United States Department of the Interior

NATIONAL PARK SERVICE
INTERIOR REGIONS 6, 7 & 8
1 Denver Federal Center, Building 50
Denver, CO 80225

MEMORANDUM

To: Accountability Office

From: Brian Carlstrom, Regional Director BRIAN CARLSTROM Digitally signed by BRIAN CARLSTROM Date: 2025.06.06 08:48:28 -06'00'

Subject: YELL – ALLEGED MISMANAGEMENT, NPS, YELL, WY

DOI-OIG Case File No. IMU-24-0416- C - YELL

Department of the Interior, Office of Inspector General received a complaint from (b) (6), (b) (7)(C) WG-9, NPS, Yellowstone National Park (YELL), WY, alleging mismanagement through the disregard for the laws and rules regarding lead-based paint. (b) (6), (b) (7)(C) alleged that (b) (6), (b) (7)(C) (retired), (b) (6), (b) (7)(C), WG-10, NPS, YELL, WY, (b) (6), (b) (7)(C), GS-12, NPS, YELL, WY, (b) (6), (b) (7)(C), WG-9, NPS, YELL, WY, and (b) (6), (b) (7)(C), WG-9, NPS, YELL, WY have failed to complete pre-renovation testing, take safety precautions, and train workers. (b) (6), (b) (7)(C) also alleged a lack of disclosure to residents in federally owned housing about the lead paint and the use of uncertified contractors by YELL.

As a result of the OIG complaint, David Winnett, NPS industrial hygienist, at the request of YELL, was asked to conduct a Lead Based Paint (LBP) Program review and audit the park's program to identify areas for improvement. Winnett concluded that YELL's lead management program rates at 42.9% compliance overall, with Occupational Exposure Control at 50.7% and Family Housing Lead Management at 21.5%. YELL expressed concern regarding the overall compliance rating as well as the Family Housing Lead Management score, citing the following mitigating factors that demonstrate an effective LBP program:

- **Tenant Notification and Acknowledgment**: All tenants received federally required LBP notifications upon moving in. After a more extensive review of housing records, YELL found an 80.3% return rate for signed acknowledgment forms from tenants.
- **Tennent LBP Renotification:** YELL implemented an annual resident LBP renotification and signed acknowledgment process.
- **Qualified Risk Assessment**: YELL outsources to certified EPA and HUD lead risk assessors to perform risk assessments, inspections, and post-work clearance testing.
- **Pre-1978 Renovation Prioritization**: Renovation efforts are focused on housing structures built before 1978.

YELL acknowledges the need to enhance pre-renovation testing to fully conform with federal regulations and has strived to do so as demonstrated by the following actions described below. YELL has pre-renovation testing in place and it was being accomplished either in-house by YELL staff or by contract.

- **LBP Training:** YELL personnel completed documented lead-based paint training in June 2022 and most recently in July 2024. While there may have been some

documentation gaps, YELL reported that employees also received lead-based paint training prior to 2022.

- **X-ray Fluorescence Lead Analyzer (XRF)** - In December 2021, the park initiated a procurement process for an X-ray fluorescence (XRF) lead analyzer, which was received on April 27, 2022.
- **Pre-renovation LBP Testing:** Prior to acquiring the XRF device, lead testing was reportedly conducted using 3M lead check swabs.

It is noteworthy that the primary staff member trained to operate the XRF device to help ensure the park's compliance with regulations is the same individual who later filed the compliance complaint. David Winnett documented this in his compliance review.

It is also noteworthy that YELL had implemented several LBP initiatives preceding the staff member's complaint received on 06/26/2024. In addition, prior to the complaint being received the staff member was asked to participate in enhancing YELL's LBP program but declined.

YELL's Ongoing Enhancements to Lead Management Practices:

1. Mitigation Efforts and Contracted Testing Initiatives

- In 2019, Yellowstone National Park (YELL) launched a comprehensive interior housing renovation initiative known as GOAL 2 – Renovate Existing Housing Units, which includes lead-based paint (LBP) abatement. The park has invested $20 million in this effort and is securing an additional $14 million to continue the program.
- Recent projects include a comprehensive exterior renovation and lead-based paint (LBP) abatement of six residences in Mammoth Hot Springs, along with partial exterior renovations and lead-hazard siding replacement on 24 additional structures. Third-party contractors conducted testing, performed air monitoring, and ensured all work complied with HUD-defined permissible exposure limits.
- Two major contracts, initiated in 2020 and totaling approximately $50 million, were awarded for the restoration and LBP abatement of historic housing units in Fort Yellowstone and the Laurel Dormitory. In preparation, Hazardous Materials Inspection Reports were completed for the Laurel Dormitory on July 23, 2021, and Fort Yellowstone on November 10, 2021. These projects address all exterior surfaces and contaminated soil, with the interior of the Laurel Dormitory also scheduled for lead mitigation.
- In September 2023, YELL initiated a park-wide LBP testing contract. The contract was awarded to IRIS Environmental Laboratories on May 10, 2024. IRIS conducted inspections of all housing units in the Upper and Lower Mammoth districts, with final reports delivered in September 2024.
- Based on IRIS's findings, YELL prioritized mitigation for 11 family housing units occupied by children under age 8 and/or pregnant women. A follow-up contract with IRIS was also secured to perform comprehensive risk assessments for all remaining housing units.

2. Abatement Schedule and Execution

- A detailed abatement schedule for the 11 priority family housing units—addressing both interior and exterior hazards—is currently in development and work will be completed in summer FY 2025.
- YELL expanded its housing renovation strategy by launching GOAL 2.5 – Exterior Renovations Program, a $36 million initiative targeting parkwide LBP hazard abatement on housing unit exteriors.
- All remediation efforts will address both interior and exterior LBP hazards, including lead-contaminated soil, and will comply with applicable EPA and HUD regulations.

3. Policy and Planning Improvements

- In 2023 YELL created and filled a Construction Safety Specialist GS-11 to enhance all safety programs with a focus on LBP.
- On August 24, 2023, YELL initiated a comprehensive revision of its Lead-Based Paint Management Plan. A draft was submitted for review to David Winnett (then Regional Industrial Hygienist, now servicewide Industrial Hygienist) and David Kane (Regional Safety Manager), with final feedback expected by May 2025.
- Key policy updates include a decision to limit in-house mitigation to minor or preservation-sensitive tasks. All major abatement projects are now outsourced to EPA-certified contractors to reduce occupational exposure risks.
- Renovation, Repair, and Painting (RRP) certification training has been expanded to include a broader group of staff to enhance LBP hazard awareness throughout the workforce.
- Housing residents receive biannual updates on LBP risks: once in hard copy with the annual Tenant LBP Renotification included in Rental Agreement recertification paperwork, and again via email through the park's Strategic Communications branch.
- In 2023 the park developed and shared with all employees a "Hazards of Living in Park Housing document and a Keeping Your Home Safe" QR code magnet including both LBP awareness information and steps to report deterioration hazards.
- Residents are provided access to all LBP testing reports, which include annotated photographs highlighting areas of concern.
- "Renovate Right" informational materials are issued to tenants prior to any renovation work, and appropriate safety measures are implemented to protect both staff and residents.
- Annual walk-through inspections are conducted by park staff to identify deteriorating paint conditions. Any hazards observed are documented and used to initiate work orders and subsequent mitigation.

4. Ongoing and Future Initiatives to be Incorporated in the Revised LBP Management Plan

- Continued issuance of LBP notifications upon housing assignment and annually thereafter.
- Ongoing annual inspections of housing units to monitor paint condition and initiate corrective actions as needed.
- Priority housing assignments for families with children under age 8 and/or pregnant women, particularly as newly constructed housing becomes available.

- Reduction of in-house mitigation activities, with major LBP projects to remain contracted to EPA-certified firms to ensure full regulatory compliance and resident safety.

This summary reflects Yellowstone National Park's significant progress in controlling lead-based paint hazards and its continued commitment to employee safety, risk reduction, and regulatory compliance. Upon finalization, the updated Lead-Based Paint Management Plan will serve as a comprehensive framework for sustained improvement at YELL and across the National Park Service. The NPS Industrial Hygienist, David Winnett, has noted that Yellowstone's program is more advanced than those of many other park units and will serve as a foundation for developing a formal nationwide NPS Lead Paint Management Program.

If you need any additional information or have further questions, please do not hesitate to contact Justin Sochacki (Justin_Sochacki@nps.gov).

Attachments:
Summary Report_YELL Lead Hazard Management Compliance Review 2025
Lead Checklist
YELL Response Notes

Compliance Review: Evaluation of Yellowstone National Park's Management of Lead Hazard Exposure in Employee Workplaces and in Government-Furnished Family Housing

Yellowstone National Park

18 March 2025

Purpose

This evaluation seeks to ascertain Yellowstone National Park's level of compliance with applicable National Park Service (NPS) policy and federal regulations pertaining to occupational exposures to lead and the management of lead-based paint hazards in government-furnished family housing (GFH) at Yellowstone National Park (YELL).

This report assesses YELL's adherence to standards outlined in OSHA 29 CFR 1910.1025 and 1926.62, HUD 24 CFR 35, EPA 40 CFR 745, and NPS Reference Manuals (RM-50B, RM-36) and Director's Orders (DO #36). Information provided in documented programs, plans, and procedures including Yell's Lead Management Program (April 2017), Respiratory Protection Program (February 2017), Housing Management Plan (HMP) (August 2013); other documents and correspondence provided by YELL personnel including various notices, housing and safety records; and interviews with current YELL personnel was evaluated. Compliance was determined by comparing findings to an established assessment criteria composed of 65 requirements across two categories: Occupational Exposure Control (46 requirements) and Family Housing Lead Management (19 requirements). Compliance is classified as "Fully Met" (100% rating), "Partially Met" (50% rating, including "Met By Policy Only"), or "Unmet" (0% rating), with "Not Assessed" excluded from scoring. Category or subsection ratings are averaged from individual requirement scores and presented with recommendations addressing gaps, ongoing efforts, and coordination challenges. The detailed assessment criteria along with the evaluation findings for each requirement are provided in Appendix A.

Assessment Structure

This assessment is divided into two sections based on the primary at-risk populations and their respective regulatory frameworks. The Occupational Exposure Control section focuses on worker protection driven by requirements in OSHA's Standard for Construction and Standard for General Industry and RM-50B, Chapter 38 (Section 4.9), subsection 4X.1 addressing requirements like exposure monitoring and protection for employees and volunteers. The Family Housing Lead Management section targets the protection of housing occupants, particularly children aged 6 years and under and pregnant occupants. Requirements for lead management in housing were derived from EPA and HUD regulations and from guidance in RM-50B, Chapter 38 (Section 4.9), subsection 4X.2, RM-36 and DO #36. These two areas are interdependent, requiring coordinated efforts across divisions to protect all at-risk populations effectively. Adherence to drinking water standards and solid waste regulations were not assessed as part of this evaluation.

Overall Compliance Rating

Of the 65 requirements, 64 were assessed, with one remaining unassessed. Compliance results show that 9 requirements (13.8%) are Fully Met, indicating full implementation with evidence; 34 requirements (52.3%) are Partially Met, encompassing both partial execution and policy-only alignment without confirmed action; and 21 requirements (32.3%) are Unmet, reflecting no policy or implementation. The single Not Assessed item represents 1.5% of the total. This yields a 67.2% rate of at least partial compliance (Fully Met + Partially Met), with Occupational Exposure Control at 82.2% and Family Housing Lead Management at 21.1%. While 67.2% of requirements are addressed at some level, the low Fully Met percentage underscores significant gaps in execution beyond policy, particularly in housing management.

Occupational Exposure Control (51% Compliance Rating)

Protecting YELL's workforce—maintenance staff, rangers, and others exposed to lead through renovation, demolition, or firing range operations—demands detailed adherence to OSHA regulations and NPS guidelines. The Lead Management Program (April 2017) outlines compliant protocols, but gaps in execution and documentation limit its effectiveness. Across 45 assessed requirements (out of 46 total, with one Not Assessed), the section earns a 51.1% rating, reflecting moderate policy strength under performed by inconsistency in its application.

1. Exposure Assessment and Monitoring (60% Rating)

Yell's Lead Management Program prescribes initial exposure assessments and air monitoring for trades like plumbing and painting requiring material assessments before demolition or renovation and sampling for untested environments (p. 3-5). Listed trigger tasks such as manual demolition provide presumptions of exposure levels that exceed the PEL (50 $\mu g/m^3$) unless sampling proves otherwise (p. 3). Periodic monitoring is specified by Yell's program for every three months if exposures are found or presumed to be above the PEL and every six months if between the AL (30 $\mu g/m^3$) and the PEL (p. 9). However, YELL's program lacks explicit requirements for full-shift (≥7-hour) monitoring per NIOSH methods, expressed exclusion of respirator adjustments, stated conditions for sampling cessation, and evidence of historical or objective data use despite policy allowances (p. 9). Yell's compliance for exposure assessment and monitoring is rated at 60%: Fully Met for one requirement and Partially Met for four. To improve compliance, the Park should implement full-shift NIOSH-compliant exposure monitoring, properly document sampling and exposure determinations, and maintain a repository of historical and objective data for exemptions.

2. Exposure Control Measures (50% Rating)

Engineering controls, such as HEPA-equipped tools and wet methods, are prioritized in YELL's programs to reduce exposures to below the PEL, with additional requirements for wet sanding and

HEPA vacuuming detailed in the program (p. 4-8). Prohibiting high-risk practices like open-flame burning and dry abrasive blasting (p. 7-8) is also included in YELL procedures. Dry sweeping is prohibited as assumed to apply for welding, vehicle maintenance areas, and for firing range activities (p. 8). However, bullet and primer specifications for firing ranges are left unaddressed, and the outdoor environment is presumed to sufficiently reduce lead inhalation hazards. Furthermore, the program's omission of any requirements for air monitoring in the absence of verified controls is an identified deficiency. The program also omits adjustment of the lead exposure PEL for workdays exceeding eight hours as well as TWA calculations accounting for respirator use and specific administrative controls like worker rotation beyond only a general mention (p. 9). Compliance is valued as Fully Met for one requirement, Partially Met for four, and Unmet for one earning an overall 50% rating for exposure control measures. Recommendations include implementing adjusted exposure limits for extended shifts using the formula 400 ÷ hours worked ($\mu g/m^3$), specifying and documenting administrative controls, and mandating copper/nylon-clad bullets and non-lead primers for firing ranges.

3. Written Compliance Program and Plans (46.7% Rating)

Yell's written compliance program, approved and implemented in April 2017, addresses work exceeding the PEL and integrates PPE, housekeeping, and hazard communication elements (p. 4-8). A revision of Yell's written program is in progress and soon to be submitted for approval. The current program document, however, lists exposure sources and procedures (p. 3-7) but lacks an annual revision schedule. Project exposure control plans were found to be inconsistent in providing detailed activity descriptions (e.g., crew size, equipment), implementation timelines, technology reports, and site-specific information. Multi-contractor coordination requirements remain unassessed due to a lack of information and multi-contractor occurrence. Integration of Yell's respiratory protection and hazard communication programs is present (p. 4-7). However administrative control schedules which should be prioritized above respiratory protection as an exposure control technique are lacking from the written compliance program or any of the reviewed project exposure control plans. Additionally, inspection protocols mentioned in YELL's program are vague (p. 9) and lack actionable procedure. Compliance is Fully Met for three requirements, Partially Met for eight, Unmet for three, and Not Assessed for one. Finalizing the revision of the written compliance plan to include provisions for detailed activity descriptions, capture and reporting of air monitoring data, detailed administrative controls, and inspection protocols including designated personnel and frequency is recommended to strengthen this area.

4. PPE and Hygiene (25% Rating)

The current Lead Management Program and a YELL Safety Services protocol for lead paint reduction prescribes half-face HEPA respirators and coveralls for work processes with expected exposures above the PEL (p. 4-7). However, HEPA equipped tools were reportedly not available for use by maintenance personnel. Protection factor levels of full-face respirators would be required for adequate protection for the assumed exposure levels of lead work conducted with non-HEPA filtered local exhaust-equipped tools (trigger task-RM-50B) in the absence of exposure monitoring

data and for protection against lead aerosols that may cause eye or skin irritation. Required use of full-face respirators, provisions for powered air-purifying respirators (PAPRs), PPE cleaning schedules, and provisions of hygiene facilities for high exposures were all factors of PPE and Hygiene compliance being found deficient in YELL's program. Handwashing is mandated (p. 5-7, Reduction protocol), but not supported in documentation were provisions for change areas or showers. Compliance is found to be Unmet for two requirements and Partially Met for two providing a compliance rating of 25% for PPE and hygiene. To improve, the Park should provide full-face respirators and provisions for PAPRs to meet requests, establish weekly PPE cleaning schedules (daily if >200 µg/m^3 by monitoring or trigger task assumption), and provide change areas and showers where needed.

5. Designated Lead Hazardous Work Areas (75% Rating)

Signs and barricades are required by the written lead management program for exposures above the PEL or when disturbing lead-containing materials, with containment via plastic sheeting mandated for interior and exterior work (p. 3-9). However, this requirement by the lead management program is not supported in any project plans or other documentation. Pre-1980 paint is assumed leaded unless tested (p. 3), and respiratory protection supplements engineering and administrative controls if insufficient (p. 9). While signage wording aligns with OSHA standards and access restriction is implied via barricades, documentation of implementation is lacking. Compliance is Fully Met for three requirements and Partially Met for three (50%). Documenting signage installation with photos and training staff to enforce restricted access would significantly improve this level of compliance.

6. Medical Surveillance and Removal (18.75% Rating)

Medical surveillance is required at YELL for employees exposed above the AL for over 30 days annually (p. 4, 8). Records of blood lead level (BLL) testing provided by the Park were reviewed and showed inconsistent monitoring. The program specifies BLL testing to be offered every two months for the first six months and every six months thereafter if exposures are above the AL (p. 9), but omits initial medical surveillance requirement for any one day exposed above the action level and omits requirement of zinc protoporphyrin (ZPP) testing. Removal criteria is only implied rather than explicit (p. 8) and monthly checks during removal have no mention. Compliance is considered less than 20% for medical surveillance and removal with three requirements Partially Met and one requirement Unmet. Adding ZPP testing, consistently aligning monitoring frequency with OSHA standards, including requirement for initial medical surveillance, and explicitly stating removal thresholds (e.g., BLL ≥50 µg/dL) are recommended.

7. Training and Communication (16.7% Rating)

Lead awareness training is mandated for YELL employees with potential for exposure but only those disturbing lead-containing material as part of their daily tasks (p. 4), but not mandated for custodial

staff or building occupants where a lead hazard may exist as directed by Appendix E of RM-50B, Chapter 38. A lead training program is also not mandated for employees exposed to lead concentrations at or above the action level for only one day or more in accordance with 1926.62(l)(1)(ii). YELL's program does not specify an annual frequency nor details of certification for those involved in lead activities such as lead inspection or lead risk assessment.

In the past year, the Park has had 30 staff trained and certified for EPA lead renovation, repair, and painting activities in the past year and provided records of training for previous periods. Temporary lapses in recertifications and historically a lack of credentials in lead inspection and risk assessment were identified in the records. Compliance for training and communication for occupational exposure control is Partially Met for two requirements and considered Unmet for one (16.7%). Including a lead training program in the written lead management program for any employee who is subject to exposure to lead at or above the action level on any day, or who is subject to exposure to lead compounds which may cause skin or eye irritation (*e.g.*, lead arsenate, lead azide) is needed for full compliance. Providing annual training with proper recordkeeping for all affected staff and ensuring EPA-certified training for all lead activities per 40 CFR 745 would also help address these gaps.

8. Recordkeeping and Documentation (25% Rating)

Retention of records related to lead activities including testing, training, and medical surveillance is scattered across offices without a unifying policy or protocol. Requests for records produced no exposure monitoring or objective data records. A records retention schedule and the authorized availability of records to employees, former employees, and their designated representatives lacks explicit policy or any established protocols. Compliance for this area is rated at 25% with one requirement Unmet and the other only Partially Met. Establish procedures for centralized record retention and availability and specify a length-of-employment plus 30-year retention period. Ensure accessibility of those records for the duration of their respective retention period.

Family Housing Lead Management (16% Compliance Rating)

This section focuses on YELL's management of hazards in government-furnished family housing from lead-based paint and other lead-containing finishes, a critical responsibility to ensure the safety of park residents under federal regulations such as HUD 24 CFR 35, EPA 40 CFR 745, NPS policies including Reference Manual 36 (RM-36), RM 50-B, and Department of the Interior's Director's Order #36 (DO #36). The assessment is structured across seven distinct categories—ranging from the use of lead-based paint to real property disposal—drawing evidence from the Yell's Housing Management Plan (HMP), notices to tenants, and related documentation. With an overall compliance rating of 15.7% based on 19 requirements, this section reveals incomplete policies and inconsistent implementation necessary for ensuring the protection of GFH occupants from lead exposure.

1. Use of Lead-Based Paint (0% Rating)

Paint containing greater than 600 ppm lead must not be used on park buildings or recreational equipment and structures such as playground equipment and picnic tables. YELL's lead management program and HMP both fail to prohibit the use of paint containing more than 600 parts per million (ppm) of lead on GFH structures or recreational equipment, as required by RM-50B, Section 4.9.2, Program Element 1. This omission leaves open the possibility that new or maintenance-related applications could introduce lead paint. Rated as Unmet (0%), this single requirement's failure earns the category a 0% compliance rating. The absence of a fundamental restriction signals an oversight of proactive measures, potentially undermining other hazard control efforts. To address this, YELL must establish and enforce the prohibition of the use of lead paint above 600 ppm. Even though this requirement may seem arbitrary, integrating it into housing and maintenance protocols may serve to prevent future risks.

2. Lead Hazard Identification (33% Rating)

Lead inspections have been conducted in the past year for YELL housing through a contracted effort for pre-1978 GFH units in two of the housing districts, and efforts are in progress to inspect the remaining target units in Yell's other housing districts (Partially Met, 50%). YELL's HMP guidance notes lead-based paint in pre-1978 homes (5.1.3.1) but relies on presumption and encapsulation for hazard management rather than conducting assessments. No mention is made in facilities documents nor the HMP of use of certified lead professionals (e.g., lead inspectors or risk assessors per HUD 24 CFR 35.110) nor of conducting pre-renovation assessments. The HMP (5.1.3.1) specifically states that lead in housing is managed by encapsulating it with more paint and not removed: making no regard to friction surfaces or to the condition of the substrate. Pre-1960 prioritization and renovation triggers such as elevated BLLs are absent from YELL's programs, earning a 25% rating for lead hazard identification. Use certified inspectors, prioritize pre-1960 GFH, and assess housing hazards before major renovations or document presumptions for implementation of proper controls. Annual inspections by facility maintenance staff are required in YELL's program to ensure GFH remains "decent, safe, sanitary" but records do not demonstrate an annual schedule or focus on lead hazards (Partially Met, 50%). More critically, there's no prioritization of pre-1960 housing—known for higher lead risk (Unmet, 0%). This subsection's 33% rating reflects a fragmented program: policies exist, but implementation and prioritization lag. YELL should ensure the use of certified lead risk assessors to conduct comprehensive assessments, prioritize pre-1960 units based on risk profiles, and leverage iQMIS documentation protocols to strengthen hazard identification.

3. Disclosure of Lead Hazards (50% Rating)

Disclosure of lead hazards to pre-1978 GFH tenants via signed forms and the EPA pamphlet "Protect Your Family from Lead in Your Home" (HUD 24 CFR 35.88) is mandated in Yell's HMP, but 55% of reviewed tenant records either lacked acknowledgment from the tenant of receiving the material as was the case in few of the records or lacked record theat thenant was provided the dislosure materials which was the case I the majority of the deficient records. Additionally, none of the records provided predate 2024 (Partially Met, 50%). Record retention for risk assessments and

tenant disclosures is implied in the HMP (7.1.1-7.1.2.1) with a 3-year post-checkout requirement, but coverage is incomplete, with previous assessments only partially documented (Partially Met, 50%). The 50% compliance rating highlights a communication deficiency easily understating the potential risk to target housing tenants. YELL must ensure all target housing residents receive the proper lead disclosure documents and properly document the action not only to achieve 100% disclosure compliance but also to take the crucial proactive steps of informing their residents.

4. Exposure Risk Evaluation (0% Rating)

Evaluating and mitigating exposure risks, especially for vulnerable populations, is a regulatory imperative unmet at YELL. No records of risk assessments being conducted before renovations exceeding $5,000 annually or when children under 6 or pregnant women exhibit blood lead levels (BLLs) ≥10 µg/dL (Unmet, 0%; RM-50B, Section 4.9, Program Element 4). There is no provision for testing at-risk occupants when hazards are identified, nor reporting per CDC and state protocols (Unmet, 0%). Compounding this, the HMP lacks a policy to avoid assigning children under 6 or pregnant women to GFH with known lead-based paint (Unmet, 0%; RM-36, Section 9.7.2.1). The 0% rating reflects an absence of proactive measures and risk evaluation. Immediate action is needed: implement pre-renovation risk assessments, establish BLL testing for at-risk occupants when a risk is identified, and adopt tenant assignment policies as soon as possible to safeguard potentially at-risk residents.

5. Lead-Based Paint Hazard Control (33.3% Rating)

Controlling lead-based paint hazards is central to occupant safety, and YELL shows mixed progress. Encapsulation is YELL HMP's preferred method (Partially Met, 50%; 5.1.3.1), but it avoids removal due to exposure risks and lacks clearance processes required by HUD and RM-50B. Implementing clearance testing and standards post-abatement (<10 µg/ft^2 for floors, <100 µg/ft^2 for sills; EPA 40 CFR 745.227) are unmet (0%), as are prioritized repairs for GFH with health/safety deficiencies (0%; RM-36, Section 10.4). YELL's HMP includes no documented lead hazard control plans or maintenance schedules (Unmet, 0%; DO #36, Section 3.4; RM-36, Section 10.4). However, all Maintenance and Craft Shop staff are certified as lead renovators under the RRP Rule (40 CFR 745.225), with non-RRP activities contracted out, achieving full compliance (Fully Met, 100%; July 2024), although per-project procedures and supervision protocols could be clearer. This subsection's 33.3% rating balances certification success against broader control failures. YELL should finalize abatement plans, prioritize repairs, and assign certified renovators per project to improve hazard management.

6. Protecting Building Occupants During Lead Activities (0% Rating)

YELL's HMP offers no provisions to relocate occupants during significant lead activities (e.g., disturbances >10 ft^2) until clearance is achieved, nor to ensure lead-safe passage to essential areas like bathrooms (HUD 24 CFR 35.1345) or to ensure exclusion of children from interior rooms where plastic sheeting containment is located (RM-50B Appendix C). (Unmet, 0%). YELL's program does have containment measures like plastic sheeting or airlock flaps required based on disturbance level (RM-50B, Appendix C) which are specified for occupational work (p. 6-7) but lack GFH-specific

requirements (Unmet, 0%). Furthermore, YELL lacks post-maintenance and post-abatement procedures for clearance using visual inspections and dust sampling (>de minimis levels) as required by 24 CFR 35.1340 and 40 CFR 745.227€ (Unmet, 0%). The resulting 0% rating could cause exposure of residents to potential lead dust during renovations or to remaining lead dust afterwards. YELL must mandate relocation protocols, GFH-tailored containment, and clearance protocols to protect occupants effectively.

7. Real Property Disposal (0% Rating)

All lead-based paint hazards identified in housing constructed before 1960 must be abated prior to disposal of the property. After completion of abatement activities, clearance inspection and environmental sampling must be achieved according to the requirements of 40 CFR 745.227. No lead abatement mandates prior to disposal have been specified in any of the provided documents and is therefore rated as Unmet (0% rating).

Conclusion and Next Steps

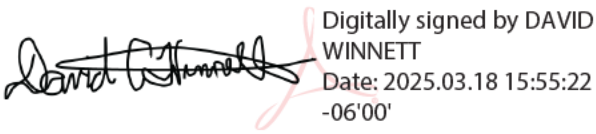
YELL's lead management program rates at 42.9% compliance overall, with Occupational Exposure Control at 50.7% and Family Housing Lead Management at 21.5%. The Lead Management Program revision nears completion, and staff RRP certification is a strength. However, a lack of proper medical surveillance and deficiencies in respiratory protection pose a notable risk to employee health. Add provisions for full-face respirators and for PAPRs when requested. Establish a medical surveillance program with proper tests and testing schedules along with a well-defined medical removal and monitoring protocol.

The current HMP for YELL has critical inadequacies that drive the low rating for lead management in family housing (9 of 20 requirements Unmet), failing to properly control lead hazards or align with RM-36 (2024). An HMP update is in draft, and a GFH abatement plan is underway, but more is needed. Proper recordkeeping, communication, and execution of a revised HMP is key for preventing lead exposure to at-risk residents. A significant finding not captured by the assessment criteria was that YELL's housing office was unaware of their own HMP and was unable to answer to crucial elements of managing health hazards in GFH. Mitigating training lapses and inconsistent training records would benefit from the use of the recently available Department of the Interior Safety Management Information System Exposure Assessment (SMIS EA) module that allows supervisors to track employee training and recertification timelines as an administrative control to work process hazards. Proper documentation and maintenance of monitoring and exposure assessment record will also be served by the use of the SMIS EA module by YELL supervisors and safety personnel. Requiring the use and data maintenance of SMIS EA in written Park programs and plans is highly recommended.

In conclusion, divisional fragmentation persists in YELL's overall program drastically reducing the effectiveness of the elements of compliance enacted for occupational and residential protections. Properly controlling lead health hazards requires coordinated effort as emphasized in RM-50B stating, "In practice, the requirements and responsibilities presented within these subsections are often intertwined and interdependent. Lead exposure control must be well coordinated between

divisions in order to protect all at-risk populations." Finalize the HMP revision by Q3 2025 to meet RM-36 (2024) and recommendations in this report; verify contractor certifications and manage those of the employees; and prioritize GFH controls to improve the overall program. A follow-up audit to this compliance review in 2026 is also strongly recommended.

The point of contact for this summary report is the undersigned at david_winnett@nps.gov.



David C. Winnett, CIH

Occupational Health Program Manager

National Park Service

Attachment: Appendix A: Lead Management Compliance Assessment Criteria and Findings

Appendix A: Lead Management Compliance Assessment Criteria and Findings

Section	Category	Requirement	Findings	Comments
Occupational Exposure Control	1. Exposure Assessment and Monitoring	Conduct initial exposure assessments for employees/volunteers potentially exposed to lead at or above the OSHA Action Level (30 µg/m^3, 8-hour TWA) [OSHA 29 CFR 1926.62(d)(1); 29 CFR 1910.1025(d)(1); RM-50B, Section 4.9, Appendix A]	Met by policy only	Program requires assessment of materials for lead presence prior to demolition/renovation (p. 3) and air monitoring for untested work environments (p. 4). Covers employees in trades like plumbing, welding, painting (p. 3).
Occupational Exposure Control	1. Exposure Assessment and Monitoring	Use personal air monitoring (full-shift, ≥7 hours) without adjusting for respirator use unless meeting 1926.62(e)(1) and (f) requirements, following NIOSH methods [OSHA 29 CFR 1926.62(d)(3); RM-50B, Appendix A]	Partially Met	Air sampling required for unmonitored procedures (p. 5), but no explicit mention of full-shift duration, NIOSH methods, or excluding respirator adjustment. Assumes contractor/trained employee sampling meets standards.
Occupational Exposure Control	1. Exposure Assessment and Monitoring	For "trigger tasks" (e.g., manual demolition, abrasive blasting, torch cutting), assume exposures exceed the PEL (50 µg/m^3) unless monitoring or objective data proves otherwise [RM-50B, Appendix A, Table A-1]	Fully Met	Employees must treat all pre-1980 paint as lead-based unless sampling shows otherwise (p. 3), implying presumption of exposure for trigger tasks like demolition (p. 3).
Occupational Exposure Control	1. Exposure Assessment and Monitoring	Perform periodic monitoring: quarterly if above PEL, semi-annually if above Action Level but below PEL, until two consecutive samples (≥7 days apart) are below Action Level [OSHA 29 CFR 1926.62(d)(6); RM-50B, Appendix A]	Partially Met	Program specifies monitoring every 3 months if above PEL and every 6 months if between AL and PEL (p. 9), but lacks requirement for two consecutive samples below AL to stop monitoring.
Occupational Exposure Control	1. Exposure Assessment and Monitoring	Use historical data (<12 months old) or objective data (e.g., industry studies) to exempt monitoring if conditions match [RM-50B, Appendix A]	Met by policy only	Step 1 allows valid testing data (<12 mo.) or objective industry data to determine if protective measures are needed (p. 9). No evidence of exposure monitoring.
Occupational Exposure Control	2. Exposure Control Measures	Implement engineering controls (e.g., HEPA-filtered tools, ventilation) and work practices (e.g., wet methods, misting debris) to reduce exposures below PEL (50 µg/m^3, 8-hour TWA) [OSHA 29 CFR 1926.62(c)(1) & (e)(1); RM-50B, Appendix C]	Met by policy only	Engineering controls prioritized (p. 4, 9), with wet sanding/scraping and HEPA tools required (p. 6-7). No HEPA -filtered tools as reported in employee interview.
Occupational Exposure Control	2. Exposure Control Measures	For workdays >8 hours, reduce allowable exposure per formula: 400 ÷ hours worked (µg/m^3) [OSHA 29 CFR 1926.62(c)(2)]	Unmet	No mention of adjusting exposure limits for workdays exceeding 8 hours. No evidence of compliance action.
Occupational Exposure Control	2. Exposure Control Measures	Prohibit high-risk practices: open-flame burning, dry scraping (except small areas), abrasive blasting without HEPA exhaust, heat guns >1100°F, methylene chloride strippers [RM-50B, Appendix C]	Fully Met	Prohibits open flame torching, dry abrasive blasting, heat guns >700°F, mechanized sanding without HEPA (p. 7-8); prefers methylene chloride-free chemicals (p. 7).
Occupational Exposure Control	2. Exposure Control Measures	Use administrative controls (e.g., worker rotation) when engineering controls alone are insufficient [OSHA 29 CFR 1926.62(e)(4); RM-50B, Appendix B]	Partially Met	Administrative controls mentioned (p. 9), but no specific examples like worker rotation provided. No compliance action documented.
Occupational Exposure Control	2. Exposure Control Measures	For firing ranges, ensure proper ventilation, use copper/nylon-clad bullets or non-lead primers, and avoid dry sweeping [RM-50B, Appendix F]	Partially Met	Firing range operations listed as exposure source (p. 3),dry sweeping is prohibited (p. 6) but no mention of controls or bullet/primer specifics. Ventilation not applicable for outdoor range.
Occupational Exposure Control	2. Exposure Control Measures	When respirators are used per 1926.62(f), calculate TWA by averaging protected periods (using respirator protection factor) with unprotected periods [OSHA 29 CFR 1926.62(c)(3)]	Partially Met	Lead Program requires respirators but doesn't specify TWA calculation. Respiratory Program details fit-testing and use (pp. 5-7) but doesn't address TWA averaging with protection factors.
Occupational Exposure Control	3. Written Compliance Program and Plans	Establish and implement a written compliance program prior to job commencement to achieve compliance with the PEL (50 µg/m^3, 8-hour TWA) [OSHA 29 CFR 1926.62(e)(2)(i); RM-50B, Appendix B]	Fully Met	Program exists (p. 4) and applies to work exceeding PEL, implemented April 2017.
Occupational Exposure Control	3. Written Compliance Program and Plans	Revise and update the program at least annually to reflect current status [OSHA 29 CFR 1926.62(e)(2)(v); RM-50B, Appendix B]	Met by Policy Only	Program dated April 2017, no explicit revision schedule stated; assumes annual updates per OSHA but lacks evidence.

Occupational Exposure Control	3. Written Compliance Program and Plans	Description of Activities: Detail each lead-emitting activity (e.g., equipment used, materials involved, controls in place, crew size, employee job responsibilities, operating procedures, maintenance practices) [OSHA 29 CFR 1926.62(e)(2)(ii)(A); RM-50B, Appendix B]	Partially Met	Lists exposure sources (p. 3) and some procedures (p. 6-7). Incosistent documentation of plans with crew size, specific equipment, or job responsibilities. No detailed documentation since 2004.
Occupational Exposure Control	3. Written Compliance Program and Plans	Compliance Methods: Specify specific means to achieve PEL compliance, including engineering controls with plans/studies used to select methods (e.g., HEPA ventilation designs) [OSHA 29 CFR 1926.62(e)(2)(ii)(B); RM-50B, Appendix B]	Met by policy only	Specifies engineering controls (p. 4, 9), wet methods, HEPA tools (p. 6-7); implies feasibility studies (p. 4). No detailed documentation since 2004.
Occupational Exposure Control	3. Written Compliance Program and Plans	Technology Report: Report technologies considered to meet PEL (e.g., HEPA tools vs. non-HEPA alternatives) [OSHA 29 CFR 1926.62(e)(2)(ii)(C); RM-50B, Appendix B]	Partially Met	Program lists acceptable methods (p. 7), but no explicit report of technologies considered.
Occupational Exposure Control	3. Written Compliance Program and Plans	Air Monitoring Data: Include air monitoring data documenting lead emission sources (e.g., sampling results from specific tasks) [OSHA 29 CFR 1926.62(e)(2)(ii)(D); RM-50B, Appendix B]	Met by policy only	Requires monitoring (p. 4), but no specific data or sources documented in program or plan.
Occupational Exposure Control	3. Written Compliance Program and Plans	Implementation Schedule: Provide a detailed schedule with documentation (e.g., purchase orders for HEPA equipment, construction contracts) [OSHA 29 CFR 1926.62(e)(2)(ii)(E); RM-50B, Appendix B]	Unmet	No schedule or supporting documentation included as policy nor within compliance plans.
Occupational Exposure Control	3. Written Compliance Program and Plans	Work Practice Program: Incorporate work practices from 1926.62(g) (protective clothing), (h) (housekeeping), (i) (hygiene), and other relevant practices (e.g., wet methods per 1926.62(e)(5)) [OSHA 29 CFR 1926.62(e)(2)(ii)(F); RM-50B, Appendix C]	Fully Met	Covers PPE (p. 5), housekeeping (HEPA vacuuming, no dry sweeping, p. 6-8), hygiene (hand washing, no eating, p. 5), and wet methods (p. 6).
Occupational Exposure Control	3. Written Compliance Program and Plans	Administrative Control Schedule: Detail administrative controls (e.g., worker rotation schedules) if applicable [OSHA 29 CFR 1926.62(e)(2)(ii)(G) & (e)(4); RM-50B, Appendix B]	Partially Met	Mentions administrative controls (p. 9), but no detailed schedules used.
Occupational Exposure Control	3. Written Compliance Program and Plans	Multi-Contractor Coordination: Describe arrangements among contractors on multi-contractor sites to inform employees of lead exposure risks and assign compliance responsibilities per 1926.16 [OSHA 29 CFR 1926.62(e)(2)(ii)(H); RM-50B, Appendix B]		No projects assessed for multi-contractor coordination.
Occupational Exposure Control	3. Written Compliance Program and Plans	Other Relevant Information: Include additional pertinent details (e.g., site-specific conditions, firing range protocols) [OSHA 29 CFR 1926.62(e)(2)(ii)(I); RM-50B, Appendix B]	Partially Met	Includes firing range as exposure source (p. 3). Site-specific details incosistent in plans.
Occupational Exposure Control	3. Written Compliance Program and Plans	Inspection Protocol: Provide for frequent and regular inspections of job sites, materials, and equipment by a competent person [OSHA 29 CFR 1926.62(e)(2)(iii); RM-50B, Appendix B]	Partially Met	Competent person required above PEL (p. 9), but no frequency or protocol specified.
Occupational Exposure Control	3. Written Compliance Program and Plans	Availability: Submit the plan upon request to affected employees, their representatives, or Labor and OSHA designees; keep it available at the worksite [OSHA 29 CFR 1926.62(e)(2)(iv); RM-50B, Appendix B]	Met by Policy Only	Assumed available per OSHA compliance, but no explicit statement on access or worksite availability.
Occupational Exposure Control	3. Written Compliance Program and Plans	Worksite-Specific Elements: Include site-specific details (e.g., “removal of thermoplastic striping at Site X using Bobcat 873,” misting protocols, signage locations) [RM-50B, Appendix B, Sample Plan]	Unmet	No site-specific examples provided.
Occupational Exposure Control	3. Written Compliance Program and Plans	Integration with Respiratory Protection: Comply with the park’s Respiratory Protection Program (29 CFR 1910.134) for respirator selection, fit testing, and training [RM-50B, Appendix C]	Fully Met	PPE training per 29 CFR 1910.132-138 (p. 5), includes respirators (p. 6-7).
Occupational Exposure Control	3. Written Compliance Program and Plans	Integration with Hazard Communication: Incorporate lead hazard training and labeling per 29 CFR 1910.1200 (e.g., “Warning, Lead Work Area, Poison, No Smoking or Eating”) [RM-50B, Appendix C]	Fully Met	Training (p. 4) and warning signs (p. 4, 9) align with HazCom requirements. RRP training (including hazcom elements) records for 2017 and 2024.

Occupational Exposure Control	4. Personal Protective Equipment (PPE) and Hygiene	Provide respirators (e.g., full-face APR with HEPA filters, APF ≥50) and protective clothing (e.g., coveralls, gloves, hats) when exposures exceed PEL or during trigger tasks without negative exposure assessment [OSHA 29 CFR 1926.62(f)(1) & (g)(1); RM-50B, Appendix C] Provide employees with a full facepiece respirator instead of a half mask respirator for protection against lead aerosols that may cause eye or skin irritation at the use concentrations. 29 CFR 1926.62(f)(3)(i)(B)	Unmet	PPE (half-face HEPA respirators, coveralls, gloves) required above PEL or likely overexposure (p. 4, 6-7; Reduction Protocol); sampling triggers use (p. 5). Full-face respirator required by trigger task if use of non-HEPA equipment. HEPA-equipped tools reportadly not available.
Occupational Exposure Control	4. Personal Protective Equipment (PPE) and Hygiene	Offer powered air-purifying respirators (PAPRs) if requested, ensuring adequate protection per 1926.62(c)(3) [RM-50B, Section 4.9, Program Element 5]	Unmet	No mention of PAPRs or employee requests.
Occupational Exposure Control	4. Personal Protective Equipment (PPE) and Hygiene	Clean PPE weekly, or daily if exposures >200 µg/m^3, and label contaminated clothing: “Caution: Clothing contaminated with lead…” [RM-50B, Appendix C supports 1926.62(g)]	Partially Met	Disposable PPE disposed as lead waste (p. 5), but no cleaning schedule or labeling specified.
Occupational Exposure Control	4. Personal Protective Equipment (PPE) and Hygiene	Supply hygiene facilities: change areas, handwashing, showers (if >200 µg/m^3), and enforce no eating/drinking/smoking in work areas [OSHA 29 CFR 1926.62(i); RM-50B, Appendix C]	Partially Met	Handwashing and no eating/smoking enforced (p. 5), wash-up facilities required (p. 6-7), but no mention of change areas or showers.
Occupational Exposure Control	5. Designated Lead Hazardous Work Areas	Conditions: Exposures exceed PEL (50 µg/m^3) or trigger tasks are performed without negative exposure assessment [OSHA 29 CFR 1926.62(e); RM-50B, Appendix A, Table A-1]	Fully Met	Signs and barricades required above PEL (p. 4, 9); pre-1980 paint assumed leaded unless tested (p. 3).
Occupational Exposure Control	5. Designated Lead Hazardous Work Areas	Conditions: Potential for lead dust/fumes from disturbing lead-containing materials (>0 ppm lead) [RM-50B, Definitions]	Fully Met	Applies to any measurable lead disturbance (p. 3).
Occupational Exposure Control	5. Designated Lead Hazardous Work Areas	Conditions: Engineering controls alone cannot maintain exposures below PEL [RM-50B, Section 4.9, Program Element 4]	Fully Met	Respiratory protection added if engineering and administrative controls are insufficient (p. 9).
Occupational Exposure Control	5. Designated Lead Hazardous Work Areas	Requirements: Post signs: “Warning, Lead Work Area, Poison, No Smoking or Eating” in workers’ language [OSHA 29 CFR 1926.62(m); RM-50B, Appendix C]	Met by policy only	Signs required above PEL (p. 4, 9); wording implied per OSHA. No documented action since 2004.
Occupational Exposure Control	5. Designated Lead Hazardous Work Areas	Requirements: Restrict access to authorized personnel [RM-50B, Appendix C]	Met by policy only	Barricades with danger tape required (p. 6-7). No documented action since 2004
Occupational Exposure Control	5. Designated Lead Hazardous Work Areas	Requirements: Use containment (e.g., plastic sheeting, airlock flaps) based on task scope [RM-50B, Appendix C, Tables C-1, C-2, C-3]	Met by policy only	Sheeting/tarps required (6 ft out) for interior/exterior work (p. 6-7). Not supported in project plans.
Occupational Exposure Control	6. Medical Surveillance and Removal	Provide blood lead level (BLL) and zinc protoporphyrin (ZPP) testing for workers exposed above Action Level >30 days/year and intitial blood sampling for any 1 day expposed at or above action level [OSHA 29 CFR 1926.62(j)(1); RM-50B, Appendix D]	Partially met	Medical surveillance for employees above AL for 30 days/year (p. 4, 8). Blood lead level monitoring records provided for 2017, 2019, 2022, 2025.
Occupational Exposure Control	6. Medical Surveillance and Removal	Frequency: initial, every 6 months, every 2 months if BLL >40 µg/dL, monthly during removal [RM-50B, Appendix D]	Unmet	BLL every 2 months for first 6 months, then every 6 months if above AL >30 days (p. 9); no mention of ZPP or monthly removal testing. No records of ZPP testing.
Occupational Exposure Control	6. Medical Surveillance and Removal	Offer medical exams if BLL >40 µg/dL, symptoms appear, or pregnancy occurs [RM-50B, Appendix D]	Met by Policy Only	Medical surveillance per OSHA 1910.1025(j) and 1926.62(j) (p. 8), but no specifics on exams.
Occupational Exposure Control	6. Medical Surveillance and Removal	Remove workers if BLL ≥50 µg/dL (construction) or ≥60 µg/dL (general industry), returning when <40 µg/dL [OSHA 29 CFR 1926.62(k); RM-50B, Appendix D]	Met by Policy Only	Implied per OSHA compliance (p. 8), but no explicit removal criteria.
Occupational Exposure Control	7. Training and Communication	Train workers exposed above Action Level annually on lead hazards, controls, PPE, and rights [OSHA 29 CFR 1926.62(l)(1); RM-50B, Appendix E]	Partially Met	Lead awareness training required (p. 4), but no annual frequency specified.

Occupational Exposure Control	7. Training and Communication	Certify abatement workers/supervisors, inspectors, and risk assessors per state/EPA regulations for lead activities. Certify RRP workers as certified lead renovators (e.g., 40 CFR 745) [RM-50B, Appendix E] Train competent persons for lead-related tasks [RM-50B, Appendix E]	Partially Met	Abatement training required (p. 4), but for overexposure work only. No certification details for other lead activities nor RRP. Certification records show gaps in years of certification/recertification. 30 staff certified as renovators in July 2024.
Occupational Exposure Control	7. Training and Communication	Provide hazard awareness training to custodial staff and building occupants in accoradance with the Hazcom standard [RM-50B, Appendix E]	Unmet	Policy contradicts requirements of awareness or Right-to-know. No lead hazard specifics in park HAZCOM program.
Occupational Exposure Control	8. Recordkeeping and Documentation	Retain exposure, medical, and training records for employment duration + 30 years [OSHA 29 CFR 1926.62(n); 29 CFR 1910.33; RM-50B, Section 4.9, Program Element 9]	Partially met	Recordkeeping inconsistent and scattered. No retention period specified. No procedures established.
Occupational Exposure Control	8. Recordkeeping and Documentation	Make records available to employees/representatives upon request [RM-50B, Section 4.9, Program Element 9 aligns with OSHA 1926.62(e)(2)(iv)]	Unmet	No explicit availability statement. No procedures established.
Family Housing Lead Management	1. Use of Lead-Based Paint	Prohibit paint with >600 ppm lead on GFH structures or recreational equipment [RM-50B, Section 4.9, Program Element 1]	Unmet	No GFH paint restrictions.
Family Housing Lead Management	2. Lead Hazard Identification	Identify lead-based paint hazards in pre-1978 GFH via inspections/risk assessments by certified personnel (e.g., lead inspector, risk assessor) [HUD 24 CFR 35.110; EPA 40 CFR 745.227; RM-50B, Section 4.9, Program Element 2]	Partially Met	GFH inspections conducted for some pre-1978 housing in some housing districts. Plan established for remaining units. HMP notes lead-based paint in pre-1978 homes (5.1.3.1) but relies on encapsulation, not assessments. No mention in documents or HMP of certified assessors or pre-renovation assessments.
Family Housing Lead Management	2. Lead Hazard Identification	Prioritize pre-1960 housing (higher risk) and pre-1978 housing using DOI Quarters Program data from iQMIS [RM-50B, Section 4.9, Program Element 2; DO #36, Section 3.5; RM-36, Section 9.7.2.1]	Unmet	No housing-specific prioritization in HMP or Lead Management Program.
Family Housing Lead Management	2. Lead Hazard Identification	"Perform annual housing inspections by facility/maintenance personnel to identify lead risks as part of ensuring GFH is ""decent, safe, sanitary"" [DO #36, Section 3.7; RM-36, Section 10.4]"	Partially met	Annual GFH inspections to assess condition listed as duties of maintenance or craft shop supervisor in housing management plan but no record of dates conducted nor dates inspection due.
Family Housing Lead Management	3. Disclosure of Lead Hazards	Disclose lead hazards to tenants of pre-1978 GFH prior to occupancy via a signed disclosure form (generated by iQMIS) unless mitigated, a studio/efficiency/dormitory, or occupied <100 days [HUD 24 CFR 35.88; RM-50B, Section 4.9, Program Element 3; RM-36, Section 9.7.2.1] Provide tenants with the EPA pamphlet “Protect Your Family from Lead in Your Home” (available via HUD/EPA websites or iQMIS) [RM-36, Section 9.7.2.1; DO #36, Section 3.6]	Partially Met	55% of pre-1978 family housing tenant records reviewed lacked lead hazards disclosures. No records dated prior to 2024 provided for review.
Family Housing Lead Management	3. Disclosure of Lead Hazards	Retain risk assessment/abatement records for the entire existence of the structure[RM-36, Section 8.10.2] and 3+ years after completion of those activities [HUD 24 CFR 35.175]. Maintain tenant records (e.g., signed lead disclosure forms, pre-renovation notifications) for 3 years after tenant checkout [RM-36, Section 8.10.1]	Partially Met	HMP requires signed disclosure forms (7.1.1) and check-in/check-out records (7.1.2.1), implying 3-year retention per RM-36. GFH lead risk assessments records available for only portions of the GFH. No records provided by housing office dating prior to 2024.
Family Housing Lead Management	4. Exposure Risk Evaluation	Conduct risk assessments before renovations costing >$5,000 annually or if children (<6 years) or pregnant women show elevated BLLs (≥10 µg/dL) [RM-50B, Section 4.9, Program Element 4]	Unmet	No housing risk assessments on record nor certified risk assessors on staff. No housing BLL triggers addressed.
Family Housing Lead Management	4. Exposure Risk Evaluation	Test children (<6 years) or pregnant women in GFH if risks are identified; investigate and report if BLL ≥10 µg/dL per CDC and state protocols [RM-50B, Section 4.9, Program Element 4; DO #36, Section 3.6]	Unmet	No GFH occupant testing provisions or protocols.No risk assessment records to identify risks. No certified risk assessor on staff.

Family Housing Lead Management	4. Exposure Risk Evaluation	Avoid assigning children under 6 or pregnant women to GFH with known lead-based paint, to the greatest extent possible [RM-36, Section 9.7.2.1]	Unmet	No tenant assignment policy regarding young children and lead-based paint.
Family Housing Lead Management	5. Lead-Based Paint Hazard Control	Abate lead-based paint hazards in pre-1960 GFH before disposal; stabilize deteriorated paint or use interim controls (e.g., dust removal, soil covering) in pre-1978 GFH [RM-50B, Section 4.9, Program Elements 5 & 7; HUD 24 CFR 35.1320]	Partially Met	HMP encapsulates lead paint (5.1.3.1) but avoids removal due to exposure risks. No clearance process post-encapsulation,..
Family Housing Lead Management	5. Lead-Based Paint Hazard Control	Ensure clearance post-abatement with dust levels <10 µg/ft^2 (floors) and <100 µg/ft^2 (sills) [EPA 40 CFR 745.227(e)(8); RM-50B, Appendix C, Table 4]	Unmet	No GFH clearance standards.
Family Housing Lead Management	5. Lead-Based Paint Hazard Control	Prioritize repairs for GFH with health/safety deficiencies (e.g., lead-based paint) to bring units into compliance with NPS and local standards [RM-36, Section 10.4]	Unmet	No GFH repair prioritization.
Family Housing Lead Management	5. Lead-Based Paint Hazard Control	Document lead hazard control plans (e.g., abatement schedules, interim control measures) as part of the Housing Management Plan (HMP) [DO #36, Section 3.4]	Unmet	No specific plan included in housing management plan. HMP 5.1.3.1: In most circumstance, the Facilities Management Office does not remove lead-based paint. Instead, the lead is managed by encapsulating it with more paint. It is much more hazardous to remove it because this exposes it and allows the lead to be released throughout the quarters. If tenants find chipped or peeling paint, they should notify the Facilities Management Office so that the area can be assessed.
Family Housing Lead Management	5. Lead-Based Paint Hazard Control	Include lead-related maintenance and rehabilitation schedules for GFH in poor/obsolete condition or with health/safety deficiencies [RM-36, Section 10.4]	Unmet	No GFH maintenance schedules.
Family Housing Lead Management	5. Lead-Based Paint Hazard Control	Require RRP work in target homes/facilities be conducted by certified renovation firms and supervised by a certified renovator assigned to the project (e.g., 40 CFR 745) [RM-50B, Appendix E]	Partially Met	No requirement in current YELL policy. Firm certification accomplished in July 2024. 30 certified renovators. Certified renovator not assigned (designated) for each project.
Family Housing Lead Management	6. Protecting Building Occupants During Lead Activities	Relocate occupants during significant lead activities (e.g., >10 ft^2 disturbance) until clearance is achieved, ensuring lead-safe passage to essential areas (e.g., bathroom, entry/egress) [HUD 24 CFR 35.1345; RM-50B, Appendix C, Table C-1]	Unmet	No occupant relocation provisions for lead activities.
Family Housing Lead Management	6. Protecting Building Occupants During Lead Activities	Use containment (e.g., plastic sheeting, airlock flaps) during lead work based on disturbance level [RM-50B, Appendix C, Tables C-1, C-2, C-3]	Unmet	Containment for occupational work (p. 6-7), but not GFH-specific.
Family Housing Lead Management	6. Protecting Building Occupants During Lead Activities	Conduct visual inspections and dust sampling for GFH/play areas post-maintenance/renovation (>de minimis levels) per 24 CFR 35.1340 and 40 CFR 745.227 [RM-50B, Appendix C, Table 4]	Unmet	No GFH clearance procedures.
Family Housing Lead Management	7. Real Property Disposal	All lead-based paint hazards identified in housing constructed before 1960 must be abated prior to disposal of the property. After completion of abatement activities, clearance inspection and environmental sampling must be achieved according to the requirements of 40 CFR 745.227.	Unmet	No lead abatment prior to housing disposal specified.