

# DOE-ID NEPA CX DETERMINATION Idaho National Laboratory

**SECTION A. Project Title:** ATR Complex, CFA, EBR-I and MFC Miscellaneous Concrete Replacement

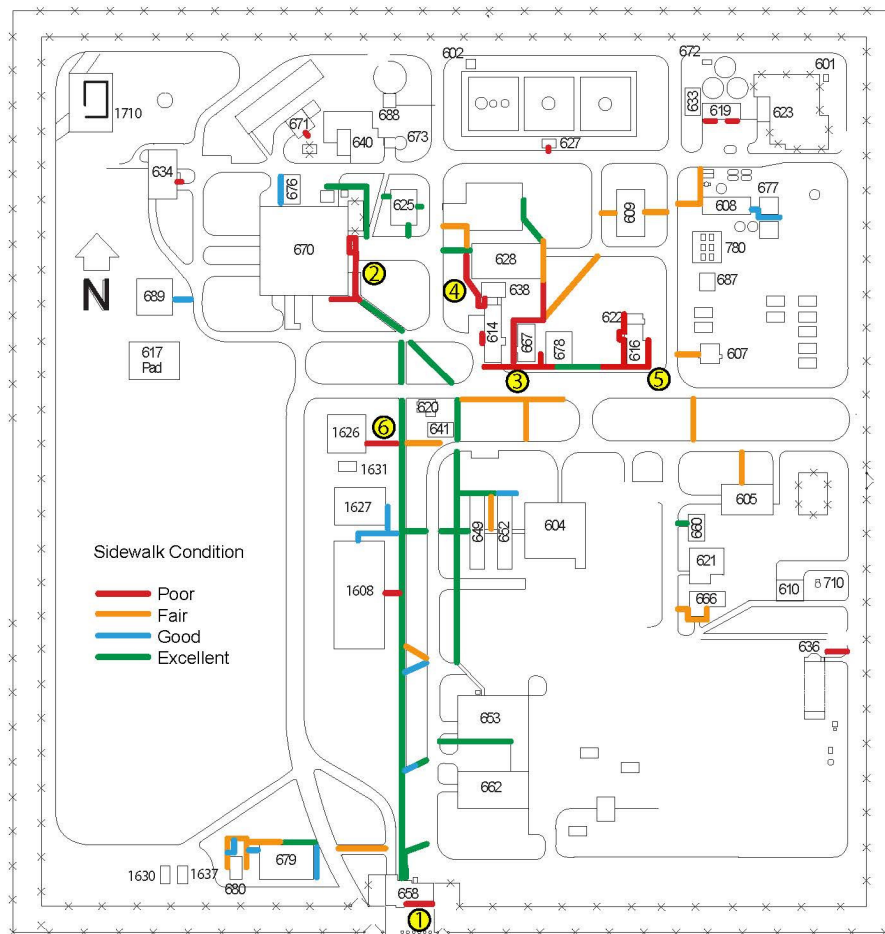
**SECTION B. Project Description and Purpose:**

The purpose of this revision is to add concrete replacement and repair at the Advanced Test Reactor (ATR) Complex (Figure 1), Central Facilities Area (CFA), and Materials and Fuels Complex (MFC) to the scope of work. The summary of work activities involved in concrete repair and replacement remain the same as in the original project description.

At CFA, concrete at building CFA-609 will be replaced as shown in Figure 2, and concrete repair areas at MFC are listed in Table 1.

Figure 1. ATR Sidewalk Repair and Replacement Plan

## ATR Complex Sidewalk and Stoop Plan



- 1 = 570 ft2 (\$45K)
- 2 = 3,000 ft2 (\$240K)
- 3 = 2,700 ft2 (\$215K)
- 4 = 935 ft2 (\$75K)
- 5 = 1,300 ft2 (\$105K)
- 6 = 900 ft2 (\$75K)

Contract = \$65 / ft2  
 BEA Support = \$15K / ft2  
 NOTE: Priority 6 will be done as part of the new trailer project.

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Figure 2. Concrete Replacement at CFA-609



Table 1. MFC Concrete Repair Areas

MFC CONCRETE REPAIR AREAS					
CRA	Damage	Location Description	Area ft <sup>2</sup>	cost/ft <sup>2</sup> *	ROM
1	spalled, uneven surface	MFC-710 Entrance Walkway	286	72	\$20,592.00
2	cracked, uneven surface	Common Area Walkway W of MFC-728	77	72	\$5,544.00
3	cracked, uneven surface	Walkway S of MFC-717	149	72	\$10,728.00
16	cracked, uneven surface	Walkway ESE of MFC-717 heading to MFC-1727	159	72	\$11,448.00
17	cracked, uneven surface	Walkway ESE of MFC-717 heading to MFC-1727	62	72	\$4,464.00
4	pitted, uneven surface	Walkway N of MFC-752 Analytical Lab	688	72	\$49,536.00
5	cracked, uneven surface	Walkway S of MFC-752 Courtyard	173	72	\$12,456.00
7	cracked, uneven surface	Walkway between MFC 752 wings headed to courtyard	424	72	\$30,528.00
15	cracked, uneven surface	Courtyard between MFC 752 and MFC-791	176	72	\$12,672.00
19	cracked, uneven surface	Walkway S of MFC-752 Till CR	111	72	\$7,992.00
6	cracked, uneven surface	NE Entrance Walkway to MFC-713	33	72	\$2,376.00
11	cracked, uneven surface	Walkway W of MFC-713	25	72	\$1,800.00
12	cracked, uneven surface	Walkway W of MFC-713	93	72	\$6,696.00
13	cracked, uneven surface	Walkway W of MFC-713	59	72	\$4,248.00
8	cracked, uneven surface	Driveway to MFC-753 SE Rollup Door	414	72	\$29,808.00
20	cracked, uneven surface	Driveway to MFC-753 NW Rollup Door	577	72	\$41,544.00
25	cracked, uneven surface	Driveway to MFC-753 NE Rollup Door	228	72	\$16,416.00
9	cracked, uneven surface	Flatwork N of MFC-768B	162	72	\$11,664.00
18	cracked, uneven surface	Walkway W of MFC-752 Analytical Lab	324	72	\$23,328.00
21	spalled, cracked, uneven	W Entrance Walkway to MFC-752	236	72	\$16,992.00
14	spalled	W Door Entrance to MFC-1722	25	72	\$1,800.00
22	cracked, uneven surface	Walkway on WNW Corner of MFC-785	68	72	\$4,896.00
23	cracked, uneven surface	Walkway WSW of MFC-772	34	72	\$2,448.00
24	spalled, pitted surface	MFC-798 N Entrance Walkway	54	72	\$3,888.00
<b>Totals:</b>			<b>4637</b>		<b>\$333,864.00</b>

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CRA-10 removed due to repurpose

Cost per square foot is based on concrete pours performed at REC in Idaho Falls using concrete engineered for cold

\* temperatures and resistance to frequent snow removal operations and advanced ice-melt chemicals. A recent bid for the same approximate scope at ATR came back as ~ \$67/ ft<sup>2</sup>

Original Scope

Sidewalks and other miscellaneous concrete structures (e.g. curbs, gutters, etc.) at the CFA and Experimental Breeder Reactor (EBR)-1 are experiencing deterioration and cracking. These conditions present a safety hazard to personnel and need to be corrected.

The summary of work includes but is not limited to the following:

- Remove concrete ramps, stairs and slabs, sidewalks and railings
- Acquire aggregate
- Excavate materials as needed to replace concrete
- Backfill excavations for footings and foundations
- Backfill excavation for slabs and sidewalks
- Backfill pit run gravel and leveling course base for paving
- Compact all backfill and subgrade
- Grade for surface drainage
- Test soils and compaction.

Excavated material suitable and required for backfilling, grading, or topsoil will be piled in a safe manner and kept free of vegetation. Topsoil for finish grading will be kept free from subsoil and vegetation.

Asphalt damaged or disturbed by concrete repair or replacement will be patched. Asphalt will be repaired by removing damaged material by sawcutting, and base material will be removed to a depth of 12 inches. Twelve inches of leveling course will then be placed in two lifts and compacted. The subbase and leveling course will be compacted with a vibratory plate compactor or a rammer/tamper compactor. New asphalt will be placed flush with adjacent asphalt and match slope.

New sidewalks will have minimum 4-inches of compacted gravel base over compacted sub-base, be a minimum of 5-inches thick, and be reinforced with #4 bars.

The proposed action removes and replaces concrete ramps, stairs and slabs, sidewalks and railings as described below:

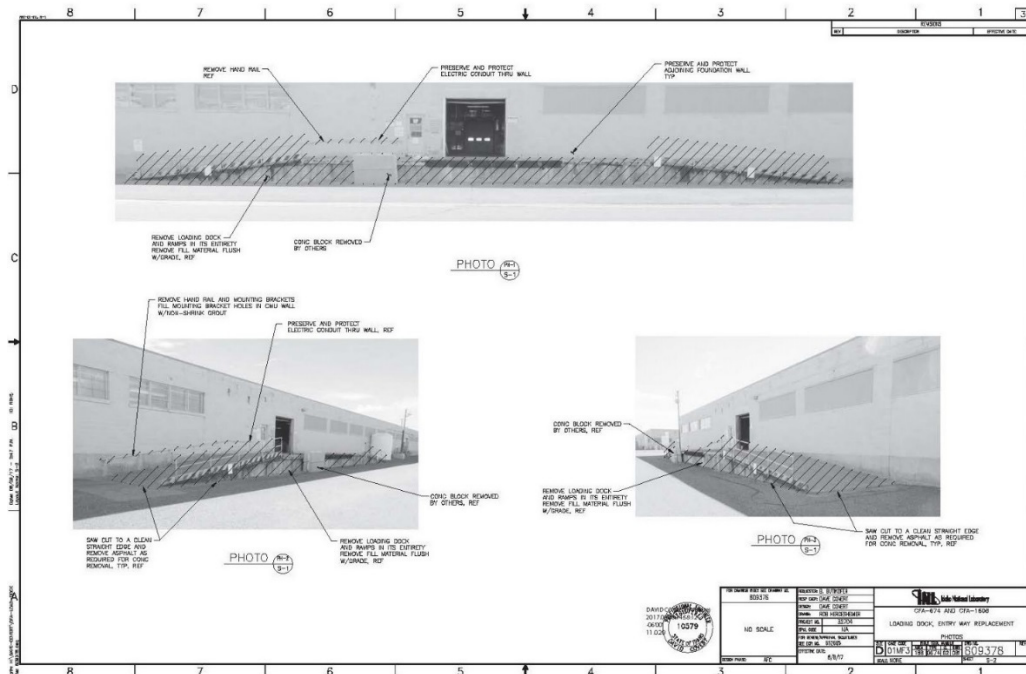
CFA-674 Loading Dock Replacement

The proposed action replaces the CFA-674 loading dock. Activities associated with loading dock replacement include the following:

- Demolition and disposal of old loading dock and stair
- Excavation and backfill for new loading dock
- Installation of new loading dock and stair
- Site grading and paving.

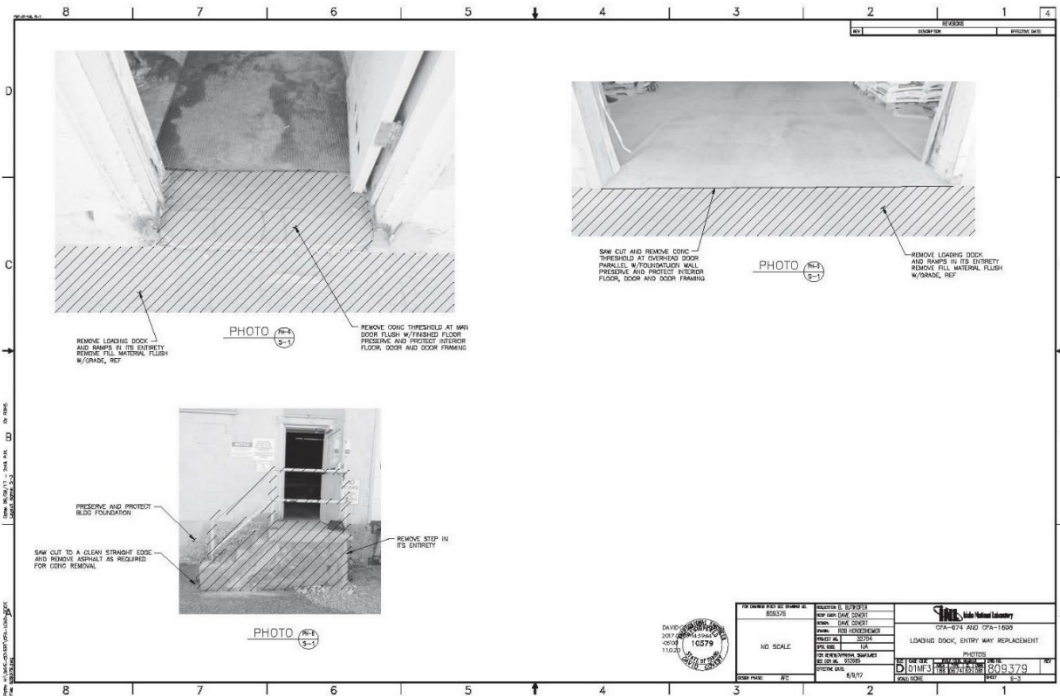
Figures 1 and 2 detail the scope of work for replacing the loading dock.

**Figure 1. CFA-674 Loading Dock Replacement**



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**Figure 2. CFA-674 Loading Dock Removal Details**



**CFA-614 Sidewalk Repair and Replacement**

Project activities remove and replace the sidewalk between CFA-614 and CFA-685 (See Figures 3).

**Figure 3. CFA-614 to CFA-685 Sidewalk Replacement**



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## CFA-615 East Side Sidewalk

The sidewalk on the east side of CFA-615 will be replaced as shown in Figure 4.

**Figure 4. CFA-615 East Side Sidewalk Replacement**



## CFA-1608 Concrete Repair and Replacement

Project activities remove and replace concrete at CFA-1608 as shown in figures 5 and 6.

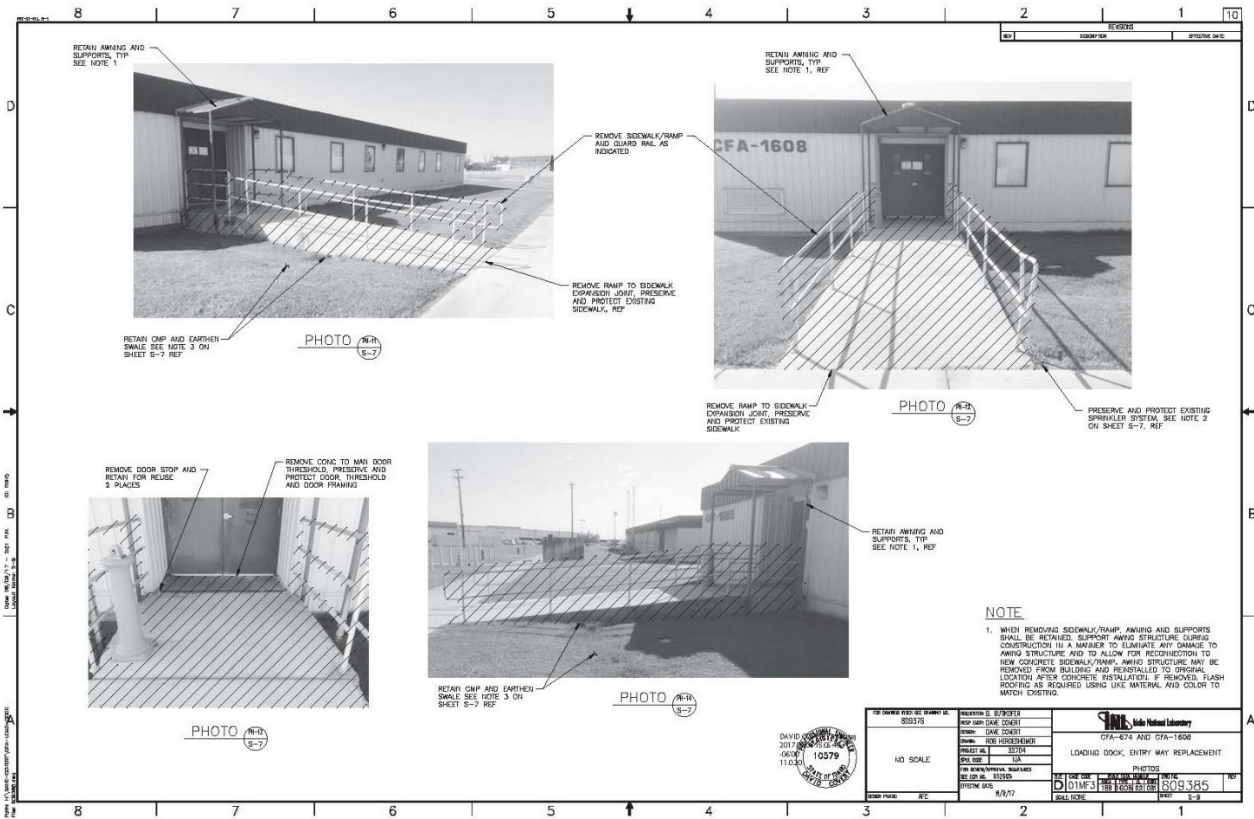
**Figure 5. CFA-1608 Concrete Improvements**

**NOTE**

1. WHEN REMOVING SIDEWALK/RAMP, AWING AND SUPPORTS SHALL BE RETAINED. SUPPORT AWING STRUCTURE DURING CONSTRUCTION IN A MANNER TO ELIMINATE ANY DAMAGE TO AWING STRUCTURE AND TO ALLOW FOR RECONSTRUCTION TO NEW CONCRETE SIDEWALK/RAMP. AWING STRUCTURE MAY BE REMOVED FROM BUILDING AND REINSTALLED TO ORIGINAL LOCATION AFTER CONCRETE INSTALLATION. IF REMOVED, FLASH ROOFING IS REQUIRED USING LIKE MATERIAL AND COLOR TO MATCH EXISTING.

DATE: 07/05/2017 DRAWN: J. W. COLEMAN CHECKED: J. W. COLEMAN PROJECT: 10579 11/02/2017	REVISION: 18: 8/2/2017 REVISED: JUNE 2021 DRAWN: JES HERGENROTHER PROJECT: 3107 SHEET SIZE: 11x17 BY: JESHER DATE: 8/2/17	PROJECT: CFA-615 AND CFA-1608 LOADING DOCK, ENTRY WAY REPLACEMENT PHOTOS DWG NO: 1803384 REV: 18
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Figure 6. CFA-1608 Entryway Improvement



EBR-1 Concrete Improvements

The proposed action also replaces sidewalks, curbing, a ramp, and railroad ties with concrete curbing at EBR-1 as detailed in Figure 7.

Figure 7. EBR-1 Concrete Improvements



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### SECTION C. Environmental Aspects or Potential Sources of Impact:

#### Air Emissions

Fugitive dust may be generated during construction.

#### Disturbing Cultural or Biological Resources

Project activities have the potential to disturb biological and cultural resources.

There are no known archaeological properties within the proposed project area. Additionally, the activity type described is exempt as ground disturbance within a fenced facility perimeter in Table 1 of the INL Cultural Resource Management Plan (CRMP) (Idaho National Laboratory Cultural Resource Management Office. Idaho National Laboratory Cultural Resource Management Plan. DOE/ID-10997, revision 6, Idaho Falls, Idaho: U.S. Department of Energy, Idaho Operations Office, 2016, pg. 49). However, if at any time during project implementation cultural resources (i.e., bones, flakes of obsidian, "arrowheads" or other stone tools, bottles, tin cans, etc.) are discovered, all work in the area must cease until a CRMO Archaeologist can evaluate the resources. Contact L. Suzann Henrikson (208-526-2985) should any inadvertent or late discoveries occur during project implementation to arrange archaeological evaluation and cultural resource review.

EBR-I is listed on the National Register of Historic Places (NRHP) as a National Historic Landmark (NHL), and is considered a Signature historic property. CFA-674 (Warehouse) is eligible for nomination to the National Register of Historic Places and is considered a Category 3 historic property. Removal and/or changes of original features may adversely affect these historic properties; however, the project activities are exempt and may proceed as described without further cultural resource review. The described project activities fall under exemptions 2 (routine maintenance), 3 (replacement-in-kind), and 6 (safety systems) listed in Table 2 of the CRMP (Idaho National Laboratory Cultural Resource Management Office. Idaho National Laboratory Cultural Resource Management Plan. DOE/ID-10997, revision 6, Idaho Falls, Idaho: U.S. Department of Energy, Idaho Operations Office, 2016, pg. 51).

#### Generating and Managing Waste

The work scope will generate construction waste materials. Waste Generator Services (WGS) will assist in characterizing all waste and will manage any hazardous waste generated.

#### Releasing Contaminants

Typical construction chemicals such as fuels, lubricants, adhesives, etc., will be used while installing the trailers and will be submitted to chemical inventory lists with associated Safety Data Sheets (SDSs) for approval in the vendor data system prior to use. The Facility Chemical Coordinator will enter these chemicals into the INL Chemical Management Database. All chemicals will be managed in accordance with laboratory procedures. Although not anticipated, there is a potential for spills when using chemicals or fueling equipment. In the event of a spill, notify facility PEL. If the PEL cannot be contacted, report the release to the Spill Notification Team (208-241-6400). Clean up the spill and turn over spill cleanup materials to WGS."

#### Using, Reusing, and Conserving Natural Resources

Recycled materials will be used to the greatest extent practicable in the selection of building materials.

### SECTION D. Determine Recommended Level of Environmental Review, Identify Reference(s), and State Justification: Identify the applicable categorical exclusion from 10 Code of Federal Regulation (CFR) 1021, Appendix B, give the appropriate justification, and the approval date.

For Categorical Exclusions (CXs), the proposed action must not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environmental, safety, and health, or similar requirements of Department of Energy (DOE) or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment or facilities; (3) disturb hazardous substances, pollutants, contaminants, or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources (see 10 CFR 1021). In addition, no extraordinary circumstances related to the proposal exist that would affect the significance of the action. In addition, the action is not "connected" to other action actions (40 CFR 1508.25(a)(1)) and is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1608.27(b)(7)).

**References:** 10 CFR 1021, Appendix B to Subpart D, B2.5 "Facility safety and environmental improvements."

**Justification:** Project activities are consistent with 10 CFR 1021, Appendix B to Subpart D, B2.5 "Safety and environmental improvements of a facility (including, but not limited to, replacement and upgrade of facility components) that do not result in a significant change in the expected useful life, design

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capacity, or function of the facility and during which operations may be suspended and then resumed. Improvements include, but are not limited to, replacement/upgrade of control valves, in-core monitoring devices, facility air filtration systems, or substation transformers or capacitors; addition of structural bracing to meet earthquake standards and/or sustain high wind loading; and replacement of aboveground and belowground tanks and related piping, provided that there is no evidence of leakage, based on testing in accordance with applicable requirements (such as 40 CFR part 265, "Interim Status Standards for Owners and Operators Hazardous Waste Treatment, Storage, and Disposal Facilities" and 40 CFR part 280, "Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks"). These actions do not include rebuilding or modifying substantial portions of a facility (such as replacing a reactor vessel)."

Is the project funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act)       Yes     No

Approved by Jason Sturm, DOE-ID NEPA Compliance Officer on: 6/27/2018