



4141 Douglas Drive North • Crystal, Minnesota 55422-1696

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Posted: November 14, 2014

CRYSTAL CITY COUNCIL SECOND WORK SESSION AGENDA

Tuesday, November 18, 2014

To immediately follow the Regular City Council Meeting
Conference Room A

Pursuant to due call and notice given in the manner prescribed by Section 3.01 of the City Charter, the second work session of the Crystal City Council was held at _____ p.m. on Tuesday, November 18, 2014 in Conference Room A located at 4141 Douglas Drive, Crystal, Minnesota.

I. Attendance

Council members

____ Budziszewski

____ Deshler

____ Hoffmann

____ Libby

____ Peak

____ Selton

____ Adams

Staff

____ Norris

____ Therres

____ Mathisen

____ Revering

____ Serres

____ Norton

II. Agenda

The purpose of the work session is to discuss the following agenda items:

- Review changes to Crystal State Aid Street Network for Phase 14 and Phase 16 Street Reconstruction projects
- JWC Pipeline Failure Review and Update
- 2015 Budget Questions
- Commission liaisons reports/updates*

III. Adjournment

The work session adjourned at _____ p.m.

Auxiliary aids are available upon request to individuals with disabilities by calling the City Clerk at (763) 531-1145 at least 96 hours in advance. TTY users may call Minnesota Relay at 711 or 1-800-627-3529.



COUNCIL STAFF REPORT

State Aid Route Changes - Phase 14 North Lions

FROM: Tom Mathisen, Public Works Director & City Engineer

TO: Anne Norris, City Manager (for November 18 Council Work Session)

DATE: November 13, 2014

RE: State Aid Streets Revocation, Designation, and No Parking

As part of the remaining Phases 14 – 16 Street Reconstruction Projects it is necessary to relocate some of the City's State Aid Street routes from south Crystal to the areas yet to be reconstructed in the coming years. The most immediate change is to designate 58th Avenue from West Broadway to Elmhurst Avenue in next year's Phase 14 North Lions Park project area. The other new designation is the Regent Avenue – 58th Avenue route in Phase 16 Skyway Park neighborhood.

Cities of 5,000 population and greater can designate up to 20% of their local streets as State Aid. When these streets are subsequently reconstructed to State Aid standards, the City qualifies for reimbursement for those costs from State gas tax funds. This Municipal State Aid Street (MSA) program has been one of the backbones of the City's reconstruction program since 1995.

A rules change that became effective January 1, 2014, makes it easier to relocate previously designated routes that have been rebuilt to the State Aid standards to new routes that are yet to be rebuilt. Attached are several maps and a table showing the routes to be de-designated and the new routes to be designated.

A brief presentation on this topic will be given at the November 18 work session. In order to keep the Phase 14 project on schedule, it would be necessary for the Council to take action on these changes at the December 2 council meeting. The State Aid standard requires that for parking to be allowed on one side only, the street must be 32 feet wide. The City standard for a local street is 30 feet wide.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'T. Mathisen'.

Thomas A. Mathisen
City Engineer

i:/pubworks/projects/phase14/stateaid/worksessmem1

CRYSTAL PHASE 14 STATE AID ROAD CHANGES

11-17-14

| | | |
|--|----------|------------|
| Current Jan 2014 un-designated mileage | 0.38 mi. | 2,006 feet |
| Footage being revoked | 1.02 mi. | 5,386 feet |
| <u>Total available to designate</u> | 1.40 mi. | 7,392 feet |

December 2014 Revoked Existing State Aid Streets

| | | | |
|----------------------|--|----------|------------|
| Brunswick Ave | Md Lk Rd to 1,750'S of 32 nd Av S.A. 116-330-010 | 0.16 mi. | 845 feet |
| Brunswick Ave | 1,750'S. of 32 nd Av to 32 nd Av S.A. 116-330-020 | 0.33 mi. | 1,742 feet |
| Medicine Lk. Rd. | Douglas Drive to .06 mi. east S.A. 116-334-010 | 0.06 mi. | 317 feet |
| Medicine Lk Rd | 0.06 mi east of Douglas to Zane Av S.A. 116-334-020 | 0.20 mi. | 1,056 feet |
| Medicine Lk Rd | Zane Av to 100 frontage S.A. 116-334-030 | 0.27 mi. | 1,426 feet |
| <u>Total revoked</u> | | 1.02 mi. | 5,386 feet |

December 2014 Designated New State Aid Streets

| | | | |
|-------------------------------|--|----------|------------|
| 58 th Ave | W.Broadway Av to Elmhurst S.A. 116-338-040 | 0.32 mi. | 1,690 feet |
| 58 th Ave | Regent Av to Orchard Ave S.A. 116-338-050 | 0.20 mi. | 1,056 feet |
| Regent Ave | 56 th Av to 58 th Av S.A. 116-326-040 | 0.29 mi. | 1,531 feet |
| <u>Total new designations</u> | | 0.81 mi. | 4,277 feet |

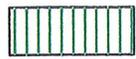
| | | |
|--|----------|------------|
| New proposed un-designated footage balance | 0.59 mi. | 3,115 feet |
|--|----------|------------|

PROPOSED DE-DESIGNATION →

LEGEND



MSA - FULL STREET RECONSTRUCTION



MSA - MILL AND OVERLAY



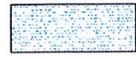
DENOTES AREAS OF SEVERE ALLIGATOR CRACKING



FULL STREET ASSESSMENT RATE



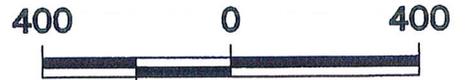
HALF STREET ASSESSMENT RATE



ADJUSTED STREET ASSESSMENT RATE

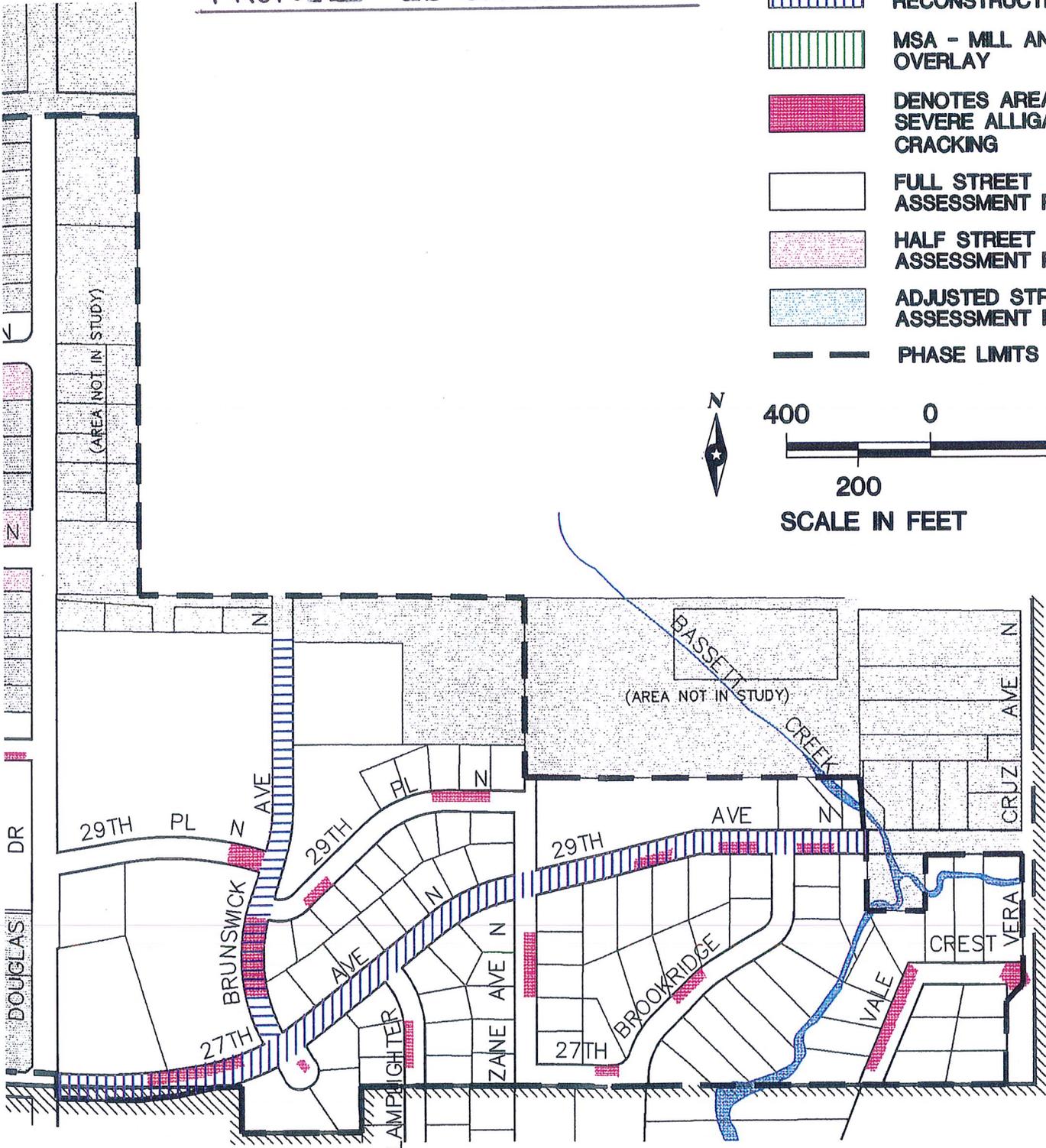


PHASE LIMITS



200

SCALE IN FEET



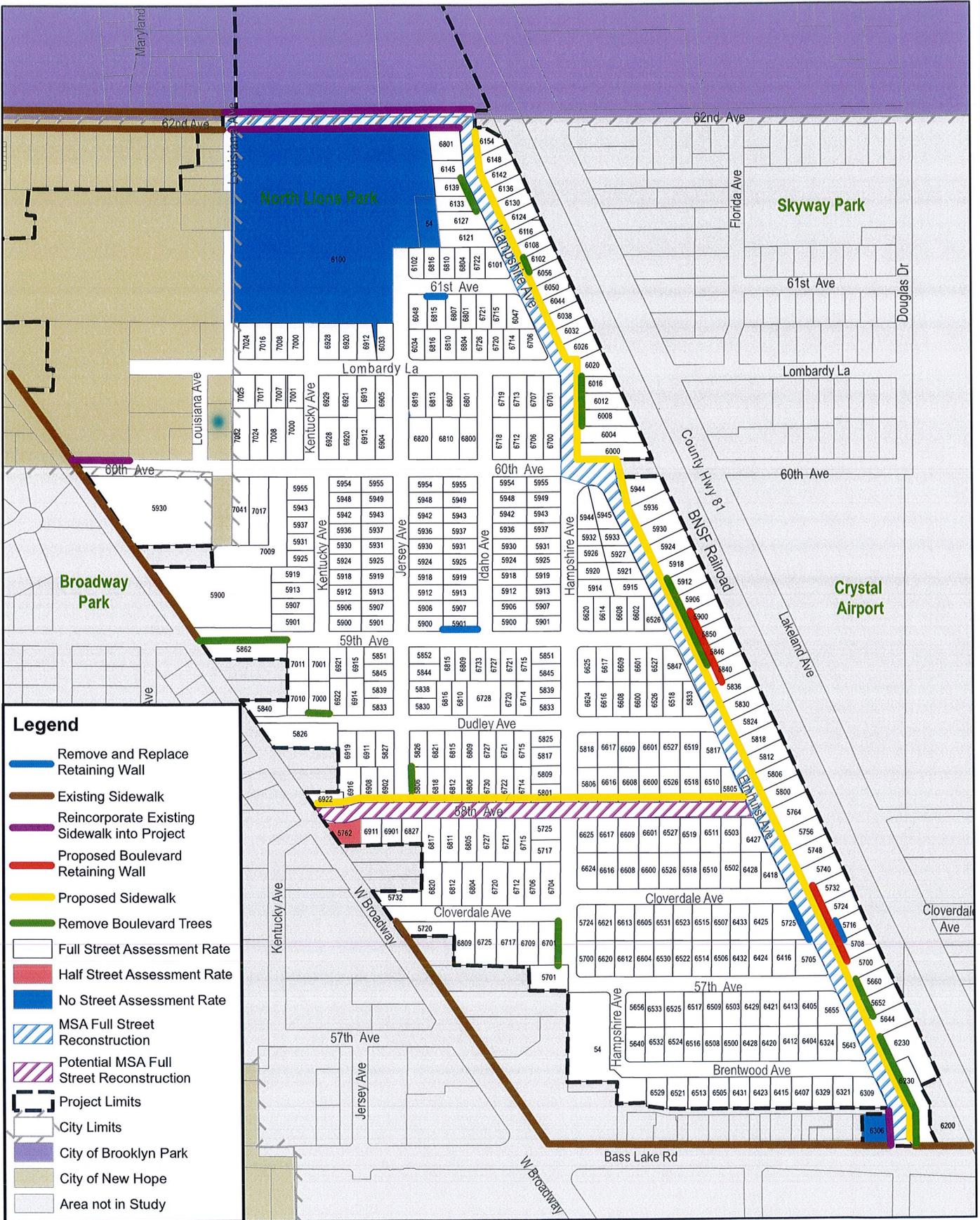
GOLDEN VALLEY

GOLDEN VALLEY

196 PHASE 2 SOUTHEAST STREET REHABILITATION

STREET SUMMARY

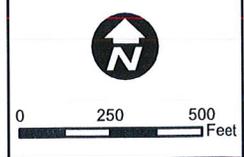
FILE NO.
CRYST950
DWG.NO.
1



- Legend**
- Remove and Replace Retaining Wall
 - Existing Sidewalk
 - Reincorporate Existing Sidewalk into Project
 - Proposed Boulevard Retaining Wall
 - Proposed Sidewalk
 - Remove Boulevard Trees
 - Full Street Assessment Rate
 - Half Street Assessment Rate
 - No Street Assessment Rate
 - MSA Full Street Reconstruction
 - Potential MSA Full Street Reconstruction
 - Project Limits
 - City Limits
 - City of Brooklyn Park
 - City of New Hope
 - Area not in Study



PHASE 14
 STREET SUMMARY



FILE NO.
 CRYST 128582

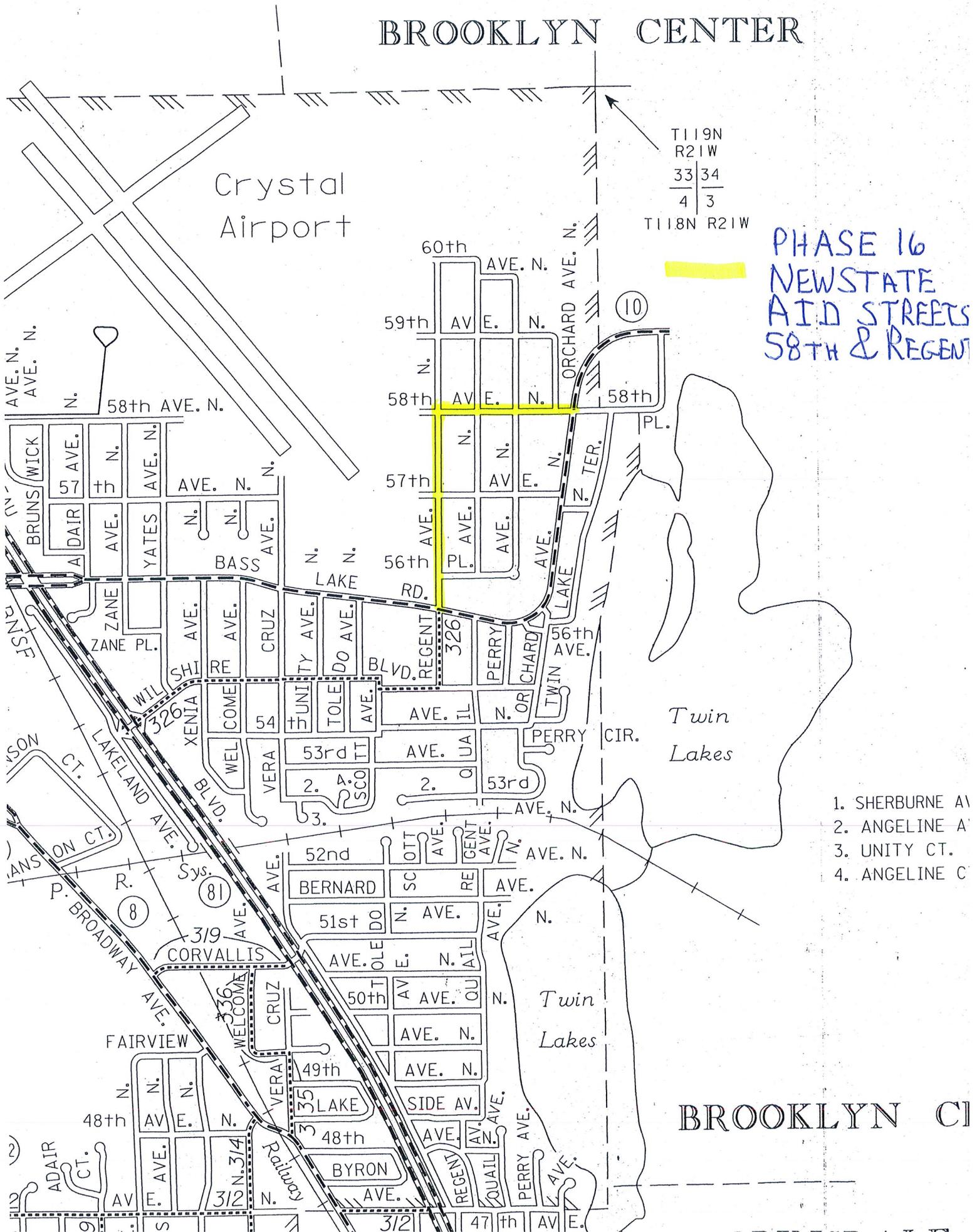
FIGURE 2

BROOKLYN CENTER

Crystal
Airport

T119N
R21W
 $\frac{33}{4} \frac{34}{3}$
T118N R21W

PHASE 16
NEWSTATE
AID STREETS
58TH & REGEN



1. SHERBURNE AV
2. ANGELINE A
3. UNITY CT.
4. ANGELINE C

BROOKLYN CI



COUNCIL STAFF REPORT

Update on JWC Pipeline Rupture & Condition

FROM: Tom Mathisen, Public Works Director & City Engineer

TO: Anne Norris, City Manager (for November 18 Work Session)

DATE: November 12, 2014

RE: Short term operation and long term solutions Project #2014-32

On Friday October 17, the Joint Water Commission (JWC) received the results from the recent pipeline inspection conducted by Pure Technologies. Pure Tech inspectors entered the pipeline at the location of the September failure on 42nd Avenue in Robbinsdale. This is located just west of Station 70+90 on the asbuilt drawings which is just west of the BN tracks, about two blocks west of West Broadway and three blocks east of Hwy 100.

Pure Tech had a six person team. One person remained at the access point in the excavation, three people did the visual inspection, and two pushed the electro-magnetic (EM) equipment cart. In the east direction they were able to get to Lake Road, which is east of Co Rd 81. In the west direction they were able to get all the way to the Hwy 100 crossing.

Results from the electro-magnetic inspection/analysis show 19 locations with anomalies of which 3 were determined to be not related to good or bad pipe condition. The analysis of the other 16 locations is summarized as follows:

Pipes #85 and #131 are in an imminent failure condition showing many broken pre-tension wires and steel liner corrosion.

Pipes #62, 113, 118, and 155 have enough broken wires that they have exceeded their yield limit (based on 80psi operating pressure plus 40 psi surge pressure = 120 psi to failure).

The remaining 9 pipes have broken wires just inside the spigot or bell ends, indicating the early stages of the condition at the two failure locations.

The other 91% of the pipeline is in good condition.

It is very fortunate it was possible to conduct this type of inspection prior to putting the pipeline back in service. Had the JWC (Crystal in this case) done so, most likely there

would have been yet another pipeline failure in the near future. While there are multiple safeguards in place to automatically shut down the pipeline in the event of another failure, greatly reducing the overall damage, they would not prevent damage to the road and in the immediate vicinity.

Based on the condition of this section of pipe that was inspected, the JWC cannot put the pipeline back in service at full operating pressure. In the short term, an operating procedure has been implemented that has the pipeline in service at approximately 30 psi, which is less than half its normal operating pressure. This is accomplished by throttling the flow at the valve near the Minneapolis connection and opening the valve at the Crystal reservoir to prevent the pipeline from reaching full pressure.

The Minneapolis Water Utility is allowing the JWC to take water 24 hours/day at a rate of 1,750 gallons per minute (gpm). This will provide the same amount of water normally take at night during winter consumption conditions. The normal flowrate at full pressure is 13,000 gpm. This is the rate necessary in the summer to meet the peak daily consumption requirement, but must be taken from Mpls between 11 p.m. and 6 a.m.

The Pure Tech inspection covered approximately 2,330 feet of the approximately 10,500 foot pipeline. To date, 2,560 feet was replaced this year as part of the Co Rd 9 project in Robbinsdale. An additional 2,150 will be replaced in 2015 as that project is completed. There will then be three sections of the original pipe left:

1. Approximately 500 feet from the Minneapolis connection to the starting point of the County Road 9 project near York Avenue.
2. Approximately 2,150 feet from France Avenue to Lake Road that will be replaced next year as part of the same project.
3. Approximately 5,242 feet from Lake Road to the Crystal Reservoir.

This means approximately 7.892 feet of the original pipeline has not been inspected. If one assumes the results from a potential inspection in the future would be similar to the one just conducted, then there could be an additional 44 locations that are compromised. Right now there is not an easy way to inspect these three sections of pipeline and one could argue it may not be cost effective to inspect the 2,150 feet that will be replaced in 2015.

If the total number of compromised pipe sections is $16+44=60$, at 16 feet per section, that would be 960 feet to be repaired from inside the pipe. The best rate on the market at this point is \$3,500 per foot or \$3,360,000. But even after this kind of investment, the remainder of the pipeline would have to be monitored and repaired as long as it is in service. While this is quite expensive, it is a common practice among utilities with this type of pipe, i.e. to maintain it in this fashion via regular spot repairs.

Before making this kind of an investment, and because there is time during this winter to develop a long term plan, the JWC will operate the pipeline at reduced pressure throughout the winter. The JWC is also developing an RFP to retain a qualified consultant to assist the JWC in developing options for ultimately rehabilitating and/or

replacing the remaining 5,750 feet of 36" pipeline. These options would include a possible combination of the following:

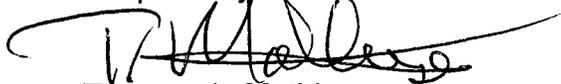
- Open cut dig up and replace in 42nd Avenue
- Cured in place pipe (CIPP), similar to the current sewer lining project, but for pressure pipe
- Slip-line which means pulling a new pipe through the existing old pipe
- Other methods

Whatever the final rehabilitation or replacement method becomes, a cost estimate will not be possible until the study and analysis is completed.

One more part of the analysis will have to include the development of contingencies for summer operation with potentially a reduced supply of water from Minneapolis if the pipeline is not in a condition to be operated at full pressure. By that time however, 75% of the emergency backup water supply should be on line. This could potentially be used to supplement the water supply, but as an earlier study showed, there may be some water quality issues due to blending softened river water with untreated well water.

The current schedule is to have the study results completed by the middle of February.

Respectfully submitted

A handwritten signature in black ink, appearing to read 'T. Mathisen', with a long horizontal flourish extending to the right.

Thomas A. Mathisen
City Engineer



Thursday September 18, 201

36" PCCP JWC
PIPELINE FAILURE

42nd Ave/Co Rd 9

ROBINSVILLE



Memorandum

DATE: November 13, 2014
TO: Mayor and City Council
FROM: Anne Norris, City Manager
SUBJECT: 2015 Budget Questions

At a recent work session, the City Council requested that the 2015 budget be a standing work session agenda item until the 2015 budget is approved to allow Councilmembers the opportunity to ask questions about the proposed 2015 budget.