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**Building 594 Waste Ion-Exchange Facility  
D&D Project**

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**Building 594 Waste Ion-Exchange Facility D&D**



Building 594 (a.k.a. 579) was a pre-engineered metal building with a concrete foundation and floor (ANL Neg. No. 24191K, Frame 12).

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## Building 594 Waste Ion-Exchange Facility D&D



The waste ion-exchange equipment located on the east side of Building 594 consisted of two resin tanks, a cation exchange vessel, and a mixed bed exchange vessel (ANL Neg. No. 24344K, Frame 5).

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## Building 594 Waste Ion-Exchange Facility D&D



Connected to the cation exchange vessel were a caustic regenerant tank and an acid regenerant tank along with miscellaneous piping, valves, gauges, and pumps (ANL Neg. No. 24191K, Frame 26).

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## Building 594 Waste Ion-Exchange Facility D&D



An ANL-E Waste Management Operations D&D worker removed valves from the waste ion-exchange system prior to demolition (ANL Neg. No. 24344K, Frame 8).

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## Building 594 Waste Ion-Exchange Facility D&D



Prior to dismantlement of the ion exchange system, miscellaneous components were surveyed by ANL Health Physics technicians and released to the clean scrap pile for recycling (ANL Neg. No. 24344K, Frame 7).

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## Building 594 Waste Ion-Exchange Facility D&D



After all piping and valves were removed, the tops of the ion-exchange tanks were opened to gain access to the resin that had been used as filter material. Before removal, ANL Health Physics technicians surveyed the resin prior to disposal (ANL Neg. No. 24344K, Frame 16).

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## Building 594 Waste Ion-Exchange Facility D&D



Bldg. 594 was cleared of all equipment and components after D&D and prior to demolition, as shown in these before and after photos. This view looking north (ANL Neg. Nos. 24193K, Frame 5A, and 24571K, Frame 2A).

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**Building 594 Waste Ion-Exchange Facility D&D**



These photos are of the interior of Bldg. 594, looking south, before and after D&D (ANL Neg. Nos. 24193K, Frame 10A, and 24571K, Frame 3A).

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## Building 594 Waste Ion-Exchange Facility D&D



In August, a contract was awarded to Action Wrecking Company (Darien IL) to demolish Bldg. 594. Demolition took place in September (ANL Neg. No. 24692K, Frame 9).

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**Building 594 Waste Ion-Exchange Facility D&D**



Once demolition was completed, materials were segregated for recycling (ANL Neg. No. 24692K, Frame 17).

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## Building 594 Waste Ion-Exchange Facility D&D



Action Wrecking removed the concrete floor and foundation. After the material was size-reduced, it was removed from the site (ANL Neg. No. 24693K, Frame 1).

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## Building 594 Waste Ion-Exchange Facility D&D



All underground piping associated with Bldg. 594 and the soil surrounding the piping were surveyed by ANL Health Physics technicians (ANL Neg. No. 24693K, Frame 7).

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## Building 594 Waste Ion-Exchange Facility D&D



In September, after all demolition activities were completed, the area was backfilled with dirt and made ready for grading and seeding (ANL Neg. No. 24693K, Frame 10).

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**Building 200/205 Pneumatic Transfer Tube  
D&D Project**

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## Building 200/205 Pneumatic Transfer Tube D&D



The Bldg. 200/205 pneumatic transfer tube was constructed in the late 1960s to transfer irradiated fuel specimens and other samples between Hot Cell M-4 in Bldg. 200 and a glove box in Room F-131, Bldg. 205. The tube was in operation until the mid-1970s. Project scope encompassed only the removal of the tube between the two buildings and not the facilities within the buildings (ANL Neg. Nos. 23887K, Frames 25 and 6).

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## Building 200/205 Pneumatic Transfer Tube D&D



The pneumatic transfer tube system ran 4 feet underground for approximately 1,850 linear feet. It was routed through the woods south of Bldg. 200 until it approached Outer Circle Road. There it turned southeast, and followed the road 600 feet before it turned east toward Bldg. 205 (ANL Neg. No. 23887K, Frame 20).

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## Building 200/205 Pneumatic Transfer Tube D&D



Northwest Contractors (Elgin IL) was hired by ANL Plant Facilities and Services to perform the excavation and the restoration work. Once the trench was dug, it was surveyed by ANL Health Physics technicians for loose contamination. The wooden plank covering the tube was removed, uncovering the tube from its sand bedding. The tube was examined for holes or punctures and surveyed (ANL Neg. No. 24692K, Frame 22).

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## Building 200/205 Pneumatic Transfer Tube D&D



Argonne's Waste Management Operations (WMO) was responsible for the removal and size reduction of the tube, and for its packaging and disposal as low-level waste. WMO technicians first flattened the tube at various intervals using a hydraulic crimper. The tube was then cut in the middle of each crimped area using a hydraulic cutter. Tube ends were taped over and further size reduced as needed for disposal (ANL Neg. No. 24692K, Frame 24).