

STATEMENT OF WORK
EAST TROUBLESOME FIRE TIME CRITICAL REMOVAL ACTION
ROCKY MOUNTAIN NATIONAL PARK

1. INTRODUCTION.

1.1. The purpose of this specification is to provide Response Activity for the burned Timber Creek Road Camp Barn and Tack Shed buildings at Rocky Mountain National Park (ROMO), Colorado. The Contractor shall provide all management, supervision, labor, tools, and equipment necessary to load, haul, accept, process, record, reduce, and final disposal of disaster related debris and soil. The debris to be removed varies from site to site and may consist of vegetation, ash, wood, contaminated soil, remnant concrete/stone/masonry structures, concrete, metal articles, trees that prohibit work performance, stumps, presumed PCB containing light ballast, chemical containers, aerosol cans, fire extinguishers, compressed gas cylinders, electronic waste, small motorized equipment (generators, chain saws, etc.), white goods (washers, dryers, refrigerators, etc.), etc.. Ash, debris, metal, and concrete at all locations is presumed to contain or be contaminated by friable asbestos, unless otherwise indicated in this SOW or attachments. Ash, small debris, and soil from the Tack Shed site was identified through Toxicity Characteristic Leaching Procedure (TCLP) testing to possess the Toxicity Characteristic for lead and must be managed as Hazardous Waste in accordance with the Resource Conservation and Recovery Act (RCRA). The Contractor shall perform confirmation sampling and analysis in accordance with the Draft Final Sampling and Analysis Plan (SAP) provided and comparison with Removal Goals (RGs).

2. LOCATION and SITE DESCRIPTION

2.1. See Table 1 for estimated quantities of ash/soil, metals, hazardous materials, etc. for the Sites included in this response action.

2.2. See the Rocky Mountain National Park East Troublesome Fire Identification and Quantification of Building Debris Memo for descriptive information regarding each burn site, location maps, and site photographs (Attachment 1). Note, only the Timber Creek Road Camp Barn and Tack Shed are included in this SOW. Quantities of materials included in the removal action do not match those presented in this document. Use Table 1 for estimated quantities.

2.3. Draft Site characterization analytical data is provided as Attachment 2.

3. GENERAL REQUIREMENTS.

3.1. This is a removal action at ROMO's ash, debris, and soil impacted areas resulting from wildfire-caused structural fires and restoration of the sites to a natural condition. The Contractor shall perform all the requirements of this SOW to successfully complete the project, unless specifically identified as the responsibility of NPS or NPS-designated representative.

3.2. Work shall be performed under project-specific plans, developed by the Contractor. The plans and work shall conform to U. S. Environmental Protection Agency (USEPA) document "Guidance on Conducting Non-Time Critical Removal Actions Under CERCLA".

3.3. The Environmental / Remediation Contractor shall comply with 29 CFR 1910.120(b), and all relevant and applicable safety regulations as promulgated by OSHA. Additionally, the Contractor shall adhere to all generally accepted professionally practiced safety standards.

3.4. On-site treatments of hazardous substances are prohibited on park lands.

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3.5. The Contractor shall furnish all remediation services, materials, supplies, labor, equipment, investigations, testing, studies, superintendence, and travel, as required, for completing the tasks.

3.6. The Contractor shall, without additional expense to the government, obtain any necessary licenses, permits, perform required notifications, and shall comply with all federal, state, and local laws, regulations, rules, guidance, and codes applicable to the performance of the tasks required for this SOW, to include applicable portions of Colorado Department of Public Health and Environment (CDPHE) Regulation No. 8, Part B and related October 2020 guidance regarding management of ash and debris resulting from the East Troublesome Wildfire (CDPHE ETW Guidance) provided in Attachment 3, unless otherwise articulated in this SOW.

3.7. The Contractor Project Manager shall be responsible for technical oversight of the work, preparation of invoices, monitoring of budgets and schedules, and maintaining timely and appropriate communication with NPS Contracting Officer or their designate. The Contractor Project Manager shall be supported by professional and skilled technicians and laborers with experience in performing tasks/activities for the project as specified in this SOW.

3.8. All draft and final environmental reporting-related submittals shall be in the most current versions of both Microsoft Word and Adobe Acrobat. The Contractor shall provide all maps, plates, graphics, etc. in both Adobe Acrobat and the original source files (Geographic Information System (GIS) shape files, spreadsheets, etc.). All GPS or other location measurements collected by the Contractor to define removal areas or sampling / decision units shall be provided.

3.9. The contractor shall submit final technical documents (Remedial Action Work Plan (RAWP), Remedial Action Completion Report (RACER), etc. to the NPS that meet the accessibility standards per Section 508 of the Rehabilitation Act. The contractor shall utilize the 508-accessibility checker or other similar features, if available in that software, at document inception and use professional judgement throughout document production to best meet 508 accessibility standards.

3.10. All draft and final technical plan or report deliverables (RAWP, RACER, SAP, etc.) shall be signed/stamped by the Environmental Professional before submitting to NPS.

3.11. All files shall be transmitted to the NPS via email or an agreed-upon secure file transfer method to the Contracting Officer, the COR and the ROMO POC.

4. **CONTRACT SUPPORT TASKS.** The procedures/activities associated with the debris and soil removal include the following Contractor tasks.

4.1. **Site-Specific Health and Safety Plan (SSHASP).** The Contractor shall prepare and submit for review/comment/concurrence to the Contracting Officer, Contracting Officer Representative (COR) and ROMO POC a SSHASP prior to undertaking field activities. The SSHASP shall include all applicable Job Hazard Analyses (JHA), and measures to protect personnel from asbestos, heavy metals, dioxin/furans, silica, dust, and other potential chemical exposures, natural, biological, and physical hazards, such as PPE, personal air monitoring, hygiene, medical surveillance, etc. The Contractor's plan and on-site work shall comply with 29 CFR 1910.120(b) and all relevant and applicable safety regulations as promulgated by the OSHA to include HAZWOPER certification for all onsite workers.

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4.2. Removal Action Work Plan (RAWP). Within 15 days of the Notice to Proceed, the Contractor shall prepare and submit for review a Site-specific RAWP outlining proposed field actions to successfully complete the removal action, including Technical Approach and Methodology, Geographic Area Management, confirmation sampling, and Organizational Structure (management to field supervisory level and division of responsibilities). The RAWP shall include proposed measures to control visible dust emissions during removal activities and shall provide for daily perimeter dust monitoring (upwind and downwind) of each active construction site using real-time field monitoring equipment.

4.2.1. The Contracting Officer shall review and provide comments within 15 days of receipt.

4.2.2. The Contractor shall provide a final RAWP incorporating NPS comments within 10 days of receipt.

4.3. Sampling and Analysis Plan (SAP) Update

4.3.1. The contractor shall implement and adhere to the SAP provided by NPS (Draft Final SAP included as Attachment 4). Minor modifications to the SAP that do not change the overall sample count and analytical methods (e.g. sample naming conventions) may be identified by NPS and incorporated by the Contractor.

4.3.1.1. The Contractor shall update the provided SAP to include information regarding the selected analytical laboratory, detection limits, field and laboratory Standard Operating Procedures.

4.3.1.2. Do not commence confirmation sampling and analysis prior to NPS approval of the SAP updates.

4.4. Daily Environmental Oversight. An employee of an Environmental Consulting or Environmental Remediation contractor, experienced with CERCLA and soil remediation projects and under direction of the Environmental Professional, shall be on-site during all removal activities to monitor compliance with approved project plans, assure proper waste management and accuracy of related documentation, and assure compliance with all applicable federal, state, and local laws and regulations pertaining to the removal action.

4.5. Confirmation Soil Sampling. Perform confirmation soil sampling in accordance with the SAP and Section 6.

4.6. Removal Action Completion Report (RACR). The Contractor shall prepare draft, draft final, and final RACR detailing activities performed, with figures showing site features and sampling locations, site photographs (photographs shall be taken of each Site and surrounding area prior to, during, and after the removal of burn site debris and soil), results, conclusions, recommendations and “lessons learned”.

4.6.1. Submit the draft RACR to the Contracting Officer within 15 days following the completion of field activities or receipt of laboratory data, whichever is later.

4.6.2. NPS will provide comments within 15 days after receipt of draft RACR.

4.6.3. Submit the draft final RACR incorporating NPS comments to the Contracting Officer within 10 days of receiving comments from the NPS.

4.6.4. NPS will provide comments within 15 days after receipt of draft final RACR.

4.6.5. Submit the final RACR incorporating NPS comments within 10 days of receiving comments from NPS.

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5. Removal Activities

5.1. Prior to Response Activities, the Contractor shall complete and perform all notifications, permits, and compliance requirements to ensure a safe removal project. The Response Activities areas shall be demarcated as a safe work zones, including delineation of wetlands and utility clearances. The Contractor is required to coordinate with NPS, and state officials on all necessary activities.

5.2. Chain link fencing surrounding burn sites shall be dismantled as necessary to complete the work. Keep fencing in place to ensure visitors do not go into work area. Removed fencing shall be returned to NPS at locations to be designated by park staff after completion of the project.

5.3. The contractor shall implement appropriate and effective control measures to prevent visible ash and dust emissions during performance of the work. Visible ash and dust emissions extending beyond safe work zones shall be grounds for the Contracting Officer to issue a stop work order until effective mitigations are implemented by the Contractor at no additional expense to the Government.

5.4. Waste materials shall be directly placed in approved lines roll-off boxes, dump trucks, or other suitable containers or, if necessary to facilitate the response action, stockpiled within each burn site on thick plastic sheeting, and immediately covered to protect it from the elements (wind and/or rain) with similar plastic sheeting for temporary site storage prior to loading, transport and disposal at a licensed facility.

5.5. Non-hazardous ash, debris, metal, concrete and soil shall be managed in accordance with the CDPHE ETW Guidance and all other applicable federal, state, and local laws.

5.6. Except for RCRA Hazardous Waste, the Contractor shall only dispose of burn-site related wastes at one or more of the landfills specified in the CDPHE ETW Guidance. In addition to the forgoing requirement, the selected landfill(s) for disposal of waste generated during the removal action must meet the requirements of the Off-Site Rule as specified in 40 CFR 300.440 ([Off-Site Rule | US EPA](#)). This does not include metal or concrete that the Contractor proposes to manage by recycling at an off-site recycling facility. The Contractor shall provide the Contracting Officer with confirmatory documentation that the selected landfill(s) meet this requirement.

5.7. RCRA Hazardous Wastes shall be transported to at a RCRA Subtitle C Treatment Storage or Disposal Facility (TSDF) for treatment and/or disposal.

5.8. The Contractor shall provide the Contracting Officer with a list of all proposed waste disposal or recycling facilities. No transportation or disposal of materials shall occur until the facilities are approved by the Contracting Officer.

5.9. Contractor shall conduct waste pre-disposal characterization in accordance with disposal facility requirements.

5.10. The Contractor shall handle, characterize, identify, label and package all waste (including but not limited to hazardous waste) generated as a result of the removal action in accordance with all applicable federal, state and local laws.

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5.11. The Contractor shall also be responsible for packaging, labeling and preparing manifest and other shipping documents and will make all other necessary arrangements for any off-site transportation and disposal of such waste in accordance with such laws.

5.12. The Contractor shall utilize a licensed transport, storage, and disposal (TSD) company, in good standing with the State of Colorado. The prime contractor shall be responsible for verifying the TSD Company's credentials. Send waste manifest/bill of lading to the Contracting Officer within two weeks of disposal and include with invoices.

5.13. The Contractor is responsible for cleaning the entire visibly impacted area of structure-related ash debris within and surrounding each burn site, inclusive of a minimum 5-foot buffer surrounding each building footprint/debris field. In order to control the area of contamination, the Contractor shall not, at any time, extend or stock-pile the contaminated materials outside of the excavation footprint for each burn site without prior approval of the Contracting Officer.

5.14. Segregable Hazardous Materials / Waste Management

5.14.1. Collect, containerize, transport, and properly dispose of segregable hazardous materials/wastes from each burn site. See Attachment 1 for previously identified known or suspected hazardous materials at each burn site.

5.14.2. Site inspections performed by NPS and NPS contractors has identified two 55 gallon drums of unknown content but reported to be used for water storage, a compressed gas cylinder, and a fire extinguisher of unknown discharge status.

5.14.3. Site inspections performed by NPS and NPS contractors have identified fire extinguishers, aerosol cans, portable fuel containers, and a large portable generator but those observed appeared to be discharged or empty. It is presumed empty or discharged articles can be managed as fire-related debris in accordance with the CDPHE ETW Guidance.

5.14.4. Additional hazardous materials/wastes, beyond those identified above, such as but not limited to, batteries, light ballast, electronic waste, non-empty chemical containers, non-discharged aerosols, compressed gases, and non-discharged fire extinguishers may be encountered during removal activities. If identified, such materials shall be collected, wiped clean of ash and dust, segregated, and contained to prevent release. The Contractor shall notify the Contracting Officer of the type and quantity of previously unidentified hazardous materials requiring segregated management within five days of identification. Costs to properly containerize, transport, and dispose of these materials will be negotiated and the Contracting Officer may issue a contract modification for proper management and disposal in accordance with applicable State and Federal regulations.

5.15. Management of Metals:

5.15.1. Large metal items shall be managed in accordance with the CDPHE ETW Guidance and recycled. Recognizable metal items observed at the Sites include storage/shelves/tool boxes, wheelbarrows, metal sheeting, wiring, piles of nails/stakes, garbage bins, piping, fencing, a washing machine, dryer, and hot water tank, etc.

5.15.2. Wash dust from metals before removing from burned site.

5.15.3. Appliances containing refrigerant such as refrigerators and freezers require special handling and removal of the refrigerant if any remains.

5.15.4. See Table 1 for estimated metal quantities, including white goods, at each burn site location.

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5.16. Management of Ash, Debris and Soil.

5.16.1. Collect, consolidate, and remove/excavate ash, small debris, and soil for disposal. Sweep and/or vacuum ash from all underlying masonry slabs and footings. Pay particular attention to removing ash from cracks and joints in masonry.

5.16.2. Contractor shall sequence removal and excavation to mitigate propagation of surface ash and debris to deeper and adjacent soils.

5.16.3. Excavate soils below the original structure / debris-field footprint and a surrounding 5-foot buffer to a depth of 6-inches, unless otherwise specified in this SOW.

5.16.4. Ash, debris, and soil shall be managed and disposed in accordance with the CDPHE ETF Guidance, unless otherwise specified in this SOW.

5.16.5. Ash, and small debris from the Tack Shed site (Building ID 572) was identified through TCLP testing to possess the Toxicity Characteristic for lead and must be transported and disposed as Hazardous Waste in accordance with RCRA.

5.16.6. The ash debris and soil shall be placed in approved end-dump roll-off boxes, dump trucks, or other suitable transport containers lined with double 6-mil plastic sheeting completely closed over the material and sealed once the container is loaded. Partially loaded containers at the end of a work day will be covered to protect it from the elements. If necessary to facilitate the response action, wastes may be stockpiled on thick plastic sheeting within the excavation area for each burn site, and immediately covered to protect it from the elements (wind and/or rain) with similar plastic sheeting for temporary site storage prior to loading, transport and disposal at a licensed facility.

5.16.7. Large rocks, boulders or bedrock shall be wiped or swept to remove ash and dust and left in place or set aside if in the way of soil removal. No bedrock shall be removed and excavation shall be terminated at bedrock surface if encountered.

5.16.8. Smaller stones, small poured or block concrete piers and footings, and bricks shall be removed and managed as debris.

5.16.9. See Table 1 for estimated quantities of ash, debris and soil.

5.17. Management of Poured Concrete Slabs and Foundations

5.17.1. Poured concrete slabs and foundations shall be managed, transported and disposed or recycled in accordance with the CDPHE ETW Guidance, unless the SOW specifies them to remain in place.

5.17.2. Slabs and foundations shall be demolished prior to final soil excavation to ensure all concrete remnants and particles are removed from the site.

5.17.3. See Table 1 for locations and estimated quantities of poured concrete slabs and foundations.

6. Post-Removal Confirmation Soil Sampling and Laboratory Analysis

6.1. Confirmation sampling and analyses is required, including of metals, dioxins/furans, and asbestos as described in following sections.

6.2. Following the removal of all specified materials, sample and analyze the underlying soil in each Sampling Unit / Decision Unit IAW the SAP.

6.2.1. Metals and Dioxins

6.2.1.1. Collect three replicates from the base of each soil removal area using Incremental Sampling Methodology (ISM) and following the latest ISM sampling Guidance issued by the Interstate Technology Regulatory Council (ITRC 2020 or later).

6.2.1.2. Field sampling staff shall be experienced and skilled in the collection and processing of ISM samples.

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- 6.2.1.3. Quality Assurance / Quality Control (QA/QC) samples (duplicates, equipment blanks, MS/MSD) shall be collected at the frequency specified in the SAP.
- 6.2.1.4. Laboratory sample processing and subsampling shall be IAW with the SAP.
- 6.2.1.5. Samples shall be analyzed by a NELAP certified analytical laboratory using the analytical methods specified in the SAP. California Title 22 total metals (17 metals) shall be analyzed by Method 6020B, mercury by Method 7470A, and Dioxins/Furans by Method 8290. Contractor is responsible for ensuring the analytical methods and laboratory can attain the minimum detections limits (MDLs) specified in the SAP.
- 6.2.1.6. Samples shall be analyzed on a priority rush basis to obtain the quickest possible turn around with consideration of time required for laboratory processing of ISM samples.
- 6.2.1.7. All analytical data shall be reported on a dry weight basis.
- 6.2.1.8. Perform data verification and formal data validation IAW the SAP and accepted industry practices. The Contractor shall qualify or reject data, as indicated by verification and validation process.
- 6.2.1.9. Provide Contracting Officer with tabulated sample results and laboratory reports within five days of receipt from the laboratory.
- 6.2.2. Asbestos Inspection
 - 6.2.2.1. Each Site shall be visually inspected by a CABI to visually verify that all suspect ACM has been removed.
 - 6.2.2.2. The CABI shall sample each Site IAW the SAP.
 - 6.2.2.3. Divide site in to approximate 400 square foot sample grids.
 - 6.2.2.4. Collect a 10-point composite sample from each grid using a systematic random sampling approach.
 - 6.2.2.5. Collect duplicate samples at a frequency of 10%.
 - 6.2.2.6. Submit samples to a National Laboratory Voluntary Accreditation Program (NVLAP) accredited laboratory for analysis by PLM CARB Method B with a reporting limit to 0.1%.
 - 6.2.2.7. Notify Contracting Officer within one-day of visually observing suspect ACM.
 - 6.2.2.8. Notify Contracting Officer within one-day of any detections of asbestos greater than 0.1%.
 - 6.2.2.9. Prepare report summarizing the inspection activities, testing methodologies, analytical results, including summary tables and sample location figures for each site inspected.
 - 6.2.2.10. Submit draft report to Contracting Officer within ten days of receipt of data.
 - 6.2.2.11. Allow ten days for NPS review.
 - 6.2.2.12. Issue final report within five days of receiving NPS comments on draft.
 - 6.2.2.13. Include final asbestos sampling report in RACR.

7. Data Assessment and Additional Soil Removal

7.1. Compare soil test results to Remedial Goals (presently site-specific UCL95 background concentrations for metals and dioxin/furans and <1% for asbestos) or alternative Remedial Goals established through optional human health and ecological risk assessments. If test results meet Remedial Goals, no additional contaminated soil removal and disposal will be required.

7.2. If results are higher than the threshold for Remedial Goals at a building site, the Contracting Officer may direct the Contractor to remove a maximum of six (6) inch deep layer of soil for disposal and conduct re-sampling of the soil only at the location(s) with over threshold test results. Prior to proceeding with this work, the Contractor shall first notify the Contracting Officer with a brief

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description of results and list of building sites requiring additional removal of contaminated surface soil layer and additional follow up testing of surface soils.

7.2.1. The Contracting Officer may authorize additional soil removal, transport and disposal via contract modification, with the Contracting Officer making the final approval of the work.

7.2.2. Additional soil excavation, transportation and disposal, unless found to contain greater than 1% asbestos, will no longer be subject to Colorado Regulation No. 8 or the CDPHE ETW Guidance.

7.2.3. Non-RCRA hazardous soils that are not presumed or known to contain asbestos must be disposed at a landfill that meets the requirements of the CERCLA Off-Site Rule, as specified in Section 5.6.

7.3. Following additional soil removal, each affected Sampling Unit shall be resampled for metals and dioxins/furans IAW the SAP.

7.3.1. Contractor will provide a fully burdened lump sum cost to resample one sampling unit (three replicates) at the site to include all time and materials, equipment, supplies, PPE, transportation, shipping, laboratory analysis, QA/QC samples, data verification, data validation, and other associated expenses. Samples shall be analyzed on a priority rush bases to obtain the fastest possible turn around.

7.3.2. Lump sum costs will be used for each additional sample required.

7.3.3. The Contracting Officer may authorize additional sampling via contract modification, with the Contracting Officer making the final approval of the work.

7.4. If authorized by the Contracting Officer, the removal and re-sampling/analyzing shall be repeated at the over threshold site(s) via the process outlined above until the remaining soil meets project Remedial Goals or as otherwise directed by the Contracting Officer.

8. Environmental Contractor's Staffing Requirements and Employee Qualifications.

8.1. Field Sampling Specialists

8.1.1. The Contractor shall provide a team of no fewer than two Field Sampling Specialists.

8.1.2. Field Sampling Specialists shall have the proper training and certifications needed to conduct the work required for the project and to assure the field procedures are performed properly. All Field Sampling Specialists shall possess 40-hour OSHA hazardous waste operation (HAZWOPER) training/certification.

8.1.3. Field Sampling Specialists shall have previous surface and near-surface soil/sediment sampling experience at other CERCLA, RCRA, or similar cleanup sites high-profile public sites within the CERCLA program.

8.1.4. The experience within the Field Sampling Team shall include Incremental Sample Methodology (ITRC 2020 or later), gridding, collecting GPS coordinates, using hand-held samplers/tools and related equipment, preparing and packaging samples, preserving and shipping samples, recording data in field logbooks, and documenting sample chain-of-custody.

8.2. Asbestos inspections and sampling shall be performed by an Accredited Colorado Asbestos Building Inspector (CABI) in accordance with Colorado Regulation No. 8.

8.3. Key Personnel Requirements

8.3.1. The following positions are designated as key personnel.

8.3.2. All environmental /remediation work must be performed or overseen by these key personnel.

8.3.3. If a person is qualified, they may perform the duties of more than one key personnel position.

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8.3.4. Contractor shall make every reasonable effort to provide advance notice to the Contracting Officer of any changes to key personnel 30 days prior to an anticipated change. Contractor shall provide an equal or better candidate for Contracting Officer review. Recommended key personnel are not allowed to work on the project unless/until the substitution is accepted by the Contracting Officer.

8.4. Environmental Professional as defined by 40 CFR Part 312.10 Paragraph (b)(1) and limited to those in 40 CFR Part 312.10 Paragraph (b)(2)(i) “Hold a current Professional Engineer’s or Professional Geologist’s license or registration in Colorado and have the equivalent of three (3) years of fulltime relevant experience.

8.5. Regulatory Specialist. The regulatory specialist must have all of the following qualifications as a minimum:

- Bachelor’s degree in Environmental Science, Biology, Chemistry, or another relevant field,
- In-depth knowledge of environmental requirements under federal regulations (RCRA, CERCLA, CWA, and CAA) and state regulations (especially for state of Colorado in which the Site is located),
- Documented experience analyzing, interpreting, and applying environmental regulations for a variety of Site types for a minimum of two years, and
- Excellent written and verbal communication skills.

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**Table 1
Estimated Material Volumes and Weights
Timber Creek Road Camp Barn and Tack Shed**

Ash/Debris, Soil, Metal and Concrete Removal Volume Estimates												
Site ID	Site Name	Building Footprint (sq. ft.)	Cleanup Footprint (sq. ft.)	Total Estimated Non-RCRA Hazardous Waste Ash/Debris Removal (ton) ^{1,3}	Total Estimated RCRA Hazardous Waste Ash/Debris Removal (ton) ^{1,3}	Total Estimated Non-RCRA Hazardous Waste Soil Removal (ton) ²	Total Estimated Metal Debris (CY)	Total Estimated Metal Debris (tons) ⁴	Total Estimate Concrete (ton)	Concrete Slab/Foundation	Observed Potential HAZMAT/WASTE	Notes
Timber Creek Road Camp Barn and Tack Shed												
783	Timber Creek Road Camp Barn	1176	2046	5	0	53	20	2.3	28	Yes - full building footprint	Two 55 gallon drums - unknown contents (RCMO equipment list indicates 55 gallon drums used for water storage). Fire extinguisher - discharge status unknown One compressed gas cylinder Numerous fuel containers (empty) Generators (5) Numerous aerosol cans - discharged Potential for portable tool batteries	Significant metal debris.
572	Timber Creek Road Camp Barn Tack Shed	312	792	0	4	21	4	0.5	7	Yes - full building footprint	Not observed - discharged aerosol spray cans	Ash and small debris Hazardous - TCLP lead
Area Total				5	4	74	24	3	35			

1. Includes full volume of ash/debris, if present.

2. Includes 6 inches of soil to be removed beneath ash/debris and slab, if present.

3. Poured concrete slabs/foundations and metal not included in ash/debris tonnage.

4. Metal volume includes white goods.

Attachment 1
Final Identification and
Quantification of Debris Memo

Date: 12/29/2022

Paul Torcoletti
NPS – Rocky Mountain National Park
Contract Number: 140D0419A0020
Task Order: 140P1221F0008

Subject: Rocky Mountain National Park East Troublesome Fire Identification and Quantification of Building Debris Memo

Dear Mr. Torcoletti:

BB&E, Inc. (BB&E) completed an inspection of 26 burned structures at Rocky Mountain National Park to assess the type and quantity of building debris in preparation for a Time Critical Removal Action (TCRA). The inspection was conducted on 9/29/2022 and 10/5/2022 in tandem with the soil/ash field sampling event. BB&E identified the following:

- Count, locations, and types of white goods (stoves, refrigerators, water heaters, etc.).
- Count, locations, and types of identifiable hazardous materials (light ballast, chemical containers, drums, compressed gas cylinders, batteries, electronic waste, non-dispersed aerosol cans, etc.).
- Count, locations, and description of suspected or potential hazardous materials or containers that cannot be identified and may require additional evaluation and testing (dispersed aerosol cans).
- Volume of metal debris that may be segregated for recycling (including white goods and other large debris).
- Large debris (metal, etc.) that may be segregated from ash and soil for recycling or disposal.
- Other Notes: Presence of concrete slab, chimney, foundations, stonework, etc.

The inspection forms provided as Attachment A detail the bulleted information above for each former structure. The inspection forms also include an "other notes" section to provide additional information pertinent to the removal action. Attachment B provides ash/debris removal volumes in tons based on the depth of ash/debris and soil removal volumes in tons which includes six inches of soil removal beneath ash/debris and slab if present. The removal footprint includes the former structure footprint plus a 5-foot perimeter on all sides. Volume of metal debris in pounds was calculated based on total presence of metal that could possibly be recycled including white goods, however some of this metal may be damaged beyond acceptable levels permitted by recyclers. Attachment C provides the location of each structure and Attachment D includes site photographs.

Based on initial site investigation sampling data the following results are available. Please reference to the *East Troublesome Wildfire Structural Fire Debris Sites Site Investigation Report* for more information.

1. Polychlorinated Byphenols (PCBs) were not detected above the method detection limit for the sites sampled including the Timber Creek Road Camp Barn or the Betty Dick Garage.
2. Hexavalent Chromium was not detected above the method detection limit for the sites sampled including the Timber Creek Road Camp Barn, Fern Lake Ranger Station, or the Betty Dick Garage.
3. Metals and Dioxins/Furans were detected at varying concentrations at all the sites.
4. Elevated metal concentrations above the 20X rule were further tested by TCLP to assess if any of the sites exceeded the TCLP regulatory limits and could be classified as a hazardous waste. Lead was detected at the Timber Creek Road Camp Tack Shed at a TCLP value of 10.3 mg/L, which exceeds the regulatory limit of 5 mg/L.



The information enclosed within this memo has been provided to support removal actions at the 26 burned structures. Removal actions are anticipated to be completed in accordance with a CERCLA Time Critical Removal Action (TCRA) and within the guidelines of the Colorado Department of Public Health and Environment (CDPHE) East Troublesome Wildfire, October 2020 Handouts.

Sincerely,

A handwritten signature in blue ink, appearing to read "Elyse Kutsche", with a long horizontal flourish extending to the right.

Elyse Kutsche, PE
Project Manager

Enclosed:

Attachment A: Inspection Forms

Attachment B: Soil and Metal Removal Volumes

Attachment C: Site Location Figures

Attachment D: Site Photographs

Attachment A

Inspection Forms

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	0732 / Green Mountain Ranch (GMR) Parika Cottage	Date:	9/29/2022 9:15 AM
Building Footprint (Length x Width) (ft):	43 x 15	Sample Footprint (Length x Width) (ft):	53 x 25
Building Footprint (sq. ft):	645	Sample Footprint (sq. ft):	1325
Ash/ small inseparable debris depth in Building footprint (in):	0 in over 80%, 5 in over 20% (primarily in former porch area)		
White Goods (type, count [1 each unless specified otherwise], and location):	Stove, Electrical Box, Metal Kitchen sink, Refrigerator –south wall. Water heater tank – west wall. Small space heater/fan (2) – various locations.		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	210 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal piping, outlet boxes, bedframes (2), metal lamp shade, Metal gutters, metal porch bench.		
Other notes:	Metal grill and fire ring exterior west of former structure. Stone chimney center of former structure. Concrete support footers center of structure, concrete/mixed stone footings (4). Fibrous material present north of structure footprint.		

Site ID/ Site Name:	0731 / GMR Mineral Cottage	Date:	9/29/2022 10:30 AM
Building Footprint (Length x Width) (ft):	38 x 29	Sample Footprint (Length x Width) (ft):	48 x 39
Building Footprint (sq. ft):	1102	Sample Footprint (sq. ft):	1872
Ash/ small inseparable debris depth in Building footprint (in):	0 in over 60%, 6 in over 40%.		
White Goods (type, count [1 each unless specified otherwise], and location):	Stove, refrigerator, metal sink, electrical box – south wall. Water tank – north wall Small heater/fan (2) – various locations.		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	Fire extinguisher (discharged)		
Metal debris estimated volume:	250 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal sheeting, bed frames (2), metal piping, outlet boxes, fireplace grate.		
Other notes:	Stone chimney center. Stone footers and stone foundation perimeter wall. Significant shattered glass along east and west wall. Fibrous material – north structure edge.		

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	0733 / GMR Arapaho Cottage	Date:	9/29/2022 10:55AM
Building Footprint (Length x Width) (ft):	25 x 23.5	Sample Footprint (Length x Width) (ft):	35 x 33.5
Building Footprint (sq. ft):	587.5	Sample Footprint (sq. ft):	1172.5
Ash/ small inseparable debris depth in Building footprint (in):	8-12 in		
White Goods (count, location, and type):	Water tank (west wall), electrical boxes (2), stove, metal sink, refrigerator (kitchen SE corner), space heater/fan (2)		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	Fire extinguisher, unknown spray cans (discharged)		
Metal debris estimated volume:	250 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal bed frame (2), metal piping, gutters, lamps, buckets, outlet boxes, metal shelving unit		
Other notes:	No chimney, concrete footers & stone foundation wall, wall collapsed outward on north side. Some porcelain debris.		

Site ID/ Site Name:	0734 / GMR Onahu Cottage	Date:	9/29/2022 11:20AM
Building Footprint (Length x Width) (ft):	26 x 25	Sample Footprint (Length x Width) (ft):	36 x 35
Building Footprint (sq. ft):	650	Sample Footprint (sq. ft):	1260
Ash/ small inseparable debris depth in Building footprint (in):	0 in over 70%. 4-12 in over 30%		
White Goods (count, location, and type):	Stove, refrigerator, metal sink and counter (south wall). Water tank (east wall). Electrical box (northeast corner). Space heater/fan.		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	Fire extinguisher (discharged)		
Metal debris estimated volume:	350 lb including metal chimney		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal bed and couch frame, metal chimney pipe, gutters, metal sheeting, metal shelves (2), misc piping, outlet boxes.		
Other notes:	Chimney in center of structure, brick and concrete footers, stone foundation walls, wall collapse to the east.		

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	0735 / GMR Cumulus Cottage	Date:	9/29/2022 11:36AM
Building Footprint (Length x Width) (ft):	23 x 23	Sample Footprint (Length x Width) (ft):	33 x 33
Building Footprint (sq. ft):	529	Sample Footprint (sq. ft):	1089
Ash/ small inseparable debris depth in Building footprint (in):	6-12 in		
White Goods (count, location, and type):	Water tank (south wall), stove, microwave, metal sink, refrigerator (center), electrical boxes (3+), space heater/fan		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	Fire extinguisher (discharged)		
Metal debris estimated volume:	200 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal gutters, metal chairs, bedframe, can light housings, metal piping		
Other notes:	No chimney, concrete pillar foundation footers, no stone. Fibrous material north edge of structure.		

Site ID/ Site Name:	0737 / GMR Cirrus Cottage	Date:	9/29/2022 1:15PM
Building Footprint (Length x Width) (ft):	23 x 20	Sample Footprint (Length x Width) (ft):	33 x 30
Building Footprint (sq. ft):	460	Sample Footprint (sq. ft):	990
Ash/ small inseparable debris depth in Building footprint (in):	12-24 in		
White Goods (count, location, and type):	Stove, refrigerator, water tank, microwave, electrical boxes, space heater/fan.		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	210 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Gutters, can light fixtures, bed frame, metal stove exhaust pipe, metal piping, metal sheeting, exhaust fan housing, picnic table metal shell.		
Other notes:	Concrete footers, significant fibrous material south and east side of structure.		

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	0853 / GMR Old Pumphouse	Date:	9/29/2022 12:13PM
Building Footprint (Length x Width) (ft):	14 x 17	Sample Footprint (Length x Width) (ft):	24 x 27
Building Footprint (sq. ft):	238	Sample Footprint (sq. ft):	648
Ash/ small inseparable debris depth in Building footprint (in):	0-1 in		
White Goods (count, location, and type):	Large water tanks (2), water tank piping, control boxes (2)		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	150 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Misc metal piping, electrical outlet boxes		
Other notes:	Concrete slab foundation, piping in foundation, medium sinkhole to south of structure (4 ft x 4 ft wide, 6 ft deep) likely UST collapse.		

Site ID/ Site Name:	0728 / GMR Wood Storage Shed	Date:	9/29/2022 12:06 PM
Building Footprint (Length x Width) (ft):	16 x 14	Sample Footprint (Length x Width) (ft):	26 x 24
Building Footprint (sq. ft):	224	Sample Footprint (sq. ft):	624
Ash/ small inseparable debris depth in Building footprint (in):	0-1 in		
White Goods (count, location, and type):	None		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	Small container – possible mineral spirits (discharged)		
Metal debris estimated volume:	None		
Other large debris that may be segregated for recycling or disposal estimated volume:	Ironing board, vehicle jack, electrical outlet boxes, wiring and piping, bucket		
Other notes:	Minimal stone edging, concrete footers.		

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	0727 / GMR Pioneer Cottage	Date:	9/29/2022 11:58AM
Building Footprint (Length x Width) (ft):	24 x 16	Sample Footprint (Length x Width) (ft):	34 x 26
Building Footprint (sq. ft):	384	Sample Footprint (sq. ft):	884
Ash/ small inseparable debris depth in Building footprint (in):	4 in over 50%. 12-24 in over 50%		
White Goods (count, location, and type):	Stove, refrigerator, water tank, electrical box, metal stove chimney piping, metal sink, space heater/fan.		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	Fire extinguisher and unidentified spray cans (discharged)		
Metal debris estimated volume:	250 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal sheeting, bed and couch frame, metal chair, gutters, outlet boxes, metal piping, exhaust stove chimney housing.		
Other notes:	No stone chimney, concrete foundation footers, stone foundation wall.		

Site ID/ Site Name:	0724 / GMR Barn	Date:	9/29/2022 3:00PM
Building Footprint (Length x Width) (ft):	26 x 21.5	Sample Footprint (Length x Width) (ft):	36 x 31.5
Building Footprint (sq. ft):	559	Sample Footprint (sq. ft):	1134
Ash/ small inseparable debris depth in Building footprint (in):	1-4 in		
White Goods (count, location, and type):	None		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	60lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal storage rack, electrical box, outlets, buckets, misc piping		
Other notes:	Concrete slab, north wall collapsed outward, sinkhole to north of structure.		

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	0740 / GMR Meadow Cottage	Date:	9/29/2022 1:50PM
Building Footprint (Length x Width) (ft):	25 x 21	Sample Footprint (Length x Width) (ft):	35 x 31
Building Footprint (sq. ft):	525	Sample Footprint (sq. ft):	1085
Ash/ small inseparable debris depth in Building footprint (in):	3 in		
White Goods (count, location, and type):	Water tank, stove, refrigerator, large metal utility sink, electrical boxes, wall furnace housing, potbelly stove/furnace.		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	Fire extinguisher (discharged)		
Metal debris estimated volume:	250 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal shelving units, gutters, misc piping, exhaust piping for potbelly stove, bedframes (2), can light housings, lamp post.		
Other notes:	Cinder block foundation, collapsed bricks in center of structure, in ground exposed piping (shower/bath), cinder block chimney, some fibrous material on east side.		

Site ID/ Site Name:	0579 / Onahu Ranch Bakuni Cottage	Date:	9/29/2022 2:47PM
Building Footprint (Length x Width) (ft):	11.5 x 31	Sample Footprint (Length x Width) (ft):	21.5 x 41
Building Footprint (sq. ft):	356.5	Sample Footprint (sq. ft):	881.5
Ash/ small inseparable debris depth in Building footprint (in):	1-2 in		
White Goods (count, location, and type):	Stove, water tank, refrigerator, sink, electrical box (2), microwave		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	Fire extinguisher (discharged)		
Metal debris estimated volume:	200 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Gutters, lamps, metal sheeting, bed frame, outlet boxes		
Other notes:	Cinder block footings, in ground plumbing, roofing material, collapsed bricks.		

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	0578 / Onahu Ranch Na Ha Non Cottage	Date:	9/29/2022 2:40 PM
Building Footprint (Length x Width) (ft):	15 x 30	Sample Footprint (Length x Width) (ft):	25 x 40
Building Footprint (sq. ft):	450	Sample Footprint (sq. ft):	1000
Ash/ small inseparable debris depth in Building footprint (in):	2-4 in		
White Goods (count, location, and type):	Stove, refrigerator, water tank, kitchen cabinet, sink, electrical box, space heater/fan, stove exhaust fan housing		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	200 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Gutters, bed frame (large), metal piping, misc metal frames		
Other notes:	Concrete footings, no bricks, no chimney.		

Site ID/ Site Name:	0577 / Onahu Ranch Ho Ta Ta Ha Cottage	Date:	9/29/2022 2:33PM
Building Footprint (Length x Width) (ft):	12 x 28	Sample Footprint (Length x Width) (ft):	22 x 38
Building Footprint (sq. ft):	336	Sample Footprint (sq. ft):	836
Ash/ small inseparable debris depth in Building footprint (in):	2-4 in		
White Goods (count, location, and type):	Stove, refrigerator, water tank, sinks (2), utility boxes.		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	150 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Gutters, bedframe, metal ladder/stand, metal countertop, metal chairs, lamp post, piping, electrical outlet boxes.		
Other notes:	Concrete footers, in ground metal plumbing (bath), roofing materials, bricks.		

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	0575 / Onahu Ranch Lodge	Date:	9/29/2022
Building Footprint (Length x Width) (ft):	55 x 41	Sample Footprint (Length x Width) (ft):	65 x 51
Building Footprint (sq. ft):	2255	Sample Footprint (sq. ft):	3315
Ash/ small inseparable debris depth in Building footprint (in):	Varies widely. 2-4 in on west half of building (50% of structure). 2-5 ft on east half of building where basement/crawlspace collapsed and debris piled (50% of structure).		
White Goods (count, location, and type):	Water tank, possibly other white good buried.		
Identifiable hazardous materials (count, location, and type):	None observed, possibly buried.		
Suspected or potential hazardous materials or containers (count, location, and type):	None observed, possibly buried.		
Metal debris estimated volume:	Tentatively 200 lbs, unknown quantity buried.		
Other large debris that may be segregated for recycling or disposal estimated volume:	Misc metal sheeting, fire place grates, metal piping, lighting housings, likely other large debris/recyclables buried.		
Other notes:	Substantial ruins include two stone chimneys (2 stories), partial foundation, concrete flooring, concrete retaining wall (east edge) and collapsed basement/crawl space.		

Site ID/ Site Name:	0587 / Onahu Ranch Pumphouse	Date:	9/29/2022 3:24PM
Building Footprint (Length x Width) (ft):	7.5 x 10.5	Sample Footprint (Length x Width) (ft):	17.5 x 20.5
Building Footprint (sq. ft):	78.75	Sample Footprint (sq. ft):	358.75
Ash/ small inseparable debris depth in Building footprint (in):	Unknown in pit, assumed 12 inches.		
White Goods (count, location, and type):	Large water tank in pit (approximately 3 feet diameter by 8 ft height) and associated piping		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	750 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	NA		
Other notes:	Structure walls standing, pit approximately 8 feet deep, minimal debris surrounding building, roof collapsed into pit, plastic bins NW of structure (possibly garbage bins, melted)		

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	0624 / Onahu Ranch Tool Shed	Date:	9/29/2022 3:55PM
Building Footprint (Length x Width) (ft):	17 x 10	Sample Footprint (Length x Width) (ft):	27 x 20
Building Footprint (sq. ft):	170	Sample Footprint (sq. ft):	540
Ash/ small inseparable debris depth in Building footprint (in):	0		
White Goods (count, location, and type):	None		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	None		
Other large debris that may be segregated for recycling or disposal estimated volume:	None		
Other notes:	Cinder blocks		

Site ID/ Site Name:	0583 / Onahu Ranch Abasaw Aw Xa Cottage	Date:	9/29/2022 3:40PM
Building Footprint (Length x Width) (ft):	21.5 x 26.3	Sample Footprint (Length x Width) (ft):	31.5 x 36.3
Building Footprint (sq. ft):	565.45	Sample Footprint (sq. ft):	1143.45
Ash/ small inseparable debris depth in Building footprint (in):	0-1 in		
White Goods (count, location, and type):	Water tank, stove, sink, large space heater unit, electrical boxes (2)		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	200 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal sheeting, piping, gutters, metal storage unit, metal sheeting		
Other notes:	Chimney, large concrete footers, picnic table legs, in ground piping.		

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	783 / Timber Creek Road Camp Barn	Date:	9/29/2022 5:00 PM
Building Footprint (Length x Width) (ft):	56 x 21	Sample Footprint (Length x Width) (ft):	66 x 31
Building Footprint (sq. ft):	1176	Sample Footprint (sq. ft):	2046
Ash/ small inseparable debris depth in Building footprint (in):	0-1 in		
White Goods (count, location, and type):	None		
Identifiable hazardous materials (count, location, and type):	2 drums (unknown contents) – center and north, compressed gas cylinder (unknown contents or discharge status) – north, fire extinguisher (discharge status unknown)– north wall.		
Suspected or potential hazardous materials or containers (count, location, and type):	Numerous fuel containers throughout unknown contents (discharged). Large portable generator – east center wall. Spray cans (discharged)		
Metal debris estimated volume:	Significant metal debris, quantity difficult to estimate due to piling of debris. Approximately 1800 lbs.		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal storage/shelves/tool boxes (throughout structure), metals wheelbarrows (6+), metal sheeting, metal wiring, piles of metal nails/stakes, garbage bins, metal piping (outside structure on east side), metal fencing (outside structure south edge)		
Other notes:	Concrete slab		

Site ID/ Site Name:	572 / Timber Creek Road Camp Barn Tack Shed	Date:	9/29/2022 4:45 PM
Building Footprint (Length x Width) (ft):	12 x 26	Sample Footprint (Length x Width) (ft):	22 x 36
Building Footprint (sq. ft):	312	Sample Footprint (sq. ft):	792
Ash/ small inseparable debris depth in Building footprint (in):	1-3 in		
White Goods (count, location, and type):	Washer and Dryer, water tank, electrical box.		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	Spray cans (discharged)		
Metal debris estimated volume:	300 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal storage unit, metal sheeting, metal piping, metal chair, metal cabling spools (several of various gauges), gutters, misc hand tools/ small size equipment.		
Other notes:	Concrete foundation slab, storage pad extends to south of structure.		

Site ID/ Site Name:	1141 / Grand Lake Entrance Station	Date:	9/29/2022
Building Footprint (Length x Width) (ft):	39.7 x 24.1	Sample Footprint (Length x Width) (ft):	49.7 x 34.1
Building Footprint (sq. ft):	956.77	Sample Footprint (sq. ft):	1694.77
Ash/ small inseparable debris depth in Building footprint (in):	None		
White Goods (count, location, and type):	None		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	None		
Other large debris that may be segregated for recycling or disposal estimated volume:	None		
Other notes:	Site debris/ash was formerly removed.		

Site ID/ Site Name:	1183 / Harbison Meadow Picnic Area Vault Toilet	Date:	9/29/2022
Building Footprint (Length x Width) (ft):	16 x 19.3	Sample Footprint (Length x Width) (ft):	26 x 29.3
Building Footprint (sq. ft):	308.8	Sample Footprint (sq. ft):	761.8
Ash/ small inseparable debris depth in Building footprint (in):	None		
White Goods (count, location, and type):	None		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	None		
Other large debris that may be segregated for recycling or disposal estimated volume:	None		
Other notes:	Site debris/ash was formerly removed.		

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	831 / Betty Dick Garage	Date:	9/29/2022
Building Footprint (Length x Width) (ft):	97.5 x 23.5	Sample Footprint (Length x Width) (ft):	107.5 x 33.5
Building Footprint (sq. ft):	2291.25	Sample Footprint (sq. ft):	3601.25
Ash/ small inseparable debris depth in Building footprint (in):	1-2 in		
White Goods (count, location, and type):	Water tank, electrical box (west wall), washer and dryer (NE corner), electrical heater unit (west wall).		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	Fire extinguisher (discharged), at least 10 light fixtures (possible PCB ballasts – no PCB detected above method detection in soil)		
Metal debris estimated volume:	750lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Antique farm equipment (4), gutters, metal tool boxes, multiple bed frames, metal chair, metal sheeting, outlet boxes, large metal trough, metal bath tub, wheel barrel, metal cage/coop,		
Other notes:	Partial concrete slab approximately 48 ft x 23.5 ft (north half of structure), concrete footings (center of structure)		

Site ID/ Site Name:	893 / Moraine Stables Bunk House/Mess House	Date:	10/5/2022
Building Footprint (Length x Width) (ft):	43 x 43.5	Sample Footprint (Length x Width) (ft):	53 x 53.5
Building Footprint (sq. ft):	1870.5	Sample Footprint (sq. ft):	2835.5
Ash/ small inseparable debris depth in Building footprint (in):	None		
White Goods (count, location, and type):	None		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	None		
Other large debris that may be segregated for recycling or disposal estimated volume:	None		
Other notes:	Site debris/ash was formerly removed.		

Identification and Quantification of Building Debris Form
Observer: E. Kutsche

Site ID/ Site Name:	1086 / Moraine Park Stables	Date:	10/5/2022
Building Footprint (Length x Width) (ft):	26 x 54	Sample Footprint (Length x Width) (ft):	36 x 64
Building Footprint (sq. ft):	1404	Sample Footprint (sq. ft):	2304
Ash/ small inseparable debris depth in Building footprint (in):	None		
White Goods (count, location, and type):	None		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	None		
Other large debris that may be segregated for recycling or disposal estimated volume:	None		
Other notes:	Site debris/ash was formerly removed.		

Site ID/ Site Name:	014 / Fern Lake Ranger Station	Date:	10/5/2022
Building Footprint (Length x Width) (ft):	24 x 26	Sample Footprint (Length x Width) (ft):	34 x 36
Building Footprint (sq. ft):	624	Sample Footprint (sq. ft):	1224
Ash/ small inseparable debris depth in Building footprint (in):	1-3 in		
White Goods (count, location, and type):	None		
Identifiable hazardous materials (count, location, and type):	None		
Suspected or potential hazardous materials or containers (count, location, and type):	None		
Metal debris estimated volume:	50 lbs		
Other large debris that may be segregated for recycling or disposal estimated volume:	Metal exhaust pipe and exhaust housing, metal box, metal sheeting		
Other notes:	Remote location not accessible by vehicle, stone and mixed concrete foundation wall, site is covered by tarp.		

Notes:

- White Goods includes stoves, refrigerators, water heaters, etc. **Presence of Freon in refrigerators unknown.**
- Hazardous materials include light ballasts, chemical containers, drums, compressed gas cylinders, batteries, electronic waste, aerosol cans (non-dispersed), etc.
- Other large debris includes misc metal items, concrete chunks, stones, foundation, etc.

Attachment B

Soil and Metal Removal Volumes

Ash/Debris, Soil, and Metal Removal Volumes									
Site ID	Site Name	Building Footprint (sq. ft.)	Cleanup Footprint (sq. ft.)	Total Estimated Ash/Debris Removal (ton) ^{1,3}	Total Estimated Soil Removal (ton) ²	Appr. metal debris (lbs) ⁴	Concrete Slab?	Chimney?	Notes
732	GMR Parika Cottage	645	1325	3	34	210		Yes	
731	GMR Mineral Cottage	1102	1872	11	49	250		Yes	Asbestos historically present in drywall sample
733	GMR Arapaho Cottage	588	1173	30	30	250			Asbestos historically present in drywall sample
734	GMR Onahu Cottage	650	1260	10	33	350		Yes	
735	GMR Cumulus Cottage	529	1089	27	28	200			
737	GMR Cirrus Cottage	460	990	48	26	210			
853	GMR Old Pumphouse	238	648	1	17	150	Yes - full building footprint		
728	GMR Wood Storage Shed	224	624	1	16	0			
727	GMR Pioneer Cottage	384	884	23	23	250			
724	GMR Barn	559	1134	10	29	60	Yes - full building footprint		
740	GMR Meadow Cottage	525	1085	7	28	250		Yes	
579	Onahu Ranch Bakuni Cottage	357	882	3	23	200			
578	Onahu Ranch Na Ha Non Cottage	450	1000	8	26	200			
577	Onahu Ranch Ho Ta Ta Ha Cottage	336	836	6	22	150			
575	Onahu Ranch Lodge	2255	3315	624	86	200	Yes - partial building footprint	Yes - 2 chimneys, multiple stories	
587	Onahu Ranch Pumphouse	79	359	4	9	750			Building intact, roof collapsed into pumphouse pit, pit approximately 8 feet deep.
624	Onahu Ranch Tool Shed	170	540	0	14	0			
583	Onahu Ranch Abasaw Aw Xa Cottage	566	1144	2	30	200		Yes	

Site ID	Site Name	Building Footprint (sq. ft.)	Cleanup Footprint (sq. ft.)	Total Estimated Ash/Debris Removal (ton) ^{1,3}	Total Estimated Soil Removal (ton) ²	Appr. metal debris (lbs) ⁴	Concrete Slab?	Chimney?	Notes
783	Timber Creek Road Camp Barn	1176	2046	5	53	1400	Yes - full building footprint		Significant metal debris.
572	Timber Creek Road Camp Barn Tack Shed	312	792	4	21	300	Yes - full building footprint		Hazardous - TCLP fail (lead)
1141	Grand Lake Entrance Station	957	1695	0	44	0			No ash/debris
1183	Harbison Meadow Picnic Area Vault Toilet	309	762	0	20	0			No ash/debris
831	Betty Dick Garage	2292	3602	20	93	750	Yes - partial building footprint. 48 x 23.5 ft		PCB ballasts likely present
893	Moraine Stables Bunk House/Mess House	1871	2836	0	74	0			No ash/debris
1086	Moraine Park Stables	1404	2304	0	60	0			No ash/debris
14	Fern Lake Ranger Station	624	1224	8	32	50			No road/vehicle access to site.

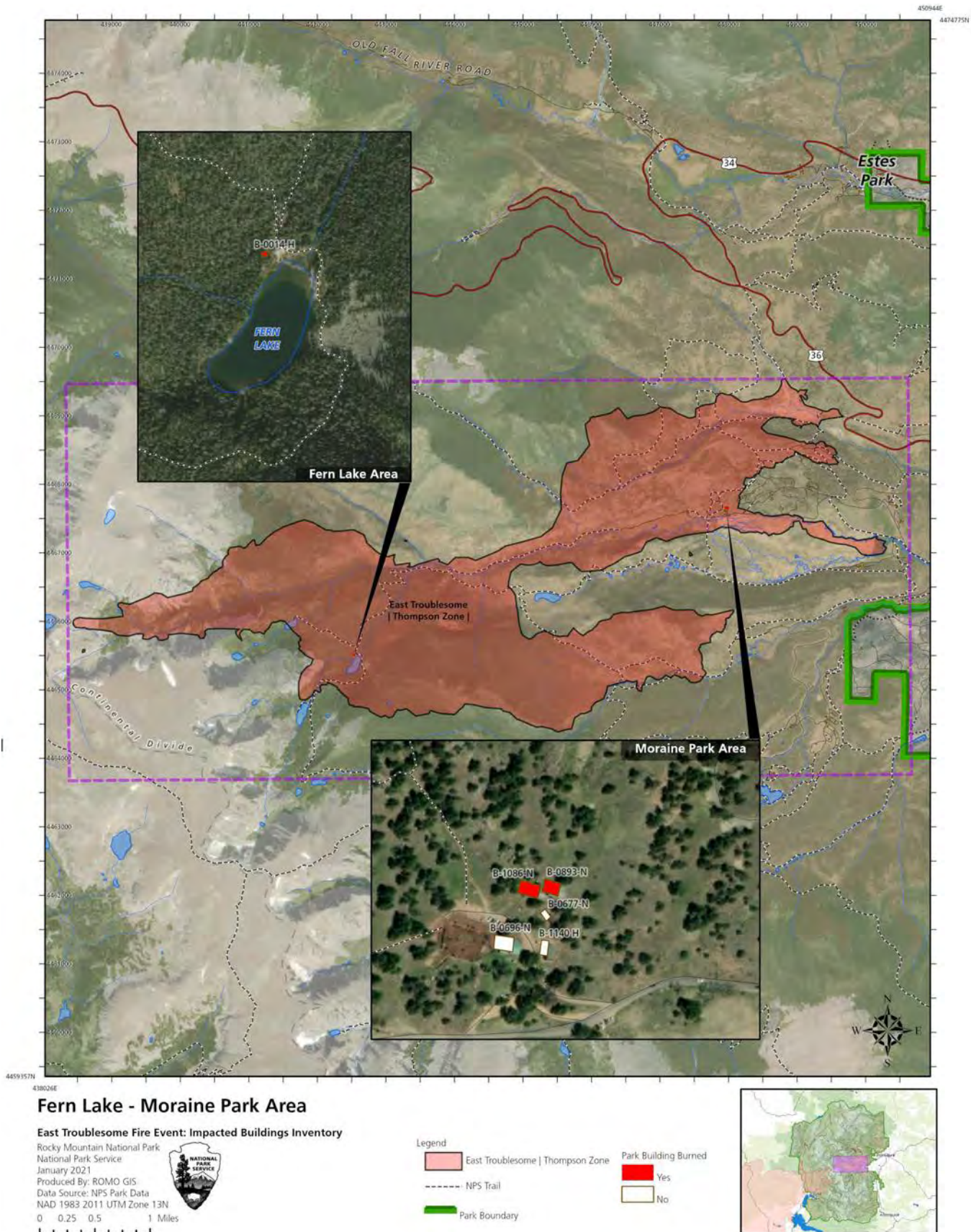
Notes:

1. Includes full volume of ash/debris, if present. Conversion factors used: cubic feet of ash/debris * 1.4 /27 = US tons
2. Includes 6 inches of soil to be removed beneath ash/debris and slab, if present. Conversion factors used: cubic feet of soil * 1.4 /27 = US tons
3. Concrete, stone, metal, chimneys not included in ash/debris tonnage.
4. Metal volume includes white good.

Attachment C

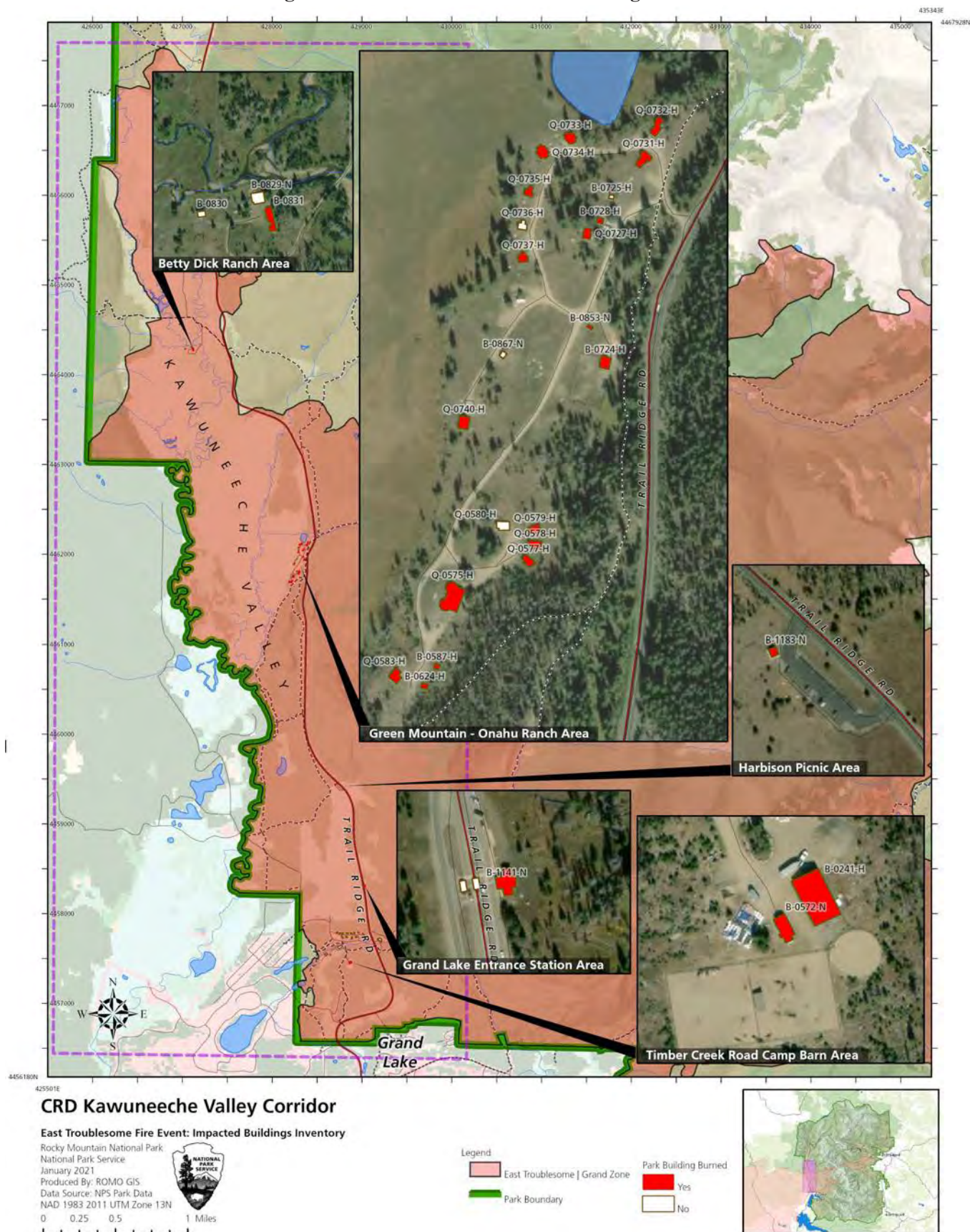
Site Location Figures

Figure 1 East Side District Building Locations



Source: ROMO East Troublesome Fire Event: Impacted Buildings Inventory (NPS, 2021)

Figure 2 Colorado River District Building Locations



Source: ROMO East Troublesome Fire Event: Impacted Buildings Inventory (NPS, 2021)

Attachment D

Site Photographs

Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

The photos presented below were captured during the two-week sampling event conducted 9/27/2022 through 10/06/2022.

Building: 0732, GMR Parika Cottage

Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0731, GMR Mineral Cottage

Park Region: Green Mountain Ranch (GMR) Area



Building: 0728, GMR Wood Storage Cottage

Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0727, GMR Pioneer Cottage

Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0733, GMR Arapaho Cottage

Park Region: Green Mountain Ranch (GMR) Area



Building: 0734, GMR Onahu Cottage

Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0735, GMR Cumulus Cottage

Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0737, GMR Cirrus Cottage

Park Region: Green Mountain Ranch (GMR) Area



Building: 0740, GMR Meadow Cottage

Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0724, GMR Barn

Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0853, GMR Pumphouse

Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0579, Onahu Ranch Bakuni Cottage
Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0578, Onahu Ranch Na Ha Non Cottage

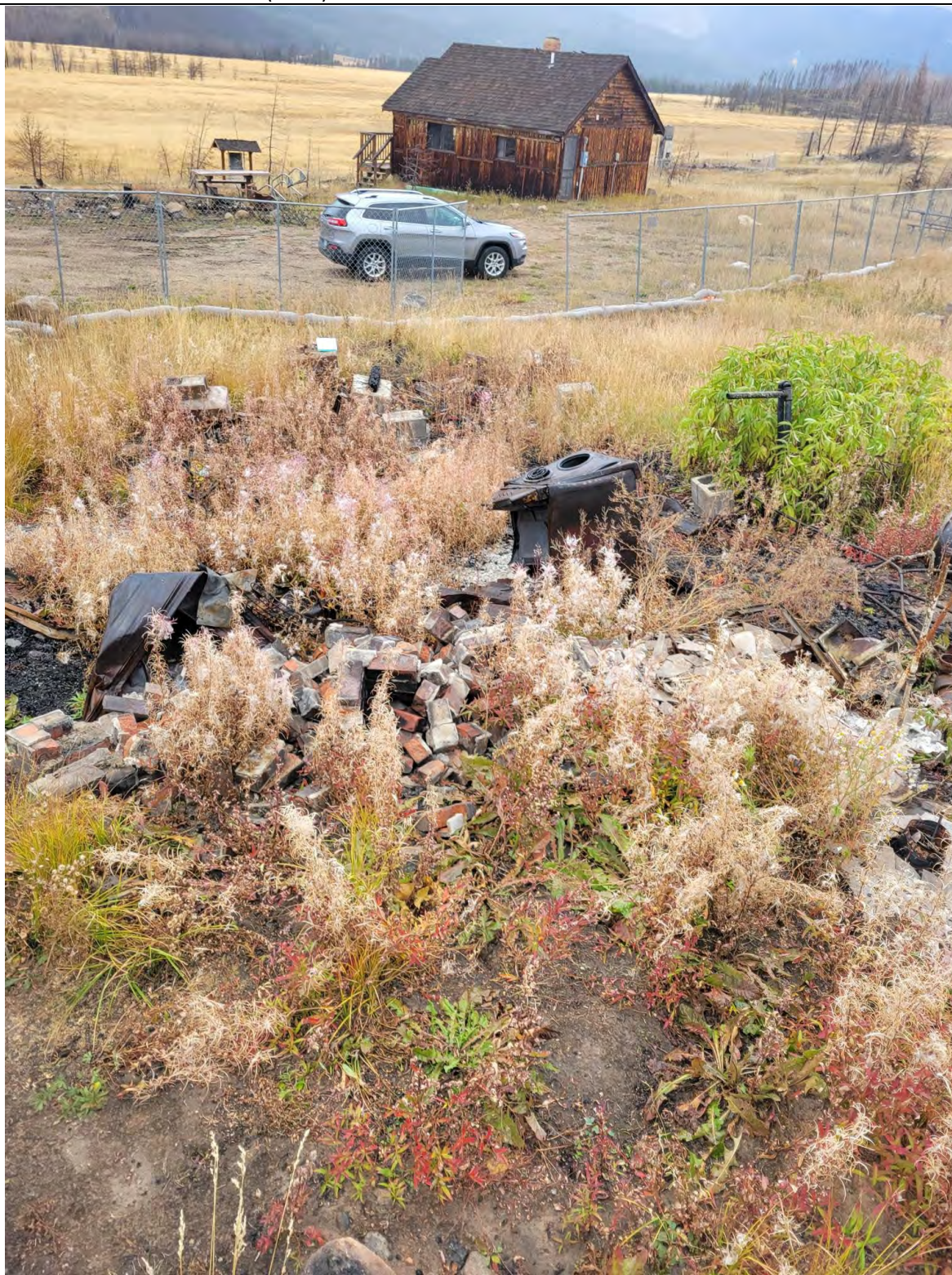
Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0577, Onahu Ranch Ho Ta Ta Ha Cottage

Park Region: Green Mountain Ranch (GMR) Area



Building: 0583, Onahu Ranch Abasaw Aw Xa Cottage
Park Region: Green Mountain Ranch (GMR) Area



Building: 0624, Onahu Ranch Tool Shed

Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0575, Onahu Ranch Lodge

Park Region: Green Mountain Ranch (GMR) Area



Building: 0587, Onahu Ranch Pumphouse

Park Region: Green Mountain Ranch (GMR) Area



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0783, Timber Creek Road Camp Barn
Park Region: Timber Creek Road Camp



Building: 0572, Timber Creek Road Camp Barn Tack Shed
Park Region: Timber Creek Road Camp



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: R-TC, Remit Office/ Grand Lake Entrance Station

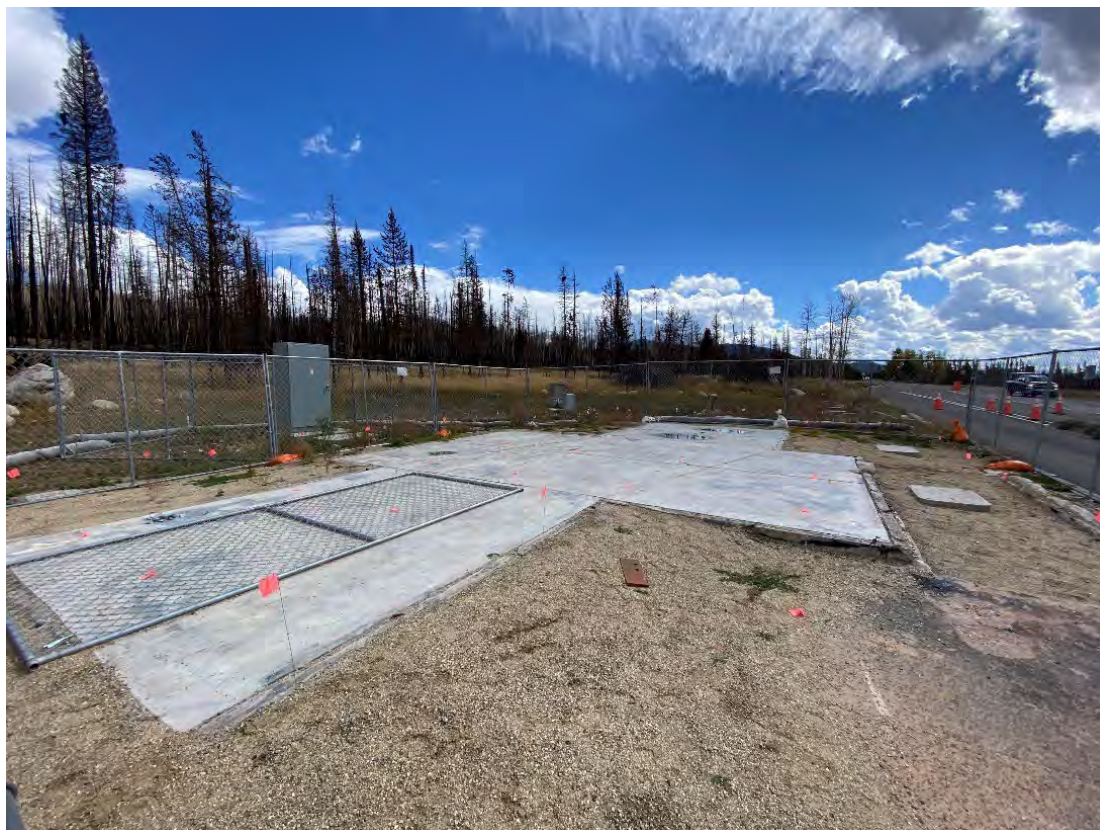
Park Region: Timber Creek Road Camp



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 1141, Remit Office

Park Region: Remit Office/ Grand Lake Entrance Station



Building: R-GLE, Grand Lake Entrance Background

Park Region: Remit Office/ Grand Lake Entrance Station



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 1183, Harbison Vault Toilet

Park Region: Harbison Vault Toilet



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0831, Betty Dick Barn

Park Region: Betty Dick Ranch



Building: R-BD, Betty Dick Background
Park Region: Betty Dick Ranch



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0893, Moraine Stable Bunk House
Park Region: Moraine Park Stables



Building: 1086, Moraine Stables Dorm
Park Region: Moraine Park Stables



Building: R-MP, Moraine Park Background
Park Region: Moraine Park Stables



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: 0014, Fern Lake

Park Region: Fern Lake



Site Inspection Field Sampling Event East Troublesome Fire Damaged Structures
Rocky Mountain Nation Park

Building: R-FL, Fern Lake Background

Park Region: Fern Lake



Attachment 2
DRAFT Site Characterization
Data

Table 4
Summary of Analytical Laboratory Results for Timber Creek Road Camp

District								Colorado River District	
Structure Name								Timber Creek Road Camp Barn	Timber Creek Road Camp Barn Tack Shed
Structure Number								0783	0572
Lab Report								231686	231686
Sample ID								R-783-SA-1-01	B-572-SA-1-01
Date Sampled								9/30/2022	9/30/2022
Analyte	CAS #	Analytical Method	Units	Site Specific Background Concentration ¹	US EPA RSL Resident Soil ²	NPS Soil COPEC Selection ESV ³	Project Risk Screening Value ⁴		
Metals									
Antimony	7440-36-0	SW846 6020A	mg/kg	0.06	3.1	0.248	0.248	172	19.9
Arsenic	7440-38-2	SW846 6020A	mg/kg	2.64	11	0.25	0.25	123	79.3
Barium	7440-39-3	SW846 6020A	mg/kg	88.80	1500	17.2	17.2	680	6770
Beryllium	7440-41-7	SW846 6020A	mg/kg	0.35	16	2.42	2.42	0.292	0.297
Cadmium	7440-43-9	SW846 6020A	mg/kg	0.22	0.7	0.27	0.27	2.56	2.26
Chromium	7440-47-3	SW846 6020A	mg/kg	13.94	12000	0.34	0.34	126	73
Cobalt	7440-48-4	SW846 6020A	mg/kg	4.14	2.3	13	2.3	24.4	18.7
Copper	7440-50-8	SW846 6020A	mg/kg	13.94	310	14	14	3280	1810
Lead	7439-92-1	SW846 6020A	mg/kg	16.36	400	0.94	0.94	337	4380
Mercury	7439-97-6	SW846 7471B	mg/kg	0.06	1.1	0.013	0.013	0.13 U	0.12 U
Molybdenum	7439-98-7	SW846 6020A	mg/kg	0.51	39	0.52	0.52	23.5	1.28
Nickel	7440-02-0	SW846 6020A	mg/kg	8.68	150	10	10	39.3	19.5
Selenium	7782-49-2	SW846 6020A	mg/kg	0.19	39	0.331	0.331	0.17 J	0.11 J
Silver	7440-22-4	SW846 6020A	mg/kg	0.02	39	2	2	0.586	0.512
Thallium	7440-28-0	SW846 6020A	mg/kg	0.16	0.1	0.027	0.027	0.092	0.104
Vanadium	7440-62-2	SW846 6020A	mg/kg	20.81	39	0.714	0.714	22.8	21.2
Zinc	7440-66-6	SW846 6020A	mg/kg	40.61	2300	6.62	6.62	12200	4770
Polychlorinated Biphenyls (PCBs)									
Aroclor-1016	11096-82-5	SW846 8082A	mg/kg	NC	0.41	1.1	1.1	0.024 U	NA
Aroclor-1221	11096-82-5	SW846 8082A	mg/kg	NC	0.2	No ESV	0.2	0.024 U	NA
Aroclor-1232	11096-82-5	SW846 8082A	mg/kg	NC	0.17	No ESV	0.17	0.024 U	NA
Aroclor-1242	11096-82-5	SW846 8082A	mg/kg	NC	0.23	0.041	0.041	0.024 U	NA
Aroclor-1248	11096-82-5	SW846 8082A	mg/kg	NC	0.23	0.0073	0.0073	0.024 U	NA
Aroclor-1254	11096-82-5	SW846 8082A	mg/kg	NC	0.12	0.041	0.041	0.024 U	NA
Aroclor-1260	11096-82-5	SW846 8082A	mg/kg	NC	0.24	0.88	0.24	0.024 U	NA
Aroclor-1262	11096-82-5	SW846 8082A	mg/kg	NC	NE	NE	NE	0.024 U	NA
Aroclor-1268	11096-82-5	SW846 8082A	mg/kg	NC	NE	NE	NE	0.024 U	NA
Total PCBs	11096-82-5	SW846 8082A	mg/kg	NC	NE	NE	NE	0.024 U	NA
Chromium Hexavalent (Cr+6)									
Hexavalent Chromium		SW846 7196A	mg/kg	NC	0.3	12.01	0.3	1.5 U	NA
Dioxins/Furans ⁵									
2,3,7,8-TCDD		1613B	ng/Kg	0.10	Use TEQ	Use TEQ	Use TEQ	36	8.07
1,2,3,7,8-PeCDD		1613B	ng/Kg	0.25	Use TEQ	Use TEQ	Use TEQ	133	30.4
1,2,3,6,7,8-HxCDD		1613B	ng/Kg	0.33	Use TEQ	Use TEQ	Use TEQ	79.4	30.4
1,2,3,4,7,8-HxCDD		1613B	ng/Kg	0.19	Use TEQ	Use TEQ	Use TEQ	160	40.6
1,2,3,7,8,9-HxCDD		1613B	ng/Kg	0.27	Use TEQ	Use TEQ	Use TEQ	186	41.3
1,2,3,4,6,7,8-HpCDD		1613B	ng/Kg	2.91	Use TEQ	Use TEQ	Use TEQ	896	377
OCDD		1613B	ng/Kg	13.08	Use TEQ	Use TEQ	Use TEQ	1520	951
2,3,7,8-TCDF		1613B	ng/Kg	0.33	Use TEQ	Use TEQ	Use TEQ	116	86.3
1,2,3,7,8-PeCDF		1613B	ng/Kg	0.47	Use TEQ	Use TEQ	Use TEQ	160	102
2,3,4,7,8-PeCDF		1613B	ng/Kg	1.10	Use TEQ	Use TEQ	Use TEQ	273	183
1,2,3,6,7,8-HxCDF		1613B	ng/Kg	0.92	Use TEQ	Use TEQ	Use TEQ	208	167
1,2,3,7,8,9-HxCDF		1613B	ng/Kg	0.39	Use TEQ	Use TEQ	Use TEQ	254	189
1,2,3,4,7,8-HxCDF		1613B	ng/Kg	0.99	Use TEQ	Use TEQ	Use TEQ	72.6	66
2,3,4,6,7,8-HxCDF		1613B	ng/Kg	1.18	Use TEQ	Use TEQ	Use TEQ	268	231
1,2,3,4,6,7,8-HpCDF		1613B	ng/Kg	5.40	Use TEQ	Use TEQ	Use TEQ	958	1060
1,2,3,4,7,8,9-HpCDF		1613B	ng/Kg	0.69	Use TEQ	Use TEQ	Use TEQ	92.5	86.2
OCDF		1613B	ng/Kg	8.37	Use TEQ	Use TEQ	Use TEQ	442	628
Total TEQ		Calculated	ng/Kg	1.23	4.8	0.29	0.29	410	197
Toxicity Characteristic Leaching Procedure (TCLP)						Regulatory Limit			
Chromium	7440-47-3	EPA 1311	mg/L			5		0.090 U	NA
Lead	7439-92-1	EPA 1311	mg/L			5		0.057 J	10.3
Arsenic	7440-38-2	EPA 1311	mg/L			5		0.42U	NA
Barium	7440-39-3	EPA 1311	mg/L			100		NA	4.0

Notes:

1. Site Specific Background Concentration. 95% upper confidence limits (UCL) calculated from three ISM replicates using the Interstate Technology Regulatory Council's (ITRC's) updated Microsoft Excel workbook ISM 95% calculator (ITRC 2020a). U flagged data = one half of the MDL.
2. USEPA Regional Screening Levels (RSLs) Resident Soil Generic Tables - Target risk 1E-06, Target HQ 0.1 (November 2022). For arsenic, use Colorado Arsenic Risk Management Guidance for Evaluating Arsenic Concentrations in Soil = 11 mg/kg as a cleanup level.
3. Lowest Refined SLERA Ecological Screening Value (ESV) for mammals, birds, plants, and invertebrates across all NPS-approved sources for soils (Table 5 and 6 of NPS Protocol for the Selection and use of Ecological Screening Values for Non-Radiological Analytes).
4. Project Risk Based Screening Level (RBSL) = lower of USEPA RSL and NPS SLERA ESVs.
5. Only Total TEQ used for comparison to EPA RSL, NPS ESV, and background. Compare the TEQ to the 2,3,7,8-TCDD screening level.

NE - no standard established
NA - not analyzed for constituent
NC - not calculated
mg/kg - milligrams per kilogram or parts per million
mg/L - milligrams per liter or parts per million
ng/Kg - nanograms per kilogram or parts per trillion
U = Analyte not detected. Method Detection Limit indicated.
J = Indicates an estimated value below the quantitation limit.
TEQ = Toxic equivalency quotient, calculated by multiplying the result for each dioxin and dioxin-like compound by its toxic equivalency factor, and summing the results. ND value used = 0.5 MDL value.
Compare the TEQ to the 2,3,7,8-TCDD screening level.

Result Bolded and Shaded Red - exceeds the EPA RSL, NPS Ecological RSV, and background concentration

Result Bolded and Shaded Yellow - exceeds both Project Rick Screening Value (lower of the EPA RSL or NPS Screening value) and background concentration

Result Shaded Grey - exceeds the Project RBSL but not the background concentration

Result Bolded and Shaded Blue - exceeds the USEPA TCLP Regulatory Limit

No Bolding or Shading - does not exceed the USEPA RSL, NPS Ecological screening value, or background concentration

Attachment 3
East Troublesome Wildfire
Guidance with Disposal Form



Asbestos

East Troublesome Wildfire, October 2020

Public and Commercial Buildings

Ash and debris from burned structures may contain toxic substances due to the many synthetic and other materials that may be present in buildings. For example, car batteries or mercury light bulbs, lead-based paint, plastic items and other potentially toxic materials may have been present in the buildings prior to the fire. Public and commercial structures may contain larger amounts of these materials. People should take precautions when entering buildings that are partially damaged by the fire or when handling any materials from buildings completely destroyed by the fire. They should wear protective clothing and equipment to avoid skin contact with debris and inhalation of ash.

One particular concern in handling debris from structures damaged or destroyed by wildfires is the possible exposure to asbestos fibers. Asbestos is a known carcinogen and exposure to asbestos fibers can cause or contribute to the development of various diseases including asbestosis, mesothelioma and lung cancer. Asbestos fibers have been commonly used in a variety of building materials including wall and ceiling textures, drywall, insulation, sheet vinyl flooring and floor tiles. Asbestos-containing materials that are in good condition should not pose a hazard. However, materials that are damaged or disturbed can release asbestos fibers creating a potential exposure risk for people working on site or on neighboring sites.

Colorado enforces asbestos requirements under Colorado Regulation No. 8, Part B. It also has been delegated the authority and obligation to enforce the federal National Emission Standards for Hazardous Air Pollutants (NESHAP) regarding asbestos in public and commercial buildings. For residential properties, including commercial residential buildings with four or fewer dwelling units, the Colorado Department of Public Health and Environment is able to waive some of the asbestos requirements of Colorado Regulation 8, Part B. Please see the specific documents developed for residential properties affected by the East Troublesome Wildfire. Colorado cannot waive federal requirements for Public and Commercial buildings.

I. Addressing asbestos in Public and Commercial structures completely destroyed by the fire where only ash and debris remain.

Safe Handling of Ash and Debris

The ash/debris should be handled in a manner that will minimize potential exposure to asbestos fibers and other hazardous materials in the debris.

- Ash/debris must be wetted to minimize dust; packaged inside a container (such as an end-dump roll-off or truck) lined with double 6-mil plastic sheeting with the sheeting completely closed over the material and sealed once the container is loaded.
- Soil under/surrounding the building should be scraped to ensure that all ash and building debris has been removed from the site.
- Contractors should consult with the Occupational Safety and Health Administration (OSHA) at (303) 844-4500 (Englewood) or 303-844-5285 (Denver) to determine training and personal protective equipment that will be required for those handling this material.

Proper Disposal of Ash and Debris

Ash and debris from buildings that were destroyed by must be disposed of at an approved landfill. The following landfills can accept ash and debris from public and commercial buildings destroyed by this fire that cannot be safely characterized for the presence of asbestos.

Tower Landfill, Inc.
8480 Tower Road
Commerce City
Steve Derus, 720-590-4046

Denver Arapaho Disposal Site
3500 S. Gun Club Road
Aurora
Chris Anderson: 720.876.2633

Buffalo Ridge Landfill
11655 WCR 59
Keenesburg
Michelle Wittenbrink: 303-229-8085

Foothills Landfill
8900 Hwy 93, Golden
Steve Derus, 720-590-4046

Front Range Landfill
1830 Weld CR 5, Erie
Randy Tourville: 303-673-9431

No other landfills are currently approved to accept ash and debris from buildings completely destroyed by this fire. In order to get approval to accept these materials, landfills must request and receive permission from the Hazardous Materials and Waste Management Division (HMMWD) which will include agreement to implement certain best management practices designed to protect landfill workers and nearby public from potential asbestos hazards.

- Please contact the landfill before loads are taken there to confirm waste acceptance, to alert them that the material is coming and to initiate a waste profile. The landfill should be informed that the material has come from the fire area and may contain suspect asbestos-containing materials or other hazardous materials. Please take debris directly to the landfill.
- Recycling of metal and concrete foundations is permissible under the following circumstances: Metal debris must be washed clean of ash/debris prior to recycling. If you wish to recycle a concrete foundation, the concrete must be inspected by a Colorado certified asbestos building inspector to determine that it is free of asbestos-containing materials prior to recycling.

Notification and Permitting Requirements

State demolition permitting requirements are waived. However, the building owner or contractor must submit written notification to the CDPHE Indoor Environment Program. This notification should be done using the Public and Commercial Disposal Notification Form, East Troublesome Wildfire, October 2020.

II. Addressing asbestos in damaged Public and Commercial structures where the building must be demolished and where sampling building materials for the presence of asbestos cannot be done safely.

Building owners must work with appropriate local officials overseeing the fire response to determine whether a partially damaged structure can be safely inspected. Local government ordered demolitions based on a determination that the building is structurally unsound and in danger of imminent collapse waive the requirements to inspect and remove regulated asbestos containing material provided. However, all debris must be treated as friable asbestos waste.

- Provide written notification (10 working days in advance) to the Indoor Environment Program for all demolitions. Emergency provisions may allow notice to be made 24 hours instead of 10 working days.
- Ash/debris must be wetted to minimize dust; packaged inside a container (such as an end-dump roll-off or truck) lined with double 6-mil plastic sheeting with the sheeting completely closed over the material and sealed once the container is loaded.
- Soil under/surrounding the building should be scraped to ensure that all ash and building debris has been removed from the site.
- Ensure there is an asbestos trained supervisor on the jobsite with documentation posted.

- In addition, Contractors should consult with the Occupational Safety and Health Administration (OSHA) at (303) 844-4500 (Englewood) or 303-844-5285 (Denver) to determine training and personal protective equipment that will be required for those handling this material.
- All debris must be treated as friable asbestos waste and can only be disposed of in a landfill that meets the Asbestos NESHAP requirements. The following are the landfills permitted to accept this waste:

Tower Landfill, Inc.
8480 Tower Road
Commerce City
Steve Derus, 720-590-4046

Denver Arapaho Disposal Site
3500 S. Gun Club Road
Aurora
Chris Anderson: 720.876.2633

Buffalo Ridge Landfill
11655 WCR 59
Keenesburg
Michelle Wittenbrink: 303-229-8085

Notification and Permitting Requirements

State demolition permitting requirements are waived. However, the building owner or contractor must submit written notification to the CDPHE Indoor Environment Program. This notification should be done using the state Demolition Notification Application Form except the section for sign-off by the certified Asbestos Building Inspector and Asbestos Removal Contractor should be left blank. There is no fee required for submission. The form may be found here:

<https://environmentalrecords.colorado.gov/HPRMWebDrawer/RecordHtml/1298245>

III. Addressing asbestos in buildings only partially damaged by the fire and where sampling building materials for the presence of asbestos can be done safely:

Building materials must be inspected by a Colorado certified asbestos building inspector prior to renovation/demolition or debris handling activities impacting the building materials. If asbestos-containing material is present in amounts greater than the trigger levels, they must be removed in accordance with Colorado Regulation No. 8, Part B - Asbestos. Known friable asbestos-containing materials must be disposed of at a landfill that can accept friable asbestos waste.

IV. If there is known asbestos-containing material above regulatory trigger levels in a building, the owner must follow the requirements of Colorado Regulation No. 8, Part B.

For buildings that had been previously inspected and found to contain asbestos-containing materials or were previously known to contain asbestos in amounts greater than the state trigger levels, asbestos abatement permits and demolition permits are required. Known friable asbestos-containing materials must be disposed of at a landfill that can accept friable asbestos waste.

Asbestos Consulting Firms (asbestos inspectors):

<https://environmentalrecords.colorado.gov/HPRMWebDrawer/RecordView/1140204>

Asbestos Abatement Contractors:

<https://environmentalrecords.colorado.gov/HPRMWebDrawer/RecordView/1248240>

Asbestos Landfills:

<https://environmentalrecords.colorado.gov/HPRMWebDrawer/RecordView/1140205>

For additional asbestos information, please contact the CDPHE Indoor Environment Program at: 303-692-3100 or cdphe.asbestos@state.co.us



DISPOSAL NOTIFICATION FORM

East Troublesome Fire, October 2020

Building Owner	Owner's Name:		
	Street:		
	City:	State:	Zip Code:
	Telephone # ()		
Site Address	Owner's Name:		
	Street:		
	City:	County:	Zip Code:
Disposal Contractor	Company/Contractor's Name:		
	Street:		
	City:	State:	Zip Code:
	Telephone # ()		
Landfill	Landfill Name:		
	Street:		
	City:	State:	Zip Code:
	Telephone # ()		

Submit form by mail/email (no fee is required) to:

Indoor Environment Program Permit Coordinator
 Colorado Dept. of Public Health and Environment
 APCD-IE-B1
 4300 Cherry Creek Drive South
 Denver, CO 80246-1530
 cdphe.asbestos@state.co.us

Please call 303-692-3100 with any questions