



Inspection Report

Client: City of Allen

Facility: Don Rodenbaugh Natatorium

Report Date: 06/05/2018

Roof Section: Modified Bitumen

Inspection Information

Inspection Date	06/05/2018	Core Data	Yes
Inspection Type	Visual Inspection	Leakage	Yes
Deck Conditions	Good		

Flashing Conditions

Perimeter	Poor	Wall	Failed
Projections	Poor	Counterflashing	Poor

Miscellaneous Details

Reglets	Fair	Debris	Yes
Control Expansion Joints	-	Ponding Water	Moderate
Parapet Wall	Poor	Coping Joints	Poor

Perimeter

Rating	Poor
Condition	The perimeter of the roofs are all walls with metal caps. In some areas, the metal cap flashings have totally failed and are allowing moisture into the walls.

Field

Rating Failed

Condition

The field of the roof over the entire facility has failed. This is typical of an ASTM Type I D6164 sheet of this age. The main cause of the failure is the use of lower quality generic materials. Further, at the time of installation, the [roofing](#) materials installation was not properly monitored and it appears that they were installed at the wrong temperature as recommended by the manufacturer. The most glaring defects are blistering in the field of the roof and flashing, and ponding water on all mechanical roof sections.

Blisters: Soft spongy pockets or swellings in the roofing material. They occur between layers of felt or between the roof membrane and substrate. Air or moisture vapor entrapped within a blister expands as the roof and outside air temperatures rise. This results in sufficient pressure to push the roofing membrane upwards and apart. Blisters may be ruptured by roof [traffic](#), expanding frozen water, or hail (especially during colder [weather](#)). Some blisters may become so large as to affect drainage, which may then cause ponding water. Laps could also be pulled apart, resulting in leakage. A ruptured blister will immediately allow water to penetrate and [damage](#) the roof system.

Penetrations

Rating Poor

Condition

Overall the penetrations flashing are in poor condition. There are many repairs made at the base of the penetrations.

Drainage

Rating Good

Condition

The drainage of the roof system is good. There are areas on the mechanical roof that will have to have tapered insulation installed when the roof is replaced. However, the flashing around the drains has failed.

Other

Rating Failed

Condition

The walls of all the side roof sections are showing signs of severe efflorescence, spalling, cracking, and leaching iron. This means the wall is taking on more moisture than it can hold. The moisture is causing the face of the wall to chip off. This is of great concern and is in need of attention.

The building metal trim (facia) that has a "wall panels" look is "oil canning" (wrinkling) because there is too much stretch out of the panel. This is more of an aesthetic problem at this time. We would suggest metal panels be installed when the roof is replaced. It would match all the red metal up better.

Overall

Rating Failed

Condition On June 5, 2018 Kyle Branch and Scott Riddle visually observed and evaluated the roofs for current roof condition, life expectancy, and budgets for required repairs.

The existing roof system is a generic multi-ply, hot asphalt applied with multiplies and a Mineral surfaced modified bitumen cap sheet. Installed over perlite coverboard and polyisocyanurate insulation over - three types of decks. Concrete, CWW (tectum), and metal decks. There are consistent signs of high mineral loss for a membrane of this age. There is extreme blistering of the membrane and flashing throughout the entire building. Wrinkling of the membrane and flashing is present on all roof levels.

The existing roofs have failed and the expected life is 1-3 years.

The roof is in very poor condition. The best option is the replacement of the existing roof membrane, associated metal flashing, and the addition of metal panels. The walls of the side roofs are failing and need to be addressed as soon as possible.

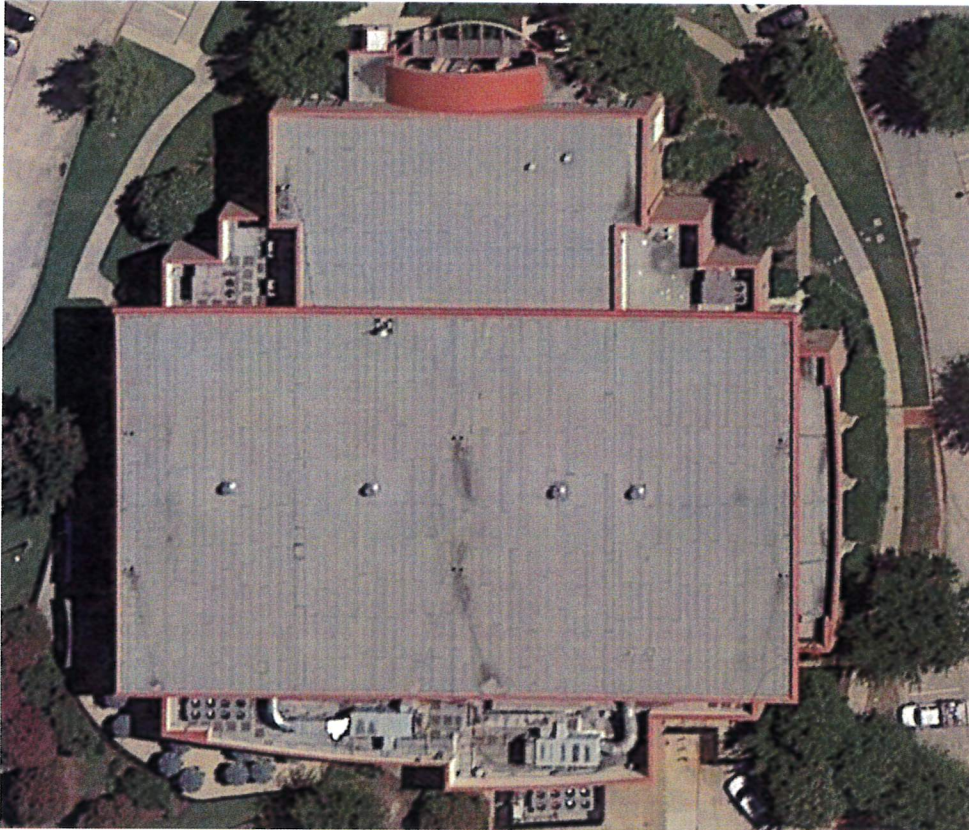


Photo 1

Don Rodenbaugh
Natatorium Arial Photo