

Douglass Utility Tunnel Decommissioned

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WEEK IN REVIEW

Most campus buildings are supplied with utilities (steam, chilled water, domestic water) via an extensive utility-tunnel system. The tunnels provide paths between the three utility-plants and campus buildings, so that pipes and associated equipment can be easily maintained and remain visible for periodic inspection. A tunnel-segment built back in the 1930s to supply utilities to the Douglass Building, had degraded to the point that it was no longer reliable.



Joe Thomas, UAFM's Utility Energy Conservation Project Manager, recently oversaw decommissioning of the tunnel, replacing existing utility mains with new directly-buried pipes to the building. A new steam vault was constructed south of the building, near the main Anthropology Tunnel, from which new hot-water, chilled-water, domestic-water and compressed-air lines were run in a trench to the building. In the vault, heat exchangers convert steam into hot-water that is pumped to the building, eliminating any steam hazard in the building and keeping all steam equipment easily accessible for maintenance.

Because the tunnel-run had deteriorated enough that it could eventually collapse, the decommissioned segment was stabilized by filling it with a cement slurry. The 80-yard slurry-pour was a picture of synchronized efficiency, in which two sets of five cement-mixer trucks at a time disgorged slurry into prepared openings in the tunnel roof. The individual trucks were sequenced to ensure complete filling of the tunnel cavity without trapping air pockets between the pour points. To minimize impact on campus activities, the pour was completed before 5:00 AM, filling the entire run in about 90 minutes.



In addition to the improved safety and reliability of the new piping, it is better-insulated, which will dramatically decrease energy losses, and decrease the campus carbon-footprint. Greater thermal separation between hot-water and chilled-water supply lines will minimize unintentional energy exchange between the two, increasing the quality of supplied utilities. This, in-turn, will allow HVAC equipment in this historic building to operate more efficiently and improve comfort levels.

**"EFFICIENCY is
doing things right;
EFFECTIVENESS is
doing the right
things!"**

~ Peter Drucker

*Great Job,
Chris Kopach*