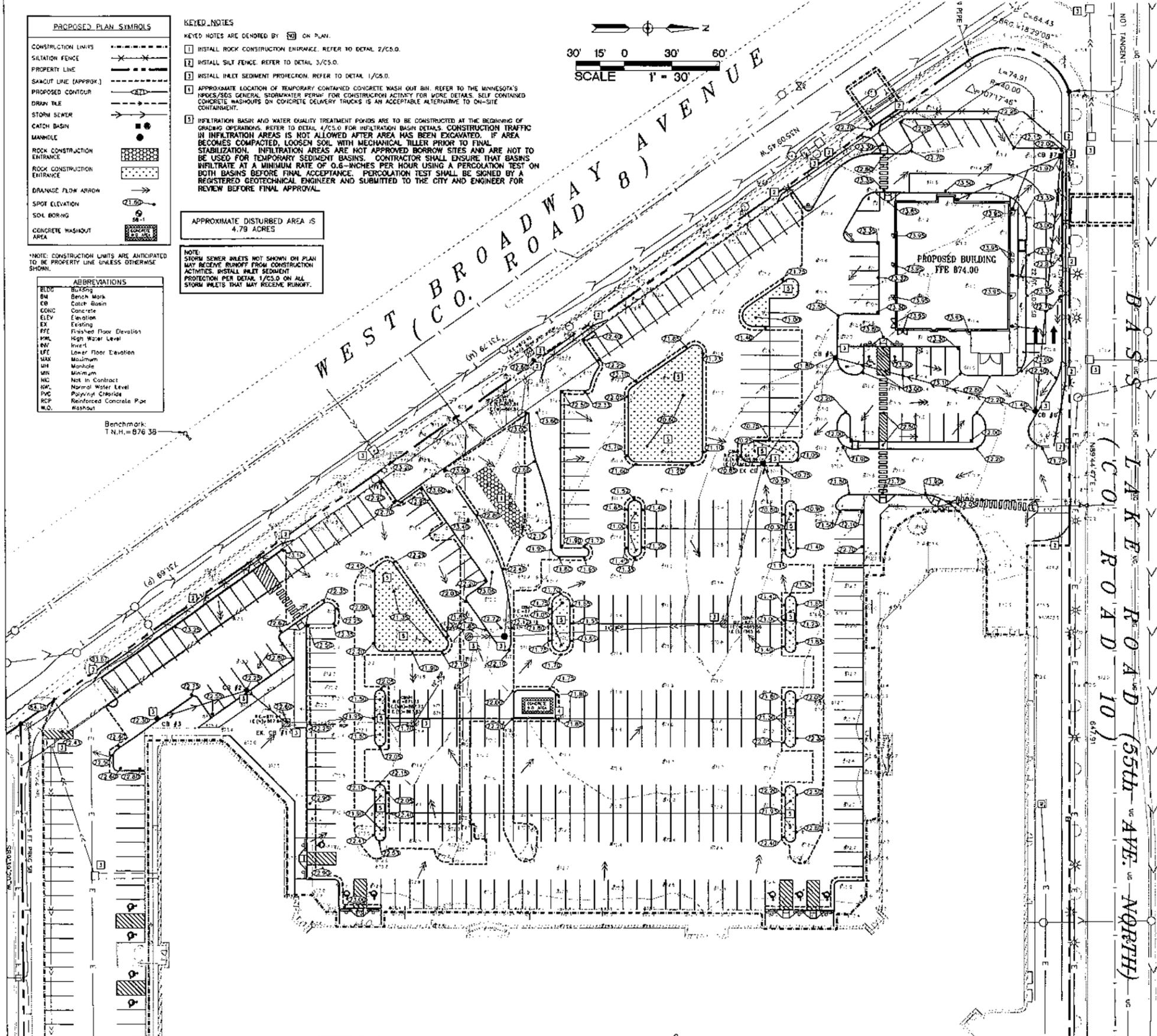
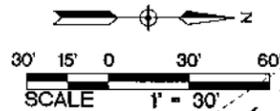
- INSTALL ROCK CONSTRUCTION ENTRANCE. REFER TO DETAIL 2/C.S.O.
- INSTALL SILT FENCE. REFER TO DETAIL 3/C.S.O.
- INSTALL INLET SEDIMENT PROTECTION. REFER TO DETAIL 1/C.S.O.
- APPROXIMATE LOCATION OF TEMPORARY CONTAINED CONCRETE WASH OUT BIN. REFER TO THE MINNESOTA'S PROCESSES GENERAL STORMWATER PERMITS FOR CONSTRUCTION ACTIVITY FOR MORE DETAIL. SELF CONTAINED CONCRETE WASHOUTS ON CONCRETE DELIVERY TRUCKS IS AN ACCEPTABLE ALTERNATIVE TO ON-SITE CONTAINMENT.
- INFILTRATION BASIN AND WATER QUALITY TREATMENT PONDS ARE TO BE CONSTRUCTED AT THE BEGINNING OF GRADING OPERATIONS. REFER TO DETAIL 4/C.S.O FOR INFILTRATION BASIN DETAILS. CONSTRUCTION TRAFFIC IN INFILTRATION AREAS IS NOT ALLOWED AFTER AREA HAS BEEN EXCAVATED. IF AREA BECOMES COMPACTED, LOOSEN SOIL WITH MECHANICAL TILLER PRIOR TO FINAL STABILIZATION. INFILTRATION AREAS ARE NOT APPROVED BORROW SITES AND ARE NOT TO BE USED FOR TEMPORARY SEDIMENT BASINS. CONTRACTOR SHALL ENSURE THAT BASINS INFILTRATE AT A MINIMUM RATE OF 0.6-INCHES PER HOUR USING A PERCOLATION TEST ON BOTH BASINS BEFORE FINAL ACCEPTANCE. PERCOLATION TEST SHALL BE SIGNED BY A REGISTERED GEOTECHNICAL ENGINEER AND SUBMITTED TO THE CITY AND ENGINEER FOR REVIEW BEFORE FINAL APPROVAL.

APPROXIMATE DISTURBED AREA IS 4.79 ACRES

NOTE: STORM SEWER WELLS NOT SHOWN ON PLAN MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INSTALL INLET SEDIMENT PROTECTION PER DETAIL 1/C.S.O. ON ALL STORM WELLS THAT MAY RECEIVE RUNOFF.

ABBREVIATIONS	
B.M.	Benchmark
BM	Bench Mark
CB	Catch Basin
CONC	Concrete
ELEV	Elevation
EX	Existing
F.F.E.	Finished Floor Elevation
H.W.L.	High Water Level
INT	Inlet
L.F.E.	Lower Floor Elevation
MAN	Manhole
MIN	Minimum
NC	Not in Contract
N.W.L.	Natural Water Level
PVC	Polyvinyl Chloride
RCP	Reinforced Concrete Pipe
W.O.	Washout

Benchmark T.N.H. = 676.38



- EROSION CONTROL NOTES:**
- ALL EROSION CONTROL FACILITIES SHALL BE INSTALLED PRIOR TO ANY SITE GRADING OPERATIONS. THE CITY ENGINEER'S DEPARTMENT MUST BE NOTIFIED UPON COMPLETION OF THE INSTALLATION OF THE REQUIRED EROSION CONTROL FACILITIES AND PRIOR TO ANY GRADING OPERATIONS BEING COMMENCED. THE CONTRACTOR IS RESPONSIBLE TO SCHEDULE A PRE-CONSTRUCTION GRADING MEETING ON-SITE WITH THE CITY. IF DAMAGED OR REMOVED DURING CONSTRUCTION, ALL EROSION CONTROL FACILITIES SHALL BE RESTORED AND IN PLACE AT THE END OF EACH DAY.
 - ANY EROSION CONTROL FACILITIES DEEMED NECESSARY BY THE CITY, BEFORE, DURING OR AFTER THE GRADING ACTIVITIES, SHALL BE INSTALLED AT THEIR REQUEST.
 - NO DISTURBANCES SHALL BE MADE FROM THE ELEVATIONS SHOWN ON THE APPROVED GRADING PLAN, WITHOUT PRIOR APPROVAL FROM THE CITY.
 - FOR SITES GREATER THAN 1.0 ACRE, AS REQUIRED BY THE WPCA PERMITS REQUIREMENTS, THE PERMIT APPLICANT MUST KEEP AN EROSION CONTROL INSPECTION LOG. INSPECTION MUST BE MADE ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS AFTER EVERY RAIN EVENT. THE INSPECTION RECORD MUST BE MADE AVAILABLE TO THE CITY AT ALL TIMES.
 - FLOWS FROM OVERSLOW CHANNELS OR PIPES (TEMPORARY OR PERMANENT) SHALL BE ROUTED TO SEDIMENTATION BASIN OR APPROPRIATE ENERGY DISSIPATORS TO PREVENT TRANSPORT OF SEDIMENT TO OUTFALL TO LATERAL CONVEYORS AND TO PREVENT EROSION AND SEDIMENTATION WHEN RUNOFF FLOODS INTO THESE CONVEYORS.
 - SITE ACCESS ROADS SHALL BE GRADED OR OTHERWISE PROTECTED WITH SILT FENCES, OVERSLOW CHANNELS, OR DICES AND PIPES TO PREVENT SEDIMENT FROM EXTENDING TO THE SITE VIA THE ACCESS ROADS. SITE-ACCESS ROADS/DRIVEWAYS SHALL BE SURFACED WITH CRUSHED ROCK WHERE THEY ADJOIN EXISTING PAVED ROADWAYS.
 - SOILS TRACKED FROM THE SITE BY MOTOR VEHICLES OR EQUIPMENT SHALL BE CLEANED DAY FROM PAVED ROADWAY SURFACES, OR MORE FREQUENTLY IF REQUESTED BY CITY, THROUGHOUT THE DURATION OF CONSTRUCTION.
 - DUST CONTROL MEASURES SHALL BE PERFORMED PERIODICALLY WHEN CONDITIONS REQUIRE AND/OR AS DIRECTED BY THE CITY.
 - ALL EROSION CONTROL MEASURES SHALL BE USED AND MAINTAINED FOR THE DURATION OF SITE CONSTRUCTION. IF CONSTRUCTION OPERATIONS OR NATURAL EVENTS DAMAGE OR INTERFERE WITH THESE EROSION CONTROL MEASURES, THEY SHALL BE RESTORED TO SERVE THEIR INTENDED FUNCTION AT THE END OF EACH DAY OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.
 - ALL CONSTRUCTION AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED AS SOON AS POSSIBLE. ANY AREAS WHICH HAVE BEEN FINISHED GRADED OR AREAS THAT HAVE BEEN DISTURBED AND FOR WHICH GRADING OR SITE BUILDING CONSTRUCTION OPERATIONS ARE NOT ACTIVELY UNDERTAKEN SHALL BE SEEDED AND MULCHED AS SET FORTH IN THE FOLLOWING PARAGRAPHS WITHIN 14 DAYS:
 - ALL SEEDS ADDED SHALL BE EITHER MULCHED AND DISC-ANCHORED OR COVERED BY FIBROUS BLANKETS TO PROTECT SEEDS AND LIFT EROSION. TEMPORARY STRAW MULCH SHALL BE DISC-ANCHORED AND APPLIED AT A UNIFORM RATE OF NOT LESS THAN TWO TONS PER ACRE AND NOT LESS THAN 80% COVERAGE.
 - IF THE GRADED AREA IS ANTICIPATED TO BE RE-DISTURBED/DEVELOPED WITHIN SIX MONTHS, PROVIDE A TEMPORARY VEGETATIVE COVER CONSISTING OF MINNESOTA DEPARTMENT OF TRANSPORTATION (MN-DOT) SEED MIXTURE 21-111 (GRASS), OR 21-112 (CERBER WHEAT), AT A RATE OF 100 POUNDS PER ACRE.
 - IF GRADED AREA WILL NOT BE DEVELOPED FOR A PERIOD GREATER THAN SIX MONTHS, PROVIDE A SEMI-PERMANENT VEGETATIVE COVER OF SEED MIXTURE W20-212 AT A RATE OF 40 POUNDS PER ACRE.
 - GRADING BONDS OR THE EQUIVALENT SECURITIES SHALL BE MAINTAINED UNTIL TURF HAS GERMINATED AND SURVIVED A 40-DAY GROWING PERIOD.
 - UNLESS SPECIFIED ELSEWHERE WITHIN THE CONSTRUCTION DOCUMENTS (I.E. ARCHITECTURAL, SITE PLAN OR LANDSCAPE PLAN), PERMANENT TURF RESTORATION SHALL CONSIST OF MN-DOT SEED MIXTURE 25-131 (COMMERCIAL TURF GRASS) AT A RATE OF 220 POUNDS PER ACRE.
 - WHENEVER OTHER EROSION AND SEDIMENT CONTROL PRACTICES ARE INADEQUATE, TEMPORARY ON-SITE SEDIMENT BASINS MUST CONFORM TO THE CRITERIA FOR ON-SITE SEDIMENT BASINS AS SET FORTH IN MN-DOT 21-111 (GRASS), OR 21-112 (CERBER WHEAT).
 - RUNOFF SHALL BE PREVENTED FROM ENTERING ALL STORM SEWER CATCH BASINS PROVIDING THEY ARE NOT NEEDED DURING CONSTRUCTION. WHERE STORM SEWER CATCH BASINS ARE NECESSARY FOR SITE DRAINAGE DURING CONSTRUCTION, A SILT FENCE OR SEDIMENT PROTECTION DEVICES AS DETAILED SHALL BE INSTALLED AND MAINTAINED UNTIL CATCH BASINS UNITS, THE TRIBUTARY AREA TO THE CATCH BASIN IS RESTORED.
 - GRADING ACTIVITIES PROPOSED TO BEGAIN AFTER OCTOBER 15 WILL REQUIRE AN APPROVED PAVING SCHEDULE. THE AREA OF LAND THAT THE CITY WILL ALLOW TO BE DISTURBED AT THIS TIME OF YEAR WILL BE SEVERELY LIMITED. THE CITY WILL ALSO REQUIRE ADDITIONAL EROSION CONTROL DEVICES, I.E. TEMPORARY SEDIMENT BASINS, DORMANT SEEDING AND HIGH RATES OF APPLICATION OF BOTH SEED AND MULCH.
 - EROSION CONTROL FACILITIES SHALL BE INSTALLED AND MAINTAINED AROUND THE PERIMETER OF ALL DITCHES AND RAIN GARDENS WITHIN OR ADJACENT TO THE AREA TO BE GRADED UNTIL THE AREAS TRIBUTARY TO THE DITCHES AND RAIN GARDENS ARE RESTORED.
 - TO MINIMIZE EROSION, ALL 3:1 SLOPES SHALL BE COVERED WITH A MN/DOT 3855 CATEGORY 2 STRAW EROSION CONTROL BLANKETS OR STAKED SOO.
 - ACCUMULATION OF ALL SEDIMENT OCCURRING IN STORM SEWERS, DITCHES, CURBS, AND RAIN GARDENS SHALL BE REMOVED DURING AND AFTER COMPLETION OF GRADING ACTIVITIES.
 - EROSION CONTROL FENS AND DEVICES SHALL BE REMOVED ONLY AFTER THE AREA HAS RECEIVED FINAL STABILIZATION OR AS DIRECTED BY THE CITY.

- GRADING NOTES:**
- THE CONTRACTOR SHALL VISIT THE SITE, REVIEW ALL CONSTRUCTION DOCUMENTS AND FIELD VERIFY THE EXISTING CONDITIONS PRIOR TO BIDDING. NO ADDITIONAL COMPENSATION WILL BE GIVEN FOR WORK THAT COULD HAVE BEEN IDENTIFIED BY A SITE VISIT OR CONSTRUCTION DOCUMENT REVIEW.
 - THE BACKGROUND INFORMATION WAS PREPARED BY RLK INCORPORATED.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION, ELEVATION AND MARK ALL EXISTING UTILITIES 48 HOURS BEFORE CONSTRUCTION STARTS. THE ENGINEER, ARCHITECT OR OWNER DOES NOT GUARANTEE THAT ALL THE UTILITIES ARE MAPPED, OR IF MAPPED, ARE SHOWN CORRECTLY. CONTACT Gopher One at 651-454-0022 FOR FIELD LOCATING EXISTING UTILITIES. CONTACT UTILITY OWNER IF DAMAGE OCCURS DUE TO CONSTRUCTION.
 - PROTECT ALL EXISTING STRUCTURES AND UTILITIES WHICH ARE NOT SCHEDULED FOR REMOVAL.
 - VERIFY CITY BUILDING INSPECTOR BEFORE TREINGING AND EXCAVATION WORK COMMENCES. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS TO START OF CONSTRUCTION.
 - ALL SPOT ELEVATIONS SHOWN AS 71.88, FOR EXAMPLE, ARE TO BE UNDERSTOOD TO MEAN 871.88.
 - ALL SPOT ELEVATIONS ALONG THE CURB-LINE INDICATE THE ELEVATION OF THE GUTTER, UNLESS NOTED OTHERWISE.
 - NO LANDSCAPED SLOPES ARE TO EXCEED 3:1 (3 FEET HORIZONTAL TO 1 FOOT VERTICAL) UNLESS NOTED OTHERWISE.
 - HANDICAP PARKING AREAS SHALL NOT HAVE SLOPES IN ANY DIRECTION THAT EXCEED 2%.
 - PROVIDE POSITIVE DRAINAGE FROM BUILDINGS AT ALL TIMES.
 - UPON COMPLETION OF THE GRADING AND UTILITY WORK, THE DEVELOPER SHALL CERTIFY THAT ALL GRADING AND UTILITY WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED GRADING AND UTILITY PERMITS. AN AS-BUILT GRADING AND UTILITY PLAN SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND DISTRIBUTION.
 - PRIOR TO ISSUANCE OF BUILDING PERMITS, ALL NECESSARY EROSION CONTROL DEVICES MUST BE IN PLACE AND FUNCTIONING. THE CITY WILL INSPECT THE SITE TO DETERMINE ITS SUITABILITY FOR BUILDING ACTIVITIES. IF THE PUBLIC UTILITIES HAVE NOT BEEN INSTALLED AT THIS POINT, IT MAY BE NECESSARY TO WITHHOLD BUILDING PERMITS FOR VARIOUS LOTS TO ALLOW THE CONTRACTOR ADEQUATE SPACE TO PERFORM THIS WORK.
 - ALL DEBRIS CREATED IN THE PROCESS OF CLEARING AND GRADING THE SITE SHALL BE REMOVED FROM THE SITE. THIS INCLUDES TREES AND SHRUBS. UNDER NO CIRCUMSTANCES SHALL THIS TYPE OF MATERIAL BE BURIED OR BURIED ON THE SITE.
 - THE INTENT IS TO STRIP AND SALVAGED TOPSOIL FOR POTENTIAL RE-SPREADING ON THE SITE. IF APPROVED BY THE LANDSCAPE ARCHITECT AND/OR SPECIFICATIONS, SIX INCHES OF TOPSOIL - AFTER COMPACTION - SHALL BE RE-SPREAD PRIOR TO SEEDING AND MULCHING. EXCESS TOPSOIL MAY BE REMOVED FROM THE SITE PROVIDING THERE IS ADEQUATE TOPSOIL REMAINING TO PROPERLY FINISH THE SITE AS NOTED ABOVE. THE TOPSOIL STRIPPING, STOCKPILING AND RE-SPREADING SHALL BE DONE IN ACCORDANCE TO, AND NOTED ON, THE APPROVED GRADING PLAN AND SPECIFICATIONS. THE CONTRACTOR SHALL REFER TO THE LANDSCAPE DRAWINGS AND SPECIFICATIONS FOR ANY SPECIAL TOPSOIL OR PLANTING REQUIREMENTS.
 - ALL GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION. EROSION CONTROL MEASURES SHALL BE INSTALLED TO PREVENT SEDIMENT FROM RUNNING OFF ONTO ADJACENT PROPERTIES. ANY CHANGE TO ADJACENT PROPERTIES MUST BE CORRECTED AND RESTORED AS SOON AS PERMISSION IS GRANTED FROM THE ADJACENT PROPERTY OWNER(S).
 - IF CONSTRUCTION OF THE SITE WORK PROCEEDS THROUGH THE WINTER MONTHS, ANY DISTURBED AREAS OUTSIDE THE BUILDING FOOTPRINTS ARE TO BE ANNUALLY STABILIZED PRIOR TO WARMUP AS FOLLOWS: AREAS PLANNED TO RECEIVE PAVEMENTS ARE TO HAVE CLASS 5 BASE INSTALLED; ALL OTHER DISTURBED AREAS ARE TO BE SEEDED, STRAW MULCH PLACED, AND DISC-ANCHORED.
 - WINTER MULCHING:
 - SNOW MULCHING SHALL BE DEFINED AS MULCH MATERIAL SPREAD OVER THE TOP OF SNOW SO THAT THE MULCH MELTS THROUGH THE SNOW AND STICKS TO THE EXPOSED SOILS.
 - FROZEN GROUND MULCHING SHALL BE DEFINED AS MULCH MATERIAL SPREAD OVER FROZEN GROUND. MULCH MATERIALS THAT DO NOT REQUIRE DISC-ANCHORING INTO THE SOIL MAY BE PLACED WITHOUT MODIFICATION. MULCH MATERIALS THAT REQUIRE DISC-ANCHORING MAY BE ANCHORED WITH HYDRAULIC SOIL STABILIZERS OR MAY BE FROZEN TO THE SOIL BY APPLYING WATER, AT A RATE OF 2000 GALLONS PER ACRE, OVER THE MULCH AS A SUBSTITUTION FOR DISC-ANCHORING.
 - THE CONTRACTOR SHALL LEAVE THE DISTURBED AREA AS MUCH AS POSSIBLE.

WALKWAY NOTES:

- GRADING CONTRACTOR IS TO COORDINATE WITH PAVING CONTRACTOR SO THAT ALL STEPS AND LANDINGS ARE SLOPED PER CODE.
- ALL SIDEWALK LONGITUDINAL AND TRANSVERSE SLOPES ARE TO BE PER CODE.

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PROJECT
CRYSTAL GALLERY
PLANNED DEVELOPMENT
 5510-5590 W. BROADWAY AVE.
 CRYSTAL, MN 55428

SHEET TITLE
 GRADING, DRAINAGE, AND EROSION CONTROL PLAN

PROJECT NO.
 13418.00

SCALE
 AS SHOWN

DATE
 09/26/13

REVISION DATE

PRELIMINARY NOT FOR CONSTRUCTION
 SHEET NO.

C2.0

Ex. E

PROPOSED PLAN SYMBOLS

CONSTRUCTION LIMITS

PROPERTY LINE
 SANICUT LINE (APPROX)
 SANITARY SEWER
 WATER PIPE
 DRAIN TILE
 STORM SEWER
 FIRE HYDRANT
 GATE VALVE
 CATCH BASIN
 MANHOLE
 ROOF DRAIN DOWNSPOUT

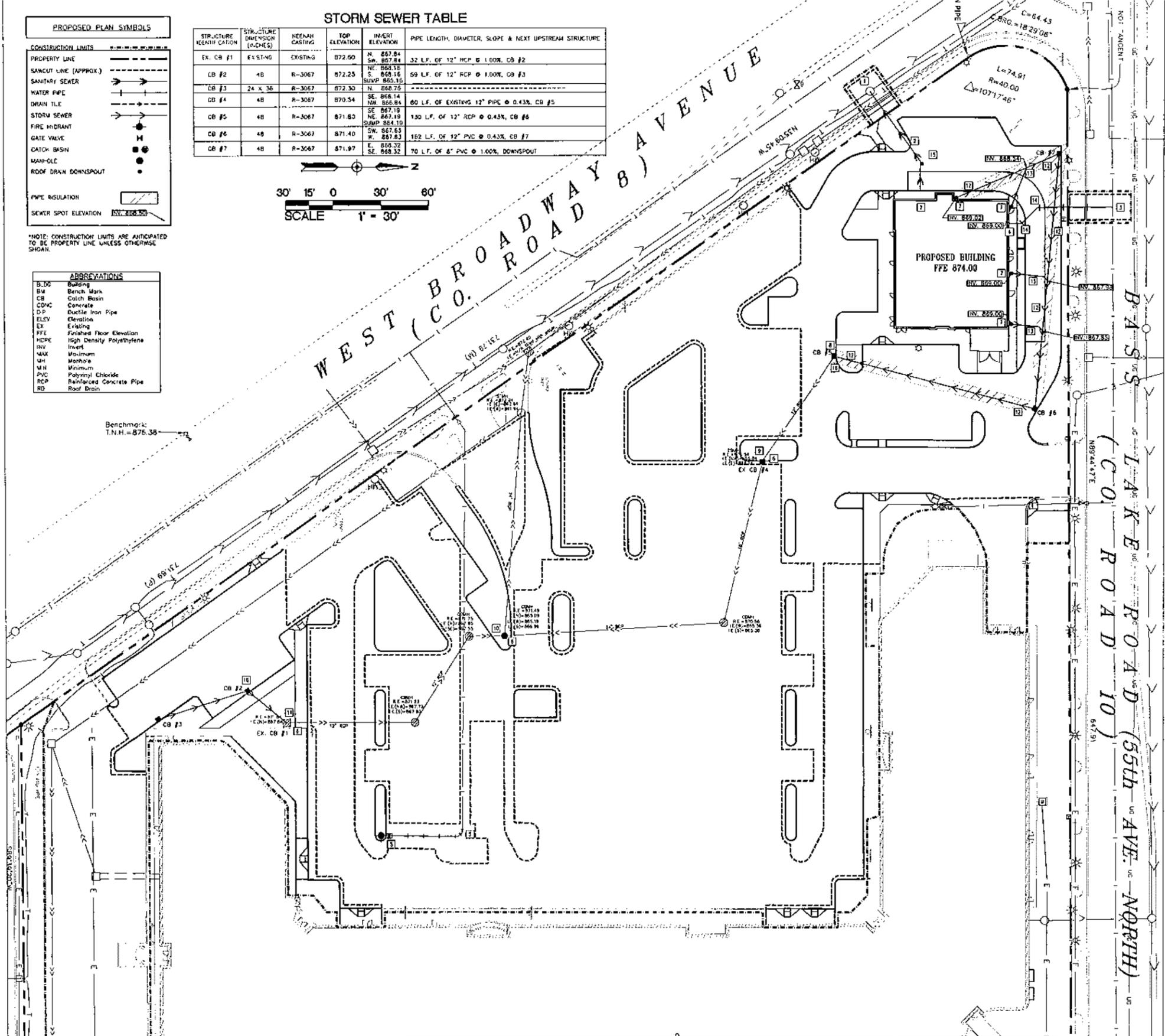
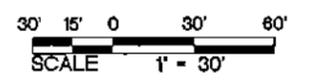
PIPE INSULATION
 SEWER SPOT ELEVATION

ABBREVIATIONS

B.M. Benchmark
 CB Catch Basin
 CD/C Concrete
 DIP Ductile Iron Pipe
 ELEV Elevation
 EX Existing
 FFE Finished Floor Elevation
 HDPE High Density Polyethylene
 INV Invert
 MAX Maximum
 MH Manhole
 MIN Minimum
 PVC Polyvinyl Chloride
 RCP Reinforced Concrete Pipe
 RD Roof Drain

STORM SEWER TABLE

STRUCTURE IDENTIFICATION	STRUCTURE DIMENSION (INCHES)	NEENAH CASTING	TOP ELEVATION	INVERT ELEVATION	PIPE LENGTH, DIAMETER, SLOPE & NEXT UPSTREAM STRUCTURE
EX. CB #1	EXISTING	EXISTING	872.50	N. 867.84 S.W. 867.84	32 L.F. OF 12" RCP @ 1.00%, CB #2
CB #2	48	R-3067	872.23	N.E. 868.15 S. 868.15 SUVP 868.15	59 L.F. OF 12" RCP @ 1.00%, CB #3
CB #3	24 X 36	R-3067	872.30	N. 868.75	60 L.F. OF EXISTING 12" PIPE @ 0.43%, CB #5
CB #4	48	R-3067	870.54	SE. 868.14 NW. 868.84	130 L.F. OF 12" RCP @ 0.43%, CB #6
CB #5	48	R-3067	871.60	SE. 867.19 NE. 867.19 SUVP 867.19	162 L.F. OF 12" PVC @ 0.43%, CB #7
CB #6	48	R-3067	871.40	SW. 867.63 W. 867.63	70 L.F. OF 8" PVC @ 1.00%, DOWNSPOUT
CB #7	48	R-3067	871.97	E. 868.32 SE. 868.32	



KEYED NOTES

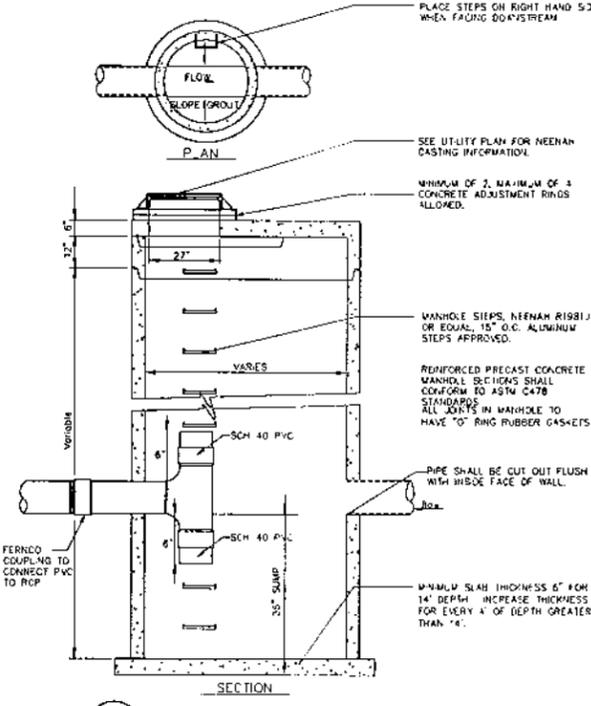
- KEYED NOTES ARE DENOTED BY [] ON PLAN.
- CORE DRILL EXISTING SANITARY SEWER MANHOLE 0.1-FOOT ABOVE THE INVERT OF THE EXISTING MANHOLE FOR NEW 6-INCH PIPE CONNECTION. THE CONTRACTOR TO VERIFY INVERT PRIOR TO CONSTRUCTION. PROVIDE RUBBER BOOT SEAL FOR NEW PIPE CONNECTION.
 - INSTALL 73-FEET OF 8-INCH SDR 35 PVC PIPE AND 45 DEGREE PIPE BEND AT A MINIMUM SLOPE OF 1.0%. STUB TO WITHIN 5-FEET OF PROPOSED BUILDING AT INVERT ELEVATION 868.00. COORDINATE EXACT LOCATION AND INVERT ELEVATION OF SEWER AT BUILDING WITH MECHANICAL CONTRACTOR PRIOR TO CONSTRUCTION. FIELD VERIFY DEPTH OF EXISTING MANHOLE ON SEWER MAIN PRIOR TO CONSTRUCTION.
 - INSTALL 6-INCH WET TAP. FOLLOW ALL CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS.
 - STUB 6-INCH COMBINED WATER SERVICE LINE TO WITHIN 5-FEET OF PROPOSED BUILDING. FOLLOW ALL CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS. COORDINATE EXACT LOCATION AND INVERT ELEVATION WITH MECHANICAL CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
 - INSTALL TWO 6-INCH 45-DEGREE BENDS AND EXTEND HYDRANT LEAD TO LOCATION INDICATED ON PLANS. INSTALL HYDRANT AND GATE VALVE PER DETAIL 10/C5.0. FOLLOW ALL CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS. THE EXACT SIZE OF THE EXISTING HYDRANT SERVICE IS UNKNOWN. CONTRACTOR SHALL DETERMINE EXISTING HYDRANT SERVICE SIZE AND CONTACT CIVIL ENGINEER IMMEDIATELY WITH FINDINGS.
 - ADJUST EXISTING MANHOLE/CATCH BASIN CASTING TO MATCH PROPOSED GRADE. REFER TO SHEET C3.0 FOR PROPOSED ELEVATIONS. A MAXIMUM OF 4 ADJUSTMENT RINGS ARE ALLOWED FOR ALL MANHOLE ADJUSTMENTS.
 - PROVIDE DOWNSPOUT INLET AND SPLASH PAD PER DETAIL 12/C5.1. REFER TO DETAIL 12/C5.1 FOR LOCATION OF INVERT ELEVATIONS INDICATED ON UTILITY PLAN 1/C3.0.
 - CONSTRUCT PROPOSED CATCH BASIN OVER EXISTING STORM SEWER PIPE AT INVERT ELEVATION 867.19.
 - REPLACE EXISTING CATCH BASIN CASTING WITH NEENAH R-3067.
 - REPLACE EXISTING CATCH BASIN CASTING WITH NEENAH R-1733.
 - CORE DRILL EXISTING STORM SEWER MANHOLE AT INVERT ELEVATION 867.84 FOR PROPOSED 12" RCP PIPE CONNECTION. GROUT SEAL AROUND OPENING. FOLLOW ALL CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS.
 - PROVIDE INSULATION OVER STORM SEWER PIPE PER DETAIL 13/C5.1.
 - INSTALL 4-INCH SCH. 40 PVC PIPE AT MINIMUM 1.0% SLOPE AND CONNECT TO SITE STORM SEWER MAIN WITH 12" BY 4" SEWER WYE.
 - INSTALL 6-INCH 45 DEGREE BEND WITH THRUST BLOCKING. FOLLOW ALL CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS.
 - INSTALL CLEAN OUT PER DETAIL 5/C5.0.
 - INSTALL SHARP CATCH BASIN PER DETAIL 2/C3.0.

UTILITY NOTES:

- COORDINATE SERVICE CONNECTION LOCATIONS AT THE BUILDING WITH THE MECHANICAL CONTRACTOR PRIOR TO CONSTRUCTION. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR UNCOORDINATED WORK.
- ALL SERVICE CONNECTIONS SHALL BE LESS THAN 5 FEET OF COVER OVER THE TOP OF PIPE ARE TO BE INSULATED. INSULATION SHALL BE INSTALLED FROM THE CONNECTION OF THE SERVICE AT THE BUILDING TO THE POINT WHICH THE SERVICE ATTAINS 5 FEET OF COVER.
- PROTECT ALL EXISTING STRUCTURES AND UTILITIES WHICH ARE NOT SCHEDULED TO BE REMOVED.
- ALL SEWER AND WATER CROSSINGS SHALL HAVE A MINIMUM VERTICAL SEPARATION OF 1.5 FEET AND HORIZONTAL SEPARATION OF 10 FEET. FOLLOW ALL HEALTH DEPARTMENT AND CITY OF CRYSTAL AND HENNEPIN COUNTY STANDARDS.
- ALL WATER MAINS SHALL BE DUCTILE IRON PIPE, CLASS 52, UNLESS NOTED OTHERWISE.
- ALL WATER MAIN SHALL HAVE A MINIMUM DEPTH OF COVER OF 8.0 FEET OVER TOP OF WATER MAIN.
- PROVIDE THRUST BLOCKING ON ALL WATER MAIN PER CITY OF CRYSTAL. PROVIDE MECHANICAL JOINT RESTRAINTS ON ALL BENDS, VALVES, TEES, PLUGS AND HYDRANT LEADS.
- SANITARY SEWER PIPING SHALL BE PVC SDR 35 UNLESS NOTED OTHERWISE.
- STORM SEWER PIPING SHALL BE REINFORCED CONCRETE PIPE (RCP), UNLESS NOTED OTHERWISE. ALL 12-INCH THROUGH 18-INCH RCP STORM SEWER PIPE SHALL BE CLASS 5. ALL STORM SEWER PIPE THAT IS EXTENDED TO THE BUILDING FOR ROOF DRAIN SERVICES IS TO BE SCHEDULED 40 PVC.
- CONTRACTORS ARE TO COORDINATE ALL WORK WITH GAS, ELECTRIC, TELEVISION AND TELEPHONE COMPANIES PRIOR TO START OF CONSTRUCTION.
- ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10-FEET OF THE BUILDING OR WATER SERVICE LINE SHALL BE TESTED IN ACCORDANCE WITH M PLUMBING CODE.
- ALL JOINTS AND CONNECTIONS IN THE STORM SEWER SYSTEM SHALL BE GAS TIGHT OR WATER TIGHT IN ACCORDANCE TO M PLUMBING CODE. APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATER TIGHT CONNECTIONS TO MANHOLES, CATCH BASINS, AND OTHER STRUCTURES. GROUT RINGS ARE AN ACCEPTABLE ALTERNATIVE. CEMENT MORTAR JOINTS ARE PERMITTED ONLY FOR REPAIRS AND CONNECTIONS OF EXISTING LINES CONSTRUCTED WITH SUCH JOINTS.

UTILITY NOTES FOR WORK IN PUBLIC RIGHT-OF-WAY:

- FOLLOW ALL CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS.
- PRIOR TO CONSTRUCTION, CONTRACTORS ARE TO COORDINATE ALL WORK WITH RIGHT OF WAY AND OBTAIN ALL APPLICABLE PERMITS.



1 UTILITY PLAN
C3.0 1" = 30'

2 SUMP MANHOLE/CATCH BASIN
C3.0 NOT TO SCALE

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PROJECT
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SHEET TITLE
 UTILITY PLAN

PROJECT NO.
 13418.00

SCALE
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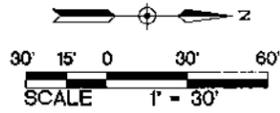
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SHEET NO.
 C3.0

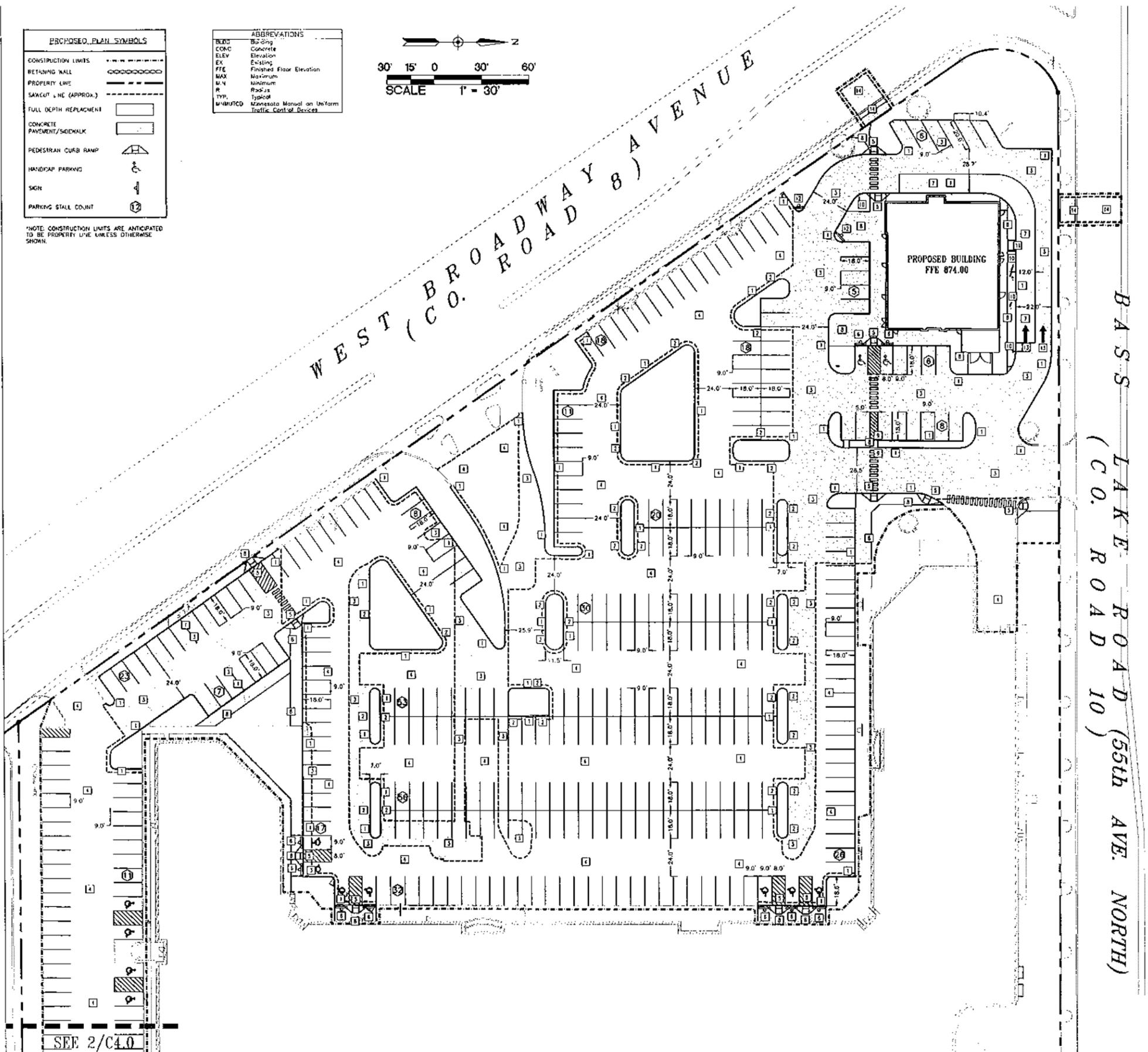
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PROPOSED PLAN SYMBOLS	
CONSTRUCTION LIMITS	---
RETAINING WALL	-----
PROPERTY LINE	-----
SAWCUT LINE (APPROX.)	-----
FULL DEPTH REPLACEMENT	▨
CONCRETE PAVEMENT/SIDEWALK	▩
PEDESTRIAN CURB RAMP	▵
HANDICAP PARKING	♿
SIGN	Ⓢ
PARKING STALL COUNT	Ⓜ

ABBREVIATIONS	
BUDG	Bid-Bid
CONC	Concrete
ELEV	Elevation
EX	Excising
FTE	Finished Floor Elevation
MAX	Maximum
MIN	Minimum
R	Radius
TYP	Typical
MINUTED	Minnesota Manual on Uniform Traffic Control Devices



*NOTE: CONSTRUCTION LIMITS ARE ANTICIPATED TO BE PROPERTY LINE UNLESS OTHERWISE SHOWN.



KEYED NOTES

- KEYED NOTES ARE DENOTED BY [] ON PLAN.
- INSTALL 6x12 CONCRETE CURB AND GUTTER. REFER TO DETAIL 3/C5.1.
 - INSTALL 3-FOOT CURB CUT WITH 3-FOOT HOSE DOWN CURB SECTIONS TO EITHER SIDE. REFER TO DETAIL 2/C5.1 FOR HOSE DOWN CURB.
 - INSTALL FULL DEPTH BITUMINOUS PAVEMENT. REFER TO DETAIL 9/C5.1.
 - PROVIDE 1.5-INCH MN/DOT 2360 WYNER OVERLAY.
 - INSTALL PEDESTRIAN CURB RAMP. REFER TO DETAIL 4/C5.1. REFER TO MN/DOT STANDARD PLAN 5-297.250 AND MN/DOT STANDARD PLATE 7038.
 - INSTALL HANDICAPPED PARKING SIGN. REFER TO DETAIL 5/C5.1.
 - INSTALL CONCRETE PAVEMENT. REFER TO DETAIL 6/C5.1.
 - INSTALL CONCRETE WALK. REFER TO DETAIL 8/C5.1. REFER TO LANDSCAPE PLANS FOR CONCRETE FINISH AND JOINTING.
 - HOSE DOWN PROPOSED CURB ON EITHER SIDE OF CONCRETE WALK. INTENT IS FOR CONCRETE WALK TO MATCH PROPOSED ADJOINING ASPHALT PAVEMENT GRADERS. CONTRACTOR SHALL PROVIDE TRUNCATED DOME PLATES PER DETAIL 4/C5.1.
 - REFER TO ARCHITECTURAL PLANS FOR MISCELLANEOUS SITE FEATURES.
 - INSTALL CONCRETE TRANSFORMER PAD PER DETAIL 10/C5.1.
 - INSTALL "ONE WAY DO NOT ENTER" SIGN PER DETAIL 11/C5.1.
 - INSTALL YELLOW DIRECTIONAL ARROW. FOLLOW ALL MINUTED STANDARDS AND SPECIFICATIONS.
 - REPLACE PAVEMENT, SIDEWALK, AND CURB AND GUTTER THAT WAS REMOVED FOR UTILITY INSTALLATION. FOLLOW ALL CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS.

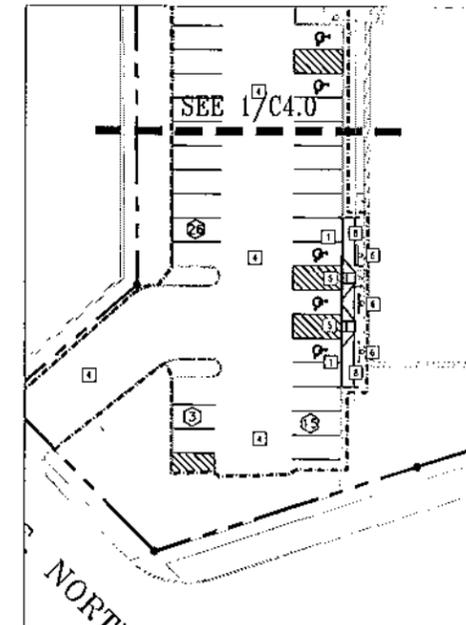
GENERAL NOTES:

- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
- ALL CURB AND GUTTER IS TO BE 6x12 CONCRETE CURB AND GUTTER UNLESS NOTED OTHERWISE.
- NO SIDEWALK IS TO HAVE MORE THAN A 2% CROSS SLOPE OR MORE THAN A 5% LONGITUDINAL SLOPE.
- REFER TO ARCHITECTURAL PLANS FOR PROPOSED BUILDING LAYOUT.
- FOLLOW ALL CITY OF CRYSTAL AND HENNEPIN COUNTY RULES, REGULATIONS AND SPECIFICATIONS WHEN WORKING IN PUBLIC RIGHT OF WAY.
- NO POHONG OF WATER OR ABRUPT TRANSITIONS WILL BE ALLOWED IN NEW PAVEMENT/CURB/SIDEWALK MATCHES INTO EXISTING PAVEMENT/CURB/SIDEWALK.
- ALL PARKING STALLS, EXCEPT HANDICAP STALLS, ARE TO BE 9 FEET WIDE BY 18 FEET LONG.
- THE CONTRACTOR IS TO CONTACT THE CITY OF CRYSTAL FIRE MARSHAL FOR THE EXACT PLACEMENT OF FIRE LANES, YELLOW-PAINTED CURBING AND NO PARKING AREAS FOR FIRE PROTECTION PURPOSES.

PAVING NOTES:

- REFER TO STRUCTURAL PLANS FOR SHOOP DETAILS. ALL WALKS ARE TO BE CENTERED ON THE DOORS.
- INSTALL APPROPRIATE EXPANSION MATERIAL WHERE CONCRETE IS ADJACENT TO BUILDING FACE.
- SAWCUT AND MATCH NEW BITUMINOUS PAVEMENT INTO EXISTING PAVEMENT. NO ABRUPT GRADE TRANSITIONS OR POHONG OF WATER WILL BE ALLOWED.
- MATCH NEW CONCRETE CURB AND GUTTER INTO EXISTING. FOLLOW ALL CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS FOR CURB TYPE, MATERIAL AND INSTALLATION METHODS.
- SAWCUT EXISTING BITUMINOUS PAVEMENT AND CURB AND GUTTER TO NEAREST JOINT. COORDINATE REMOVAL LIMITS WITH SITE DEMOLITION CONTRACTOR AND CONSTRUCTION MANAGER. INSTALL CURB ENTRANCE PER CITY OF CRYSTAL STANDARDS AND SPECIFICATIONS. FOLLOW ALL CITY OF CRYSTAL AND HENNEPIN COUNTY REQUIREMENTS FOR TRAFFIC CONTROL.

STALL COUNT	
EXISTING	= 392 STALLS
PROPOSED	= 399 STALLS
REQUIRED PER CITY OF CRYSTAL ZONING CODE 515.17 SLO.5.P	
1 STALL PER 300 SQUARE FEET MIN	
1 STALL PER 250 SQUARE FEET MAX	
111,314 SQUARE FEET = 372 STALLS MIN	
445 STALLS MAX	



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PROJECT
CRYSTAL GALLERY
PLANNED DEVELOPMENT
 5510-5590 W. BROADWAY AVE.
 CRYSTAL, MN 55428

SHEET TITLE
 GEOMETRIC AND PAVING PLAN

PROJECT NO.
 13418.00
SCALE
 AS SHOWN
DATE
 09/20/13
REVISION DATE

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET NO.
 C4.0

EX. 29

1 GEOMETRIC AND PAVING PLAN
 C4.0 1" = 30'

2 GEOMETRIC AND PAVING PLAN
 C4.0 1" = 30'

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PROJECT
CRYSTAL GALLERY

PLANNED DEVELOPMENT
5510-5590 W. BROADWAY AVE.
CRYSTAL, MN 55428

SHEET TITLE
CIVIL DETAILS

PROJECT NO.
13418.00

SCALE
AS SHOWN

DATE
09/20/13

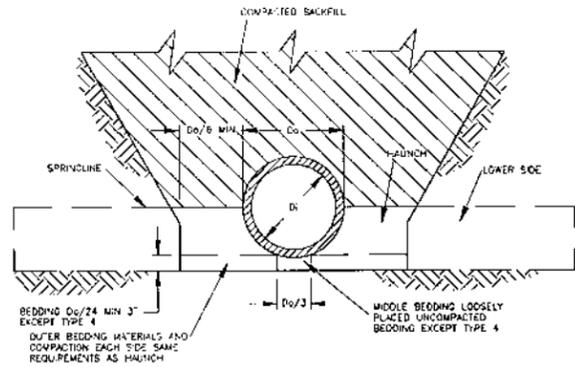
REVISION DATE

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET NO.

C5.0

Ex. H

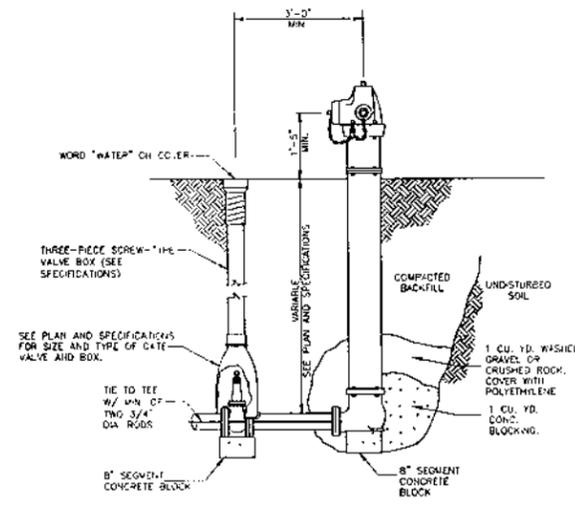


STANDARD TRENCH INSTALLATION SIZE AND MINIMUM STANDARD PROCTOR COMPACTION REQUIREMENTS		
INSTALLATION TYPE	HAUNCH AND OUTER BEDDING	LOWER SIDE
TYPE 1	90% CATEGORY I	95% CATEGORY I 95% CATEGORY II
TYPE 2	90% CATEGORY I 95% CATEGORY I	85% CATEGORY I 90% CATEGORY II 95% CATEGORY III
TYPE 3	85% CATEGORY I 90% CATEGORY I 95% CATEGORY II	85% CATEGORY I 90% CATEGORY II 95% CATEGORY III
TYPE 4	NO COMPACTION REQUIRED, EXCEPT IF CATEGORY III USE 95% CATEGORY III	NO COMPACTION REQUIRED, EXCEPT IF CATEGORY III USE 85% CATEGORY III

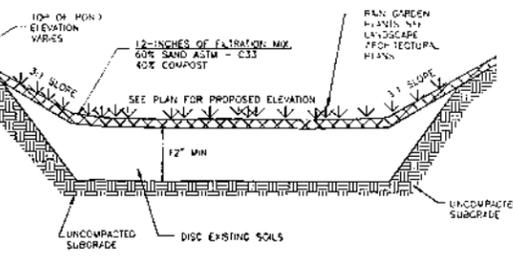
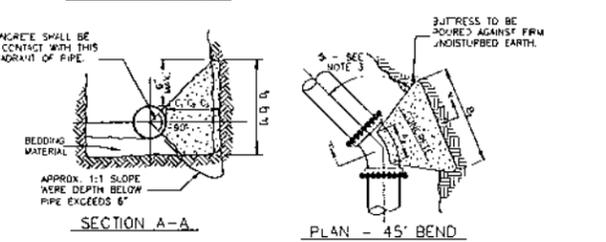
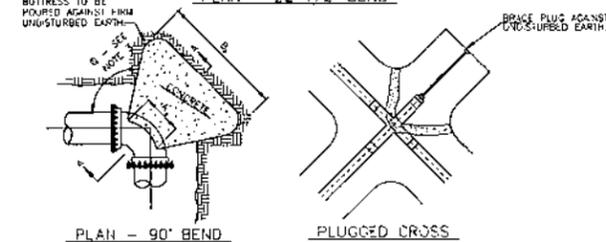
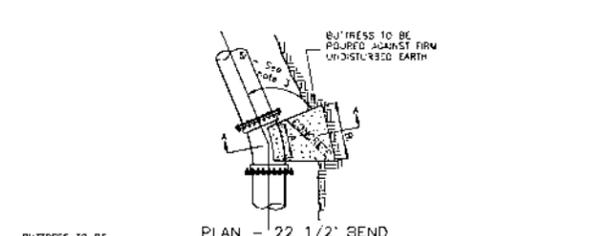
EQUIVALENT SOIL CLASSIFICATIONS FOR SOIL DESIGNATIONS		
SOIL	UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)	MIN/DOE SPECIFICATION
CATEGORY I	CLEAN COURSE GRAINED SOILS: SW, SP, OW, OP, OR ANY SOIL BEGINNING WITH ONE OF THESE SYMBOLS WITH 12% OR LESS PASSING A #200 SIEVE	COARSE FILTER AGGREGATE MIN/DOE 3149.2H
CATEGORY I	COURSE GRAINED SOILS WITH FINES: CW, GC, SW, SC, OR ANY SOIL BEGINNING WITH ONE OF THESE SYMBOLS CONTAINING MORE THAN 12% PASSING A #200 SIEVE	AGGREGATE BEDDING MIN/DOE 3149.2C
CATEGORY II	FINE GRAINED SOILS: CL, ML, (OR CL-ML, CL-ML, ML-CL)	NOT APPLICABLE

- NOTES:
1. COMPACTION AND SOIL SYMBOLS—E. "95% CATEGORY I" REFERS TO CATEGORY I SOIL MATERIAL WITH MINIMUM STANDARD PROCTOR COMPACTION OF 95%.
 2. SOIL IN BEDDING AND HAUNCH ZONES SHALL BE COMPACTED TO AT LEAST THE SAME COMPACTION AS SPECIFIED FOR THE MAJORITY OF SOIL IN THE BACKFILL ZONE.
 3. THE TRENCH WIDTH SHALL BE WIDER THAN SPECIFIED FOR ADEQUATE SPACE TO ATTAIN SPECIFIED COMPACTION IN THE HAUNCH AND BEDDING ZONES.
 4. FOR TRENCH WALLS WITH GREATER THAN 10 DEGREE SLOPE THAT CONSIST OF EMBANKMENT, THE LOWER SIDE SHALL BE COMPACTED TO AT LEAST THE SAME COMPACTION AS SPECIFIED FOR THE SOIL OF THE BACKFILL ZONE.
 5. NO BEDDING IS REQUIRED FOR TYPE 4 STANDARD INSTALLATION.
 6. REFER TO ASTM C1479-07 FOR DETAILS.
 7. TYPE III BEDDING SHALL BE USED UNLESS NOTED OTHERWISE.

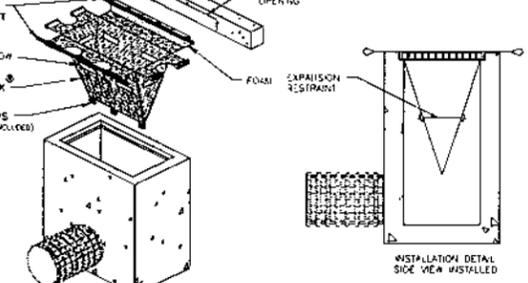
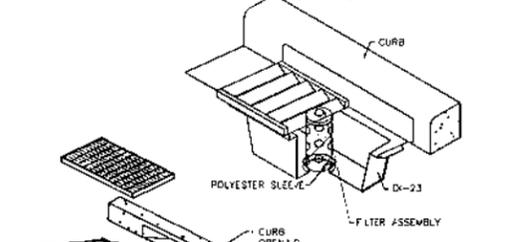
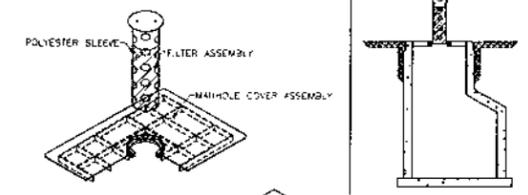
9 TYPICAL PIPE BEDDING FOR RCP AND DIP
C5.0 NOT TO SCALE



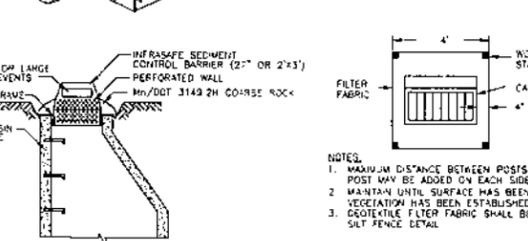
10 TYPICAL HYDRANT WITH GATE VALVE AND BOX
C5.0 NOT TO SCALE



4 RAIN GARDEN CROSS SECTION
C5.0 NOT TO SCALE



5 SEWER CLEANOUT IN PAVEMENT
C5.0 NOT TO SCALE



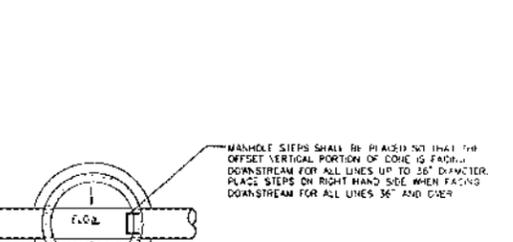
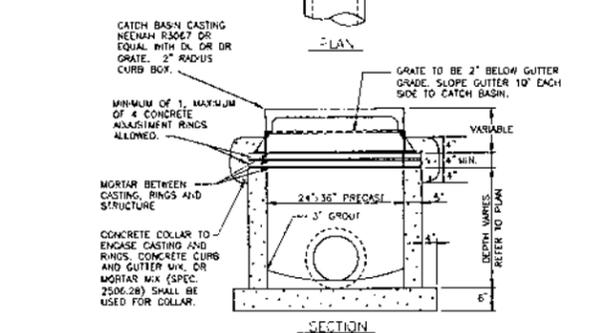
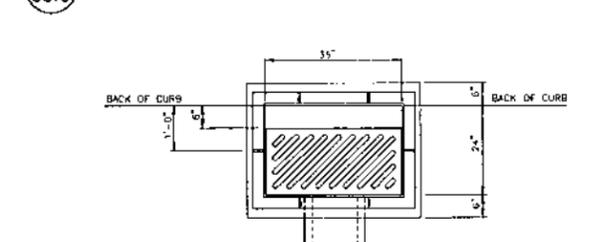
3 SILTATION FENCE
C5.0 NOT TO SCALE

NOTES:

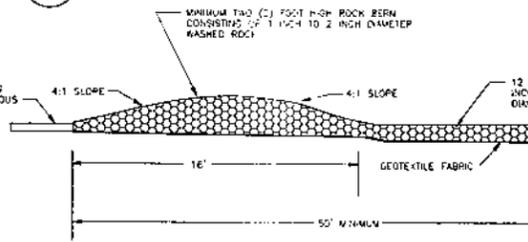
1. EXTENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 P.S.I. AND AN EARTH RESISTANCE OF 1 TON PER SQUARE FOOT.
2. DIMENSIONS C1, C2, C3 SHOULD BE LARGE ENOUGH TO MAINTAIN ANGLE D EQUAL TO OR LARGER THAN 45°.
3. DIMENSION A1, A2, A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH M.J. BOLTS.
4. SHAPE OF BACK OF BUTTRESS MAY VARY AS LONG AS POUR IS AGAINST FIRM UNDISTURBED EARTH.

PIPE SIZE	22 1/2\"/>					
	B ₁	D ₁	B ₂	D ₂	B ₃	D ₃
6"	1'-5"	1'-5"	1'-5"	1'-5"	2'-1"	1'-0"
8"	1'-5"	1'-5"	2'-1"	1'-0"	2'-0"	2'-0"
12"	1'-10"	1'-10"	3'-4"	2'-0"	4'-0"	2'-6"
16"	3'-0"	2'-0"	3'-10"	3'-0"	6'-0"	3'-6"
20"	3'-6"	2'-8"	5'-6"	3'-4"	8'-4"	4'-0"
24"	4'-0"	3'-0"	6'-10"	3'-10"	9'-8"	5'-0"

7 THRUST BLOCK DETAIL FOR MECHANICAL PIPE BENDS
C5.0 NOT TO SCALE



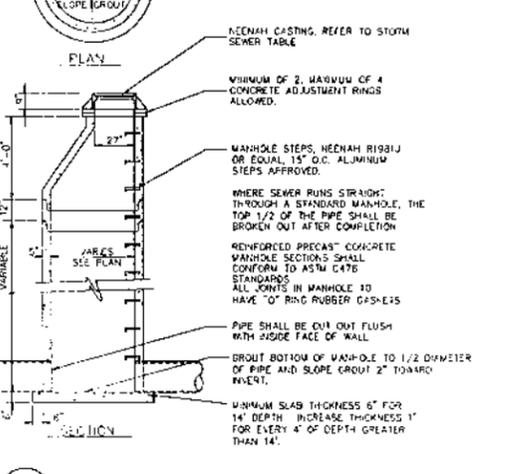
1 INLETS SEDIMENTATION PROTECTION OPTIONS
C5.0 NOT TO SCALE



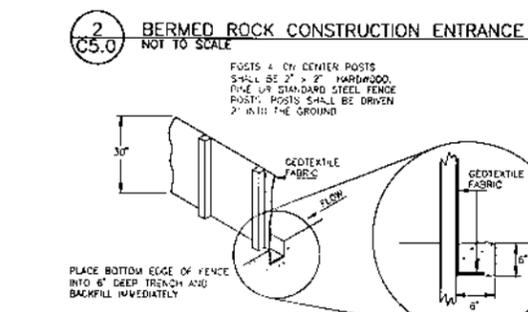
2 BERMED ROCK CONSTRUCTION ENTRANCE
C5.0 NOT TO SCALE

- NOTES:
1. RIGHT HAND GRATE SHOWN IN PLAN VIEW.
 2. REINFORCED PRECAST CONCRETE CATCH BASIN SECTIONS SHALL CONFORM TO ASTM C478 STANDARDS.

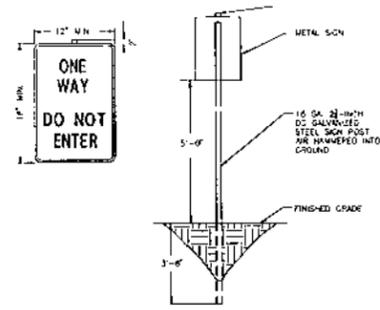
8 24" x 36" PRECAST CATCH BASIN
C5.0 NOT TO SCALE



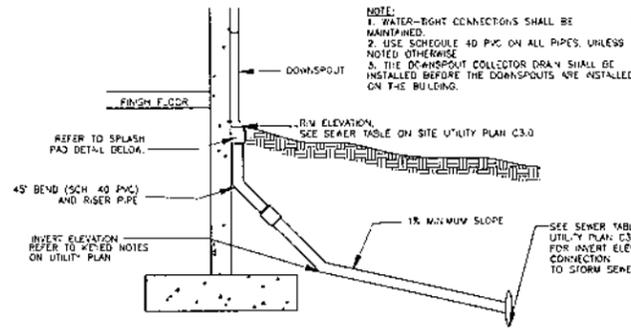
3 SILTATION FENCE
C5.0 NOT TO SCALE



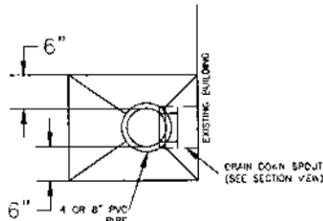
6 STORM SEWER MANHOLE/CATCH BASIN
C5.0 NOT TO SCALE



11 SIGN AND CHANNEL POST
C5.1 NOT TO SCALE

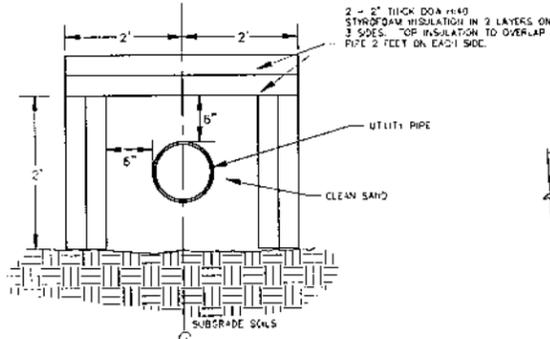


SECTION VIEW

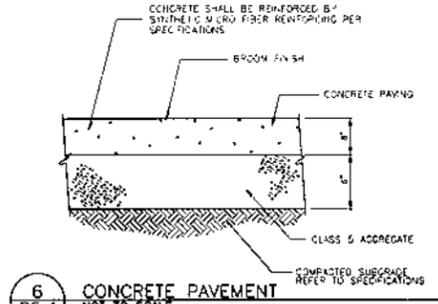


PLAN VIEW

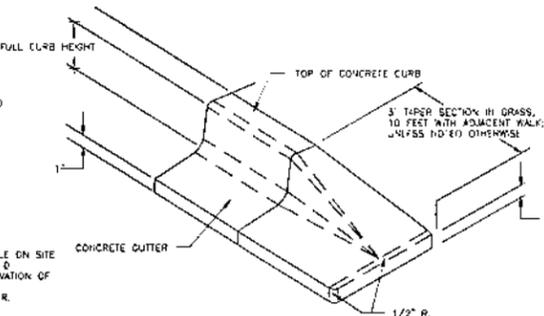
12 DOWNSPOUT DRAIN WITH SPLASH PAD AND CASTING
C5.1 NOT TO SCALE



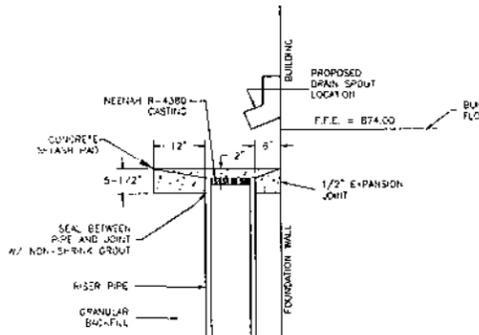
13 PIPE INSULATION
C5.1 NOT TO SCALE



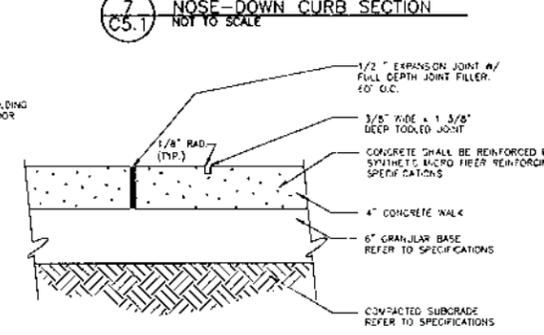
6 CONCRETE PAVEMENT
C5.1 NOT TO SCALE



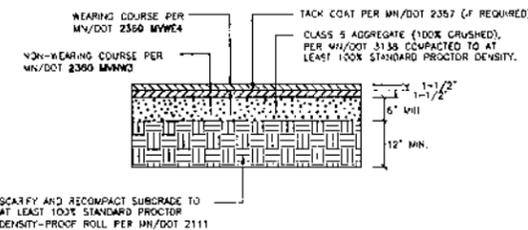
7 NOSE-DOWN CURB SECTION
C5.1 NOT TO SCALE



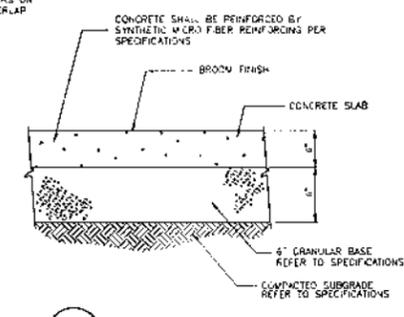
SECTION VIEW



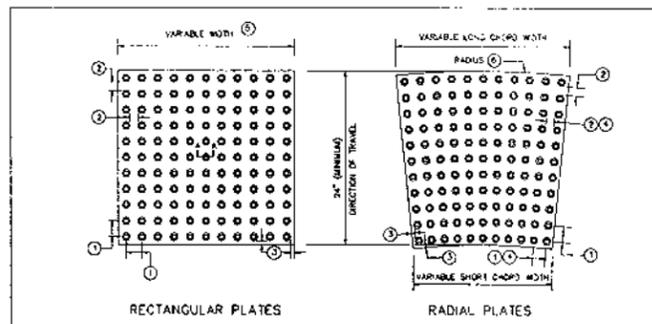
8 CONCRETE SIDEWALK CONSTRUCTION (TYP.)
C5.1 NOT TO SCALE



9 BITUMINOUS PAVEMENT
C5.1 NOT TO SCALE



10 CONCRETE SLAB
C5.1 NOT TO SCALE



RADIUS (FEET)	LONG CURVE WIDTH (INCHES)	SO. FI. PER PLATE	PLATES REQUIRED FOR 90 DEGREE TURN
10	23-1/2"	3.55	8
15	18-1/2"	2.95	10
15	23-1/2"	3.67	12
20	18-13/16"	3.00	20
20	18-7/8"	2.86	20
25	20-1/2"	3.28	23
25	23-9/16"	3.77	20
30	24-5/8"	3.65	22
35	27"	3.52	30

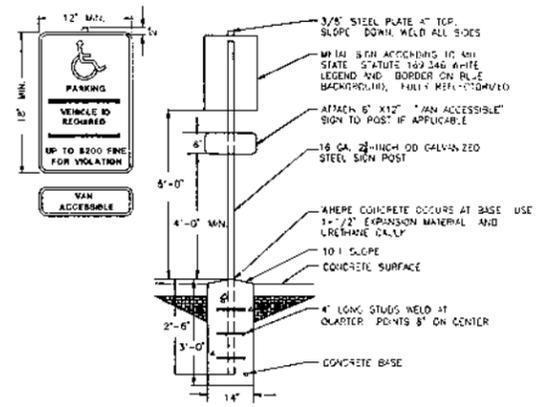
NOTES:
 1. DETECTABLE WARNING SURFACES SHALL FOLLOW THE PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROBAND).
 2. DETECTABLE WARNING SURFACES SHALL BE PAID FOR AS TRUNCATED DOWNS BY THE SQUARE FOOT.
 3. DETECTABLE WARNING SURFACES ARE REQUIRED:
 - WHERE RAMPS, LANIWAYS, OR BLENDED TRANSITIONS PROVIDE A FLUSH PAVEMENT CONNECTION TO THE ROADWAY.
 - WHERE PEDESTRIAN ACCESS ROUTES CROSS COMMERCIAL DRIVEWAYS THAT ARE PROVIDED WITH TRAFFIC CONTROL DEVICES OR OTHERWISE PROHIBITED TO OPERATE LIKE A PUBLIC ROADWAY.
 - AT PEDESTRIAN RAILWAY CROSSINGS.
 - ON RAIL PLATFORMS WHERE BOARDING EDGES ARE NOT PROTECTED.
 DETECTABLE WARNING SURFACES SHALL EXTEND:
 - A MINIMUM OF 24" IN THE DIRECTION OF TRAVEL.
 - THE FULL WIDTH OF THE RAMP, LANIWAY, OR BLENDED TRANSITION, WITHIN 3" OF FULL WIDTH ON EITHER END.
 - THE FULL LENGTH OF THE PUBLIC USE AREA OF A RAIL PLATFORM.
 DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT CURB, ROADWAY, OR SIDEWALK, EITHER A LIGHT-ON-DARK OR DARK-ON-LIGHT. CONTRAST MAY BE PROVIDED ON THE FULL RAMP SURFACE, EXCLUDING THE FLARED SIDES.

STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE	STANDARD PLATE NO.
DETECTABLE WARNING SURFACE TRUNCATED DOWNS	2331	7038A

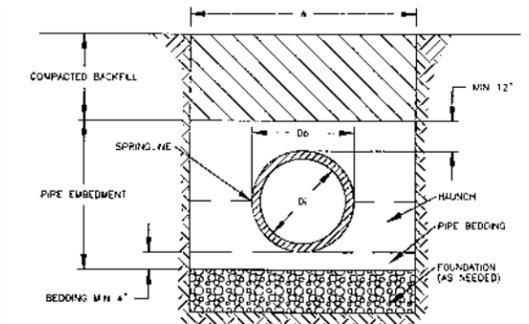
NOTE:
 FOR ADA COMPLIANT PEDESTRIAN RAMPS, REFER TO MN/DOT STANDARD PLAN 5-297.250 PEDESTRIAN CURB RAMP DETAILS AT THE FOLLOWING WEB ADDRESS:
[HTTP://STANDARDPLATES.STATE.MN.US/STDP/PLATE.ASPX](http://STANDARDPLATES.STATE.MN.US/STDP/PLATE.ASPX)

CONTRACTOR SHALL COORDINATE FINAL CURB RAMP LOCATION AND PEDESTRIAN CURB RAMP DETAIL WITH THE CITY AND OWNER PRIOR TO INSTALLATION.

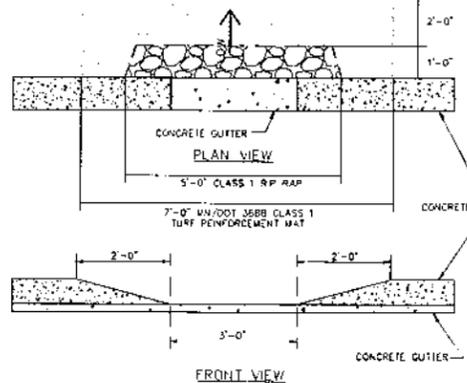
4 PEDESTRIAN CURB RAMP - DETECTABLE WARNING
C5.1 NOT TO SCALE



5 HANDICAPPED SIGN AND POST - CONCRETE PLACEMENT
C5.1 NOT TO SCALE

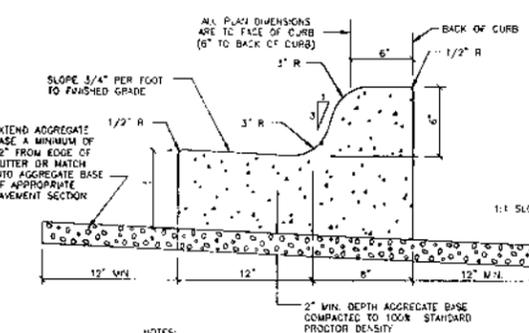


1 TYPICAL PIPE BEDDING FOR PVC
C5.1 NOT TO SCALE



2 CURB OPENING FOR DRAINAGE SWALE
C5.1 NOT TO SCALE

NOTE:
 1. THE CONTRACTOR AT HIS OPTION, MAY SUBSTITUTE A GEOTEXTILE FABRIC BLANKET, MN/DOT SPEC. 3604, FOR THE GRANULAR FILTER BLANKET UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS.
 2. RIP-RAP SHALL BE PLACED IN ACCORDANCE WITH MN/DOT SPEC. 251.



3 B612 CONCRETE CURB AND GUTTER
C5.1 NOT TO SCALE

NOTE:
 1. DIRECTION OF TRANSVERSE GUTTER SLOPE TO MATCH DIRECTION OF ADJACENT PAVEMENT SLOPE.
 2. CONSTRUCT CURB AND GUTTER IN ACCORDANCE WITH MN/DOT SPECIFICATION 2331.

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OWNER
 MIDWEST MANAGEMENT, INC.
 710 PENNSYLVANIA AVE. S.
 SUITE B
 MINNEAPOLIS, MN 55426-1603

PROJECT
 CRYSTAL GALLERY
 PLANNED DEVELOPMENT
 5510-5590 W. BROADWAY AVE.
 CRYSTAL, MN 55428

SHEET TITLE
 CIVIL DETAILS

PROJECT NO.
 13418.00

SCALE
 AS SHOWN

DATE
 09/20/13

REVISION DATE

PRELIMINARY
 NOT FOR CONSTRUCTION

SHEET NO.

C5.1

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 MINNEAPOLIS, MN 55426-1603

PROJECT
CRYSTAL GALLERY
 PLANNED DEVELOPMENT
 5510-5530 W. BROADWAY AVE.
 CRYSTAL, MN 55428

PROJECT TITLE
 STORM WATER POLLUTION
 PREVENTION PLAN

PROJECT NO.
 13418.00

SCALE
 AS SHOWN

DATE
 09/20/13

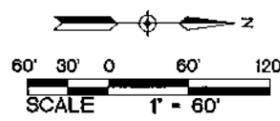
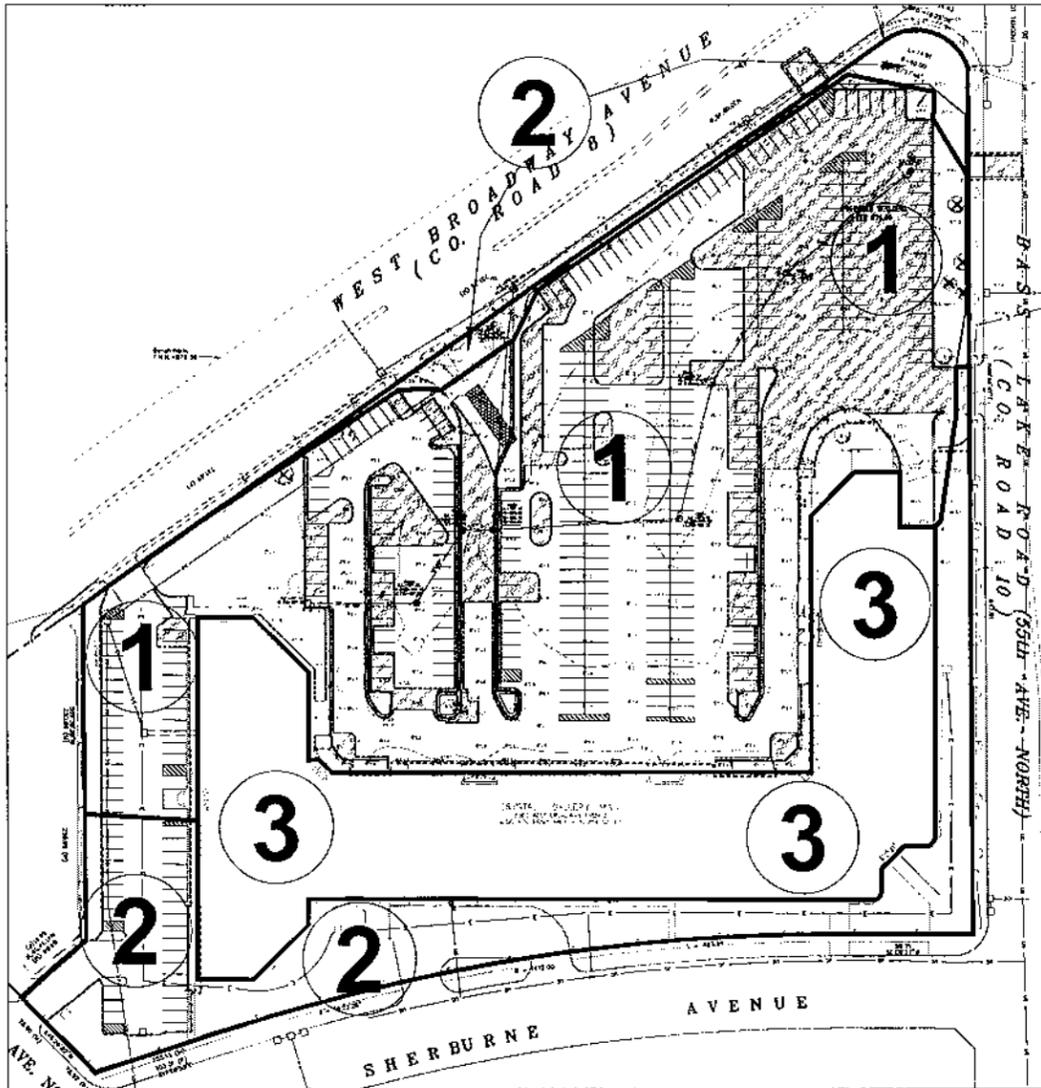
REVISION DATE

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SHEET NO.

C6.0

Ex. I



ABBREVIATIONS

BLDG	Building
BMP	Best Management Practice
BM	Bottom of Wall
CB	Catch Basin
CONC	Concrete
ELEV	Elevation
EX	Existing
FPE	Finished Floor Elevation
HWL	High Water Level
INV	Invert
MAX	Maximum
WH	Washout
MIN	Minimum
MPCA	Minnesota Pollution Control Agency
NPDES	National Pollution Discharge Elimination System
NWL	Normal Water Level
PVC	Polyvinyl Chloride
PCP	Reinforced Concrete Pipe
TW	Top of Wall
W.D.	Washout

AGENCY CONTACTS

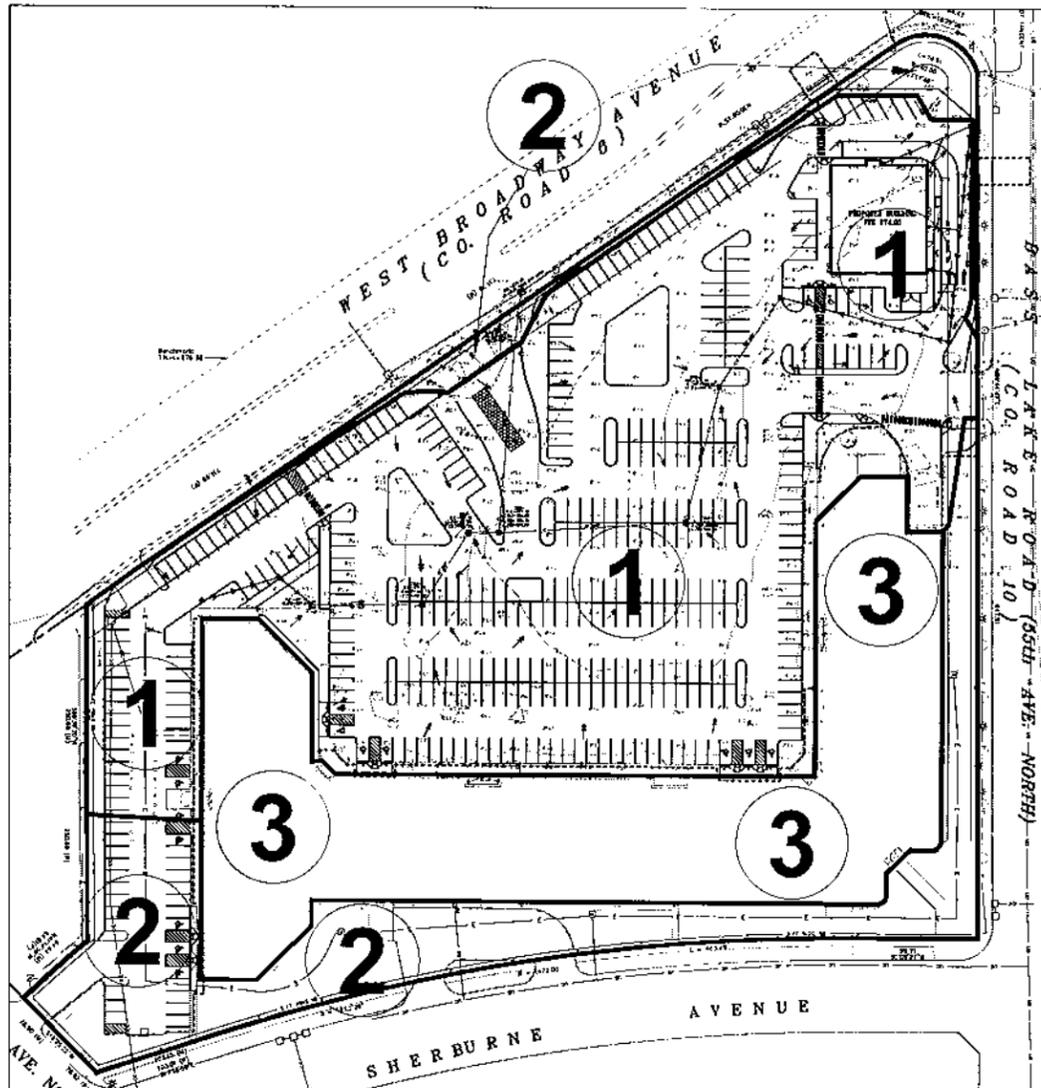
CITY OF CRYSTAL
 PUBLIC WORKS DEPARTMENT
 4141 DOUGLAS DRIVE NORTH
 CRYSTAL, MN 55422
 PHONE: (763) 531-1180

MINNESOTA POLLUTION CONTROL AGENCY
 520 LAFAYETTE ROAD
 SAINT PAUL, MN 55155
 PHONE: (651) 298-6300

OWNER:
 CRYSTAL GALLERY DEVELOPERS
 5510 WEST BROADWAY AVENUE
 CRYSTAL, MN 55428

NOTE:
 THE CONTRACTOR MUST COMPLETE, SIGN, OBTAIN OWNERS SIGNATURE, PAY FEE, AND SEND IN THE NPDES PERMIT APPLICATION.

NOTE:
 THE STORM WATER POLLUTION PREVENTION PLAN FOR THIS PROJECT INCLUDES THE CIVIL ENGINEERING PLANS AND THE PROJECT MANUAL. CONTRACTOR TO SUPPLY CONSTRUCTION PHASING NARRATIVE, ESTIMATED FREQUENT QUANTITIES OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMP'S ANTICIPATED AT THE START OF THE PROJECT AND FOR THE LIFE OF THE PROJECT, AND LOCATION OF AREAS WHERE CONSTRUCTION WILL BE PHASED TO MINIMIZE DURATION OF EXPOSED SOIL AREAS. CONTRACTOR IS TO REVIEW MINNESOTA POLLUTION CONTROL AGENCY'S INSTRUCTIONS FOR THE APPLICATION FOR MINNESOTA'S NPDES/SDS GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY PRIOR TO SUBMITTING APPLICATION.



2 PROPOSED CONDITIONS
 C6.0 1"=50'

1 EXISTING CONDITIONS
 C6.0 1"=50'

EXISTING DRAINAGE AREAS

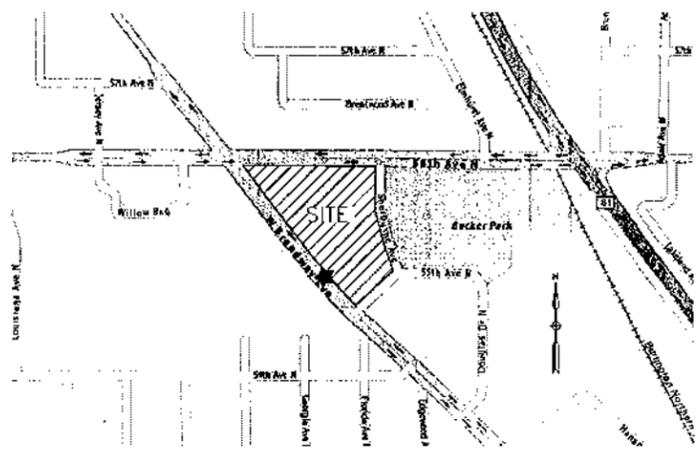
DRAINAGE AREA	IMPERVIOUS AREA (ACRES)	PERVIOUS AREA (ACRES)	TOTAL AREA (ACRES)	Q OUT (CFS) STORM EVENT			ROUTING
				2-YEAR (2.75")	10-YEAR (4.15")	100-YEAR (8.90")	
1	4.04	0.44	4.48	15.29	24.35	35.53	OFFSITE
2	0.50	0.76	1.26	2.08	4.52	7.84	OFFSITE
3	1.90	0.00	1.90	7.13	10.86	15.50	OFFSITE
TOTAL	6.54	1.20	7.74	24.49	39.73	58.87	
TOTAL LESS AREA 3	4.64	1.20	5.84	17.36	28.87	43.37	

STORMWATER RUNOFF SUMMARY

	2-YR STORM (2.75") RUNOFF (CFS)	10-YR STORM (4.15") RUNOFF (CFS)	100-YR STORM (8.90") RUNOFF (CFS)
EXISTING SITE	17.36	28.87	43.37
PROPOSED SITE	16.53	27.81	42.29
PERCENTAGE DECREASE EXISTING VS. PROPOSED	4.78	3.33	2.49

PROPOSED DRAINAGE AREAS

DRAINAGE AREA	IMPERVIOUS AREA (ACRES)	PERVIOUS AREA (ACRES)	TOTAL AREA (ACRES)	Q OUT (CFS) STORM EVENT			ROUTING
				2-YEAR (2.75")	10-YEAR (4.15")	100-YEAR (8.90")	
1	3.84	0.54	4.38	-	-	-	INFILTRATION BASIN
2	0.58	0.78	1.36	2.10	4.55	7.91	OFFSITE
3	1.90	0.00	1.90	7.13	10.86	15.50	OFFSITE
INFILTRATION BASINS	NA	NA	NA	14.43	23.35	34.36	OFFSITE
TOTAL	6.42	1.32	7.74	23.66	38.77	57.79	
TOTAL LESS AREA 3	4.52	1.32	5.84	16.53	27.91	42.29	



VICINITY MAP

OTHER NOTES:

- LONG TERM MAINTENANCE OF THE SITE WILL BE PERFORMED BY THE OWNER. INCLUDED MAINTENANCE FOR STORMWATER DEVICES SHALL BE:
 - INSPECT INFILTRATION BASINS ON A BIENNIAL BASIS, ONCE IN THE SPRING AND ONCE IN THE FALL.
 - CLEAN INFILTRATION BASINS OF DEBRIS AT A MINIMUM ANNUALLY.
- THIS SWPPP DOCUMENT HAS BEEN PREPARED BY BKBM ENGINEERS. A COPY OF THEIR EROSION AND SEDIMENT CONTROL PROGRAM CERTIFICATION IS AVAILABLE UPON REQUEST.
- THIS SWPPP DOCUMENT MUST BE AMENDED AS NECESSARY DURING CONSTRUCTION IN ORDER TO KEEP IT CURRENT WITH THE POLLUTION CONTROL MEASURES UTILIZED AT THE SITE. THE SITE MAP SHOWING LOCATIONS OF ALL STORM WATER CONTROLS MUST BE POSSED ON THE SITE AND UPDATED TO REFLECT THE PROGRESS OF CONSTRUCTION.

PROJECT NARRATIVE

THE EXISTING SITE IS AN APPROXIMATE 7.74 ACRE AREA THAT INCLUDES THE CRYSTAL GALLERY MALL AND SURROUNDING PARKING. CURRENTLY STORM WATER RUNOFF FROM THE SITE SHEET FLOW TO WEST BROADWAY AVENUE, A PORTION OF THE SITE (AREA 2) SHEET FLOWS DIRECTLY OFFSITE INTO PUBLIC RIGHT OF WAY.

THE EXISTING CRYSTAL GALLERY MALL IS TO REMAIN WITH MINOR MODIFICATIONS TO THE EXTERIOR OF THE BUILDING. IN THE NORTH WEST PORTION OF THE SITE A NEW APPROXIMATE 8000 SQUARE FOOT RETAIL BUILDING IS BEING PROPOSED. THE PARKING LOT LAYOUT, CURB AND PARKING STALLS WILL BE REVISED TO HELP TREAT AND INFILTRATE STORM WATER RUNOFF FROM THE PARKING LOT THE CENTER CURB ISLANDS WILL INCLUDE BANY GARDENS. OVERFLOW FROM THESE BANY GARDENS WILL BE ALLOWED TO ENTER EXISTING AND PROPOSED STORM SEWER WHICH CONNECTS TO PUBLIC STORM SEWER LOCATED IN BROADWAY AVENUE. A WALL AND OVERLAY OF THE WHOLE PARKING LOT WILL BE PROVIDED FOR AREAS NOT REQUIRING FULL DEPTH PAVEMENT INSTALLATION.

INSPECTIONS

EXPOSED SOIL AREAS: ONCE EVERY 7 DAYS AND WITHIN 24 HOURS FOLLOWING A 1/2 INCH OVER 24 HOURS RAIN EVENT.

STABILIZED AREAS: ONCE EVERY 30 DAYS.

FROZEN GROUND: AS SOON AS RUNOFF OCCURS OR PRIOR TO RESUMING CONSTRUCTION.

REGCORDS: A COPY OF THE GRADING, DRAINAGE EROSION CONTROL PLAN AND WATERSEED DATA & SWPPP PLANS AS WELL AS THE INSPECTIONS/MAINTENANCE LOGS ARE TO BE KEPT EITHER IN THE FIELD OFFICE, INSPECTOR'S VEHICLE OR CONTRACTOR'S VEHICLE.

FINAL STABILIZATION

STABILIZATION BY UNIFORM PERENNIAL VEGETATIVE COVER (70% DENSITY).

DRAINAGE DITCHES STABILIZED.

ALL TEMPORARY SYNTHETIC AND STRUCTURAL BMP'S REMOVED.

CLEAN OUT SEDIMENT FROM CONVEYANCES AND SEDIMENTATION BASINS (RETURN TO DESIGN CAPACITY).

POLLUTION PREVENTION MANAGEMENT MEASURES

SOLID WASTE DISPOSED PROPERLY: COMPLY WITH MPCA REQUIREMENTS.

HAZARDOUS WASTE STORED (SECONDARY CONTAINMENT, RESTRICTED ACCESS) AND DISPOSED IN COMPLIANCE WITH MPCA REQUIREMENTS.

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.

NO ENGINE DEGREASING ALLOWED ON-SITE.

CONCRETE WASHOUT ON-SITE: ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW LIQUIDS TO ENTER GROUND WATER IS CONSIDERED AN IMPERMEABLE LINER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONSTRUCTION EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES. THE CONCRETE WASHOUT AREA INDICATED ON THE PLANS IS SHOWN IN AN APPROXIMATE LOCATION. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION IN ACCORDANCE WITH MPCA REQUIREMENTS.

SEDIMENT AND EROSION CONTROL MAINTENANCE

PERIMETER SEDIMENT CONTROL PRACTICES: WHEN SEDIMENT REACHES 1/3 THE HEIGHT OF THE BMP, THE SEDIMENT MUST BE REMOVED WITHIN 24 HOURS. IF PERIMETER SEDIMENT CONTROL HAS BEEN DAMAGED OR IS NOT FUNCTIONING PROPERLY, IT MUST BE REPAIRED AND/OR REPLACED WITHIN 24 HOURS. PERIMETER BMP MEASURES MAY INCLUDE SILT FENCING.

CONSTRUCTION SITE VEHICLE EXIT LOCATIONS: ALL TRACKED SEDIMENT CONTROL PRACTICES MUST BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR MORE FREQUENTLY IF REQUIRED BY CITY OR WATERSEED.

CONSTRUCTION SITE DOWNSPOUTING: SITE WATER DISCHARGE DUE TO CONSTRUCTION DOWNSPOUTING OPERATIONS SHALL BE MONITORED FOR SEDIMENTATION AND TREATED PRIOR TO DISCHARGE TO PUBLIC STORM SEWERS. TREATMENT OF DOWNSPOUTING DISCHARGE MAY BE ACCOMPLISHED BY TEMPORARY SEDIMENTATION BASINS OR OTHER APPROPRIATE BMP'S.

CONSTRUCTION ACTIVITY EROSION PREVENTION PRACTICES

PROVIDE TEMPORARY PROTECTION OR PERMANENT COVER FOR EXPOSED SOIL AREAS WITH A CONTINUOUS POSITIVE SLOPE WITHIN 200 FEET OF A SURFACE WATER, CURB AND GUTTER, CATCH BASIN, OR ANY STORM WATER CONVEYANCE SYSTEM CONNECTED TO ANY OF THE ABOVE WITHIN THE FOLLOWING TIME FRAME:

THE TIME AN AREA CAN REMAIN OPEN WHEN NOT ACTIVELY BEING WORKED ON:

- SLOPES STEEPER THAN 3:1 - 7 DAYS
- SLOPES 1:1 TO 3:1 - 14 DAYS
- SLOPES FLATTER THAN 1:1 - 14 DAYS

DITCHES THAT CONNECT TO A SURFACE WATER MUST BE STABILIZED WITHIN 200- FEET FROM THE EDGE OF PROPERTY OR WITHIN 200- FEET TO ANY SURFACE WATER WITHIN 24- HOURS.

PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24- HOURS AFTER CONNECTION TO A SURFACE WATER.

SEDIMENT CONTROL MEASURES MUST BE INSTALLED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UPGRADIENT LAND DISTURBANCE ACTIVITIES BEGIN.



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OWNER

MIDWEST MANAGEMENT, INC.
 710 PENNSYLVANIA AVE. S.
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 MINNEAPOLIS, MN 55426-1603

PROJECT

PLANNED DEVELOPMENT
 5510-5590 W. BROADWAY AVE.
 CRYSTAL, MN 55428

SHEET TITLE

ILLUSTRATIVE
 LANDSCAPE
 PLAN

PROJECT NO.

108.07.06

SCALE

AS SHOWN

DATE

10/01/13

REVISION DATE



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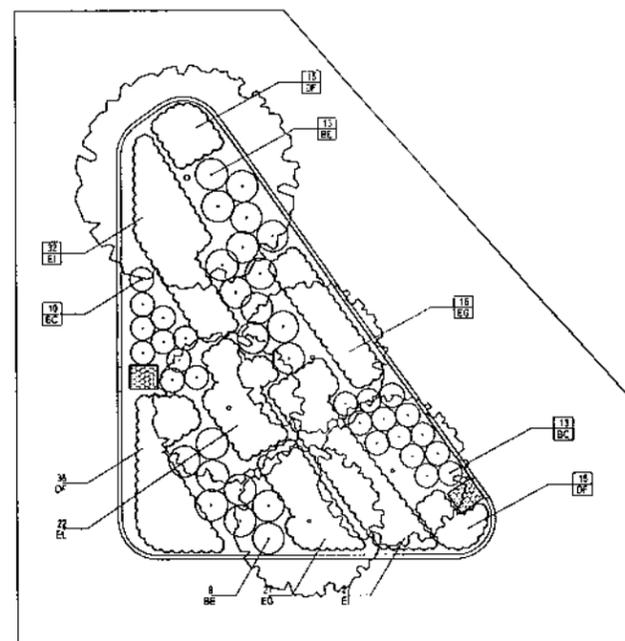
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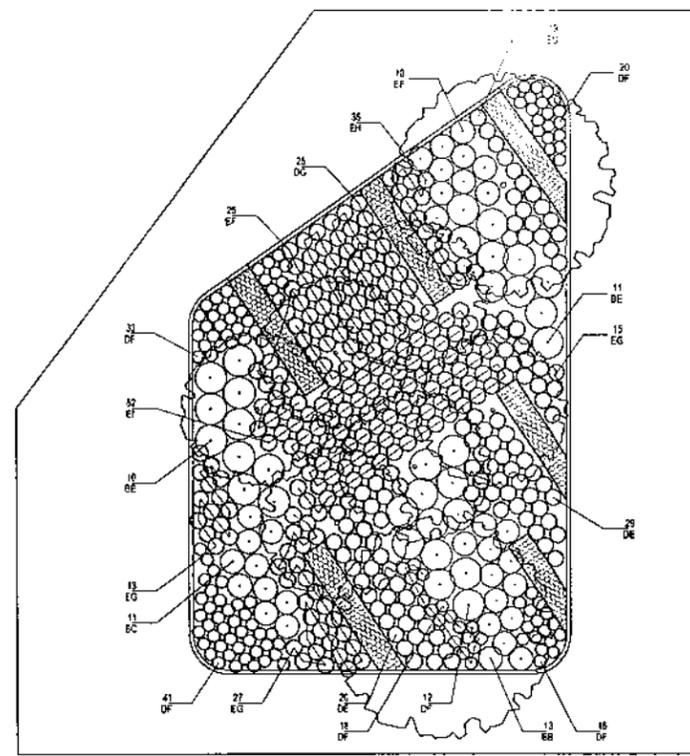
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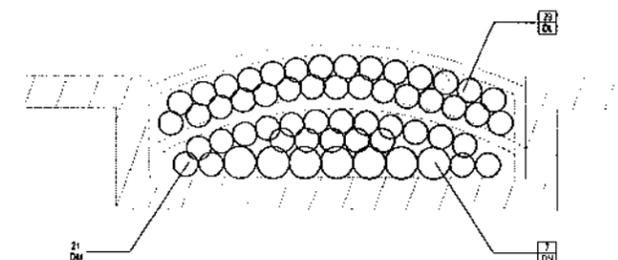
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 MIDWEST MANAGEMENT, INC.
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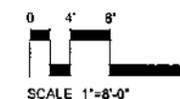
ENLARGED PLAN - SOUTH RAINGARDEN



ENLARGED PLAN - NORTH RAINGARDEN



ENLARGED PLAN - TIERED PLANTERS (TYPICAL 3)



PLANT SCHEDULE							
TYPE & QUANTITY	KEY	QTY	BOTANICAL NAME	COMMON NAME	ROOT / CONT.	SIZE	SPECIFICATIONS
DECIDUOUS TREES							
	A	7	<i>Populus tremuloides</i>	Quaking Aspen	B&B	2.5" CAL.	14'-16' HT., TRUNK FREE OF BRANCHES 6'7"
	B	11	<i>Betula populifolia</i> 'Whitespire' - Multistemmed	Whitespire Birch - Multistemmed	B&B	2.5" CAL.	14'-16' HT., TRUNK FREE OF BRANCHES 6'7"
	C	3	<i>Gleditsia triacanthos</i> var. <i>Inermis</i> 'Skycole'	Skyline Honeylocust	B&B	2.5" CAL.	12'-14' HT., TRUNK FREE OF BRANCHES 6'-7'
	D	10	<i>Acer rubrum</i> 'Franksred'	Red Sunset Maple	B&B	2.5" CAL.	14'-16' HT., TRUNK FREE OF BRANCHES 6'7"
	E	10	<i>Quercus bicolor</i>	Swamp White Oak	B&B	2.5" CAL.	14'-16' HT., TRUNK FREE OF BRANCHES 6'7"
	F	9	<i>Tilia cordata</i> 'Greenspire'	Greenspire Linden	B&B	2.5" CAL.	14'-16' HT., TRUNK FREE OF BRANCHES 6'7"
	G	6	<i>Amelanchier x grandiflora</i> 'Autumn Brilliance'	Autumn Brilliance Serviceberry	B&B	7" HGT.	CLUMP, MIN. 5 STEMS
DECIDUOUS SHRUBS							
	BB	119	<i>Diervilla lonicera</i>	Bush Honeysuckle	CONT.	24" HGT.	
	BC	84	<i>Salix purpurea</i> 'Nana'	Arctic Blue Leaf Willow	CONT.	24" HGT.	
	BD	132	<i>Rhus aromatica</i> 'Gro-Low'	Gro-Low Fragrant Sumac	CONT.	18" HGT.	
	BE	42	<i>Cornus sericea</i> 'Isanti'	Isanti Dogwood	CONT.	24" HGT.	
	BF	83	<i>Cornus stolonifera</i> 'Farrow'	Arctic Fire Dogwood	CONT.	24" HGT.	
EVERGREEN SHRUBS							
	CC	63	<i>Juniperus chinensis</i> 'Sea Green'	Sea Green Juniper	CONT.	30" SPRD.	
PERENNIALS							
	DE	49	<i>Vernonia fasciculata</i>	Ironweed	CONT.	1 GAL.	PLANT 2.0' OC.
	DF	192	<i>Iris versicolor</i>	Blue Flag Iris	CONT.	1 GAL.	PLANT 1.5' OC.
	DG	25	<i>Asclapias tuberosa</i>	Butterfly Flower	CONT.	1 GAL.	PLANT 2.0' OC.
	DH	132	<i>Hemocalis</i>	Daylily	CONT.	1 GAL.	PLANT 1.5' OC.
	DI	113	<i>Nepeta fassenii</i> 'Walker's Low'	Walker's Low Catmint	CONT.	1 GAL.	PLANT 1.5' OC.
	DJ	292	<i>Sedum 'Autumn Joy'</i>	Autumn Joy Sedum	CONT.	1 GAL.	PLANT 1.5' OC.
	DK	56	<i>Echinacea purpurea</i>	Purple conflower	CONT.	1 GAL.	PLANT 1.5' OC.
	DL	87	<i>Brunnera macrophylla</i> 'Jack Frost'	Jack Frost Brunnera	CONT.	1 GAL.	PLANT 1.5' OC.
	DM	63	<i>Heuchera x 'Marmalade'</i>	Marmalade Coral Bells	CONT.	1 GAL.	PLANT 1.5' OC.
	DN	21	<i>Hosta 'Patriot'</i>	Patriot Hosta	CONT.	1 GAL.	PLANT 1.5' OC.
PERENNIAL GRASSES							
	EF	198	<i>Schizachyrium scoparium</i>	Little Blue Stem	CONT.	1 GAL.	PLANT 2.0' OC.
	EG	195	<i>Sporobolus heterolepis</i>	Prairie Dropseed	CONT.	1 GAL.	PLANT 2.0' OC.
	EH	35	<i>Carex vulpinoidea</i>	Fox Sedge	CONT.	1 GAL.	PLANT 2.0' OC.
	EI	213	<i>Panicum virgatum</i> 'Northwinds'	Northwinds	CONT.	1 GAL.	PLANT 2.0' OC.
	EK	142	<i>Calamagrostis x acutiflora</i> 'Karl Foerster'	Karl Foerster Grass	CONT.	1 GAL.	PLANT 2.0' OC.
	EL	91	<i>Sorghastrum nutans</i>	Indian Grass	CONT.	1 GAL.	PLANT 2.0' OC.

PROJECT
 P.U.D.
 5510 WEST BROADWAY
 CRYSTAL MN 55428

SHEET TITLE
 ENLARGED
 LANDSCAPE
 PLAN & PLANT
 SCHEDULE

PROJECT NO.
 105.07.06

SCALE
 AS SHOWN

DATE
 09/17/13

REVISION DATE

PRELIMINARY
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 L101

GENERAL NOTES

- CONTRACTOR SHALL INSPECT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF WORK.
- CONTRACTOR SHALL VERIFY PLAN LAYOUT AND BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT DISCREPANCIES WHICH MAY COMPROMISE THE DESIGN OR INTENT OF THE LAYOUT.
- CONTRACTOR SHALL ASSURE COMPLIANCE WITH APPLICABLE CODES AND REGULATIONS GOVERNING THE WORK AND MATERIALS SUPPLIED.
- CONTRACTOR SHALL PROTECT EXISTING ROADS, CURBS/GUTTERS, TREES, LAWNS AND SITE ELEMENTS DURING CONSTRUCTION OPERATIONS. DAMAGE TO SAME SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL VERIFY ALIGNMENT AND LOCATION OF UNDERGROUND AND ABOVE GRADE UTILITIES AND PROVIDE THE NECESSARY PROTECTION FOR SAME BEFORE CONSTRUCTION BEGINS.
- CONTRACTOR SHALL COORDINATE THE PHASES OF CONSTRUCTION AND PLANTING INSTALLATION WITH OTHER CONTRACTORS WORKING ON SITE.
- UNDERGROUND UTILITIES SHALL BE INSTALLED SO THAT TRENCHES DO NOT CUT THROUGH ROOT SYSTEMS OF EXISTING TREES TO REMAIN.
- EXISTING CONTOURS, VEGETATION, CURB/GUTTER AND OTHER ELEMENTS ARE BASED UPON INFORMATION SUPPLIED TO THE LANDSCAPE ARCHITECT BY OTHERS. CONTRACTOR SHALL VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION AND NOTIFY LANDSCAPE ARCHITECT OF SAME.
- HORIZONTAL AND VERTICAL ALIGNMENT OF PROPOSED WALKS OR ROADWAYS ARE SUBJECT TO FIELD ADJUSTMENT REQUIRED TO CONFORM TO LOCALIZED TOPOGRAPHIC CONDITIONS AND TO MINIMIZE TREE REMOVAL AND GRADING. CHANGES IN ALIGNMENT AND GRADES MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO IMPLEMENTATION.
- CONTRACTOR SHALL REVIEW THE SITE FOR DEFICIENCIES IN SITE CONDITIONS WHICH MIGHT NEGATIVELY AFFECT PLANT ESTABLISHMENT, SURVIVAL OR WARRANTY. UNDESIRABLE SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR IS RESPONSIBLE FOR ONGOING MAINTENANCE OF NEWLY INSTALLED MATERIALS UNTIL TIME OF SUBSTANTIAL COMPLETION. REPAIR OF ACTS OF VANDALISM OR DAMAGE WHICH MAY OCCUR PRIOR TO SUBSTANTIAL COMPLETION SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
- EXISTING TREES OR SIGNIFICANT SHRUB MASSINGS FOUND ON SITE SHALL BE PROTECTED AND SAVED UNLESS NOTED TO BE REMOVED OR ARE LOCATED IN AN AREA TO BE GRADED. QUESTIONS REGARDING EXISTING PLANT MATERIAL SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO REMOVAL.
- CONTRACTOR SHALL PREPARE AND SUBMIT A WRITTEN REQUEST FOR THE SUBSTANTIAL COMPLETION INSPECTION OF LANDSCAPE AND SITE IMPROVEMENTS PRIOR TO SUBMITTING FINAL PAY REQUEST.
- CONTRACTOR SHALL PREPARE AND SUBMIT REPRODUCIBLE AS-BUILT DRAWING(S) OF LANDSCAPE INSTALLATION, IRRIGATION AND SITE IMPROVEMENTS UPON COMPLETION OF CONSTRUCTION INSTALLATION AND PRIOR TO SUBSTANTIAL COMPLETION.
- SYMBOLS ON PLAN DRAWING TAKE PRECEDENCE OVER SCHEDULES IF DISCREPANCIES IN QUANTITIES EXIST. SPECIFICATIONS AND DETAILS TAKE PRECEDENCE OVER NOTES.

PLANTING NOTES

- STAKE PROPOSED PLANTING LOCATIONS PER PLAN FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALL.
- PLANT MATERIAL SHALL COMPLY WITH THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1. UNLESS NOTED OTHERWISE, DECIDUOUS SHRUBS SHALL HAVE AT LEAST 5 CANES AT THE SPECIFIED HEIGHT. ORNAMENTAL TREES SHALL HAVE NO Y-CROTCHES AND SHALL BEGIN BRANCHING NO LOWER THAN 3 FEET ABOVE THE ROOT BALL. STREET AND BOULEVARD TREES SHALL BEGIN BRANCHING NO LOWER THAN 6' ABOVE PAVED SURFACE.
- INSTALL PLANT MATERIAL ONCE FINAL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
- INSTALL PLANT MATERIALS PER PLANTING DETAILS.
- SUBSTITUTION REQUESTS FOR PLANT MATERIAL TYPE & SIZE SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR CONSIDERATION PRIOR TO BIDDING. ALL SUBSTITUTIONS AFTER BIDDING MUST BE APPROVED BY LANDSCAPE ARCHITECT AND ARE SUBJECT TO CONTRACT ADJUSTMENTS.
- ADJUSTMENTS IN LOCATION OF PROPOSED PLANT MATERIALS MAY BE NEEDED IN FIELD. LANDSCAPE ARCHITECT MUST BE NOTIFIED PRIOR TO ADJUSTMENT OF PLANTS.
- FERTILIZE PLANT MATERIAL UPON INSTALLATION WITH DRIED BONE MEAL, OTHER APPROVED FERTILIZER MIXED IN WITH THE PLANTING SOIL PER THE MANUFACTURER'S INSTRUCTIONS OR MAY BE TREATED FOR SUMMER AND FALL INSTALLATION WITH AN APPLICATION OF GRANULAR 10-0-5 OF 12 OZ. PER 2.5" CALIPER TREE AND 6 OZ. PER SHRUB WITH AN ADDITIONAL APPLICATION OF 10-0-10

THE FOLLOWING SPRING IN THE TREE SAUCER,

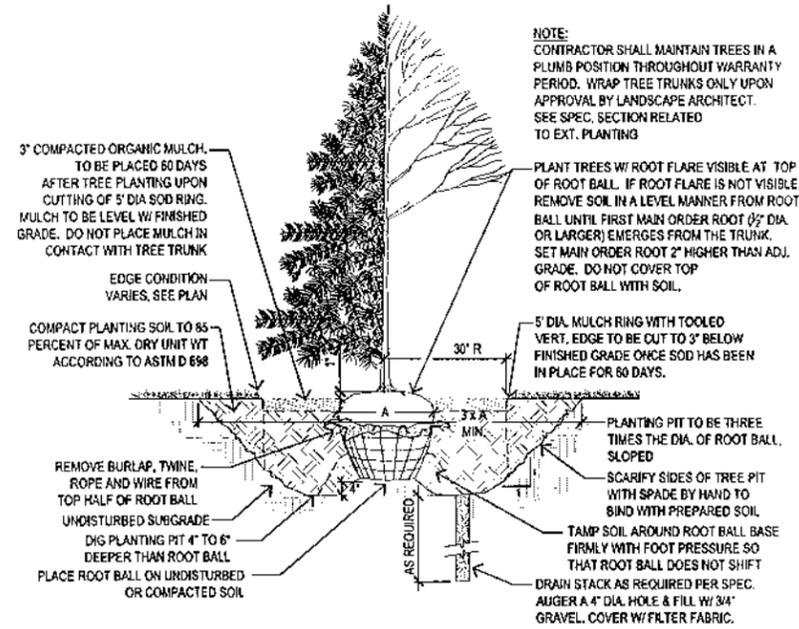
- INSTALL 18" DEPTH OF PLANTING SOIL IN AREAS RECEIVING PERENNIALS AND GRASSES. PLANTING SOIL SHALL CONSIST OF MIDOT 3877-C MODIFIED TO CONTAIN A MAXIMUM OF 30% SAND A PH OF 7.1 MAX. OR AS OTHERWISE SPECIFIED IN THE PROJECT MANUAL.
- TREE WRAPPING MATERIAL SHALL BE TWO-WALLED PLASTIC SHEETING APPLIED FROM TRUNK FLARE TO FIRST BRANCH. WRAP SMOOTH-BARKED DECIDUOUS TREES PLANTED IN THE FALL PRIOR TO DECEMBER 1 AND REMOVE WRAPPING AFTER MAY 1.
- 3/16" THICK STEEL EDGER TO BE USED TO CONTAIN SHRUBS AND PERENNIALS WHERE PLANTING BED MEETS SOD UNLESS OTHERWISE NOTED.
- APPLY PRE-EMERGENT HERBICIDE (PREEN OR APPROVED EQUAL) IN ANNUAL, PERENNIAL, AND SHRUB BEDS FOLLOWED BY SHREDDED HARDWOOD MULCH. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING USE OF HERBICIDES.
- INSTALL 4" DEEP SHREDDED HARDWOOD MULCH RINGS AT CONIFEROUS & DECIDUOUS TREES WITH NO MULCH IN DIRECT CONTACT WITH TREE TRUNK.
- INSTALL 3" DEEP SHREDDED HARDWOOD MULCH RINGS AT SHRUB PLANTING AREAS WITH NO MULCH IN DIRECT CONTACT WITH SHRUB STEMS.
- INSTALL 3" DEEP SHREDDED HARDWOOD MULCH IN PERENNIAL PLANTING BEDS. REMOVE ALL MULCH FROM STEMS OF PERENNIALS - PLANT STEMS SHOULD NOT BE IN DIRECT CONTACT WITH MULCH.
- WARRANTY NEW PLANT MATERIAL THROUGH ONE CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. NO PARTIAL ACCEPTANCE WILL BE CONSIDERED.
- SPRING PLANT MATERIAL INSTALLATION IS FROM THE APRIL 15 TO JUNE 15.
- FALL CONIFEROUS PLANTING IS ACCEPTABLE FROM AUGUST 21 TO SEPTEMBER 30.
- FALL DECIDUOUS PLANTING IS ACCEPTABLE FROM AUGUST 15 UNTIL NOVEMBER 15.
- ADJUSTMENTS TO PLANTING DATES MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.

IRRIGATION NOTES

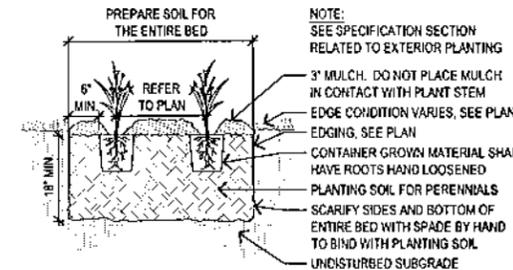
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AN IRRIGATION LAYOUT PLAN AND SPECIFICATION AS PART OF THE SCOPE OF WORK. SUBMIT LAYOUT PLAN AND SPECIFICATIONS FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO ORDER AND/OR CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT SODDED AND PLANTED AREAS ARE IRRIGATED PROPERLY, INCLUDING THOSE AREAS DIRECTLY AROUND AND ABUTTING BUILDING FOUNDATION. REFER TO PLAN FOR IRRIGATION LIMITS.
- CONTRACTOR SHALL VERIFY (EXISTING) IRRIGATION SYSTEM LAYOUT AND CONFIRM COMPLETE LIMITS OF IRRIGATION PRIOR TO SUPPLYING SHOP DRAWINGS.
- CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT FOR INSPECTION AND APPROVAL OF AREAS RECEIVING DRIP IRRIGATION PRIOR TO INSTALLATION OF ANY MULCH.
- CONTRACTOR SHALL PROVIDE THE OWNER WITH AN IRRIGATION SCHEDULE APPROPRIATE TO THE PROJECT SITE CONDITIONS AND TO PLANTED MATERIAL GROWTH REQUIREMENTS.
- CONTRACTOR SHALL ENSURE THAT SOIL CONDITIONS AND COMPACTION ARE ADEQUATE TO ALLOW FOR PROPER DRAINAGE AROUND THE CONSTRUCTION SITE. UNDESIRABLE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK. IT SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER SURFACE AND SUBSURFACE DRAINAGE IN PLANTING AREAS.

TURF NOTES

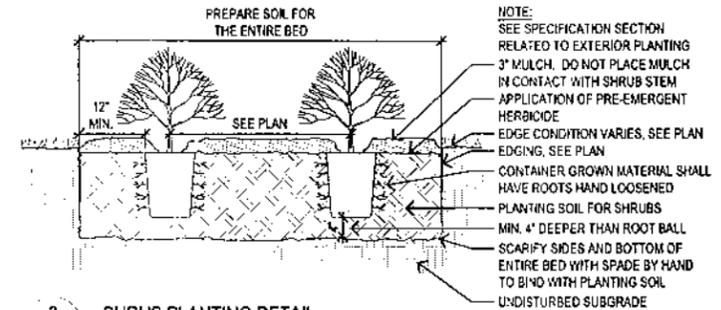
- SOD AREAS DISTURBED DUE TO GRADING UNLESS NOTED OTHERWISE.
- WHERE SOD ABUTS PAVED SURFACES, FINISHED GRADE OF SOD/SEED SHALL BE HELD 1" BELOW SURFACE ELEVATION OF TRAIL, SLAB, CURB, ETC.
- SOD SHALL BE LAID PARALLEL TO THE CONTOURS AND SHALL HAVE STAGGERED JOINTS. ON SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES, SOD SHALL BE STAKED SECURELY.
- UNLESS NOTED OTHERWISE, THE APPROPRIATE DATES FOR SPRING SEED & SOD PLACEMENT IS FROM THE TIME GROUND HAS THAWED TO JUNE 15.
- FALL SODDING IS ACCEPTABLE FROM AUGUST 15 TO NOVEMBER 1. FALL SEEDING IS ACCEPTABLE FROM AUGUST 15 TO SEPTEMBER 15. ADJUSTMENTS TO SOD/SEED PLANTING DATES MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.



1 TREE PLANTING DETAIL
SCALE: 1/2" = 1'-0"



2 PERENNIAL PLANTING DETAIL
SCALE: 3/4" = 1'-0"



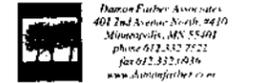
3 SHRUB PLANTING DETAIL
SCALE: 3/4" = 1'-0"

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MIDWEST MANAGEMENT INC.
710 PENNSYLVANIA AVE. S.
SUITE 6
MINNEAPOLIS, MN 55426-1803

PROJECT

P.U.D.
5510 WEST BROADWAY
CRYSTAL, MN 55428

SHEET TITLE
LANDSCAPE NOTES AND DETAILS

PROJECT NO.
108.07.06

SCALE
AS SHOWN

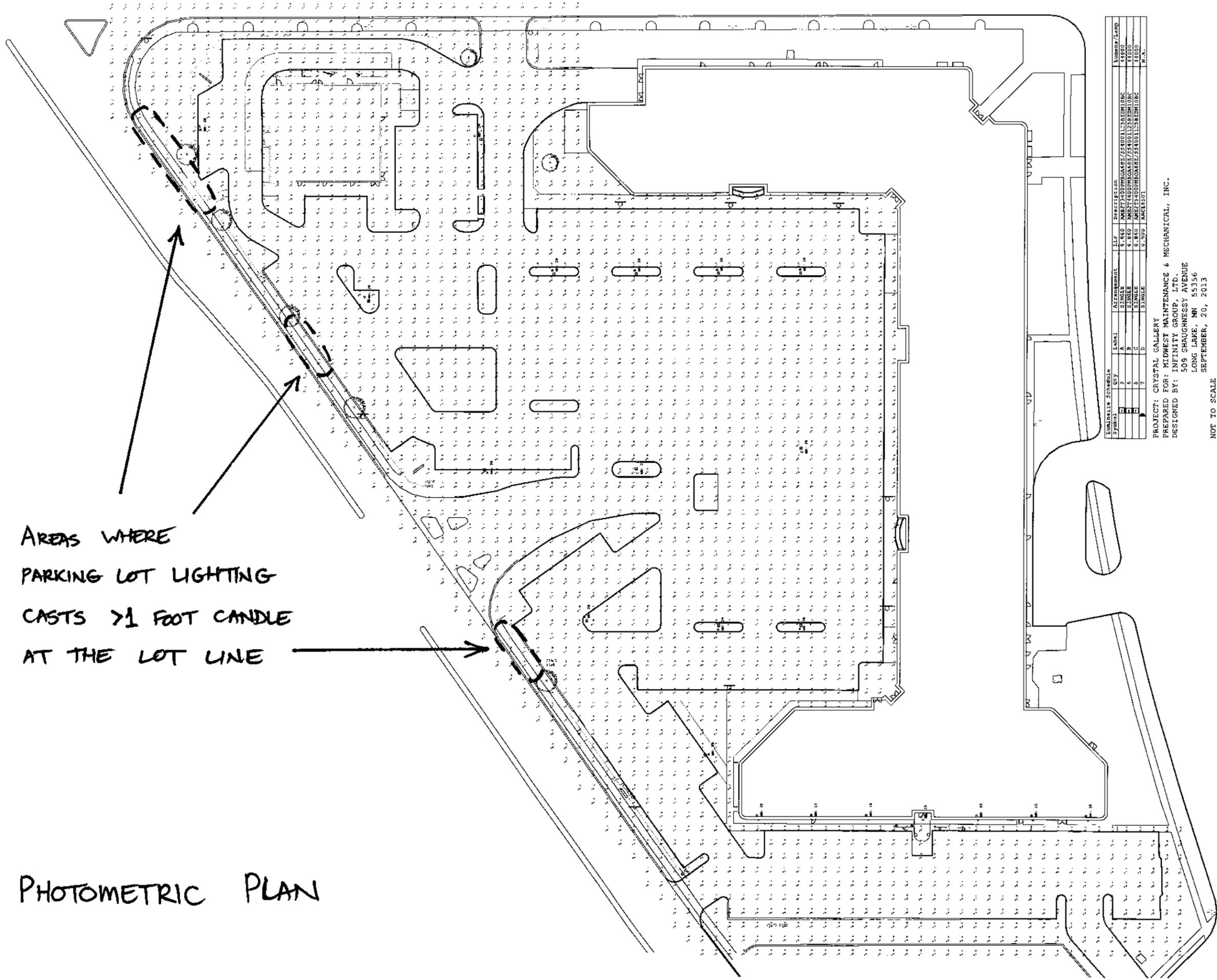
DATE
09/17/13

REVISION DATE

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L200

OF 0



AREAS WHERE
 PARKING LOT LIGHTING
 CASTS >1 FOOT CANDLE
 AT THE LOT LINE

PHOTOMETRIC PLAN

Symbol	KEY	Label	Arrangement	LF	Description	Number/Lamp
1	A	1	SINGLE	6.860	MSFT740DPM0A0BZ/SS40D11-SE2M10BC	14400
2	B	2	SINGLE	6.860	MSFT740DPM0A0BZ/SS40D11-SE2M10BC	14400
3	C	3	SINGLE	6.860	MSFT740DPM0A0BZ/SS40D11-SE2M10BC	14400
4	D	4	SINGLE	6.860	MSFT740DPM0A0BZ/SS40D11-SE2M10BC	14400
5	E	5	SINGLE	6.860	MSFT740DPM0A0BZ/SS40D11-SE2M10BC	14400
6	F	6	SINGLE	6.860	MSFT740DPM0A0BZ/SS40D11-SE2M10BC	14400
7	G	7	SINGLE	6.860	MSFT740DPM0A0BZ/SS40D11-SE2M10BC	14400
8	H	8	SINGLE	6.860	MSFT740DPM0A0BZ/SS40D11-SE2M10BC	14400

PROJECT: CRYSTAL GALLERY
 PREPARED FOR: MIDWEST MAINTENANCE & MECHANICAL, INC.
 DESIGNED BY: INFINITY GROUP, LTD.
 509 SHAUGHNESSY AVENUE
 LONG LAKE, MN 55356
 SEPTEMBER, 20, 2013

NOT TO SCALE

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Signature: _____ Name: Jeffrey P. Agnes, AIA
 Date: _____ Reg. No.: 19452

OWNER
 MIDWEST MANAGEMENT, INC.
 710 PENNSYLVANIA AVE. S.
 SUITE B
 MINNEAPOLIS, MN 55426-1603

PROJECT
CRYSTAL GALLERY

PLANNED DEVELOPMENT
 5510-5590 W. BROADWAY AVE.
 CRYSTAL, MN 55428

SHEET TITLE
PAD BUILDING PROPOSED FLOOR PLAN

PROJECT NO.
 108.07.06

SCALE
 AS SHOWN

DATE
 09/20/13

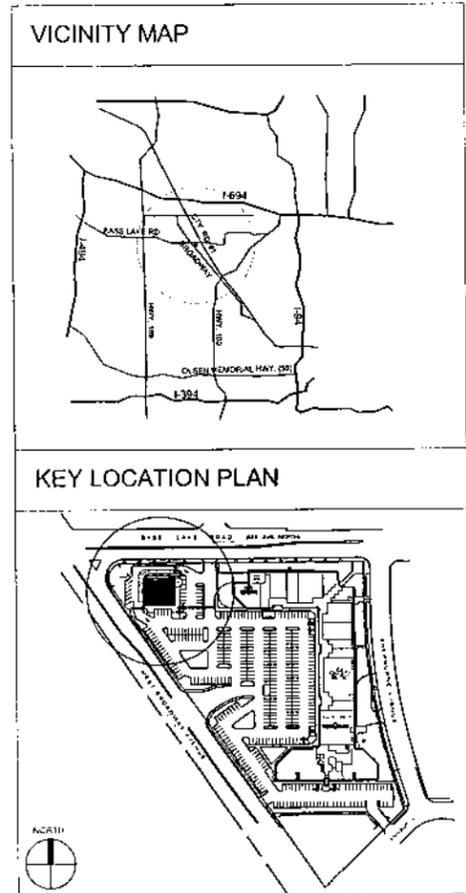
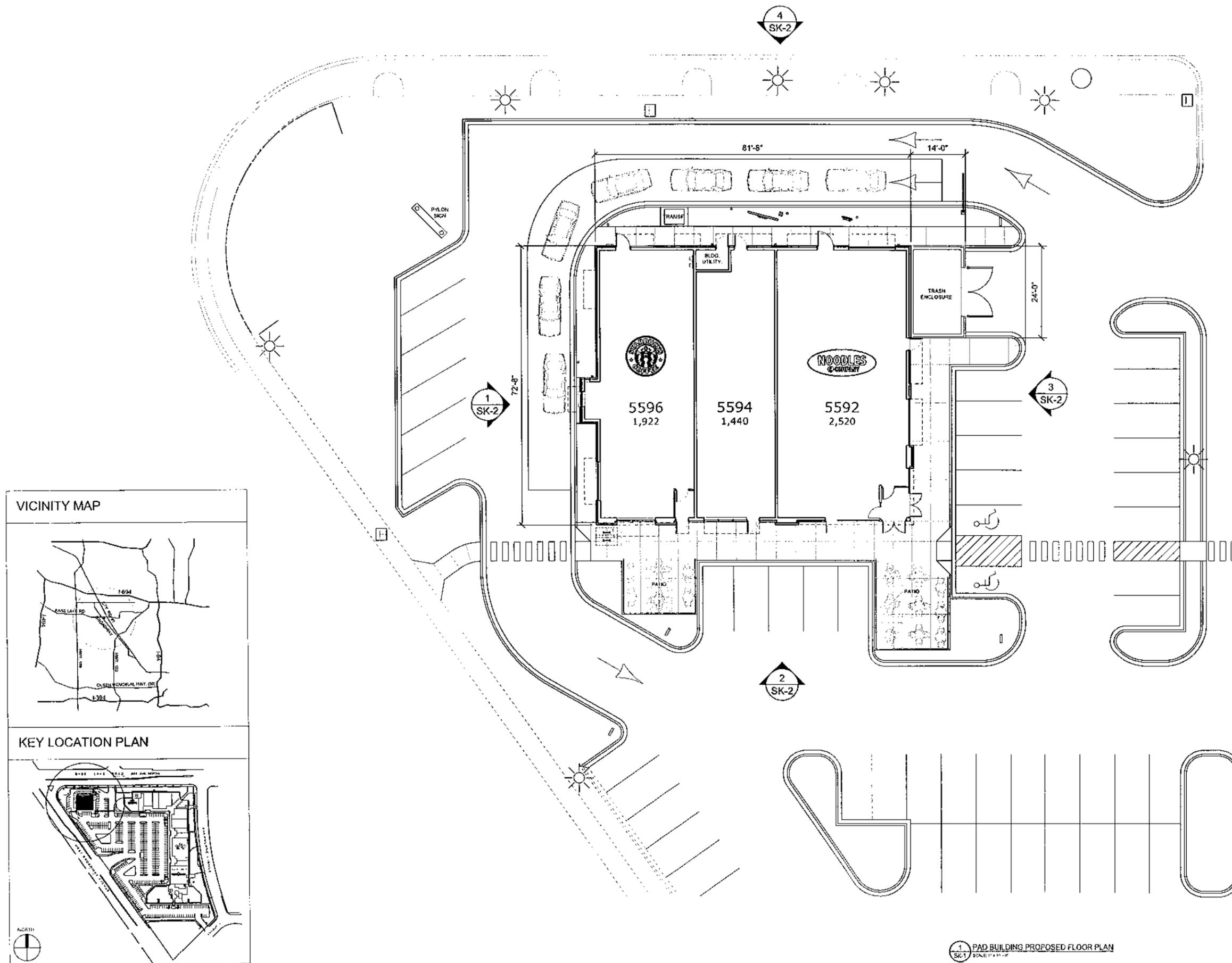
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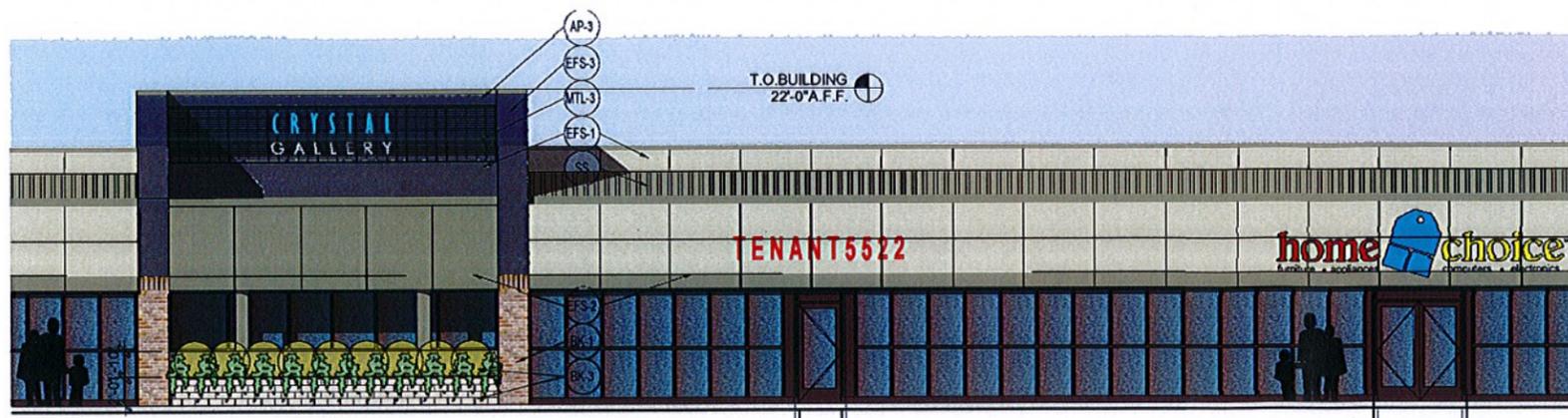
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SK-1 OF 3

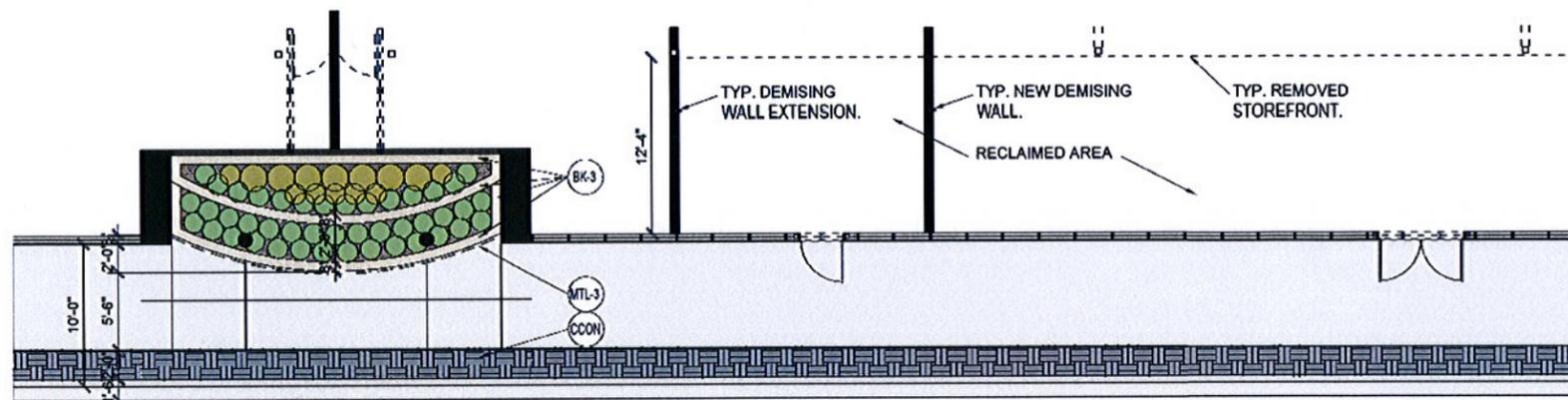
Ex. M



1 PAD BUILDING PROPOSED FLOOR PLAN
 SK-1 SCALE: 1/8" = 1'-0"



6 TYPICAL MAIN BUILDING PROPOSED EXTERIOR ELEVATION - WEST
SCALE 1/8" = 1'-0"



5 TYPICAL MAIN BUILDING PROPOSED FLOOR PLAN - WEST
SCALE 1/8" = 1'-0"

FINISH PRODUCT SPECIFICATIONS

NOTE: INSTALL ALL FINISHES AND FINISH SYSTEMS PER MANUFACTURER'S RECOMMENDATIONS AND MANUFACTURER'S STANDARD DETAILS FOR SIMILAR CONDITIONS.

LABEL	MATERIAL	MANUFACTURER	DESCRIPTION	COLOR	LOCATION	REMARKS
AP-3	ACRYLIC POLYMER/SAND MIX	DEMAND PRODUCTS "STONEWALL" OR E.O.	ACRYLIC POLYMER/SAND MIX, MATCH EFS-3	MATCH EFS-3	BUILDING EIFS COPING	
BK-1	BRICK VENEER	MATCH EXIST. BLDG.	BRICK VENEER KING SIZE	T.B.D. (DARK)	EXTERIOR WALL	APPLY "CHEM-TRETE" 40 VOC SEALER OR EQ.
BK-2	ROCK FACE BLOCK - SILL	COMMERCIAL GRADE	ROCKFACE BLOCK SILL 8X16X14 W/CHAMFERED EDGE	WHITE	BETWEEN BRICK; ENTRY TOWER	APPLY "CHEM-TRETE" PB VOC SEALER OR EQ.
BK-3	ROCK FACE BLOCK VENEER	COMMERCIAL GRADE	ROCKFACE BLOCK VENEER 8X16	T.B.D. (LIGHT)	BELOW WINDOW; BELOW EIFS WALL	APPLY "CHEM-TRETE" PB VOC SEALER OR EQ.
BK-4	ROCK FACE BLOCK - SILL	COMMERCIAL GRADE	ROCKFACE BLOCK SILL 8X8X16	WHITE	ENTRY TOWER	APPLY "CHEM-TRETE" PB VOC SEALER OR EQ.
BK-5	SMOOTH FACE CMU BLOCK	COMMERCIAL GRADE	SMOOTH FACE CMU BLOCK 8X8X16	T.B.D. (LIGHT)	TRASH ENCLOSURE	APPLY "CHEM-TRETE" PB VOC SEALER OR EQ.
CCON	COLORLED CONCRETE	COMMERCIAL GRADE	STAMPED, INTEGRALLY COLORED CONC.	T.B.D.	EDGE OF MALL SIDEWALK	
EFS-1	EXTERIOR INSULATION & FINISH SYSTEM	DRYVIT OR EQUAL	GENESIS BASECOAT / REINFORCING MESH	SANDPEBBLE FINISH COLOR T.B.D. (WHITE)	EXTERIOR FACADE	REFER TO SECTIONS FOR THICKNESSES (1 1/2" MIN.)
EFS-2	EXTERIOR INSULATION & FINISH SYSTEM	DRYVIT OR EQUAL	GENESIS BASECOAT / REINFORCING MESH	SANDPEBBLE FINISH COLOR T.B.D. (MEDIUM)	EXTERIOR FACADE	REFER TO SECTIONS FOR THICKNESSES (1 1/2" MIN.)
EFS-3	EXTERIOR INSULATION & FINISH SYSTEM	DRYVIT OR EQUAL	GENESIS BASECOAT / REINFORCING MESH	SANDPEBBLE FINISH COLOR T.B.D. (DARK)	EXTERIOR FACADE	REFER TO SECTIONS FOR THICKNESSES (1 1/2" MIN.)
MTL-1	METAL CANOPY	COMMERCIAL MANUF.	POWDER-COATED ALUM.	COLOR: RED	OVER WINDOWS	
MTL-2	ALUM. STOREFRONT	COMMERCIAL MANUF.	CLEAR ANOD. ALUM. STOREFRONT	COLOR: CLEAR	STOREFRONT MULLIONS	
MTL-3	METAL GRATE	COMMERCIAL MANUF.	METAL GRATE	COLOR: T.B.D.	MALL ARBORS	
PT-1	EXTERIOR PAINT	SHERWIN WILLIAMS OR EQUAL	EXTERIOR PAINT ENAMEL	MATCH EFS-1	H.M. DOORS AND FRAMES, TRASH GATE MTL-HARDWARE	1 COAT PRIMER; 2 COATS PAINT
PT-2	EXTERIOR PAINT	SHERWIN WILLIAMS OR EQUAL	EXTERIOR PAINT	SAFETY YELLOW	BOLLARDS	1 COAT PRIMER; 2 COATS PAINT
PT-3	EXTERIOR PAINT	SHERWIN WILLIAMS OR EQUAL	EXTERIOR PAINT	MATCH EFS-1	TRASH GATE WD. SLATS	1 COAT PRIMER; 2 COATS PAINT
SS	STANDING SEAM METAL ROOF	BERRIDGE OR EQUAL	CEE-LOCK SYSTEM	T.B.D.	MALL BUILDING ROOF	

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Signature: _____ Name: Jeffrey P. Agnes AIA
Date: _____ Reg. No.: 19452

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MIDWEST MANAGEMENT, INC.
710 PENNSYLVANIA AVE. S.
SUITE B
MINNEAPOLIS, MN 55426-1603

PROJECT
CRYSTAL GALLERY

PLANNED DEVELOPMENT
5510-5590 W. BROADWAY AVE.
CRYSTAL, MN 55428

SHEET TITLE
PAD BUILDING PROPOSED EXTERIOR ELEVATIONS
TYP. MAIN BUILDING PROPOSED FLOOR PLAN & EXTERIOR ELEVATIONS

PROJECT NO.
108.07.06

SCALE
AS SHOWN

DATE
09/20/13

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SK-2 OF 3



4 PAD BUILDING EXTERIOR ELEVATION - NORTH
SCALE 1/8" = 1'-0"



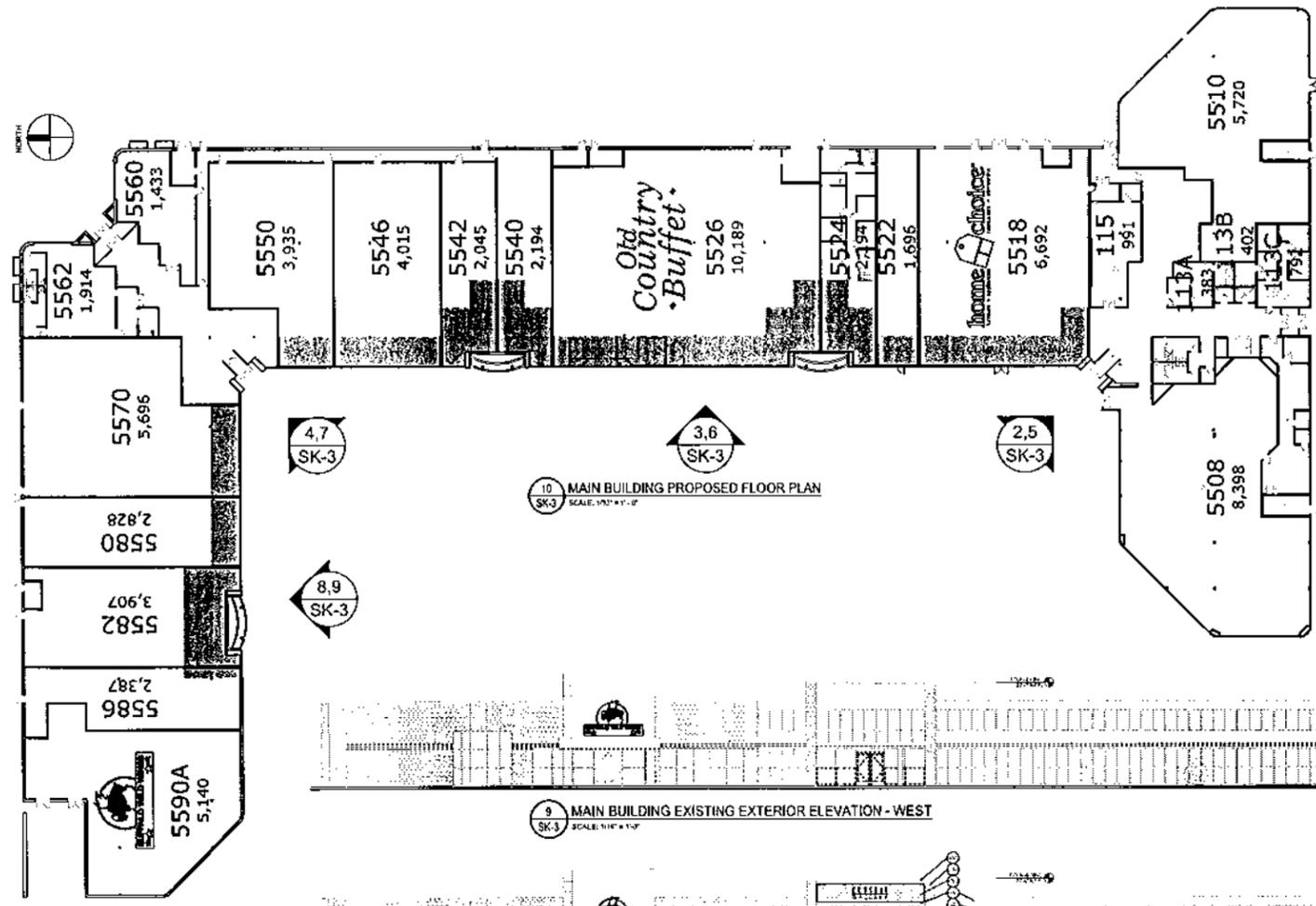
3 PAD BUILDING EXTERIOR ELEVATION - EAST
SCALE 1/8" = 1'-0"



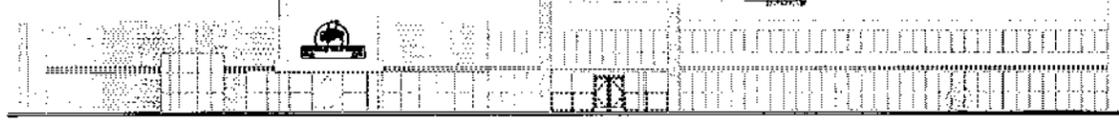
2 PAD BUILDING EXTERIOR ELEVATION - SOUTH
SCALE 1/8" = 1'-0"



1 PAD BUILDING EXTERIOR ELEVATION - WEST
SCALE 1/8" = 1'-0"



10 MAIN BUILDING PROPOSED FLOOR PLAN
SCALE: 1/8" = 1'-0"



9 MAIN BUILDING EXISTING EXTERIOR ELEVATION - WEST
SCALE: 1/8" = 1'-0"



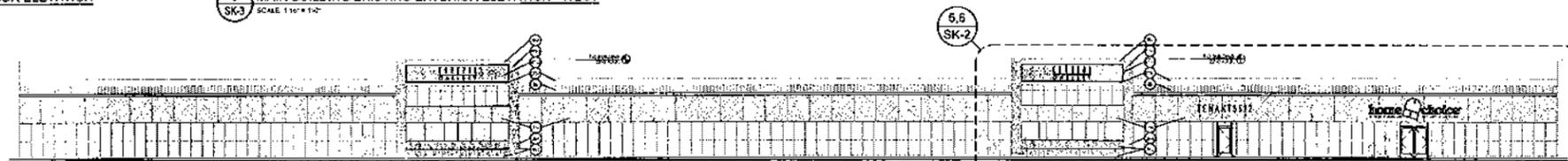
8 MAIN BUILDING PROPOSED EXTERIOR ELEVATION - WEST
SCALE: 1/8" = 1'-0"



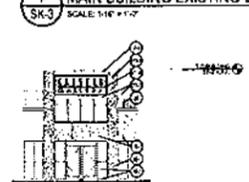
7 MAIN BUILDING EXISTING EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



6 MAIN BUILDING EXISTING EXTERIOR ELEVATION - WEST
SCALE: 1/8" = 1'-0"



3 MAIN BUILDING PROPOSED EXTERIOR ELEVATION - WEST
SCALE: 1/8" = 1'-0"



4 MAIN BUILDING PROPOSED EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



5 MAIN BUILDING EXISTING EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



2 MAIN BUILDING PROPOSED EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



1 MAIN BUILDING PROPOSED FLOOR PLAN
SCALE: 1/8" = 1'-0"

FINISH PRODUCT SPECIFICATIONS

NOTE: INSTALL ALL FINISHES AND FINISH SYSTEMS PER MANUFACTURER'S RECOMMENDATIONS AND MANUFACTURER'S STANDARD DETAILS FOR SIMILAR CONDITIONS.

LABEL	MATERIAL	MANUFACTURER	DESCRIPTION		LOCATION	REMARKS
			PRODUCT	COLOR		
AP-3	ACRYLIC POLYMER/SAND MIX	DEMAND PRODUCTS "STONEWALL" OR EQ.	ACRYLIC POLYMER/SAND MIX, MATCH EFS-3	MATCH EFS-3	BUILDING EIFS COPING	
BK-1	BRICK VENEER	MATCH EXIST. BLDG.	BRICK VENEER KING SIZE	T.B.D. (DARK)	EXTERIOR WALL	APPLY "CHEM-TRETE" #0 VOC SEALER OR EQ.
BK-2	ROCK FACE BLOCK - SKL	COMMERCIAL GRADE	ROCKFACE BLOCK SKL 8X8X16 W/CHAMFERED EDGE	WHITE	BETWEEN BRICK; ENTRY TOWER	APPLY "CHEM-TRETE" #0 VOC SEALER OR EQ.
BK-3	ROCK FACE BLOCK VENEER	COMMERCIAL GRADE	ROCKFACE BLOCK VENEER 8X8X16	T.B.D. (LIGHT)	BELOW WINDOW; BELOW EIFS WALL	APPLY "CHEM-TRETE" #0 VOC SEALER OR EQ.
BK-4	ROCK FACE BLOCK - SKL	COMMERCIAL GRADE	ROCKFACE BLOCK SKL 8X8X16	WHITE	ENTRY TOWER	APPLY "CHEM-TRETE" #0 VOC SEALER OR EQ.
BK-5	SMOOTH FACE CMU BLOCK	COMMERCIAL GRADE	SMOOTH FACE CMU BLOCK 8X8X16	T.B.D. (LIGHT)	TRASH ENCLOSURE	APPLY "CHEM-TRETE" #0 VOC SEALER OR EQ.
CCON	COLORLED CONCRETE	COMMERCIAL GRADE	STAMPED, INTEGRALLY COLORED CONC.	T.B.D.	EDGE OF MALL SIDEWALK	
EFS-1	EXTERIOR INSULATION & FINISH SYSTEM	DRYVIT OR EQUAL	GENESIS BASECOAT / REINFORCING MESH	SANDPEBBLE FINISH / COLOR T.B.D. (WHITE)	EXTERIOR FACADE	REFER TO SECTIONS FOR THICKNESSES (1 1/2" MIN.)
EFS-2	EXTERIOR INSULATION & FINISH SYSTEM	DRYVIT OR EQUAL	GENESIS BASECOAT / REINFORCING MESH	SANDPEBBLE FINISH / COLOR T.B.D. (MEDIUM)	EXTERIOR FACADE	REFER TO SECTIONS FOR THICKNESSES (1 1/2" MIN.)
EFS-3	EXTERIOR INSULATION & FINISH SYSTEM	DRYVIT OR EQUAL	GENESIS BASECOAT / REINFORCING MESH	SANDPEBBLE FINISH / COLOR T.B.D. (DARK)	EXTERIOR FACADE	REFER TO SECTIONS FOR THICKNESSES (1 1/2" MIN.)
MTL-1	METAL CANOPY	COMMERCIAL MANUF.	POWDER-COATED ALUM.	COLOR: RED	OVER WINDOWS	
MTL-2	ALUM. STOREFRONT	COMMERCIAL MANUF.	CLEAR ANOD. ALUM. STOREFRONT	COLOR: CLEAR	STOREFRONT MULLIONS	
MTL-3	METAL GRATE	COMMERCIAL MANUF.	METAL GRATE	COLOR: T.B.D.	MALL ARBORS	
PT-1	EXTERIOR PAINT	SHERWIN WILLIAMS OR EQUAL	EXTERIOR PAINT ENAMEL	MATCH EFS-1	M.M. DOORS AND FRAMES; TRASH GATE MTL GUARDWARE	1 COAT PRIMER; 2 COATS PAINT
PT-2	EXTERIOR PAINT	SHERWIN WILLIAMS OR EQUAL	EXTERIOR PAINT	SAFETY YELLOW	BOLLARDS	1 COAT PRIMER; 2 COATS PAINT
PT-3	EXTERIOR PAINT	SHERWIN WILLIAMS OR EQUAL	EXTERIOR PAINT	MATCH EFS-1	TRASH GATE WD. SLATS	1 COAT PRIMER; 2 COATS PAINT
SS	STANDING SEAM METAL ROOF	BERTRIDGE OR EQUAL	CEE-LOCK SYSTEM	T.B.D.	MALL BUILDING ROOF	

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6/20/13 Aarchitects llc

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 Architect under the law of the state of Minnesota.

Signature: _____ Name: Jeffrey P. Agnes AIA
Date: _____ Reg. No.: 19452

OWNER
MIDWEST MANAGEMENT, INC.
710 PENNSYLVANIA AVE. S.
SUITE B
MINNEAPOLIS, MN 55426-1603

PROJECT
CRYSTAL GALLERY

PLANNED DEVELOPMENT
5510-5590 W. BROADWAY AVE.
CRYSTAL, MN 55428

SHEET TITLE
MAIN BUILDING
EXISTING & PROPOSED
EXTERIOR ELEVATIONS
MAIN BUILDING
PROPOSED FLOOR PLAN

PROJECT NO.
108.07.06

SCALE
AS SHOWN

DATE
09/20/13

REVISION DATE

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET NO.

SK-3

OF 3

By: O

MEMORANDUM

DATE: October 6, 2013

TO: Planning Commission (October 14, 2013 meeting)

FROM: John Sutter, City Planner/Assistant Community Development Director 

SUBJECT: Discuss Metropolitan Council's preliminary 2040 forecasts and possible city response

State statute requires metropolitan cities to update their comprehensive plans every ten years. The next update is due in 2018 and we expect to begin working on it in 2017.

Metropolitan Council ("MC") reviews local comprehensive plans for consistency with regional systems. As part of this review MC examines the land use chapter and related chapters to determine whether the local plan is consistent with population, household and employment forecasts.

MC recently issued its preliminary 2040 regional and local forecasts. The forecasts were made using computer models for the economy, employment and population ("REMI-PI"), household type ("Profamy") and real estate ("Cube Land").

To better understand these models, and also to pose questions to MC staff, I will be attending a workshop at the Ridgedale Library on October 30.

The following Exhibits are attached:

- A. MC cover letter and workshop invitation
- B. MC "Metro Stats" bulletin – regional overview of the 2040 forecasts
- C. MC preliminary 2040 forecasts by county and city (Crystal highlighted)
- D. Crystal charts showing MC's 2040 forecast
- E. MC informational presentation about the 2040 forecasts
- F. MC forecast methodology

Staff comments:

- A. First, I aggregated the data for Crystal and other developed suburbs:

Crystal:

- Population up 6,149 or 27.8%
- Households up 3,217 or 35.0%
- Employment up 2,171 or 55.3%

Henn Co developed suburbs:

- Population up 99,346 or 38.0%
- Households up 45,539 or 40.4%
- Employment up 41,650 or 22.7%

Twin Cities metro area developed suburbs:

- Population up 153,456 or 33.7%
- Households up 75,598 or 39.1%
- Employment up 72,842 or 24.3%

B. Second, I identified which developed suburbs had the highest and lowest forecast percent change from 2010-2040:

Population:

Henn Co - highest:	Hopkins	+ 55.8%
Henn Co - lowest:	Brooklyn Center	+ 13.3%
TC metro - highest:	Hopkins	+ 55.8%
TC metro - lowest:	Spring Lake Park	+ 4.8%

Households:

Henn Co - highest:	Hopkins	+ 47.0%
Henn Co - lowest:	St Anthony	+ 32.5%
TC metro - highest:	North St Paul	+ 47.3%
TC metro - lowest:	Falcon Heights	+ 11.7%

Employment:

Henn Co - highest:	Crystal	+ 55.3%
Henn Co - lowest:	Robbinsdale	+ 10.8%
TC metro - highest:	Crystal	+ 55.3%
TC metro - lowest:	Falcon Heights	- 13.2%

C. Preliminary thoughts:

1. The population and household forecasts for Crystal are not unique; they are broadly consistent with MC's forecasts for other similar developed suburbs. But the degree of increase among developed suburbs seems very unrealistic.
2. The employment forecast for Crystal stands out from other developed suburbs. The next highest city is Columbia Heights at 41%, and the average among all of the developed suburbs is only 24%. What makes Crystal an outlier?

3. Households are the major driver of residential development. MC's forecast for households in Crystal is an increase of 3,217 from 2010-2040 – meaning an average of 107 additional housing units every year from 2010-2040. This would be about five times the recent historical average. For example, during the eight year period ending Dec. 31, 2007 (when development activity was relatively strong), Crystal had a net gain of 179 housing units, averaging 22 per year. That net gain of 179 units was comprised of 29 single family homes, 80 townhomes, 4 units in duplexes and 66 units in apartments.
4. Even if the MC forecast is correct about demand, the land supply part of the computer model seems unrealistic. How/where would so many redevelopment sites materialize in Crystal and other developed suburbs? Crystal's employment is forecast to increase by 55% so the model shouldn't assume replacing commercial/industrial property with housing. The methodology brochure does not really explain how the land supply submodel works. Based on what little is said about it, and the resulting forecasts, it seems as if the model simply assumes that demand will cause redevelopment sites to materialize, even in fully developed areas, without regard to financial considerations, political/community opposition and (most importantly) the willingness of current owners to sell.

Planning Commission discussion is requested regarding the 2040 forecasts.

Next steps:

- Staff will attend Metropolitan Council's October 30 workshop to present our questions and concerns to MC staff and (hopefully, perhaps) change some minds.
- At its November 5 work session the City Council will discuss whether to make written comments to MC regarding the 2040 forecasts.
- MC may agree to revise the forecasts later this year depending on the workshop discussion and City Council comments.
- Forecasts will be continually revised and recalibrated by MC throughout 2014 and 2015.
- After MC's Regional System Statements are released in fall 2015, cities can formally appeal the forecasts prior to beginning work on the 2018 Comprehensive Plan Update.

Re: Preliminary Metropolitan Council Forecasts for *Thrive MSP 2040*

John - Ry/

Dear Ms. Norris:

In preparation for next spring's adoption of *Thrive MSP 2040* and the beginning of decennial Comprehensive Plan updates, the Metropolitan Council has developed **preliminary local forecasts** of population, households and employment to 2040. Preliminary forecasts for all communities in the region are enclosed with this letter and are also available on the Council's website at www.metrocouncil.org.

Before the Council adopts these forecasts alongside the adoption of *Thrive MSP 2040*, the Council wants to provide the opportunity for local comment. We are particularly interested in learning about factors that influence where growth may occur in your community – especially future planned land use.

The Council will hold workshops across the region for local government elected officials and staff to learn more about and provide feedback on policies proposed for *Thrive MSP 2040* and local forecasts. Space is limited; please RSVP to Council Public Information at public.info@metc.state.mn.us or 651-602-1140. Space will be allocated on a first-come, first-served basis. We invite you to attend the workshop that is most convenient for your schedule:

Brookdale Library – Meeting Room
6125 Shingle Creek Parkway, Brooklyn Center
Oct. 24, 5:30 to 7:30 p.m.

Maplewood Library – Meeting Room
3025 Southlawn Drive
Oct. 25, 10:30 a.m. to 12:30 p.m.

Blaine City Hall – Community Room
10801 Town Square Drive
Oct. 29, 7:30 to 9:30 a.m.

Ridgedale Library – Meeting Room
12601 Ridgedale Drive, Minnetonka
Oct. 30, 10 a.m. to noon

I will be attending this one.
-JH

Dakota County Northern Service Center Community Rooms
1 Mendota Road West, West St. Paul
Nov. 4, 1 to 3 p.m.

Scott County Association for Leadership and Efficiency (SCALE)
4646 Dakota St. SE, Prior Lake
Nov. 8, 9 a.m. to 11 a.m.

An additional event is being planned with the Carver County City/County Planners group. More information will be available at www.ThriveMSP.org as the event is finalized

If you have questions or concerns about your local forecasts, please contact your Sector Representative, Michael Larson, at michael.larson@metc.state.mn.us or 651-602-1407. The Council will accept comment on the preliminary forecasts through **December 1, 2013**.

The Council will revise and finalize these forecasts in early 2014 for adoption with *Thrive MSP 2040*. As a result of these revisions, some forecasts could increase, and some forecasts could decrease from the preliminary numbers enclosed.

Sincerely,

Susan Haigh

Susan Haigh, Chair

cc: Council Member James Brimeyer, District 6

MetroStats

What Lies Ahead: Population, Household and Employment Forecasts to 2040

April 2012

The Metropolitan Council forecasts population, households and employment for the seven-county Minneapolis-St. Paul region with a 30-year time horizon.

The Council will allocate this regional forecast to local communities through additional modeling. The Council's local land use model will represent the expected spatial distribution of population, households and employment during 2010 to 2040, given real estate and location choice dynamics, and regional policies and local land use controls. The ultimate results of this project—a final regional forecast, together with local forecasts—will be incorporated into the next metropolitan development guide scheduled for Council adoption in early 2014.

Consistent with Minnesota Statutes 473.146 and 473.859, the regional and local forecasts are intended as a statement of future expectations and will reflect regional planning and policies.

For more information about the methodology behind these regional forecasts, see p. 5.

For more information, contact:
 Todd Graham
 Principal Forecaster
todd.graham@metc.state.mn.us
 651-602-1322

Publication No. 74-12-016

Metropolitan Council Forecasts to 2040

Metropolitan Council's preliminary forecast anticipates increasing demographic diversity and continued growth for the seven-county Minneapolis-St Paul region by 2040. The region's population is projected to grow by 893,000. By 2040, 43 percent of residents will be persons of color.

	2010	2020	2030	2040
Population	2,850,000	3,144,000	3,447,000	3,743,000
Households	1,118,000	1,293,000	1,464,000	1,576,000
Employment	1,548,000	1,743,000	1,943,000	2,118,000

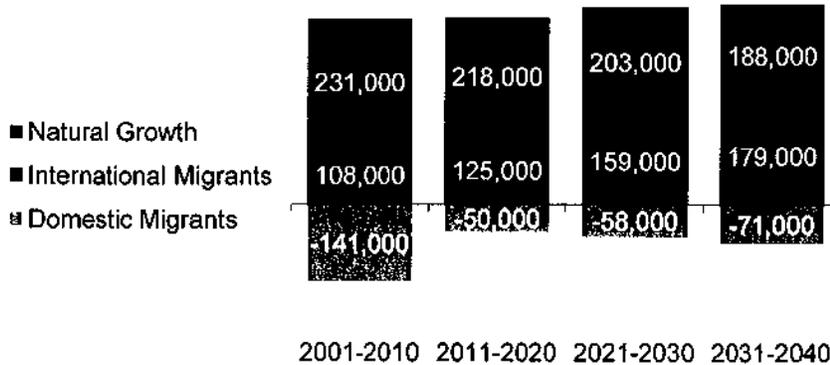
The seven-county Minneapolis-St. Paul region is projected to gain 893,000 people over the next three decades, reaching 3,743,000 residents in 2040, up from 2,850,000 in 2010. Projected growth rates, 9 to 10 percent per decade, are well below the historic growth rates of 15 percent per decade in the 1980s and the 1990s.

Natural population growth, or births outpacing deaths, will add 609,000 residents. Natural population growth will account for over two-thirds, or 68 percent, of the total population growth from 2010 to 2040. Birth rates are higher among families of color than white families, contributing to the increasing racial diversity of the region.

One-third of the population increase in the Minneapolis-St. Paul region will result from migration. The Minneapolis-St Paul area is likely to gain 463,000 new residents through international immigration while losing 179,000 residents to domestic out-migration.

The Minneapolis-St. Paul region will continue to be an immigration gateway throughout the 30-year period, and immigration will substantially advance the region's diversity. Of the expected international immigrants, 83 percent will be people of color, from all continents; the remaining 17 percent will be white, non-Hispanic.

Components of Population Growth, 2000-2040



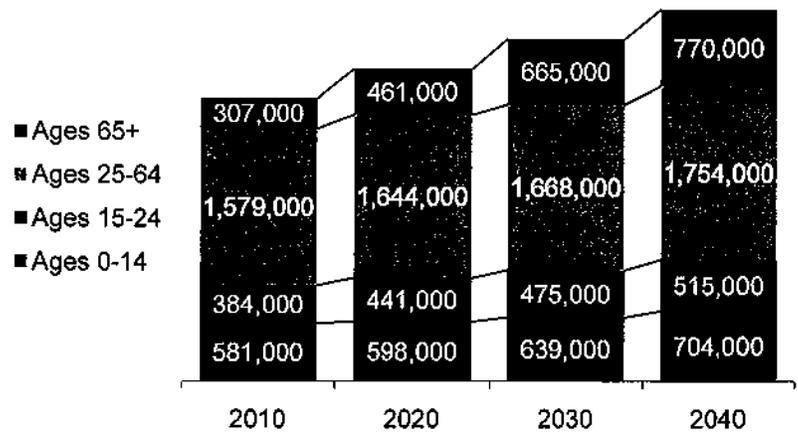
Net domestic migration—between the Twin Cities region and the rest of the nation—will be negative, totaling a loss of 179,000 residents during 2010-40. This is not a new trend; US Census data shows out-migrants leaving the region have outnumbered new domestic arrivals during the past decade. Geographic position and perceived attractiveness of the Minneapolis-St. Paul area are challenges to domestic migration. While the region's employment and business opportunities draw international

immigrants, the Twin Cities are less attractive to movers who have other priorities. This trend is projected to continue into the future unless there is a major change that dramatically alters domestic perceptions of attractiveness and amenity value.

Migration and natural population growth together will replenish the Minneapolis-St Paul region's school enrollments and workforce. The Council forecasts 254,000 additional residents under the age of 25 in the Minneapolis-St Paul region, up from 965,000 in 2010 to 1,219,000 in 2040, for a 26 percent increase. These dynamics will balance out the rapid expansion of the region's senior citizen (65 and over) population.

The senior population in the Twin Cities area will double between 2010 and 2030 and will continue growing throughout the projections period, from 307,000 seniors in 2010 to 770,000 seniors in 2040. Between the aging of Baby Boomers and longer life expectancies, senior citizens will become a substantial cohort of the population in the Minneapolis-St. Paul area. In 2010, senior citizens were 11 percent of the region's population; in 2040, seniors will be 21 percent of the population.

Population by Age, 2010-2040

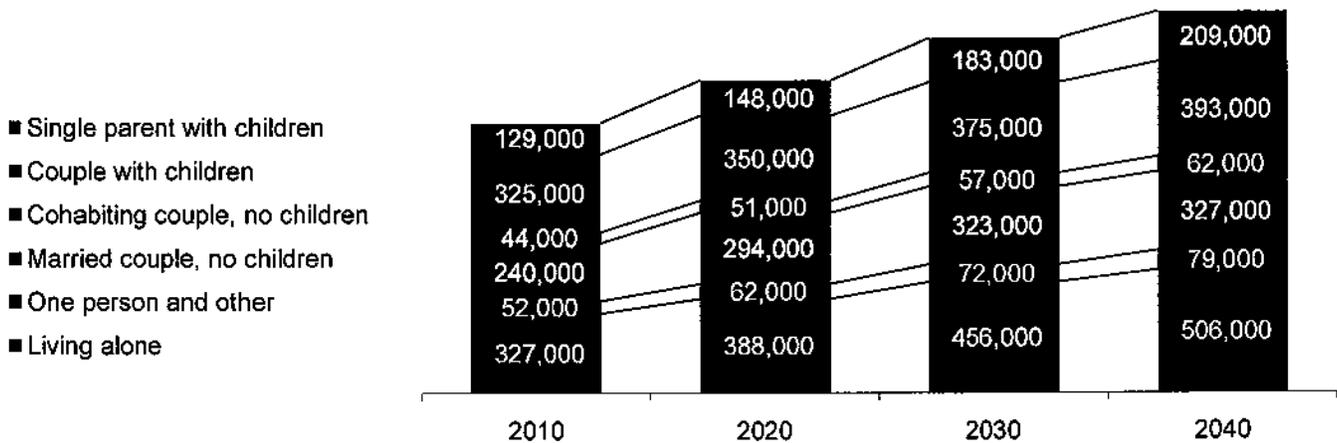


As the age profile of the population shifts, the mix of households in the Minneapolis-St. Paul area is also changing. The Council forecasts 1,576,000 households in 2040, an increase of 41 percent from 2010. Senior citizens are the most significant contributors to household growth as seniors tend to live alone or with a spouse. Most of the forecasted gain in households (58 percent) is reflected in net growth of one-person households (up 179,000 over 30 years) and of married couples without children (up 87,000).

These gains reflect the end stages of the household life-cycle, as couples with children become households without children.

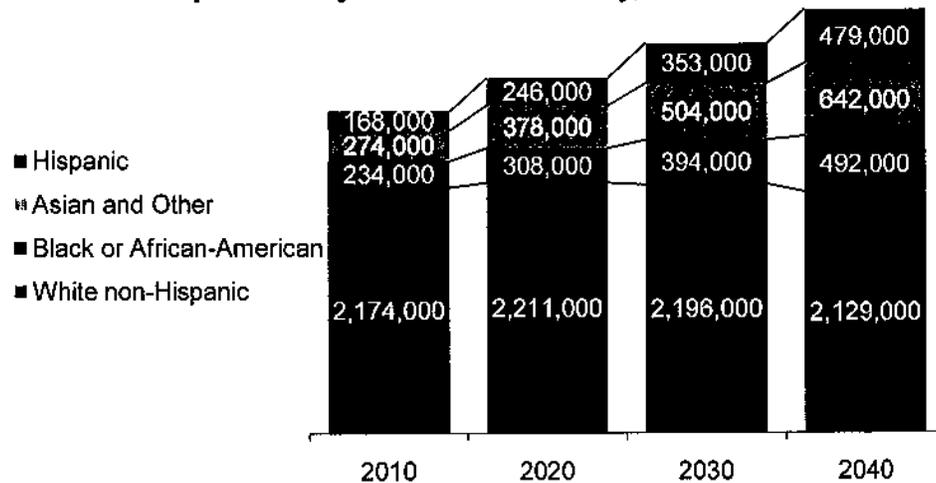
Growth in Generation Y and Millennials will still generate growth in households with children (up 148,000 or 33 percent over 30 years). However, most of the net household growth in the Twin Cities area will result from growth in one-parent households (up 80,000 or 62 percent over 30 years).

Household Type, 2010-2040



Between the churn of migration and higher birth rates among Hispanic, Black or African-American, and Asian populations, the Minneapolis-St. Paul region will become more racially and ethnically diverse. In 2010, people of color comprised 24 percent of the regional population. By 2040, the Council projects that 43 percent of residents will be people of color. In 2040, the Minneapolis-St Paul workforce will reflect the diversity seen today in the region's elementary schools. The population of color will more than double, up from 676,000 in 2010 to 1,613,000 in 2040, while the White non-Hispanic population will decrease by 2 percent. The region's Hispanic population is expected to nearly triple (from 168,000 in 2010 to 479,000 in 2040), and both the Black or African-American population and the population of Asians and other people of color will more than double (from 234,000 in 2010 to 492,000 in 2040 and from 274,000 in 2010 to 642,000 in 2040).

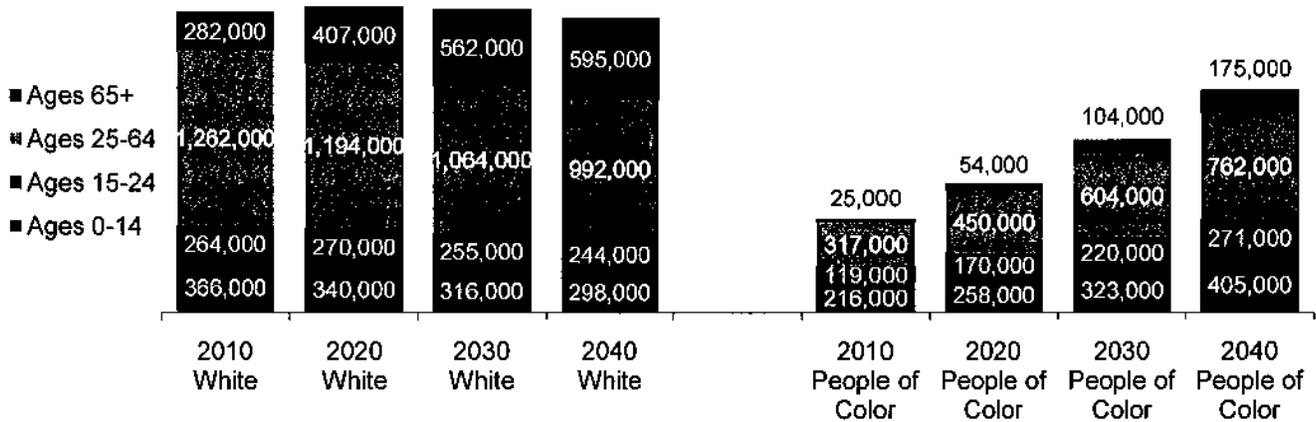
Population by Race and Ethnicity, 2010-2040



The Council's population forecasts reveal contrasting trends in the age distribution

of people of color and white residents. These trends will affect the composition of the region's working-age residents, with significant implications for the future workforce of the region. The number of white residents, ages 25-64, will shrink by 21 percent (from 1,262,000 in 2010 to 992,000 in 2040), while the population of color in the same age cohort will more than double, climbing from 317,000 in 2010 to 762,000 in 2040. The share of people of color will increase from 20 percent of working-age residents in 2010 to 43 percent in 2040.

Population by Race / Ethnicity and Age

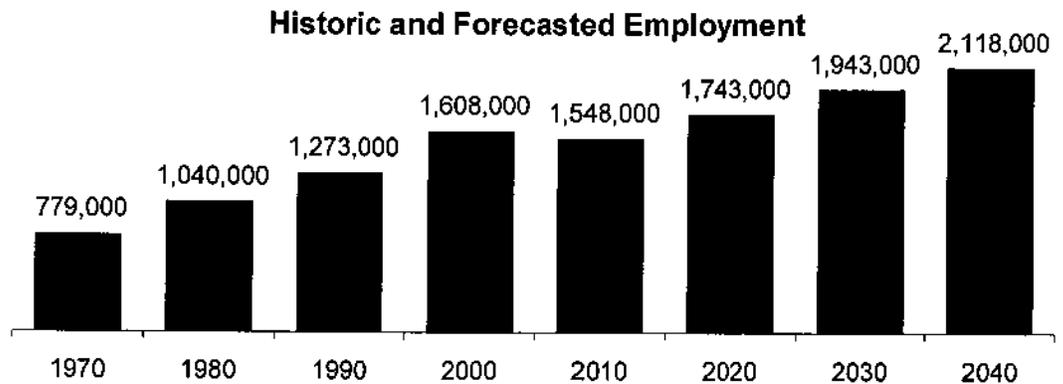


The Council's population forecasts anticipate an increasingly diverse student body in the region. The population of color under age 25 will double in size, up from 335,000 in 2010 to 676,000 in 2040. In contrast, the number of white residents under age 25 would decrease from 630,000 in 2010 to 543,000 in 2040, pulling down the share of white school-age children and young adults in this age of group from 65 percent in 2010 to 45 percent in 2040.

Migration dynamics are the major factor in this demographic transition. People moving from the Minneapolis-St Paul area to other parts of the nation (domestic out-migration) are mostly white and older (retirees). In contrast, the region's gain of international immigrants is predominantly people of color, mostly people in their 20s, often immigrating with children.

The Council forecasts an employment gain of 570,000 jobs, up from 1,548,000 in 2010 to 2,118,000 in 2040. The Council anticipates employment growth will range from 13 percent in the current decade to 9 percent in the 2030s. This growth compares to a net employment loss over the 2000s and previous gains of 34 percent in the 1970s, 22 percent in the 1980s, and 26 percent in the 1990s.

The region's Gross Metro Product, the sum of value added by all industry sectors, will rise to \$400 billion in 2040—equivalent to 1.5 percent of the US Gross Domestic Product. For context, the Minneapolis-St Paul region has less than 1.0 percent of the nation's population.



Employment opportunities in the Minneapolis-St Paul region attract not only new migrants, but also commuting workers living in Greater Minnesota or Wisconsin. In 2010, the Council estimates that 7.7 percent of earnings at Minneapolis-St. Paul workplaces are earned by commuters into the region. (This is offset by 1.5 percent of the region's household earnings coming from work outside the Twin Cities region.) This balance of workers commuting in, and earnings returning with those workers to their place of residence, is projected to remain unchanged over the projections period as the Minneapolis-St Paul region remains the predominant economic center for a large part of Minnesota and western Wisconsin.

About the Council's Forecasts

To prepare its long-range forecast, the Metropolitan Council has adopted REMI PI+, a regional macroeconomic model, and ProFamy, a demographic model. Both models have been customized to include additional regional data and represent Minneapolis-St Paul regional conditions.

The REMI PI+ model represents regional economic dynamics and projects time-series of economic and demographic outcomes. The REMI PI+ projections are informed by data on the region's industry mix, costs and productivity, and analysis of regional competitiveness and relative position within the national economy. Employment, migration and population outcomes directly flow from projected economic performance.

The Metropolitan Council is using ProFamy, an extended cohort-component simulation model, to group populations into household types. These projections are informed by age-by-race-specific demographic schedules of birth rates, household formation and dissolution rates, fertility, and mortality rates. The end-product is a time-series of projections of household counts by household type.



2040 Preliminary Forecasts Released for Comments, September 11, 2013

Note: These are preliminary and have not been adopted by the Council.
(pt) denotes part of a city; remainder of city is in neighboring county.

0 = Rogers annexed Hessian Township in 2012; forecasts have been combined.
† = Laketown Township will be fully annexed before 2030; forecast has been reassigned to neighboring cities.

	POPULATION			HOUSEHOLDS			EMPLOYMENT		
	2000	2010	2040	2000	2010	2040	2000	2010	2040
ANOKA COUNTY									
Andover	26,588	30,598	35,800	8,107	9,811	15,600	3,583	4,689	5,500
Anoka	18,076	17,142	22,100	7,262	7,060	10,000	13,489	12,840	14,800
Bethel	443	466	790	149	174	370	229	86	640
Blaine (pt)	45,014	57,186	80,300	15,926	21,077	34,200	16,757	19,668	27,000
Centerville	3,202	3,792	4,600	1,077	1,315	1,980	363	409	670
Circle Pines	4,663	4,918	5,700	1,697	2,006	2,500	2,150	2,790	1,480
Columbia Heights	18,520	19,496	24,600	8,033	7,926	11,000	6,397	3,484	4,900
Columbus	3,957	3,914	4,300	1,328	1,416	1,960	507	1,172	2,450
Coon Rapids	61,607	61,476	71,700	22,578	23,532	32,600	21,682	23,260	35,000
East Bethel	10,941	11,626	16,600	3,607	4,060	7,700	1,374	1,123	1,990
Fridley	27,449	27,208	32,600	11,328	11,110	14,800	26,257	21,333	29,200
Ham Lake	12,710	15,296	16,200	4,139	5,171	7,100	3,194	2,931	4,600
Hilltop	766	744	1,360	400	380	600	257	314	400
Hilltop	2,142	2,049	2,800	819	787	1,200	634	467	700
Lexington	16,791	20,216	28,000	4,857	6,174	11,300	2,671	3,313	6,000
Lino Lakes	4,668	5,123	6,500	1,578	1,884	3,100	154	219	350
Linwood Township	3,557	4,443	5,700	1,123	1,450	2,600	337	318	630
Nowthen	6,903	8,031	10,300	2,200	2,744	4,800	359	741	1,250
Oak Grove	18,510	23,668	28,400	5,906	8,033	12,500	4,008	4,779	7,000
Ramsey	4,910	7,218	10,900	1,638	2,520	5,100	1,247	1,537	2,600
Spring Lake Park (pt)	6,667	6,234	6,500	2,676	2,597	3,000	4,401	2,934	3,800
Anoka County Total	298,084	330,844	415,750	106,428	121,227	184,020	110,050	106,387	150,960
CARVER COUNTY									
Benton Township	939	786	640	307	297	300	282	274	370
Camden Township	955	922	720	316	329	340	15	56	110
Carver	1,266	3,724	6,900	458	1,182	3,000	176	187	340
Charhassen (pt)	20,321	22,952	31,600	6,814	8,352	13,300	8,366	9,746	16,100
Chaska	17,603	23,770	30,500	6,169	8,816	13,400	10,955	11,123	15,200
Colbogne	1,012	1,519	3,300	385	539	1,540	294	270	510
Colbogne	1,453	1,331	1,150	479	494	530	203	202	310
Dahlgren Township	538	513	590	206	201	280	117	109	130
Hamburg	367	345	450	121	127	210	35	10	20
Hancock Township	1,102	1,041	1,160	371	387	560	100	90	200
Hollywood Township	2,331	2,243	-	637	660	-	355	116	-
Laketown Township †	554	1,749	7,000	199	589	3,300	92	151	230
Mayer	346	372	1,180	143	146	560	50	46	120
New Germany	3,108	3,549	8,000	1,171	1,389	3,800	1,559	1,165	2,040
Norwood Young America	888	832	900	293	307	420	61	46	120
San Francisco Township	4,025	7,345	11,700	1,367	2,435	5,000	932	1,502	1,760
Victoria	6,814	10,697	16,100	2,568	3,909	6,900	4,082	5,578	8,200
Waconia	1,284	1,228	1,300	429	434	560	72	98	390
Waconia Township	3,029	4,205	5,900	1,078	1,564	2,800	682	556	1,510
Watertown	1,432	1,204	1,390	478	468	660	207	392	370
Watertown Township	838	715	650	267	266	310	105	119	110
Young America Township	70,205	91,042	131,130	24,356	32,891	57,790	28,740	31,836	48,140
Carver County Total									

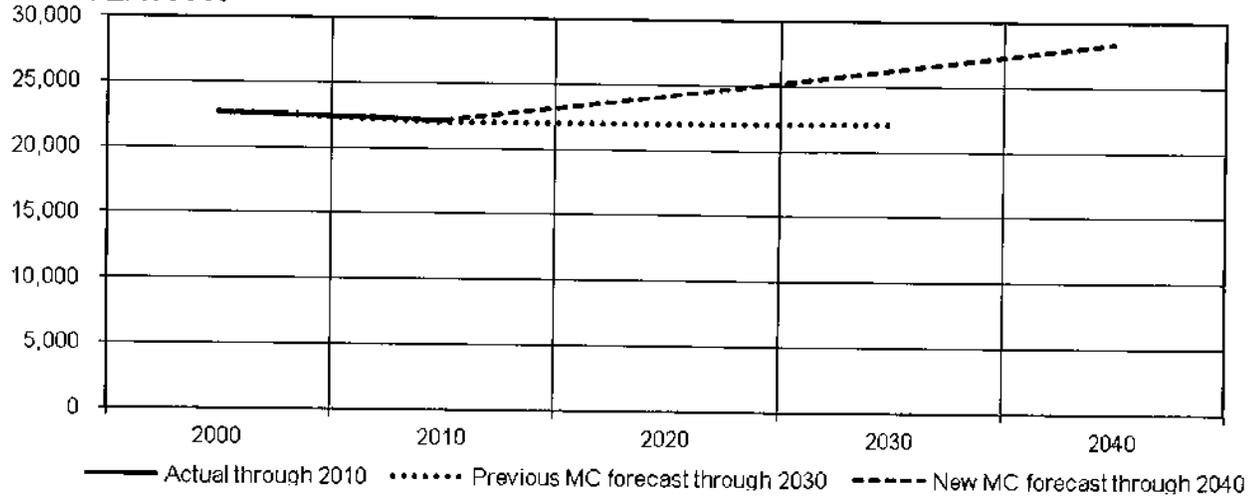
	POPULATION			HOUSEHOLDS			EMPLOYMENT		
	2000	2010	2040	2000	2010	2040	2000	2010	2040
DAKOTA COUNTY									
Apple Valley	45,527	49,084	62,100	16,344	18,875	26,600	12,106	14,279	18,700
Burnsville	60,220	60,306	76,200	23,687	24,283	32,800	31,765	31,593	41,200
Castle Rock Township	1,495	1,342	1,100	514	504	510	344	356	440
Coates	163	161	160	64	66	70	252	109	180
Douglas Township	760	716	870	235	259	420	96	92	80
Eagan	63,557	64,206	86,800	23,773	25,249	36,100	42,750	49,526	70,000
Empire Township	1,638	2,444	2,500	515	792	1,130	217	255	320
Eureka Township	1,490	1,426	1,430	496	518	670	196	460	220
Farmington	12,365	21,086	26,900	4,169	7,066	11,600	3,986	4,438	7,300
Greenvale Township	684	803	1,240	227	275	590	68	49	640
Hampton	434	689	890	156	245	420	178	127	210
Hampton Township	986	903	1,230	320	329	580	186	85	210
Hastings (pt)	18,201	22,172	28,900	6,640	8,735	13,300	8,872	8,532	10,400
Inver Grove Heights	29,751	33,880	46,300	11,257	13,476	20,200	8,168	9,442	12,900
Lakeville	43,128	55,954	72,400	13,609	18,683	30,500	10,966	13,862	21,800
Lilydale	552	623	1,340	338	375	590	354	355	420
Marshan Township	1,263	1,106	1,110	404	403	520	220	117	320
Mendota	197	198	340	80	78	150	266	270	340
Mendota Heights	11,434	11,071	15,200	4,178	4,378	6,500	8,549	11,550	13,700
Miesville	135	125	150	52	52	70	97	116	120
New Trier	116	112	110	31	41	50	30	35	60
Nininger Township	865	950	840	280	372	400	165	149	330
Northfield (pt)	557	1,147	1,860	216	414	860	79	470	730
Randolph	318	436	490	117	168	230	123	122	100
Randolph Township	536	659	760	192	246	360	130	113	120
Ravenna Township	2,355	2,336	2,180	734	780	1,010	115	38	50
Rosemount	14,619	21,874	29,200	4,742	7,587	12,400	6,356	6,721	11,600
Sciota Township	285	414	510	92	140	240	21	33	250
South St. Paul	20,167	20,160	23,500	8,123	8,186	10,600	7,697	8,557	10,900
Sunfish Lake	504	521	560	173	183	260	23	8	-
Vermillion	437	419	500	160	156	230	221	93	180
Vermillion Township	1,243	1,192	1,610	395	424	750	280	90	80
Waterford Township	517	497	650	193	193	310	461	679	1,010
West St. Paul	19,405	19,540	27,100	8,645	8,529	11,900	8,905	7,471	10,000
Dakota County Total	355,904	388,552	517,030	131,151	152,060	222,920	154,242	170,192	234,910
HENNEPIN COUNTY									
Bloomington	85,172	82,893	113,600	36,400	35,905	49,900	104,548	86,530	108,100
Brooklyn Center	29,172	30,104	34,100	11,430	10,756	14,800	16,698	11,001	13,800
Brooklyn Park	67,388	75,781	90,500	24,432	26,229	36,900	23,692	24,084	36,000
Champlin	22,193	23,089	27,300	7,425	8,328	11,900	2,734	4,012	5,200
Chanhausen (pt)	-	-	-	-	-	-	-	979	1,160
Corcoran	5,630	5,379	9,100	1,784	1,867	4,000	1,792	1,093	1,780
Crystal	22,698	22,151	28,300	9,389	9,183	12,400	5,638	3,929	6,100
Dayton (pt)	4,693	4,617	7,300	1,546	1,619	3,300	1,057	921	2,250
Deephaven	3,853	3,642	3,400	1,373	1,337	1,450	1,021	688	880
Eden Prairie	54,901	60,797	82,700	20,457	23,930	33,900	51,006	48,775	64,000
Edina	47,425	47,941	70,800	20,996	20,672	30,200	52,991	47,457	61,100
Excelsior	2,393	2,188	3,000	1,199	1,115	1,300	1,823	2,220	2,240
Fort Snelling (unorg.)	442	149	190	-	135	140	35,526	23,215	24,000
Golden Valley	20,281	20,371	28,900	8,449	8,816	12,300	30,142	33,194	38,800
Greenfield	2,544	2,777	4,000	817	936	1,810	337	613	620
Greenwood	729	688	760	285	290	330	161	82	240
Hanover (pt)	332	609	890	113	196	400	86	36	90
Hopkins	17,367	17,591	27,400	8,359	8,366	12,300	11,979	11,009	13,200



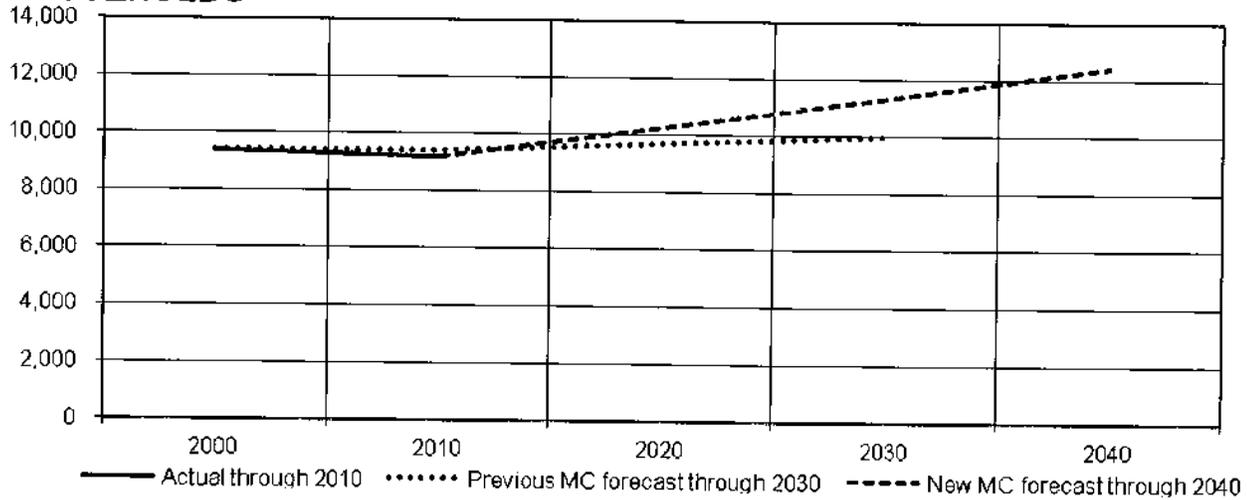
SCOTT COUNTY	POPULATION			HOUSEHOLDS			EMPLOYMENT		
	2000	2010	2040	2000	2010	2040	2000	2010	2040
Belle Plaine Township	3,789	6,661	11,500	1,396	2,362	5,100	1,428	1,847	2,700
Belle Plaine Township	806	878	830	266	310	370	77	69	130
Blakeley Township	496	418	350	166	165	170	70	69	150
Cedar Lake Township	2,197	2,779	3,200	719	939	1,440	91	82	250
Credit River Township	3,895	5,096	5,900	1,242	1,662	2,600	265	397	330
Elko New Market	804	4,110	8,000	286	1,259	3,500	248	317	750
Helena Township	1,440	1,648	1,540	450	548	730	473	147	420
Jackson Township	1,361	1,464	1,480	461	486	650	92	168	620
Jordan	3,833	5,470	7,200	1,349	1,871	3,300	1,321	1,587	2,450
Louisville Township	1,359	1,266	1,040	410	425	440	476	298	350
New Market Township	3,057	3,440	2,800	956	1,146	1,200	262	325	240
New Prague (pt)	3,157	4,280	7,400	1,160	1,618	3,500	2,282	2,142	2,480
Prior Lake	15,917	22,796	34,300	5,645	8,447	14,700	7,972	7,766	11,800
St. Lawrence Township	472	483	560	144	161	250	145	48	210
Sand Creek Township	1,551	1,521	1,210	478	554	570	249	298	530
Savage	21,115	26,911	34,400	6,807	9,116	14,100	5,366	6,753	9,900
Shakopee	20,568	37,076	49,800	7,540	12,772	20,100	13,938	18,831	28,800
Spring Lake Township	3,681	3,631	3,500	1,217	1,267	1,590	176	390	180
Scott County Total	89,498	129,928	175,010	30,692	45,108	74,310	34,931	41,534	62,290
WASHINGTON COUNTY									
Aiton	2,839	2,886	3,800	996	1,081	1,700	351	411	530
Bayport	3,162	3,471	4,600	763	855	1,310	4,900	3,790	5,000
Baytown Township	1,533	1,617	2,060	492	573	930	154	69	210
Birchwood Village	968	870	890	357	351	400	20	25	30
Cottage Grove	30,562	34,589	40,700	9,932	11,719	17,400	6,263	6,484	9,200
Dellwood	1,033	1,065	1,200	353	373	510	282	277	310
Denmark Township	1,348	1,737	2,280	481	615	990	386	629	520
Forest Lake	14,440	18,377	26,900	5,433	7,015	12,400	6,636	6,449	10,200
Grant	4,026	4,094	4,300	1,374	1,463	1,890	750	449	670
Grey Cloud Island Township	307	295	250	117	117	120	50	10	60
Hastings (pt)	3	-	-	2	-	-	224	64	100
Hugo	6,363	13,332	23,200	2,125	4,990	10,300	1,917	1,973	3,500
Lake Elmo	6,863	8,061	11,700	2,347	2,776	5,000	1,682	1,941	3,000
Lakeland	1,917	1,796	2,800	691	681	1,320	374	302	470
Lakeland Shores	355	311	390	116	117	180	20	26	40
Lake St. Croix Beach	1,140	1,053	1,280	462	460	580	60	129	100
Landfall	700	663	610	292	257	270	50	25	20
Mahtomedi	7,563	7,676	8,800	2,503	2,827	3,900	1,252	2,090	2,600
Marine on St. Croix	602	689	1,000	254	302	460	235	124	200
May Township	2,928	2,776	3,700	1,007	1,083	1,670	40	66	150
Newport	3,715	3,435	5,200	1,418	1,354	2,500	2,480	1,605	2,210
Oakdale	26,653	27,401	33,900	10,243	10,956	14,900	7,812	8,651	13,700
Oak Park Heights	3,777	4,445	6,300	1,528	1,911	2,700	2,713	4,358	5,400
Pine Springs	421	408	410	140	144	180	10	72	100
St. Marys Point	344	366	400	132	147	180	10	15	10
St. Paul Park	5,070	5,273	7,500	1,829	1,967	3,400	1,399	1,515	1,800
Scandia	3,692	3,934	4,900	1,294	1,498	2,240	272	519	780
Stillwater	15,323	18,227	23,100	5,797	7,076	10,400	10,719	9,628	10,400
Stillwater Township	2,553	2,364	2,210	833	855	1,000	120	165	210
West Lakeland Township	3,547	4,054	6,400	1,101	1,286	2,800	313	232	450
White Bear Lake (pt)	351	403	560	149	198	260	131	184	130
Wilkie	549	507	680	225	218	300	135	182	270
Woodbury	46,463	61,961	78,200	16,676	22,594	31,400	15,899	19,438	28,600
Washington County Total	201,130	238,136	310,220	71,462	87,859	133,590	67,649	71,897	100,970
METRO AREA	2,642,962	2,949,567	3,735,000	821,456	1,117,749	1,614,000	1,606,263	1,643,872	2,133,000

Metropolitan Council 2040 Forecasts for Crystal (Preliminary, 9/11/2013)

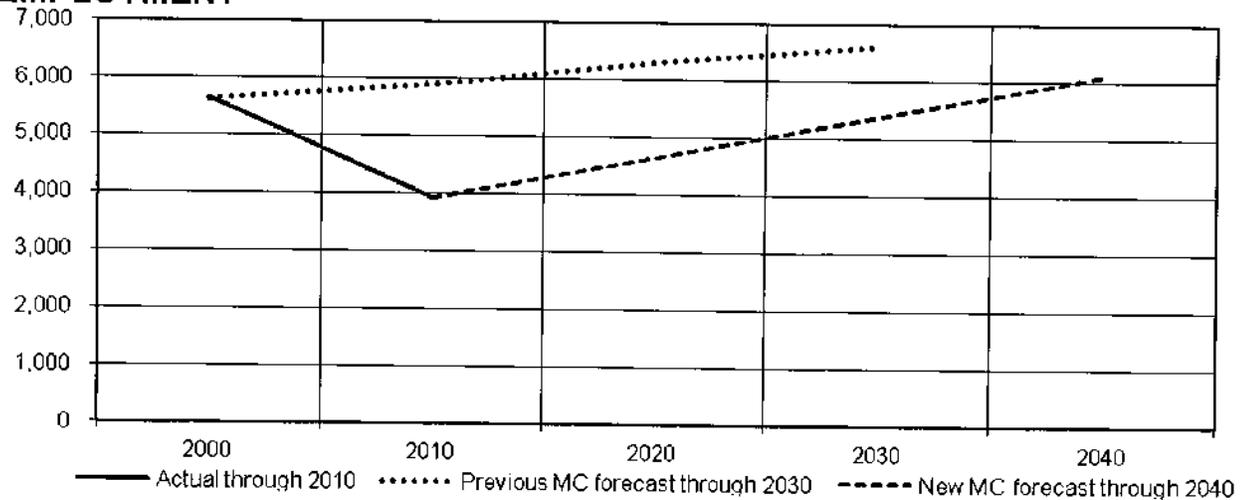
POPULATION



HOUSEHOLDS



EMPLOYMENT



Preliminary Local Forecasts to 2040

EXHIBIT E

Metropolitan Council
September 11, 2013



About the Council's forecasts

- Forecasts of population, households and employment in 10-year increments
- Forecasting what development will happen where based on market demand
- *Minnesota Statutes* 473.146 and 473.859
- Develop shared expectations of a common future to inform regional and local planning

Forecasting: Key Dates

2012	2013	2014	2015	2016	2017	2018
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Regional Forecasts

★ April 2012



Preliminary Local Forecasts

★ September 2013

Final Regional and Local Forecasts

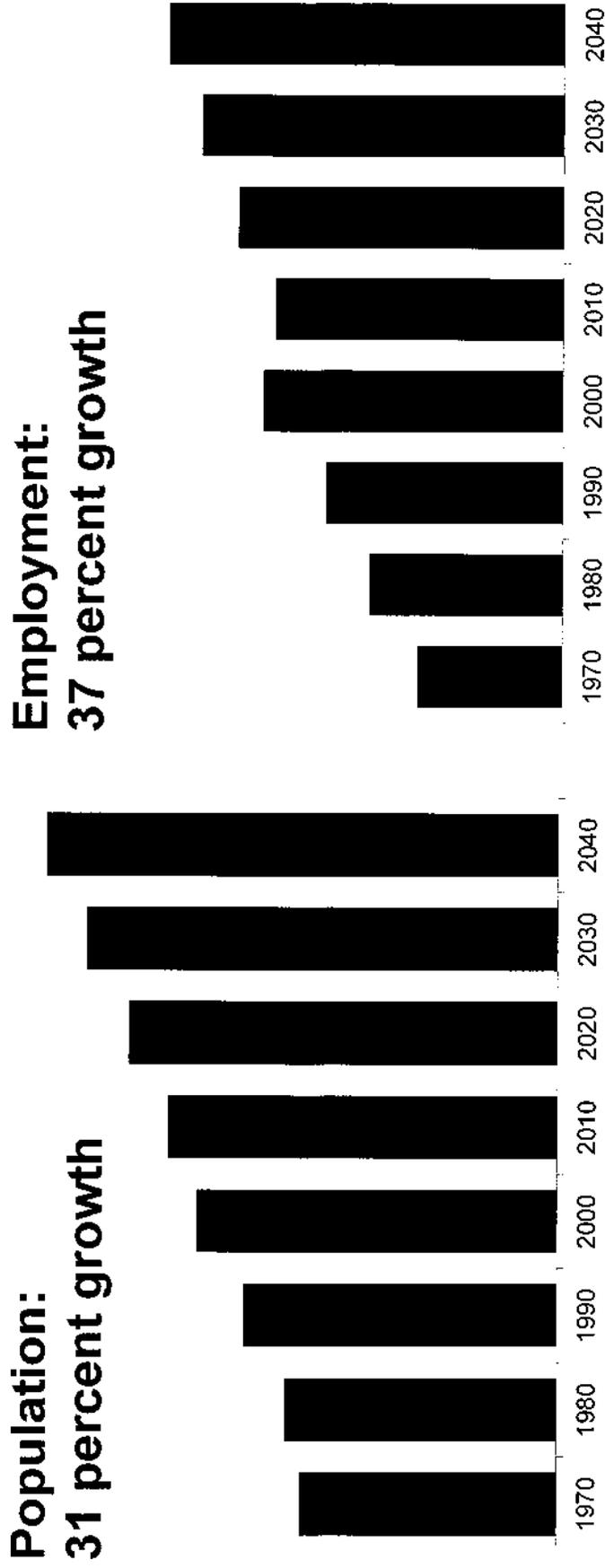
★ Adopted with Thrive MSP 2040

Systems Statements Forecasts

★ Adopted with Systems Statements

Local Comprehensive Planning

Regional forecast: Continued growth and prosperity



What's behind the forecasts?

Who is the future market?
Demographics of future households
Real estate needs of businesses

What drives their real estate decisions?
Infrastructure
Accessibility
Amenities

Where is growth allowed?
Land capacity
Land use policies
Allowable density

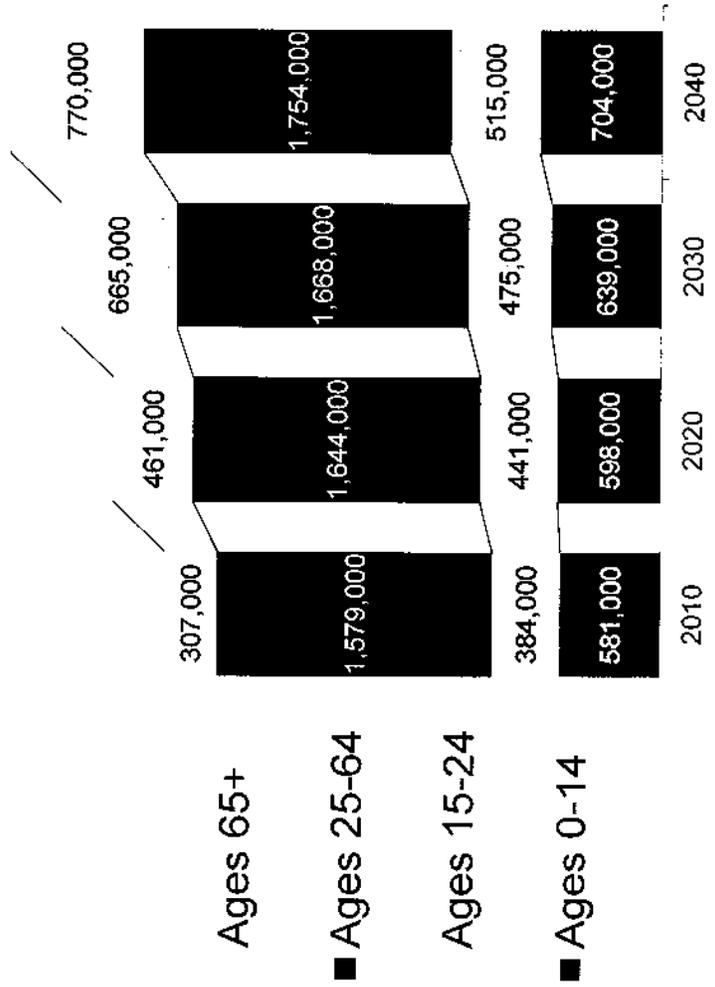
What is driving changes in growth?

Different mix
of consumers

Consumers'
changing
preferences
and behavior

Different mix of consumers

- More seniors
- More smaller households
- Entry of the Millennial generation into the real estate market

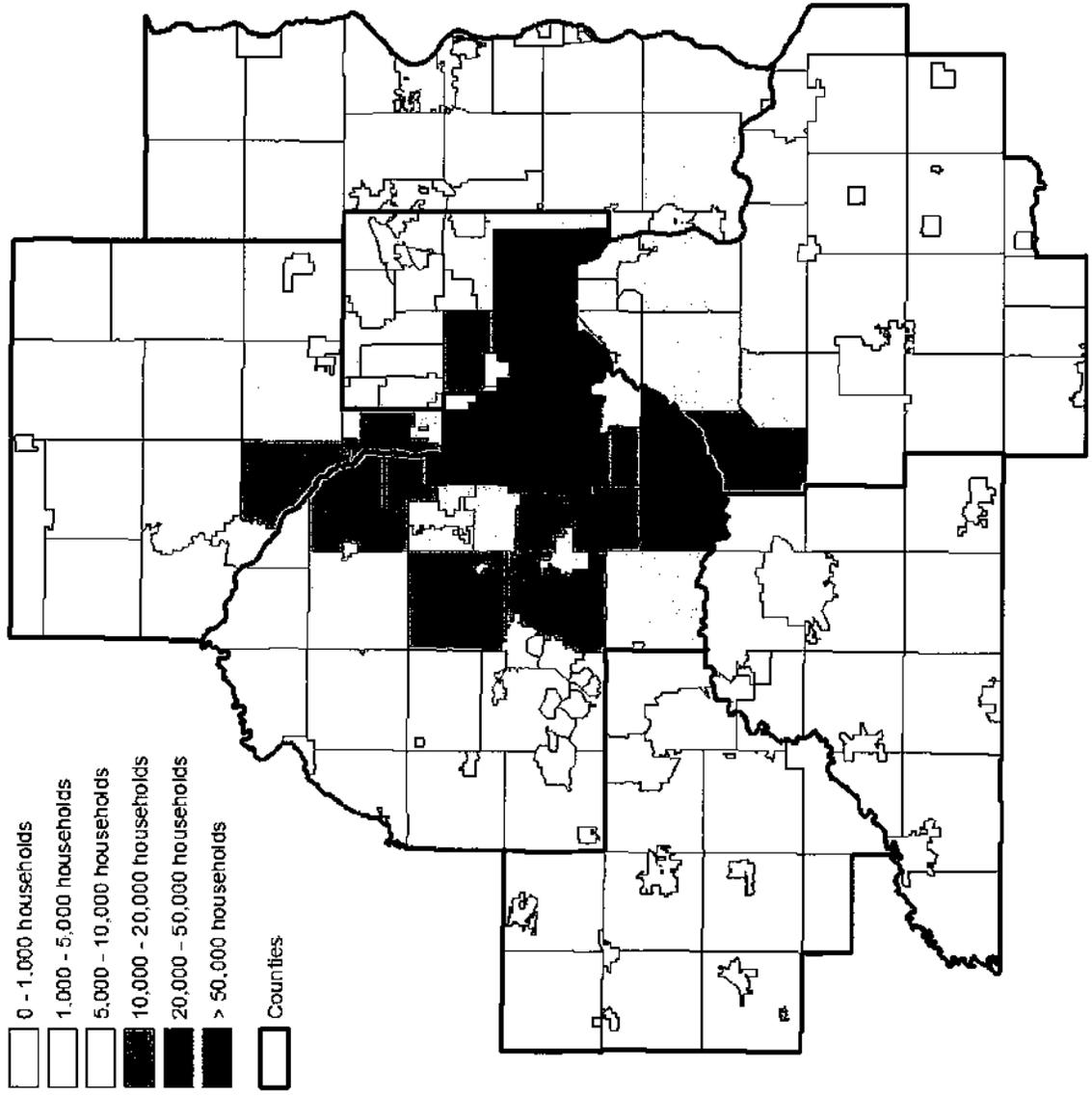


Consumers wanting different housing

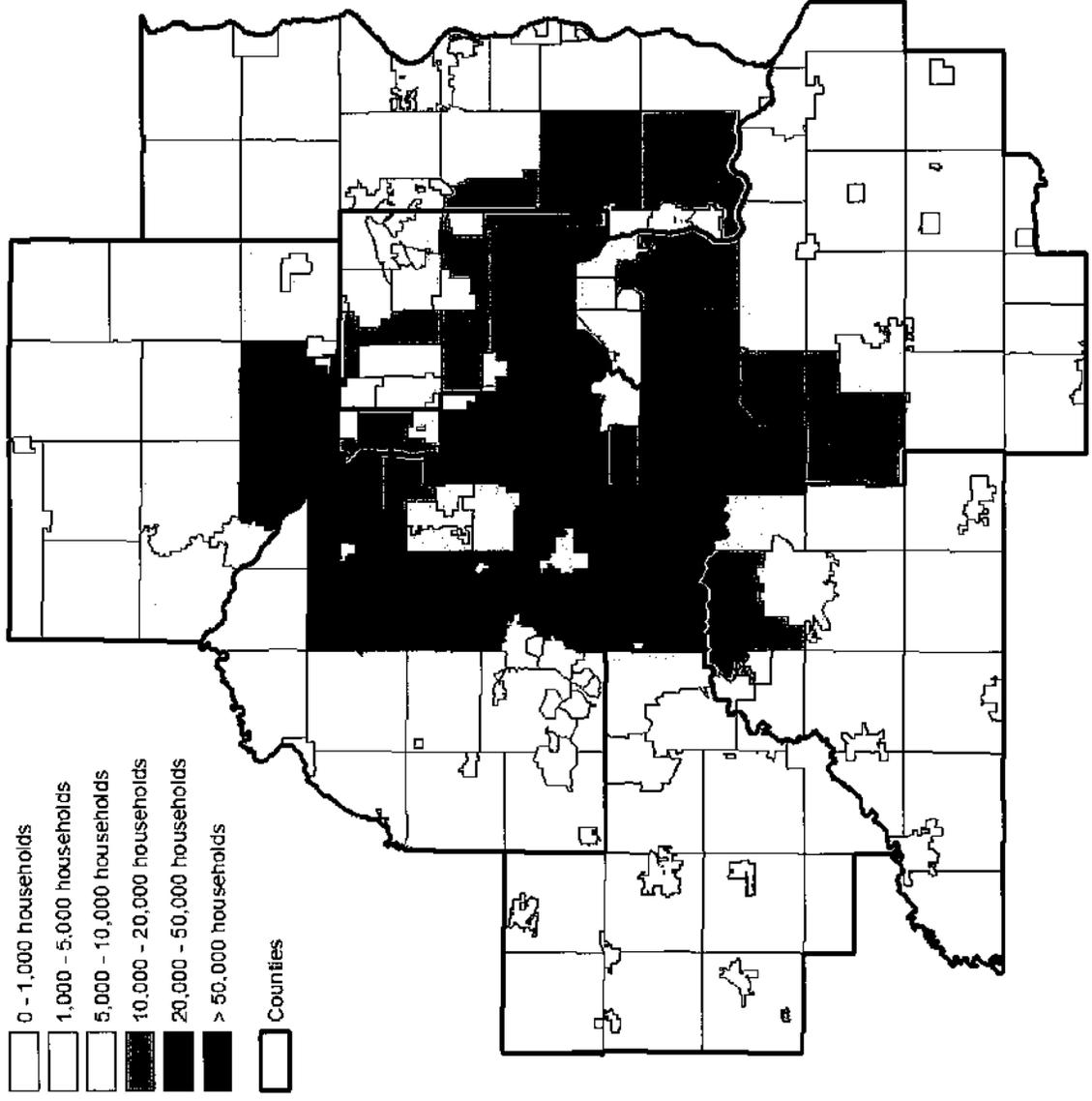
- From housing as an investment to housing as a place to live
- Interest in central locations, amenities, accessibility
- Millennial preferences for connected neighborhoods well-served by transit



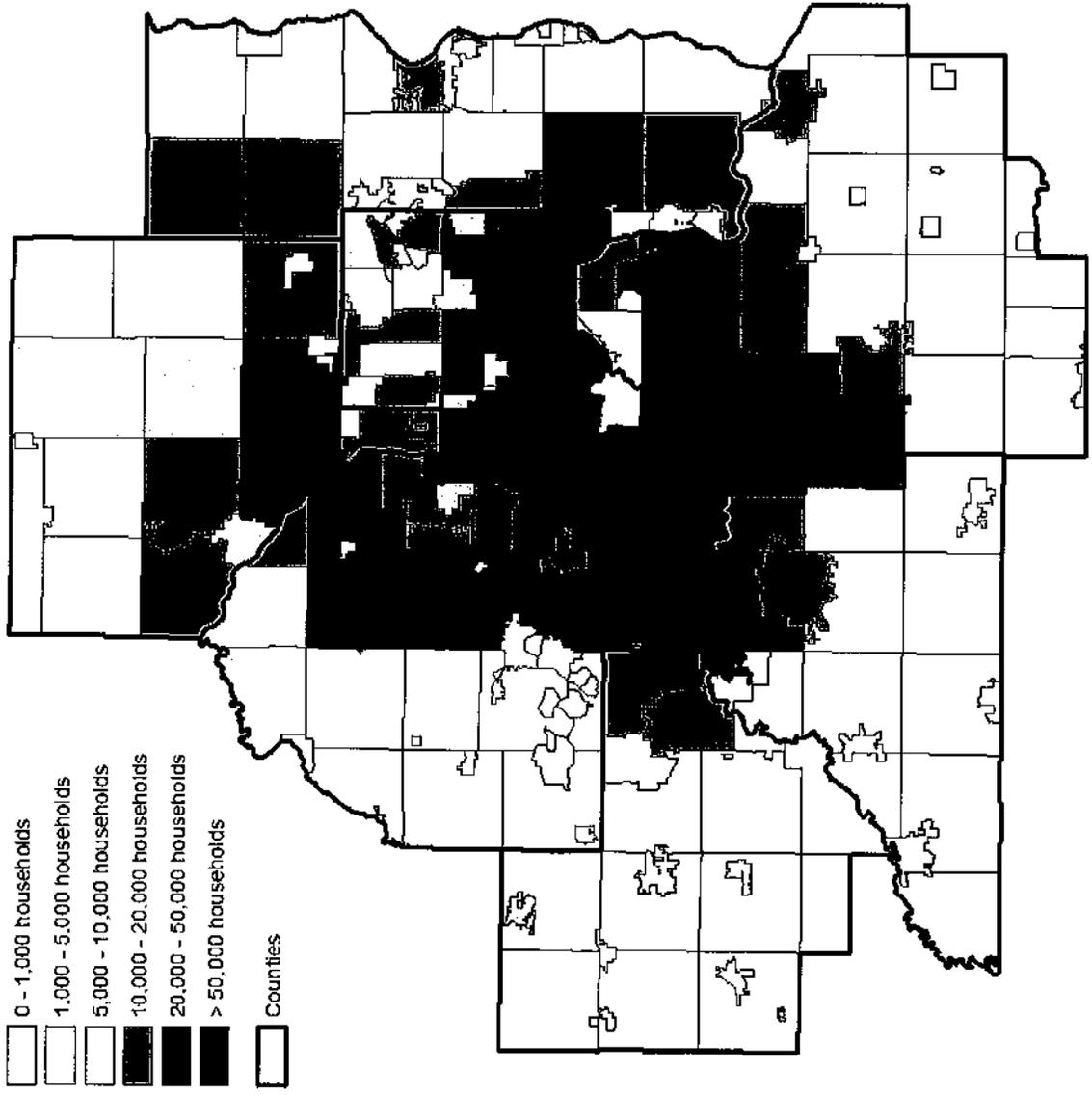
Total Households, 1980



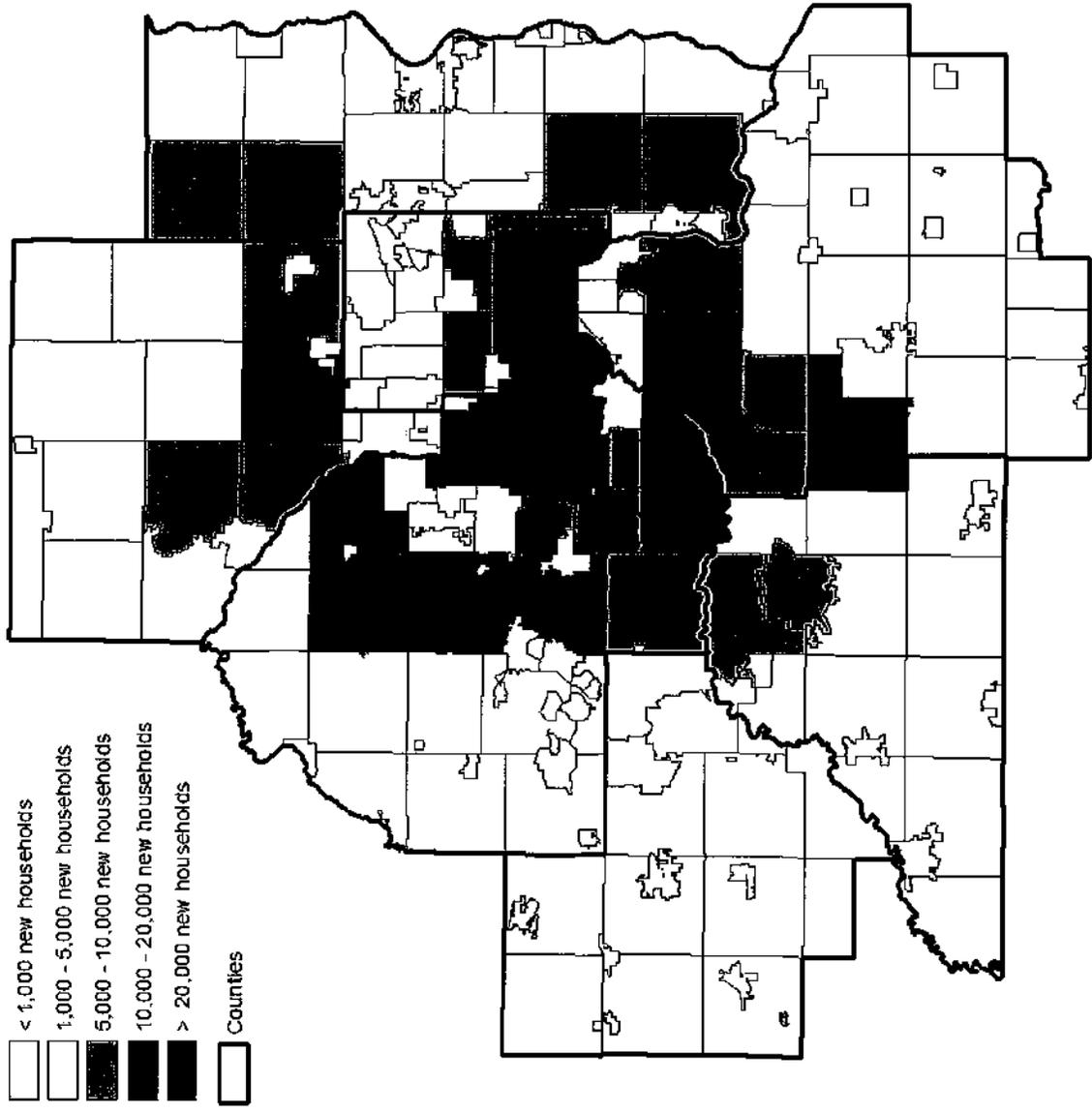
Total Households, 2010



Total Households, 2040



Household Growth, 2010-2040

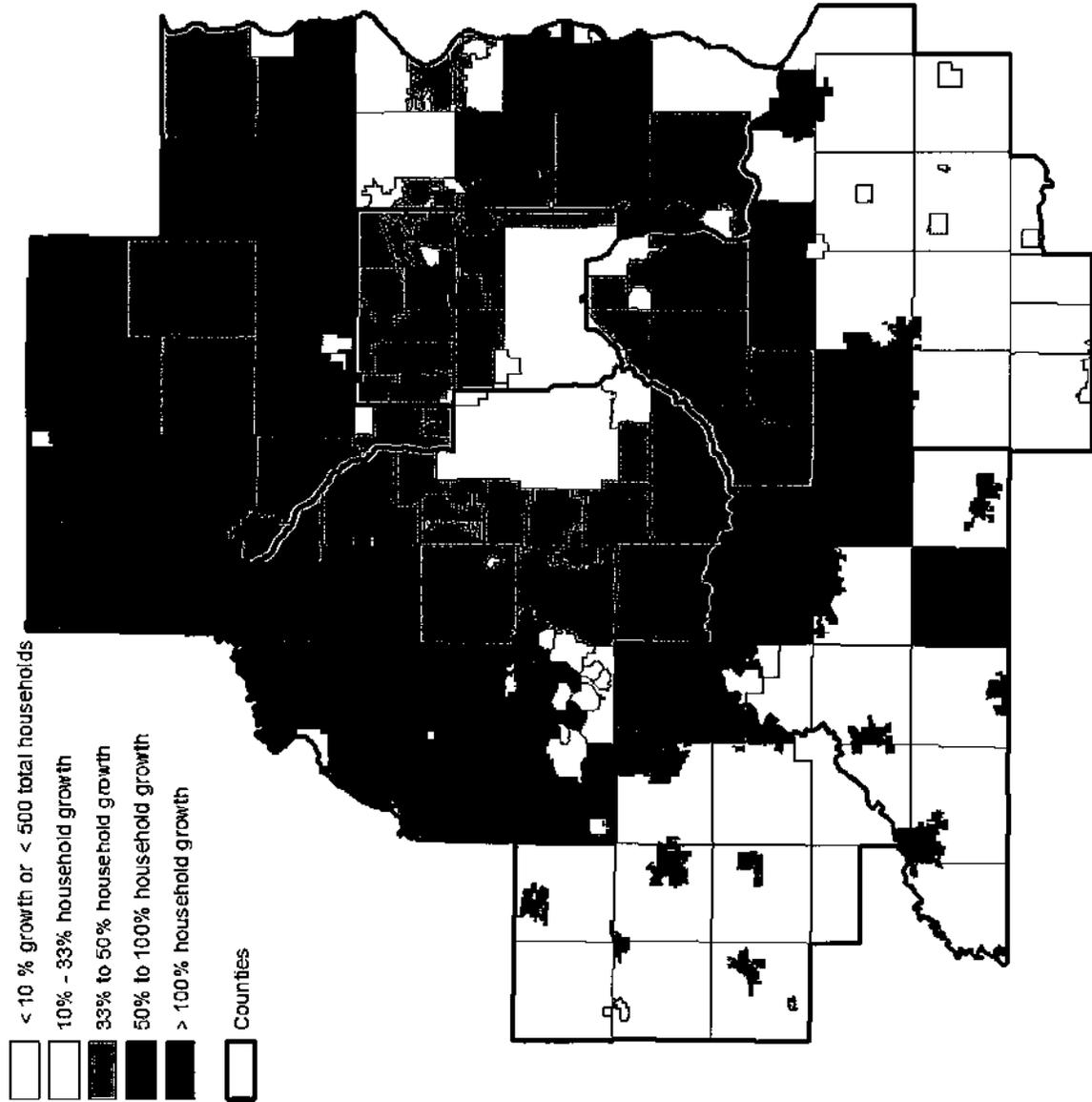


Largest forecasted gains:

1. Minneapolis
2. St. Paul
3. Maple Grove
4. Bloomington
5. Plymouth
6. Blaine
7. Lakeville
8. Eagan
9. Brooklyn Park
10. Minnetonka



Percent Growth, 2010-2040



-  < 10 % growth or < 500 total households
-  10% - 33% household growth
-  33% to 50% household growth
-  50% to 100% household growth
-  > 100% household growth
-  Counties

Highest growth rate among cities gaining 500+ households:

1. Mayer
2. New Germany
3. Cologne
4. Elko New Market
5. Norwood Young
6. America
6. Carver
7. Minnetrista
8. West Lakeland Twp
9. Belle Plaine
10. Corcoran

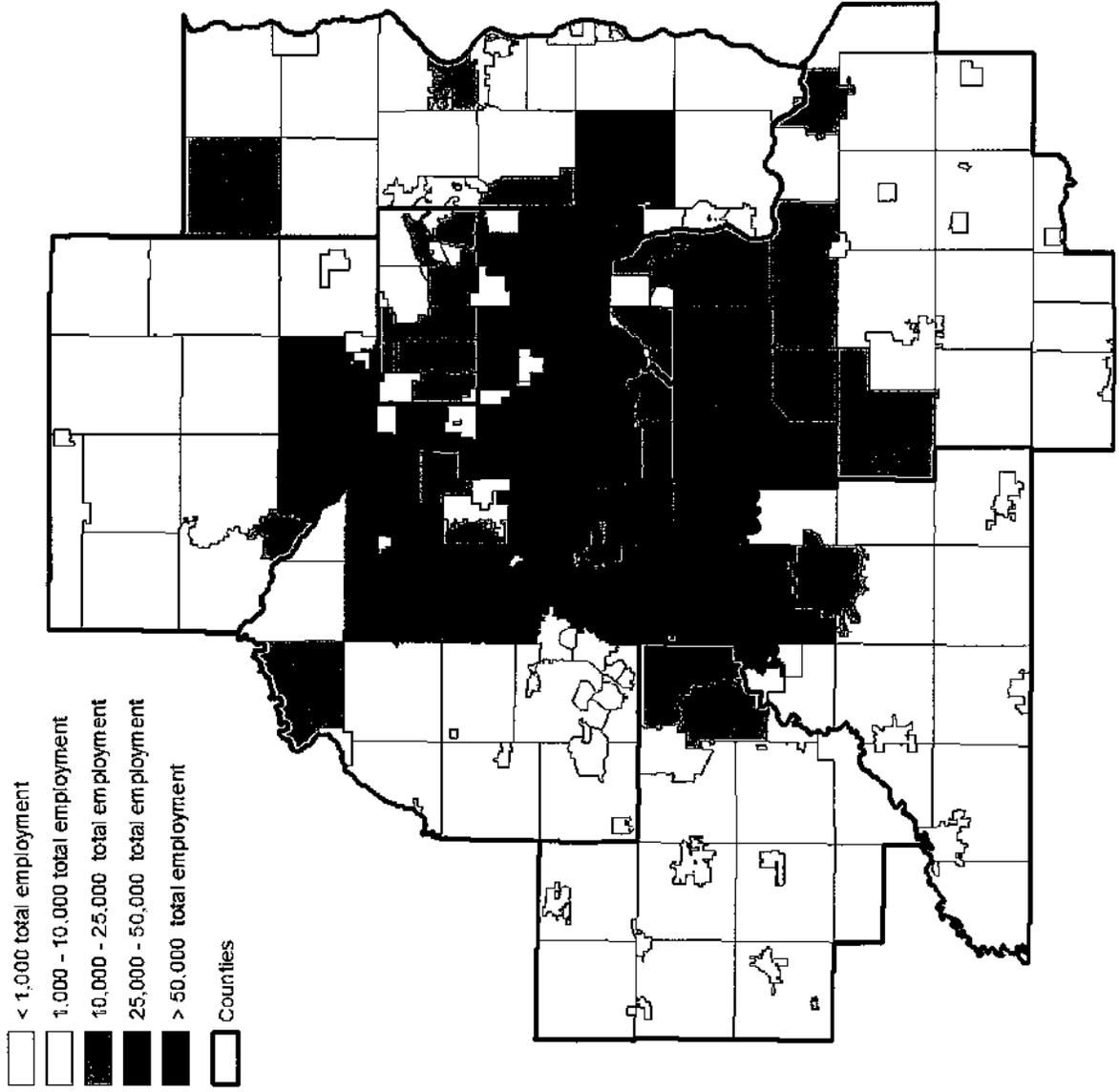


County Household Growth

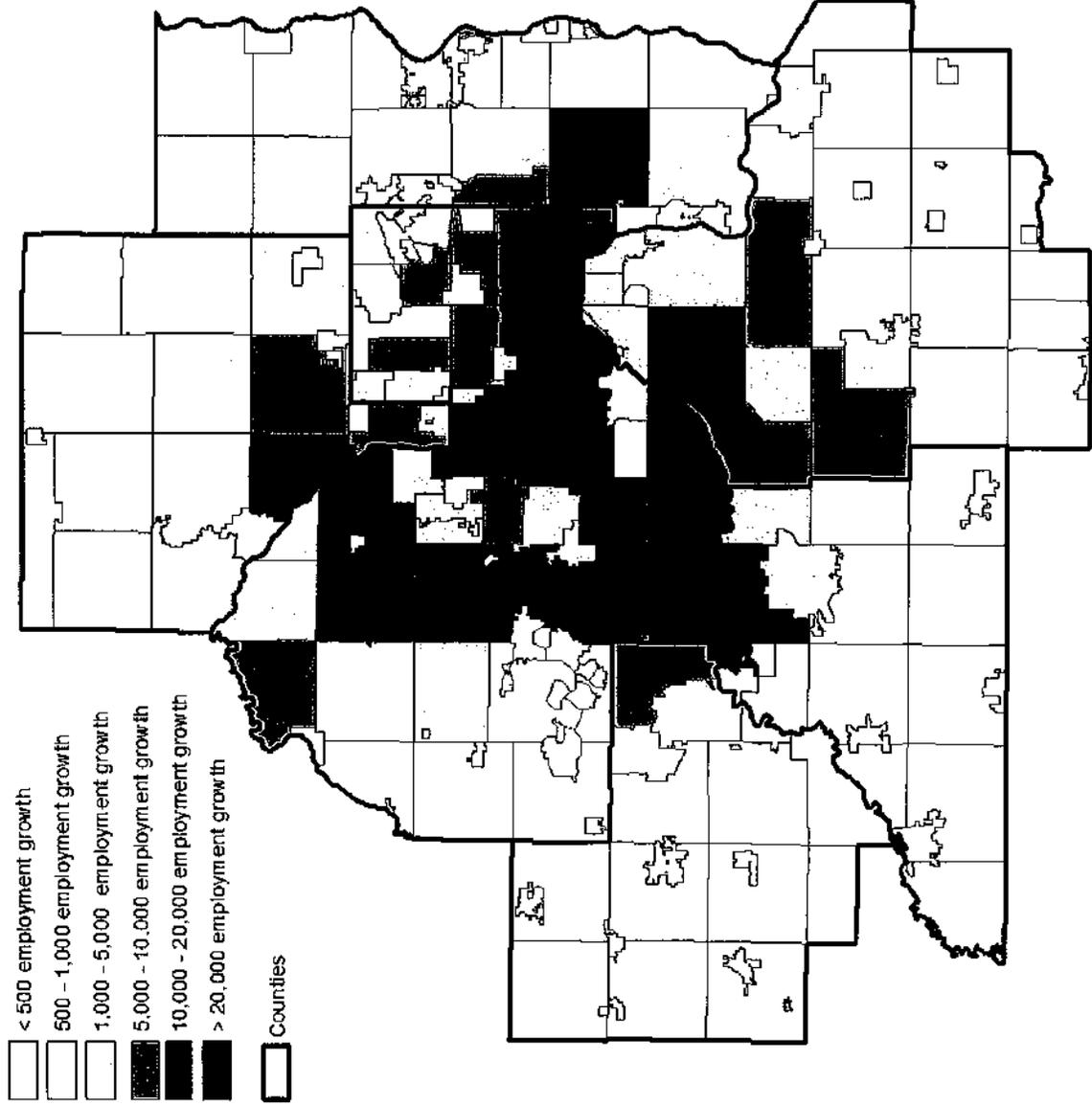
County	2010	2040	Growth	Percent
Anoka	121,227	184,020	62,800	52%
Carver	32,891	57,790	24,900	76%
Dakota	152,060	222,920	70,900	47%
Hennepin	475,913	664,560	188,600	40%
Ramsey	202,691	276,880	74,200	37%
Scott	45,108	74,310	29,200	65%
Washington	87,859	133,590	45,700	52%



Total Employment, 2040



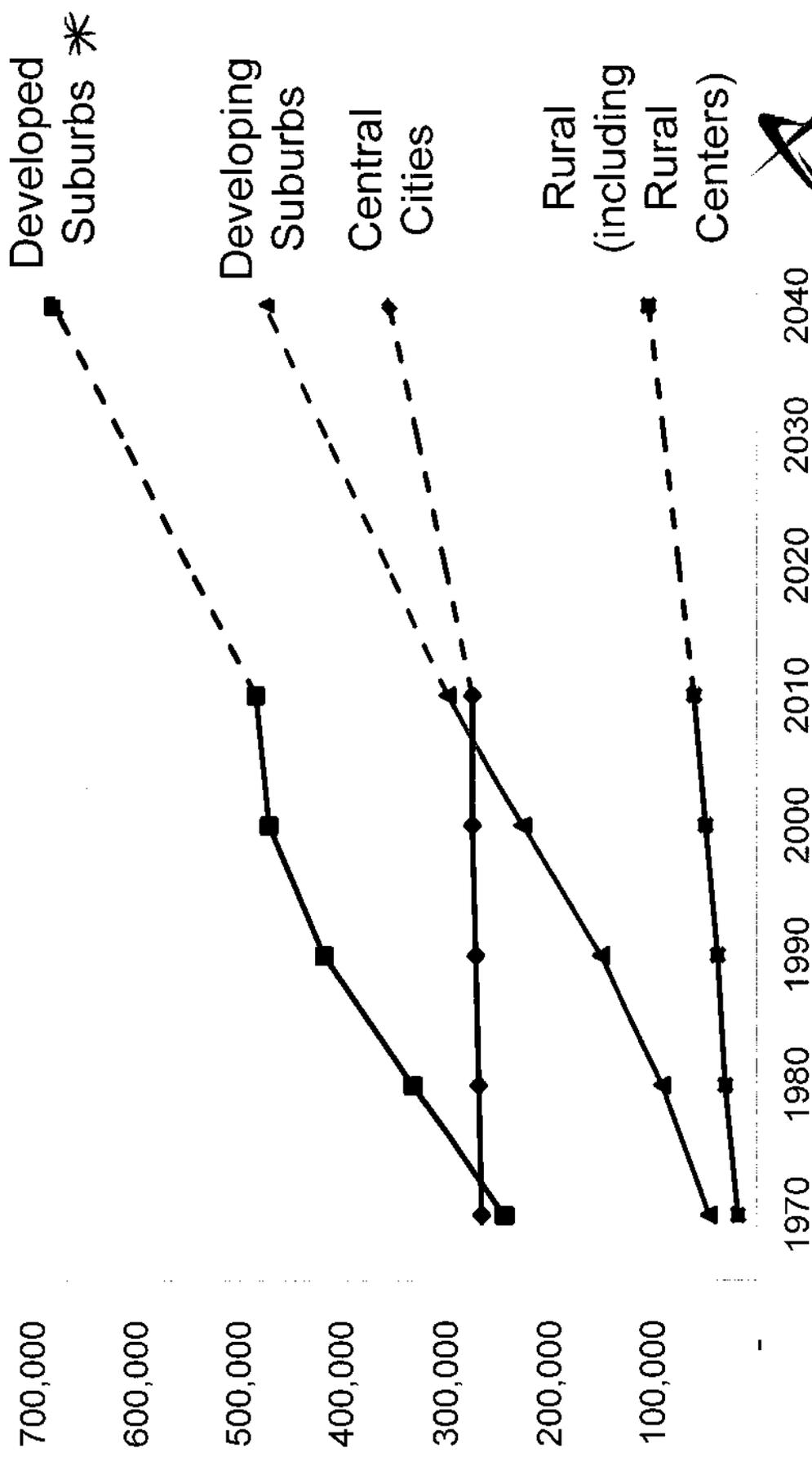
Employment Growth, 2010-2040



Largest forecasted gains:

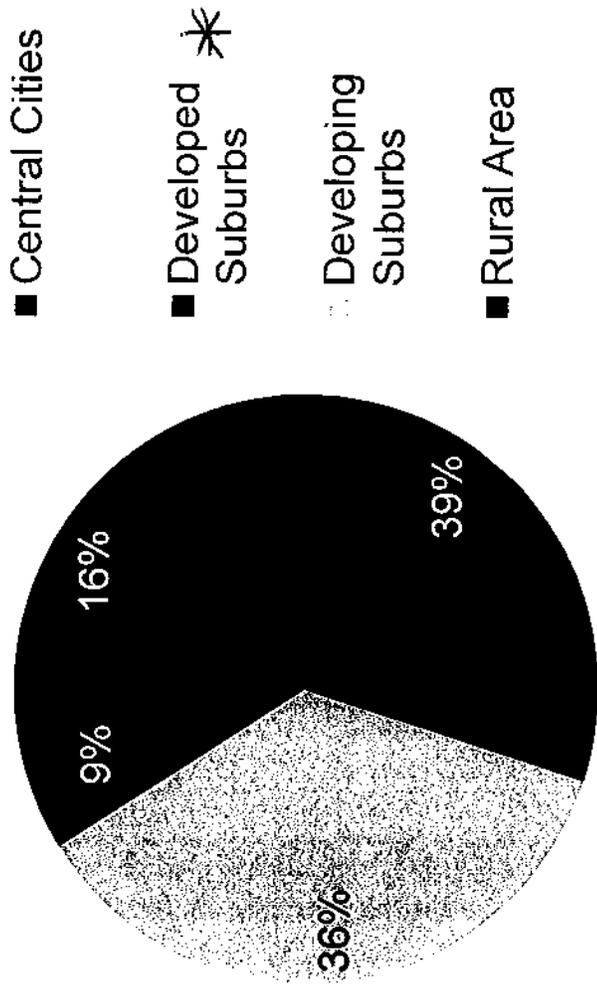
1. Minneapolis
2. St. Paul
3. Plymouth
4. Bloomington
5. Eagan
6. Minnetonka
7. Eden Prairie
8. Edina
9. Brooklyn Park
10. Coon Rapids

Regional households growth trending inward



Distribution of growth to 2040

Household Growth, 2010-2040

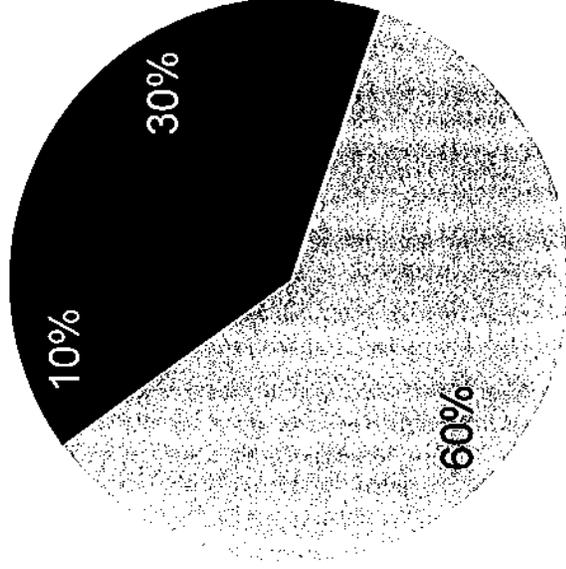
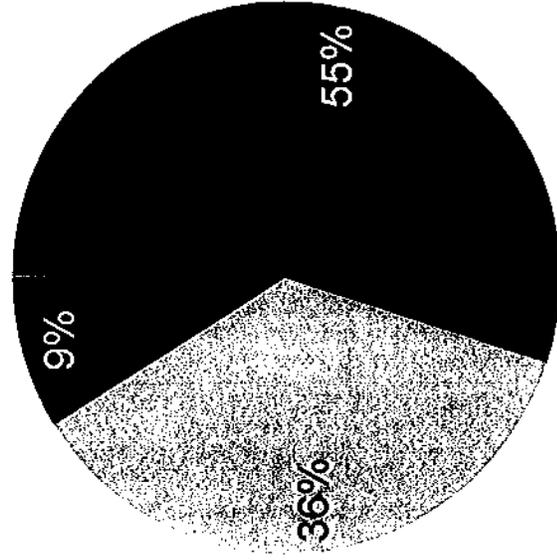


Distribution of growth to 2040

Framework Forecasts:
Households Growth, 2000-
2030 *(previous forecast)*

Household Growth, 2010-2040
(new forecast)

- Developed Area
(Central Cities +
Suburbs)*
- ▨ Developing
Suburbs
- Rural Area



Next Steps

- Workshops with local government: October and November: *(Sutter attending 10/30 workshop @ Ridgedale Library)*
 - Opportunity for local government comment
 - Validation of local data and assumptions: What information are we missing?
- Revisions to preliminary forecasts in early 2014
- Adoption of 2040 regional and local forecasts with *Thrive MSP 2040* in the spring

METROPOLITAN COUNCIL'S PRELIMINARY FORECASTS METHODOLOGY

SEPTEMBER 18, 2013



METROPOLITAN
COUNCIL

Metropolitan Council's Preliminary Forecasts Methodology

Long-range forecasts at Metropolitan Council are updated at least once per decade. Population, households and employment levels are projected with a 30-year time horizon. The regional and local forecasts express future expectations based on an understanding of regional dynamics, and representing expected outcomes of policies and planning. Consistent with *Minnesota Statutes* 473.146 and 473.859, these forecasts provide a shared foundation for coordinated, comprehensive planning by the Council and local governments.

A preliminary regional forecast was presented at Metropolitan Council's Committee of the Whole on April 18, 2012. Preliminary local forecasts were issued on September 11, 2013. The ultimate results of this project – a final regional forecast, together with local forecasts – will be included in the *Thrive MSP 2040* plan for Council approval in April 2014.

Overview of forecasting project.

Metropolitan Council's long-term forecasting is premised on understanding the Twin Cities' situation within the larger, national economy: The region's business conditions and competitive advantages determine regional economic and employment levels, which in turn prompt population growth through migration.

Subsequent to the *regional* forecast, *local* forecasts address geographic distributions within the region. Regional population, households and employment will site in specific places. Metropolitan Council assumes that real estate demand and supply dynamics, interacting with future transportation accessibility, primarily determine outcomes, influenced by regional land use policies and local plans.

Considering the multi-scale nature of future planning needs, Metropolitan Council employs multiple forecast modeling tools:

- A regional economic model for forecasting region-level economic activity and migration flows in response to economic opportunity.
- A demographic model packaging population forecasts into various household types
- A land use model simulating and projecting real estate market dynamics, in order to locate future land use, households and employment to communities and zones.

Methodology of REMI PI.

In 2011, following a review of best practices in regional economic modeling, the Council selected REMI PI as the model best fitting the Council's understanding of regional growth. REMI PI is a structural macroeconomic simulation model. It makes use of computable general equilibrium (CGE) techniques for simultaneous solution of macroeconomic accounts, as well as input-output matrices to represent inter-industry flows and impacts. Also, the model employs new economic geography techniques to represent regional differentials and aggregated interactions among regions, mainly trade and migration flows.

Simulation and projection of economic activities (production, consumption, and trade) are central to the model; Cobb-Dougllass functions determine the balance of capital, and labor levels; and the model seeks equilibrium between industries' labor demand, wage levels, and labor supply. If industries' labor demand intensifies (or slackens), then wages and labor supply adjust up (or down) via economic migration. Thus, economic competitiveness and labor demand are the major determinants of migration in the REMI PI model.

A more detailed description can be found in the model documentation:

Regional Economic Models Inc. (2013), *REMI PI+ Model Equations*, online at www.remi.com/download/documentation/pi+/pi+ version 1.5/PI+ v1.5 Model Equations.pdf

Our Minnesota implementation of the model has two *home regions*: the Twin Cities metro is one; the remaining 80 counties are a second region; the rest of the nation and the world are additional linked economies. Model updates delivered by Regional Economic Models Inc. in 2011, 2012 and 2013 assess the Twin Cities metro having factor cost advantages, resource advantages, and good workforce availability across a complete range of occupations. These characteristics inform a forecast of above-average growth in coming decades.

Methodology of Profamy model.

Metropolitan Council has also implemented Profamy, a separate demographic model for projecting household counts by demographic cohort, using extended cohort-component techniques to represent household change dynamics.

The model groups all population members by age, race and gender, and projects forward distributions of life cycle states based on demographic schedule probabilities. These schedules cover fertility rates, survival rates, leave home rates, inter-regional migration, household formation, and cohabit/marriage/separation rates. Summarization of probabilities provides a comprehensive time-series of population and households characteristics.

A more detailed description is available from the model developers. See:

Yi Zeng, et al. (2010), *Household and population projections at sub-national levels: An extended cohort-component approach*, online at <http://paa2010.princeton.edu/papers/101958>

In 2012, Metropolitan Council staff worked with HCF Consulting to update the model with region-specific 2010 base year data, region-specific fertility rates, and migration rates by age, race and gender. The migration rates table is a compilation of migration results from the REMI PI model. Profamy was tested by Council staff and its projections compared with the REMI PI forecast. Given the same demographic schedules, and the exogenously-provided migration rates, Profamy can produce a 30-year-horizon population projection that is within 1 percent of the REMI PI forecast.

Metropolitan Council staff are using REMI PI for economic, employment and population forecasts. Profamy is used as a follow-on process, to parse the REMI PI population projections into households by household type. HCF Consulting has provided programming that allows the model user to enforce consistency with the time-series of population projections received from the REMI PI modeling.

Modifications to the as-delivered REMI PI model.

In the implementation of REMI PI, Council staff modify some settings and data inputs to the model. First, the national forecast in the Council's model is controlled to match nation-level GDP projections and industry employment projections drawn from Global Insight's 30-year Trend forecast; this is the same forecast used by the Minnesota State Economist as a baseline for long-term, national economic

expectations. The national forecast is significant insofar as the Twin Cities metro and Minnesota are part of nation, and the region's economic growth is tethered to national economic conditions. For more information, see:

Minnesota Management & Budget (2012, and updated bi-annually), *Economic & Minnesota Outlook*, online at www.mmb.state.mn.us/feb-2013-forecast

Second, Council staff update regional time-series tables with known numbers and facts on the ground:

- 2011-2012 regional population by race and age are updated with estimates by US Census Bureau;
- 2011-2012 regional industry employment are updated with counts from Minnesota Department of Employment and Economic Development statistics.

A number of future expectations are adjusted to better reflect regional trends. There are variables in the model that are recognized as difficult to project. Generally, Council staff assumes a stable status quo or median values within the range of possibilities:

- REMI's fertility rates schedules (fertility rates by race and by age of mother) are replaced with region-specific projections prepared by Council staff. In the Twin Cities metro, Council staff project the region's total fertility rate for whites increases to 1.78 per woman; the rate for blacks declines to 2.89; rates for Hispanic, Asian, and other race groups remain stable at 2.38.
- REMI's survival rates schedules are adjusted to better match the Minnesota State Demographer's. The State Demographer projects, conservatively, that life expectancies advance by 2 years over the 30-year projections horizon.
- College-going population by race is projected to increase in tandem with growth in the resident population of 17-year-olds by race.
- Average property tax rates for the Twin Cities metro are updated to reflect tax increases during 2011-2013, and are projected to level off thereafter.
- Consumer prices for energy are adjusted to maintain a constant ratio of regional prices relative to national average prices. Utility rates are held at 95 percent of the national average; fuel prices are held at 100 percent of the national average; there is not clear reason to project that Twin Cities metro relative prices would decline below these relative levels.

The forecast models described above provide details on future demographics and industry composition at a macro-level, without geographic detail. Additional modeling, at a local scale, is necessary to project the geographic distribution of households and industries over time.

Methodology of Cube Land.

In 2009, Council staff conducted an internal needs assessment and a state-of-the-practice review of land use models. Council staff recommended adoption of a market simulation model capable of producing zonal projections of households, population and employment, as well as accounting future land use. In 2010, the Council licensed and implemented Citilabs Cube Land as a platform for local real estate market modeling and scenarios analysis. Cube Land was chosen in part for its potential to integrate with the Council's travel demand model, allowing land use patterns and transportation network conditions to iteratively adjust over time.

The logic of Cube Land is the market sorting and equilibration of real estate demand and supply (real estate types and locations), assuming best-use and value-maximizing decisions of households, site selectors and developers. Cube Land includes three submodels:

- The *demand submodel* simulates an auction in which different market segments are willing to pay (or bid) differential amounts for combinations of real estate and place characteristics.



- The *rent submodel* uses estimated bids, along with other local characteristics, to estimate rents for different real estate types at specific locations.
- The *supply submodel* projects forward real estate development by comparing rents with supply costs, and locating new development based on estimated profit margins (rent minus supply costs) and land supply availability.

In summary, households and worksites choose real estate types, situated in specific locations, so as to maximize value. Developers respond by supplying real estate responsive to the demand.

The demand model mathematically represents the preference structures of different household market segments and industry sectors using variables, and parameters for variables, identified and estimated through discrete choice analysis of existing behavior (which is known through survey data). Variables include neighborhood characteristics and accessibility to destinations. These quantified preferences allow the model to estimate probabilities of all potential real estate choices for each defined household type and worksite type. The choice is comprised of real estate types and locations. The locations correspond to the post-2000 Transportation Analysis Zone (TAZ) system used in the Council's travel demand model.

Many of the variables that determine the choice probabilities can change over time: Summarized land use and remaining available land supply, industry mix, and socioeconomic mix of zones are projected and updated within the model. Accessibility measures are projected and updated through iterative looping with a linked travel demand model.

Concurrently, the rent model uses estimated bids, as well as other zonal characteristics, to calculate and update rents within the model. If real estate in a certain location is highly desirable to one or more market segments, rents can change, altering estimated distributions (or probabilities) of household and worksite location choices, and prompting choice substitution. Ultimately, the model seeks an equilibrium solution where all forecasted future households and employment are sorted into real estate choices, proportionate to updated choice probabilities.

The discussion above concerns different market sectors valuing locations, and sorting themselves to accomplish best-value results. Importantly, Cube Land allows supply response to growing and changing market demand. Regional totals of target-year households and employment can differ from start-year totals. To accommodate growth in households and employment – which has been forecasted using the region-level forecast models – the Cube Land supply submodel projects the addition of new housing and employment-bearing built space. In the Twin Cities implementation of Cube Land, the major determinants of such development are land supply and estimated rents for each zonal location. As rents are dynamically estimated within the model, the geographic distribution of new development is likewise dynamic – with new growth precipitated by lower development costs and/or higher rents for valued location characteristics.

Data and Variables Used in the Council's Cube Land Modeling

The Twin Cities implementation of Cube Land segments worksites and employment into 8 industry sectors; these groups have varying preferences and use varying amounts of 5 types of employment-bearing real estate. Households are segmented by socioeconomic characteristics into 5 major household types (and 80 subtypes), which then select housing from 8 housing types. This segmentation enables moderate representation of how real estate and location preferences vary among different household and industry types.

The Cube Land system allows flexibility in defining the set of variables that comprise preferences and valuations of real estate. The variables identified as most significant, and included in the Council's modeling, are compiled for 1,201 Transportation Analysis Zones. These zonal characteristics also inform the calibration of the model to year 2010 conditions. Zonal characteristics include:

- Real Estate Characteristics:
 - Start-year land use mix and undeveloped land supply
 - Existing housing stock and employment-bearing built space
 - Average land consumption per real estate unit
 - Average building costs
- Surrounding Land Uses:
 - Proximity to lakes and rivers
 - Zonal demographics
 - Zonal employment
 - Housing density
- Regional Systems and Services:
 - Proximity to parks
 - Wastewater service availability
 - High frequency bus stops
 - LRT stations
- Transportation Accessibility, obtained through interaction with the Council's travel demand model:
 - Number of jobs within 20-minute travel time (by automobile and by transit)
 - Number of households within 20-minute travel time (by automobile and by transit)

The Cube Land model also uses local planned land use and regional policies when forecasting future real estate supply, including:

- Planned Land Use acreage (from local comprehensive plans)
- Allowable real estate types
- Existing housing densities
- Maximum allowable housing densities (from local comprehensive plans)
- Maximum allowable housing units (from local comprehensive plans)

In summary, the Cube Land model is richly informed about base year conditions and the envelope of future possibilities.

Model maintenance and forecast updates.

Metropolitan Council receives annual updates of the REMI PI software and time-series data inputs. The model received in July 2013 includes time-series data for years 1990-2011, as well as national demographic adjustments to reflect US Census Bureau's immigration assumptions. For more information, see:

US Census Bureau (2012), *2012 National Population Projections*, online at www.census.gov/population/projections/data/national/2012.html

Council staff will prepare final regional and local forecasts in early 2014, for approval by Metropolitan Council and inclusion in the *Thrive MSP 2040* plan. These final forecasts will reflect updated data and assumptions, and updated representation of regional policies.

In the preliminary forecast modeling, geographic representation of regional systems and policies has been limited to a base-case scenario, including: the 2030 Metropolitan Urban Services Area, defining the coverage of wastewater service; the 2040 regional transportation network, incorporating the planned, long-term program of transitways and highway improvements to 2040; and local comprehensive plans prepared by communities during 2005-2011, with planned land use to 2030.

Revisions of these systems and policies are possible and can be represented in updated local forecasts for the *Thrive MSP 2040* plan, or in subsequent updates coordinated with regional system plans. The preliminary modeling does *not* presently account for – but could be modified to represent – new policy factors. Hypothetically, these could include real estate development responding to subsidies for affordable housing development, added development costs in subregional areas with water supply limitations, or maximum capacity restrictions in such areas.

CRYSTAL EDA

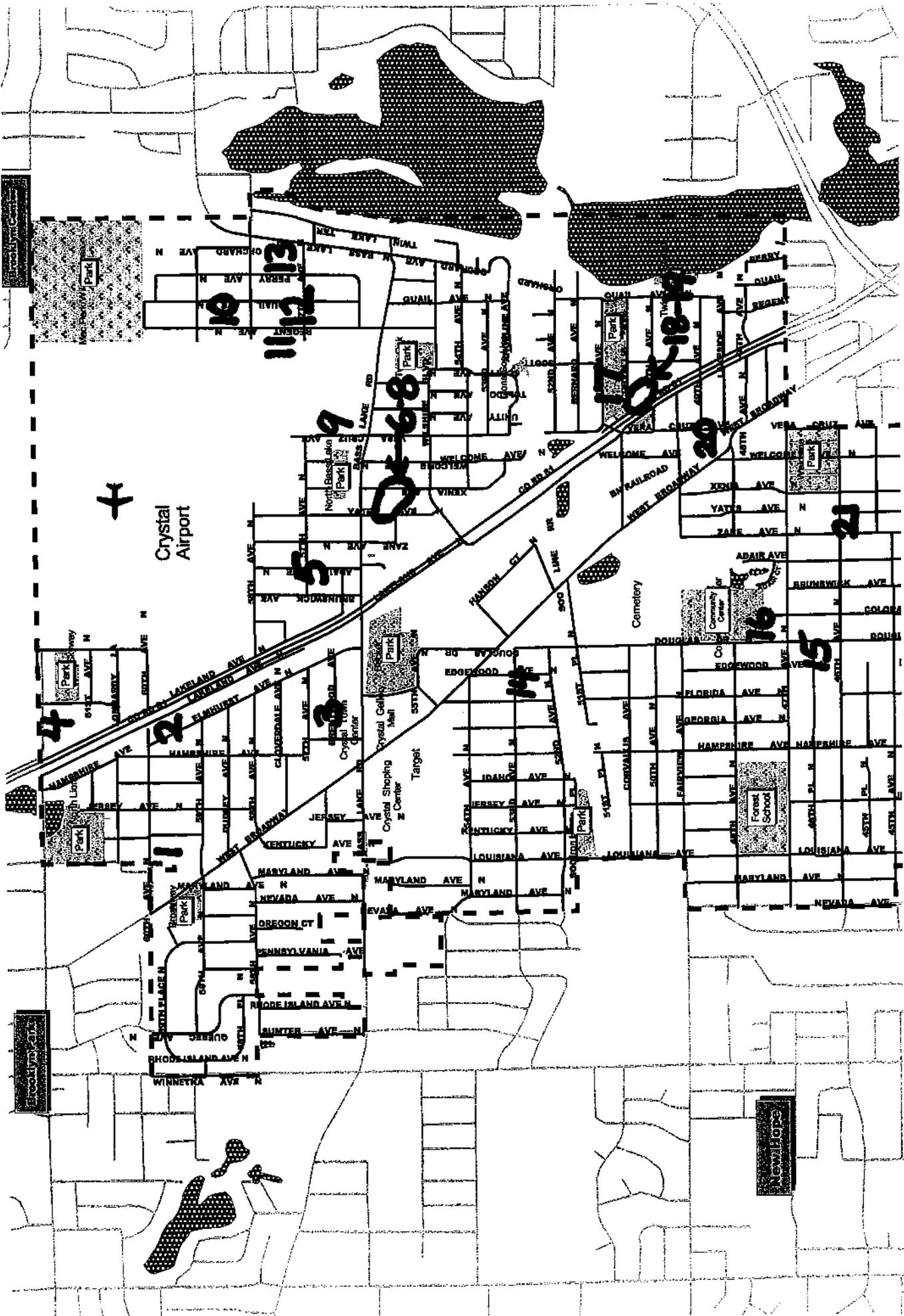
Quarterly Development Status Report

September 30, 2013

MAP #	LOCATION	DESCRIPTION
1	7041 60th Ave N Crystal MN	(Funded by the federal Neighborhood Stabilization Program, hereinafter "NSP".) In December 2012 the EDA transferred the lot to Twin Cities Habitat for Humanity for new home construction which is underway.
2	5924 Elmhurst Ave N Crystal MN	The EDA is seeking new house proposals with a lot price of \$50,000.
3	6516 Brentwood Ave N Crystal MN	Novak-Fleck has optioned this lot until March 2014 with a lot price of \$50,000.
4	6601 62nd Ave N Crystal MN	The EDA is seeking new house proposals with a lot price of \$50,000.
5	5657 Adair Ave N Crystal MN	The EDA has a pending sale to Novak-Fleck with a lot price of \$50,000. Construction is expected to begin by mid-October 2013.
6	5548 Yates Ave N Crystal MN	The EDA sold this lot to Novak-Fleck in May 2013 for \$50,000. Construction of the new house is nearly complete. The builder has a buyer for the house.
7	5533 Xenia Ave N Crystal MN	The EDA sold this lot to Novak-Fleck in October 2012 for \$50,000. The new house has been completed and sold.
8	5527 Xenia Ave N Crystal MN	The EDA sold this lot to Novak-Fleck in April 2013 for \$50,000. The new house has been completed and sold.
9	5626 Vera Cruz Ave N Crystal MN	The EDA is seeking new house proposals with a lot price of \$50,000.
10	5824 Regent Ave N Crystal MN	The EDA is seeking new house proposals with a lot price of \$55,000.
11	5715 Regent Ave N Crystal MN	The EDA is seeking new house proposals with a lot price of \$50,000.
12	5700 Regent Ave N Crystal MN	The EDA is seeking new house proposals with a lot price of \$50,000.
13	5724 Perry Ave N Crystal MN	(NSP) In December 2012 the EDA transferred the lot to Twin Cities Habitat for Humanity for new home construction in 2013-2014.
14	5255 Edgewood Ave N Crystal MN	The EDA is seeking new house proposals with a lot price of \$50,000.
15	4633 Douglas Dr N Crystal MN	The EDA sold this lot to Novak-Fleck in April 2013 for \$50,000. The new house has been completed and sold.
16	4720 Douglas Dr N Crystal MN	The city used this lot for the field office for the 2012 Forest North Neighborhood Street Reconstruction Project. In early 2014 the EDA will decide whether to sell the lot or reserve it for expansion of the Crystal Community Center parking lot.
17	"The Cavanagh" 5401 51st Ave N Crystal MN	The EDA is selling the 4.3 acre former Cavanagh School site to Dominium for construction of a four story, 130 unit senior building with rents affordable for households at or below 60% of Twin Cities metropolitan area median income. The land sale and construction start are anticipated in late 2013 with completion in late 2014.

MAP #	LOCATION	DESCRIPTION
18	5335 Corvallis Ave N Crystal MN	The EDA purchased excess CR81 right-of-way from Hennepin County in October 2012 and replatted it into multiple parcels (hereinafter "CR81"). The EDA is seeking new house proposals with a lot price of \$50,000.
19	5332 50th Ave N Crystal MN	(CR81) The EDA is seeking new house proposals with a lot price of \$45,000.
20	4901 Vera Cruz Ave N Crystal MN	The EDA is seeking new house proposals with a lot price of \$50,000.
21	4553 Yates Ave N Crystal MN	The EDA has a pending sale to Berger Built Construction with a lot price of \$40,000.
22	4312 Brunswick Ave N Crystal MN	(NSP) In December 2012 the EDA transferred the lot to Twin Cities Habitat for Humanity. The new house is complete.
23	4330 Zane Ave N Crystal MN	The EDA sold this lot to MT Builders in June 2013 for \$40,000. The new house has been completed and sold.
24	4326 Zane Ave N Crystal MN	MT Builders has optioned this lot until January 2014 with a lot price of \$45,000.
25	4349 Xenia Ave N Crystal MN	MT Builders has optioned this lot until November 2013 with a lot price of \$50,000.
26	4343 Xenia Ave N Crystal MN	The EDA sold this lot to MT Builders in July 2013 for \$50,000. Construction of the new house is nearly complete. The builder has a buyer for the house.
27	4331 Vera Cruz Ave N Crystal MN	The EDA is seeking new house proposals with a lot price of \$50,000.
28	3564 Welcome Ave N Crystal MN	(MnDOT) The EDA sold this lot to Novak-Fleck in September 2013 for \$27,000 and construction of the new house is about to begin. The lot price was discounted to account for the cost of removing excess fill, re-grading and compacting the building pad. The builder has a buyer for the house.
29	3556 Welcome Ave N Crystal MN	(MnDOT) The EDA sold this lot to Novak-Fleck in September 2013 for \$50,000 and construction of the new house is about to begin. The builder has a buyer for the house.
30	3548 Welcome Ave N Crystal MN	(MnDOT) The EDA sold this lot to Novak-Fleck in July 2013 for \$55,000. Construction of the new house is nearly complete. The builder has a buyer for the house.
31	5501 32nd Ave N Crystal MN	(MnDOT) This 2.6 acre site is south of 32nd and west of the Highway 100 noise wall/trail. It is guided for low density residential development. The EDA expects to sell it for development of either single family houses or low density townhomes as market conditions warrant. Upon development the trail may be relocated closer to the noise wall.
32	5417 35th Ave N Crystal MN	(MnDOT) This lot is on hold due to the discovery of a water main crossing the lot and bad soils in excess of those indicated by previous studies.
33	5116 35th Ave N Crystal MN	(NSP) In December 2012 the EDA transferred the lot to Twin Cities Habitat for Humanity for new home construction which is underway.
34	3528 Noble Ave N Crystal MN	(NSP) In December 2012 the EDA transferred the lot to Twin Cities Habitat for Humanity. The new house is nearly complete.
35	3533 Lee Ave N Crystal MN	The EDA is seeking new house proposals with a lot price of \$40,000.

For an online, mapped version, please see:
http://www.crystalmn.gov/city_departments/quarterly_development_status_report.html



Crystal Airport

0-68

0-184

19

21

16

15

4

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14

STOOLYVILLE

NewHops

