

FCS
FRANKLIN CONSULTING SERVICES

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“Serving the spray polyurethane foam and coatings industry since 1973”

INSPECTION REPORT

DATE: FRIDAY, JUNE 3, 2011

**WEATHER: SUN, CLEAR WITH TEMPS INTO THE 60S.
ARRIVED: 11:30 AM, TOM, RYAN, JEFF AND TJ ALREADY ON SITE FROM
MONOLITHIC.**



DEPARTED: 3:10 PM

PROJECT: WATERTOWN MUNICIPAL ICE ARENA

CONTACT PERSON: BOB CLEAVER, PURCH. MNGR.

TELEPHONE #: (315) 785-4478

INSPECTION #: 3

PURPOSE: MONITOR CONTINUES REPAIRS AND PREP WORK AS ORIGINAL SCOPE OF WORK DICTATED.

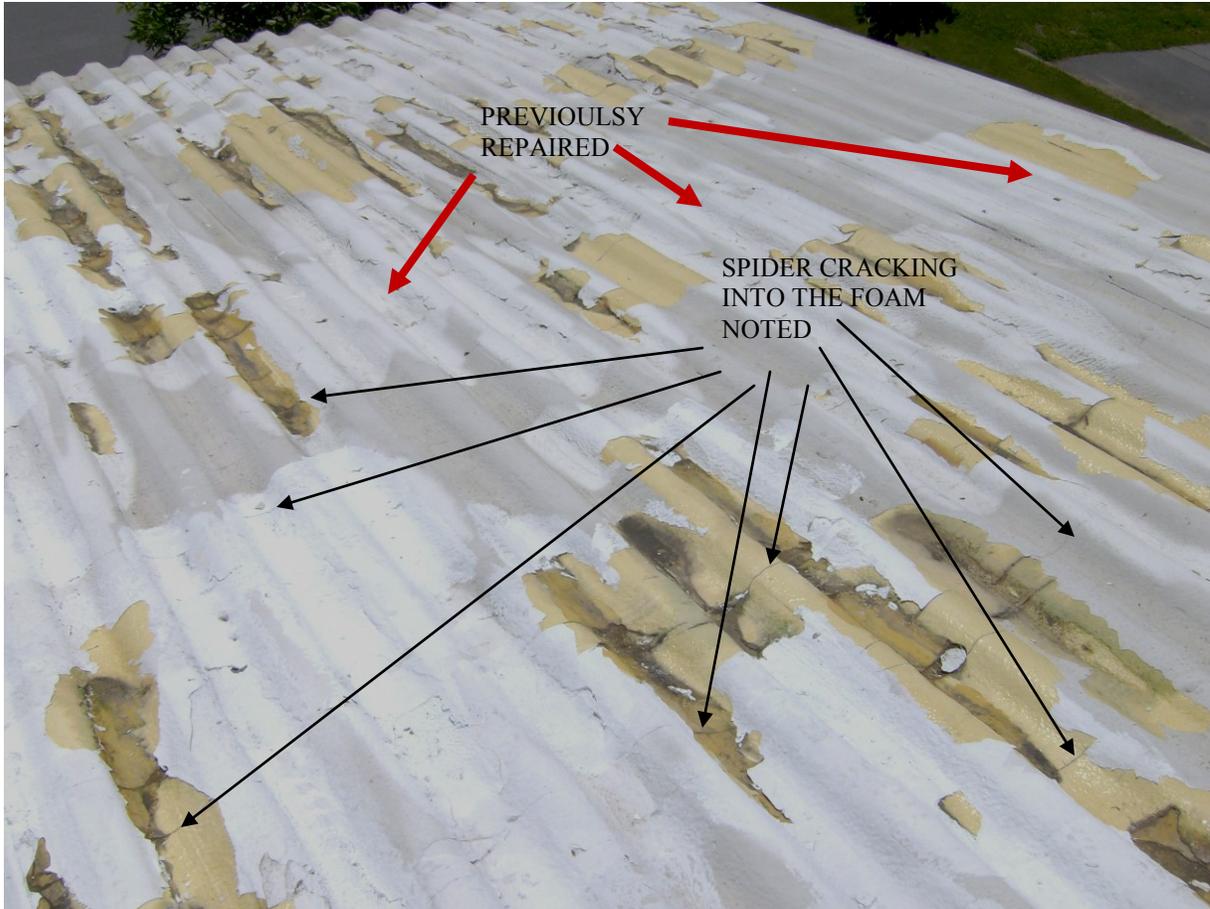
PERSONNEL ON-SITE: RICH FRANKLIN OF FRANKLIN CONSULTING SERVICES, LLC, TOM BOOLUKOS, RYAN, JEFF AND TJ OF MONOLITHIC COATINGS

WORK IN PROGRESS:

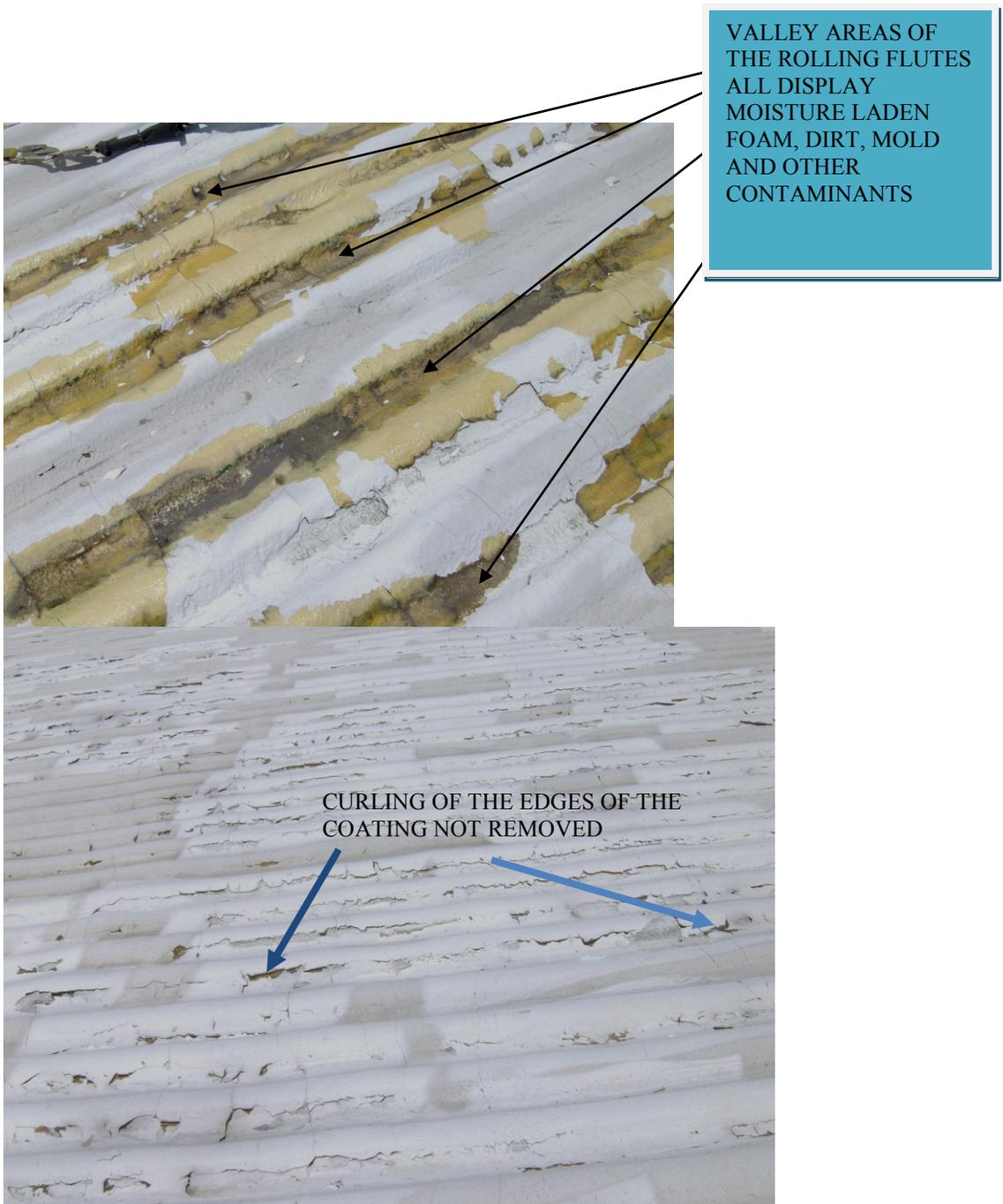
- **PREP WORK OF ROOF SURFACES REQUIRED PEELING BACK CURLED AND DELAMINATED COATING.**
- **EQUIPMENT READIED FOR SPRAY APPLICATION.**



MONOLITHIC HAD BEGUN HIS PREP OF THE SOUTHEAST CORNER OF THE BUILDING PARKING LOT SIDE. IT WAS NOTED THAT REPAIRS COMPLETED DURING LAST YEARS EFFORTS BEFORE BEING SHUT DOWN DUE TO WEATHER CONSTRAINTS WERE ONCE AGAIN FAILING. THOSE AREAS COULD BE PEELED BACK UP ONCE AGAIN. FURTHER REVIEW OF THE PEELED BACK AREAS NOTED EXCESSIVE SPIDER CRACKING OF THE PREVIOUSLY INSTALLED TRUCO COATING THE NOW HAD EXTENDED DOWN AND INTO THE FIRST LAYER OF THE SPRAY FOAM INSULATION.



THE CONCLUSION REACHED BETWEEN TOM BOOLUKOS AND RICH FRANKLIN WAS THAT MOISTURE HAD BEEN DRIVEN INTO THE AND UNDER THE INSTALLED COATING DUE TO THE AREAS OF EXPOSED FOAM AND THE CONTINUED SPIDER CRACKING OR SURFACE GRAZZING OF THE PREVIIOULSY INSTALLED TRUCO COATING. WHEN THE ROOF SURFACES HAD HEATED, THE MOISTURE UNDER AND IN THE EXISITNG FOAM GASED OFF AND THE RESULTING VAPOR DRIVE FURTHER DELAMINATED THE INSTALLED AND THE NEWLY INSTALLED COATING.



IN ADDITION, THE AREAS PREVIOUSLY PEELED AND RECOATED DISPLAYED CURLING OF THE COATING AT THE EDGES WHERE COATING HAD BEEN REMOVED AND THE ACRYLIC COATING REAPPLIED.

AT APPROXIMATED 2:30 PM, GENE HAYES MADE AN ON-SITE VISIT AND REVIEW OF THE WORK IN PROGRESS.

HE WAS UPDATED AS TO THE PROJECT'S HISTORY AND ITS PROGRESS STARTING LATE IN 2010. WE REVIEWED THE COMPLETED REPAIRS FROM 2010 AND NOTED THE FAILURE OF A SUBSTANTIAL AMOUNT OF THE APPROXIMATELY 13, 000 SQ. FT. OF REPAIRS MADE.

WE ALSO NOTED THE AMOUNT OF SPIDER CRACKING OF THE EXISTING COATING AND THE NEWLY INSTALLED COATING. WE NOTED THE SPIDER CRACKING EXPOSED INTO THE SURFACE OF THE FOAM AND THE MOISTURE INTO THE FIRST LIFT OF FOAM. A SAMPLE WAS DESTRUCTIVELY TAKEN AND CONFIRMED THE FIRST LIFT OF FOAM AS BEING MOISTURE LADENED AND THAT AS THE DEPTH OF THE FOAM WAS PROBED, THE DRYER THE SAMPLE COMPOSITE. THERE WERE NO NOTED FOAM BLISTERS WHICH WOULD INDICATE THAT THERE WAS DISBONDED FOAM FROM THE METAL PANEL ROOFING SUBSTRATE. THERE WAS NO INDICATION THAT THE PRESENT CONDITION OF THE INSTALLED SPRAYED-IN-PLACE POLYURETHANE FOAM ROOFING SYSTEM HAS RESULTED IN LEAKS INTO THE BUILDING. IT WAS ALSO CONFIRMED THAT THE ONLY LIMITED WATER INTRUSION INTO THE BUILDING WAS AS A RESULT OF WIND DRIVEN RAIN PENETRATING THE RIDGE VENT CUPOLO COVER THAT HAD BEEN INSTALLED AFTER THE FOAM ROOFING.

IT WAS AGREED THAT THE MOST SEVERE OF THE EXPOSED FOAM INSULATION EXISTED ON THE EASTERN SLOPED SIDE AT THE LOWER THIRD SECTION OF THE ROOF AS COMPARED TO THE WESTERN SLOPED SIDE. THE WESTERN SIDE SHOWED SIMILAR SIPER CRACKING, EROSION OF THE PREVIOUSLY INSTALLED TRUCO COATING AND LIMITED REOCCURANCE OF THE REPAIRED SECTIONS TO FURTHER DELAMINATION OF THE INSTALLED COATING.

CONCLUSIONS AND RECOMMENDATIONS:

- THAT CONTINUATION OF THE ORIGINAL SCOPE OF WORK WAS NOT IN THE BEST INTEREST OF THE CITY DUE TO THE INCREASE IN THE AMOUNT OF LABOR COST REQUIRED AND THE LACK OF SUCCESS IN THE RESOLUTION TO THE PROBLEMS EXISTING.**

THE EXISTING CONDITIONS DUE TO THE FACTORS INVOLVING THE LATE START, WEATHER CONSTRAINTS, INABILITY TO COMPLETE REPAIRS BEFORE DETRIORATING WEATEHR CONDITIONS DRIFTED INTO THE WINTER MONTHS OF 2010 AND THE SEVERE WET WEATHER OF THE SPRING OF 2011.

- THAT THE CURRENT CONDITIONS OF THE EXISTING SPRAYED-IN-PLACE POLYURETHANE ROOFING SYSTEM HAD PREMATURELY REACHED END OF CYCLE FOR SUCCESSFULLY RESOLVING CONDITIONS.**

THOSE CONDITIONS INCLUDED THE AMOUNT OF TRAPPED MOISTURE WITHIN THE SYSTEM, CONTINUATION OF SPIDER CRACKING AND COATING EROSION.

- **RECOMMENDATIONS OFFERED INCLUDED THE FOLLOWING OPTIONS:**
 1. **CONTINUE TO PEEL OFF DELAMINATED COATING AND RE-COATING OF THE EXPOSED FOAMED AREAS. THIS WOULD RESULT IN A RESUBMITTAL OF PROPOSAL FROM MONOLITHIC COATINGS FOR THE NEW SCOPE OF WORK.**

THAT THE CITY WOULD PROVIDE FOR THE SUM OF UP TO 20,000.00 PER YEAR FOR THE NEXT FIVE YEARS FOR REPAIRS TO BE MADE BY MONOLITHIC TO MAINTAIN THE SPRAYED-IN-PLACE ROOFING SYSTEM WITH NO COMPLETE RECOAT OF THE ENTIRE ROOF'S SURFACES.

THAT AT THE END OF MAINTENANCE CYCLE, THE ENTIRE ROOF SURFACES WOULD BE SCARIFIED REMOVING ALL COATING AND MOISTURE LADED FOAM INSULATION, REPRIMED, REFOAMED-REPLACING THE REMOVED SPRAY FOAM AND NEW COATING APPLIED TO THE NEWLY INSTALLED SPRAY FOAM AT AN ESTIMATED COST OF \$500,000.00.

2. **TO PROVIDE FOR AN ENGINEERED METAL PANEL ROOFING SYSTEM TO BE INSTALLED OVER THE EXISTING OR REMOVED CURRENT SYSTEM AT AN ESTIMATED COST OF IN EXCESS OF ONE MILLION DOLLARS.**

Signed by: _____

Date: _____