



## THE GARLAND COMPANY, INC.

HIGH PERFORMANCE ROOFING AND FLOORING SYSTEMS

3800 EAST 91ST. STREET • CLEVELAND, OHIO 44105-2197

PHONE: (216) 641-7500 • FAX: (216) 641-0633

NATIONWIDE: 1-800-321-9336

Troy Thompson  
MN Representative  
612-991-4651  
E-Mail: [tthompson@garlandind.com](mailto:tthompson@garlandind.com)

**October 14, 2015**

**Jeanne Korf  
Facilities Department  
Rush City Public Schools  
51001 Fairfield Avenue  
Rush City, MN 55069**

**Re: 2015 Roof Evaluation**

**Dear Jeanne,**

This fall a comprehensive roof inspection was completed to evaluate the existing conditions and future needs throughout the District. Please review this inspection report and other attached documentation, which illustrates the future roofing needs.

The immediate needs within the district are centered around the aged built-up roofs on Jacobson Elementary School. Once the aging built-up roofs on Jacobson Elementary are replaced the District will be in a preventive mode with good roofs protecting nearly all its building assets. We recommend performing annual inspections of all roof areas to stay on top of immediate and developing maintenance items that arise between seasons. Annual inspections combined with preventative maintenance will be your cheapest insurance against premature failure of the existing roof systems.

### *Existing Roof Systems / History*

**High School** – Installed in 2003 the High School roofs consist of a four-ply built-up roof system with gravel surfacing. The built-up roof consists of four layers of hot asphalt and four layers of reinforcement felts (fiberglass). The existing built-up roofs have excellent slope, which will be an asset when trying to extend the useful life of the roofs as long as possible. While some occasional leaks may be detected, they can be isolated and are typically easier to locate and repair than on the single ply roof systems. The existing built-up roofs on the High School are a maintainable asset that will continue to serve the District far into the future.

**Jacobson Elementary** – Similar to the High School, Jacobson Elementary has numerous areas of built-up roofs installed in 2003. It also has a few sections of older built-up roofs that have exceeded their useful life. While the roofs installed in 2003 will continue to serve the District for years to come, the older built-up roofs on the Northeast side of the building will require replacement in order to maintain a useful watertight condition into the future.

The older built-up roofs have very little slope, which is leading to moderate amounts of ponding for days after periods of rain (SEE PHOTOS). This ponding is certainly a contributing factor to the premature deterioration of the roof system. As the built-up roof systems age they tend to ridge then split in the field of the roof and the perimeter base flashings tend to deteriorate from UV exposure (SEE PHOTOS).

**Rec Center** – The roof system on the rec center was replaced in 2012 and is in excellent condition. The existing roof system is a modified built-up roof system that will continue to serve the district for decades into the future.

### ***Future Planning***

Design standards, quality of products, level of original application and quality control standards all play a vital role in the life expectancy of a roof system. The typical life expectancy of a standard built-up roof system is 20-25 years while the typical life expectancy of a modified built-up roof (rec center) is approximately 40 years.

All of the standard built-up roof systems installed on the High School and Jacobson in 2003 are in good condition and are very maintainable. However the older built-up roof systems installed on Jacobson require replacement in order to maintain a watertight condition throughout the facility. Many times roof leaks can occur resulting in wet insulation without ever resulting in water actually ending up in the building.

We have included a ten year plan to address all the roofing needs throughout the District. This approach takes a proactive approach to stay ahead of mounting roof leaks and catastrophic failures.

Also included in this assessment are supporting *[Condition Photos](#)* a *[Roof Replacement Map](#)* and an overall *[Budget](#)*. Please review all the associated documents and feel free to call if you have any questions or concerns.

As always we appreciate your partnership with Garland and look forward to successful projects together in the future.

Thank You

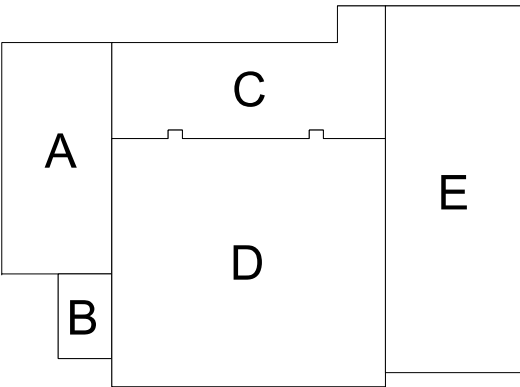


Troy Thompson  
The Garland Company  
612-991-4651

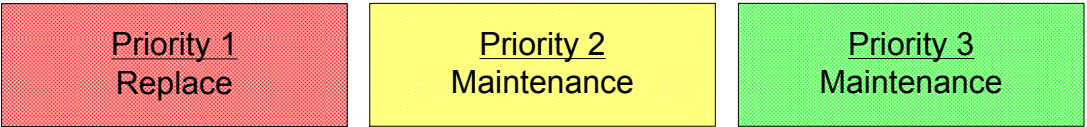
# Rush City

Public Schools

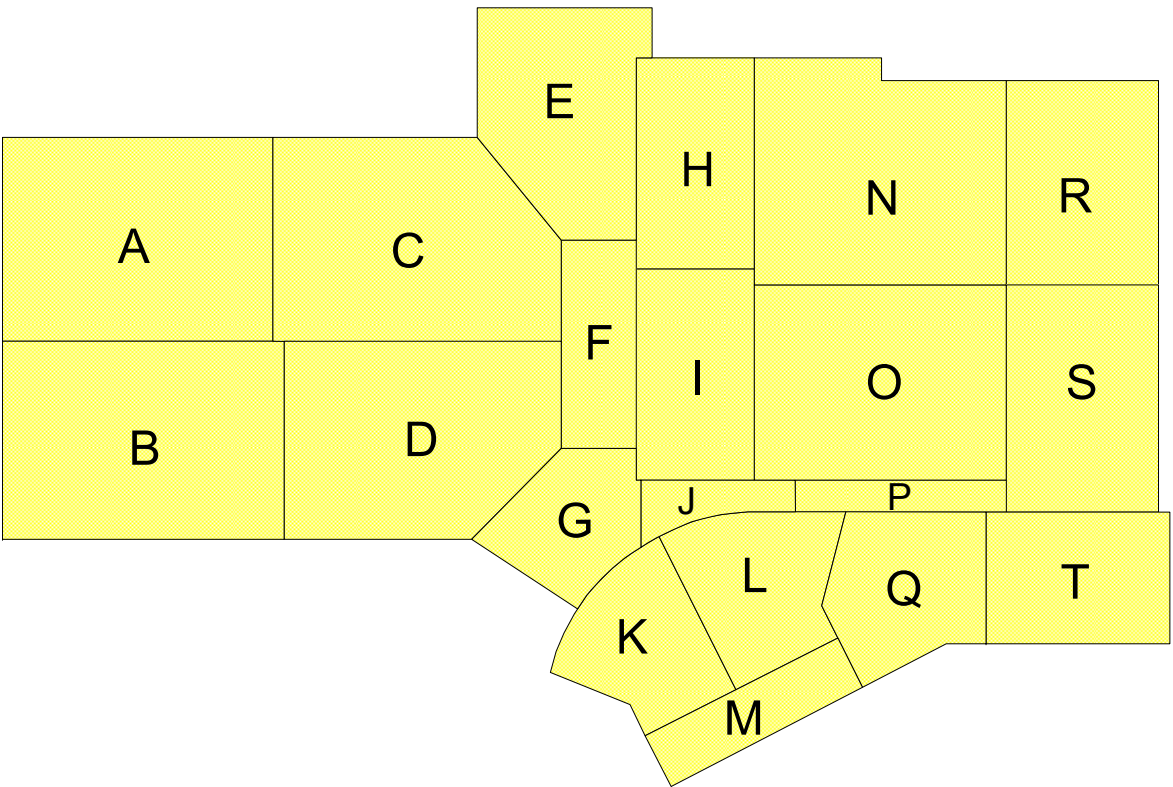
## Rec Center



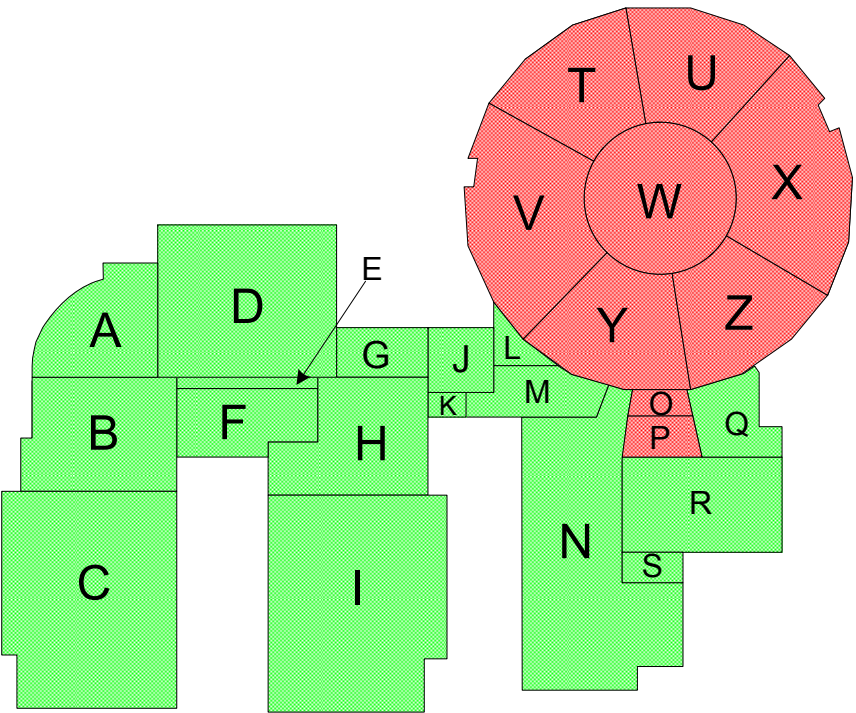
## District Wide Roofing Needs



## Senior High School



## Jacobson Elementary



TITLE: District Wide Roof Review

COMPANY: Rush City Public Schools

DATE: 2015

## Existing Condition Photos



Overview of ponding conditions due to improper slope in the roof surface.



Deteriorated flashings and potential interior leak locations.

Company: Rush City Public Schools

Creator: The Garland Company

Date: Fall 2015

Filename: Existing Condition Photos





## Existing Condition Photos



Numerous obsolete curbs need to be removed during the next roof replacement project.



Exposed base flashings that should be coated or covered to avoid further damage.

Company: Rush City Public Schools

Creator: The Garland Company

Date: Fall 2015

Filename: Existing Condition Photos



## Existing Condition Photos



Deteriorated brick/mortar that will need to be addressed during the roof project.



Additional failure.

Company: Rush City Public Schools

Creator: The Garland Company

Date: Fall 2015

Filename: Existing Condition Photos





## Existing Condition Photos



Erosion of the flood and gravel surfacing. Maintenance can be completed to protect these areas of exposed felts.



Additional areas of water erosion.

Company: Rush City Public Schools

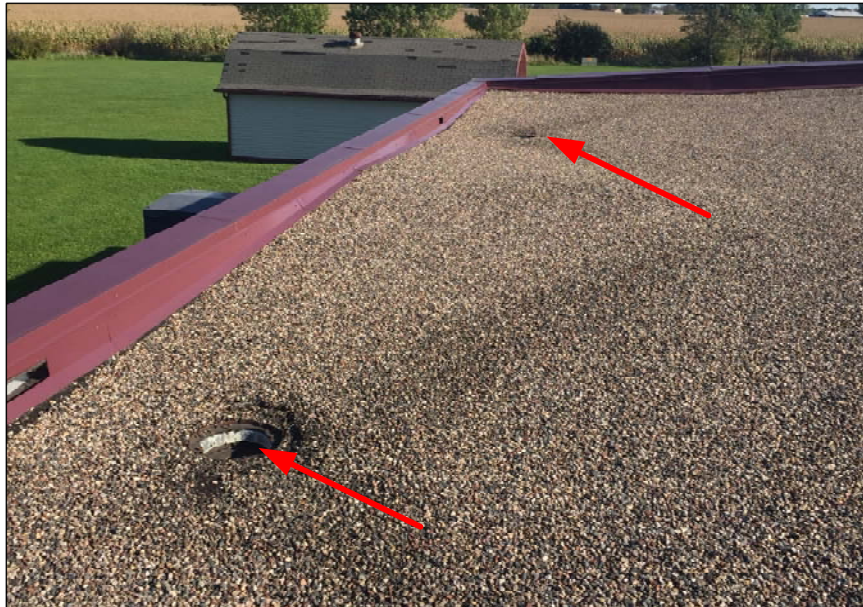
Creator: The Garland Company

Date: Fall 2015

Filename: Existing Condition Photos



## Existing Condition Photos



Missing drain strainers need to be replaced.



Exposed base flashings need to be coated or covered to minimize future deterioration.

Company: Rush City Public Schools

Creator: The Garland Company

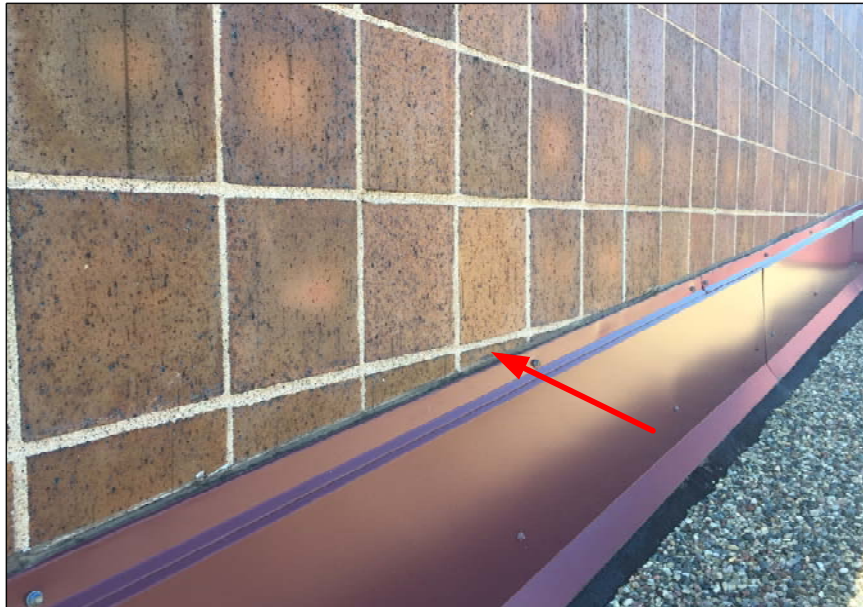
Date: Fall 2015

Filename: Existing Condition Photos





## Existing Condition Photos



Wall drainage system has been covered leading to leaks.



Block deterioration due to infiltration and/or improper drainage.

Company: Rush City Public Schools

Creator: The Garland Company

Date: Fall 2015

Filename: Existing Condition Photos



## Existing Condition Photos



Fastener back out – normal preventative maintenance.



Additional deteriorated mortar leading to leaks.

Company: Rush City Public Schools

Creator: The Garland Company

Date: Fall 2015

Filename: Existing Condition Photos





## Existing Condition Photos



Exposed Flashings



Exposed felts will lead to premature failure of the roof system.

Company: Rush City Public Schools

Creator: The Garland Company

Date: Fall 2015

Filename: Existing Condition Photos



# Rush City

## Public Schools

### 10 Year Building Envelope Budget

<u>Year</u>	<u>Building</u>	<u>Budget</u>
<u>2016</u>	Jacobson Elementary Flat Roofs - Section O,P,T,U,V,W,X,Y,Z Wall Panels - Section W	\$550,000 \$50,000
<u>2017</u>	<u>General Maintenance</u>	\$5,000
<u>2018</u>	<u>General Maintenance</u>	\$5,000
<u>2019</u>	<u>General Maintenance</u>	\$5,000
<u>2020</u>	<u>General Maintenance</u>	\$5,000
<u>2021</u>	<u>General Maintenance</u>	\$5,000
<u>2022</u>	<u>High School</u> All Flat Areas	\$750,000
<u>2023</u>	Jacobson Elementary Section A,B,C,D,E,F,G,H,I,J,K,L,M,N,Z,R,S	\$430,000
<u>2024</u>	<u>General Maintenance</u>	\$5,000
<u>2025</u>	<u>General Maintenance</u>	\$5,000