

Chapter 9

Environmental Review

9.1

Introduction

This chapter outlines for the Lender and HUD staff the policies and procedures that the HUD staff must follow to meet environmental responsibilities. Section 9.1 covers the Legal Authorities, HUD Forms and professional Qualifications. Section 9.2 covers the procedures to be followed for environmental processing. Section 9.3 discusses Contamination analysis including factors such as Environmental Site Assessments (ESA), Recognized Environmental Conditions (REC), and remediation plans. Section 9.4 sets forth the responsibilities for the Department's Hub/Program Center staff pertaining to issues that involve remediation. Section 9.5 points out environmental concerns (other than soil contamination) which often have to be addressed by HUD staff in processing the form HUD-4128 as well as other "environmental factors" that should be included in the required Lender's Environmental Report.

It should be noted that Office of Insured Health Care Facilities (OIHCF), which now manages the Section 232 program, will utilize this chapter in completing environmental processing for Section 232 applications.

A. Legal Authorities, Handbooks, and Forms

1. All Federal agencies are required to comply with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) (NEPA), and the implementing procedures issued by the Council on Environmental Quality at 40 CFR Parts 1500-1508. HUD regulations implementing NEPA are contained in 24 CFR, Part 50, "Protection and Enhancement of Environmental Quality". Related Federal laws and authorities are listed in 24 CFR 50.4 and 50.3(i). HUD may not delegate its environmental responsibilities to others; it is required to prepare the environmental assessment and make the appropriate environmental finding. (See 24 CFR 50.11.)
2. HUD has issued two handbooks covering environmental issues: Handbook 1390.2,

“Environmental Assessment Guide for Housing Projects” and Handbook 1390.4 “Guide to HUD Environmental Criteria and Standards contained in 24 CFR 51”. Informal guidebooks issued by HUD on environmental issues are cited in this chapter. In addition, HUD offices may make the Guide, “Choosing an Environmentally Safe Site”, which is used in the Section 202 and 811 programs, available to all projects.

3. HUD has established an environmental form HUD-4128 “Environmental Assessment and Compliance Finding for the Related Laws” that documents compliance with NEPA, and other environmental Federal laws, authorities, Executive Orders, and HUD standards. Form HUD-4128, with attached Sample Field Notes Checklist (SFNC) may be retrieved electronically from HUDClips. HUD staff will use the SFNC to provide information supporting the conclusions listed on form HUD-4128. Existing apartment projects to be refinanced under Section 223(f) do not require an environmental assessment under the National Environmental Policy Act (Part B of form HUD-4128) except in extraordinary circumstances (see exclusion in 24 CFR 50.20(a)(5)), but do need to comply with Part A requirements of form HUD-4128. It is important to note that the Environmental Site Assessment (ESA), which is performed as part of contamination analysis in Section 9.3, must be cited as source documentation in Part A, Item 23, and must be attached to the HUD-4128.
4. HUD’s requirements in this chapter may exceed those of many State agencies. One reason for this is that, if a mortgagor defaults on an FHA-insured project, HUD may become the project owner. Under Section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Federal agencies that own properties are required to take “all remedial action necessary to protect human health and the environment” with respect to known hazardous substances upon disposition of the property. This requirement is beyond any liability releases under State or Federal law and any due diligence requirements under CERCLA.

B. State Local or Tribal Laws

1. In cases where state or local laws, ordinances, codes or regulations are more restrictive than Federal requirements, the applicant will be responsible for compliance with the stricter local or state standard unless Federal law states otherwise. An Application for Firm Commitment for mortgage insurance does not relieve an owner of responsibility for compliance with state or local requirements.

2. HUD will not assume any responsibility with respect to inspection, enforcement, interpretation or determination of compliance with such state or local requirements.
3. Where the project is located on a Native American reservation, the tribal authority may have the responsibilities of the State or local environmental protection agencies. In the Contamination Analysis discussion in Section 9.3, the acronym LSTF refers to “local, state, tribal or federal”.
4. This chapter is not a substitute for requirements in the laws, regulations, and Executive Orders regarding environmental analysis.

9.2**Procedures****A. Lender’s Responsibilities**

1. All projects (new construction, substantial rehabilitation, refinancing or purchase) submitted under MAP require various submissions related to Contamination as stated in detail in Section 9.3.
2. Additionally, the Lender must also provide an Environmental Report to HUD staff as discussed in Section 9.5. The Environmental Report will identify any significant environmental issues to be resolved, and will help HUD staff in its preparation of the Form HUD-4128 and SFNC. The Lender should use the criteria included in the SFNC and the criteria included in Section 9.5 for the information to be provided in the Environmental Report.

B. HUD Staff Responsibility

1. In accordance with 24 CFR 50.32, HUD, not the Lender, is responsible for preparing the form HUD-4128 and SFNC and determining that there are no environmental factors that are prohibited by law, Executive Order, or regulation, or which would endanger health or safety, or would put FHA mortgage insurance or the U.S. Government at financial risk or liability.

2. HUD staff must review the Phase I Environmental Site Assessment (ESA) (see Section 9.3.A, below) submitted by the Lender and must make a site visit. The site visit will help validate part of the information provided on the Phase I ESA and it also should be useful for evaluating other environmental factors. A HUD appraiser and/or Field Office Environmental Clearance Officer (FECO) customarily make the site visit and sign-off on the form HUD-4128 and SFNC. The Hub Director or Program Center Director, who issues the commitment, is responsible for signing form HUD-4128.
3. 24 CFR 50.32 also require that a NEPA Environmental Assessment for a project with more than 200 apartment units or 200 beds shall be sent for review and comment to the appropriate FECO.
4. As part of its environmental review responsibilities, HUD may require additional environmental material from a Lender, such as a Phase II ESA (see Section 9.3.B, below), even when the Lender might not believe that such additional environmental material is necessary.
5. Environmental conditions should be identified as soon as possible in the processing, preferably at the time of the pre-application. Resolution of the issue should be reached prior to submission of an Application for Firm Commitment. These conditions will be discussed in the letter of invitation for Sections 207(m), 221(d)(3) and (d)(4), 220, and 231. Any requirements that affect project design will be fully detailed. The Lender must assure that any requirements affecting project design are conveyed to the design architect for incorporation into the contract drawings and specifications.
6. HUD Staff should refer to the specific directions and guidance contained in Section 9.4 for projects that involve remediation and or monitoring.

C. When to Submit Required Exhibits to Resolve Environmental Issues

1. For Lenders that use the pre-application process for new construction or substantial rehabilitation proposals, rather than going directly to Firm Commitment submission, HUD requires various submissions regarding contamination pursuant to Section 9.3 and the Environmental Report pursuant to Section 9.5 so that HUD can determine that all environmental issues can be resolved at the Firm Commitment processing stage. The purpose of asking for certain documents at the pre-application stage is to help make an early evaluation of any environmental issues to be resolved. It does not mean that all the

documentation required for environmental review need be submitted at the pre-application stage. Important issues should be resolved at the pre-application stage, with documentation on the issues submitted with the Application for a Firm Commitment. The letter of invitation will condition the issuance of a Firm Commitment upon a finding on the form HUD-4128 that there are no unresolved environmental concerns.

2. Lenders that at their option go directly to Application for Firm Commitment are required to submit all the exhibits necessary to resolve any environmental issues.
3. Remediation of site contamination is discussed in Section 9.3 of this chapter. The implementation of plans which provide a remedy to environmental conditions may, with HUD approval, continue throughout the construction period. The Lender must identify any plan for the cure of any environmental problems which will not be solved by the time the Application for a Firm Commitment is submitted. HUD will review the Lender's plan and, if HUD considers the plan acceptable, make the plan a condition that is set forth in the Firm Commitment letter. This would include any plans for remediation of soil contamination, wetlands mitigation, noise abatement, historic preservation, and/or floodplains map revisions.
4. Removal or containment of lead-based paint or asbestos may continue beyond initial and final endorsement if HUD agrees.

D. Qualifications of Professionals

1. The sponsor/developer will generally select the professionals to be used to prepare the Environmental Report, the Phase I Environmental Site Assessment (ESA), or any other environmental information required by HUD, but the Lender should verify that the professionals used are qualified for their assigned responsibilities. The Environmental Professional preparing the Phase I ESA must meet all of the qualification requirements of Appendix X2 of ASTM E 1527-05. Additionally the environmental professional must meet the license/certification, educational, and experiential requirements of Section X.2.1.1(2)(i), (ii), or (iii), of Appendix X2 of ASTM E 1527-05.
2. The Phase II ESA (see Section 9.3.B, below) and remediation studies and plans (see Section 9.3 C, D and E, below) must only be completed by an environmental investigator(s) specifically qualified to meet the responsibilities for the issue(s) of concern. Such qualifications must be stated in the Phase II ESA Report or the remediation studies and plans, respectively.

3. Other professionals may be required to evaluate technical areas, such as flooding or soil stability conditions. The Lender should assure itself that these technicians are qualified. When these professionals are required, the Lender may contract for those services, if the sponsor/developer has not done so.

E. Consulting with the Hub or Program Center

HUD encourages Lenders to consult early with field office staff on HUD environmental requirements. Local conditions and interagency relations affecting environmental review requirements differ from State to State and from field office to field office. For instance, coastal zone management requirements are not applicable in most States, but in States where they are applicable, procedures for showing compliance differ. In some States, a letter from the State coastal zone management agency for projects in the coastal zone is required. In others, alternative review procedures make this unnecessary.

9.3

Contamination Analysis: Phase I and Phase II Environmental Site Assessments, and Remediation

This first revision to Section 9.3 is appropriate in light of the many changes to the art, science, and governmental standards of hazard remediation that have taken place since the issuance of the original version of this section in 2000. While the original version had required removal of any identified contamination, this revision allows for managed care of contamination, but only with measured due diligence.

The purpose of this section is to first, identify any manmade contamination on a site, other than contamination from in-place building components such as asbestos containing materials or lead-based paint; and second to ensure that any contamination so identified, is mitigated to the point where it would not “affect the health and safety of occupants or conflict with the intended utilization of the property” as stated in HUD-wide policy at 24 CFR 50.3(i)(1).

A. Phase I Environmental Site Assessment (ESA)

1. Submission. With the request for a pre-application review, or if the pre-application stage is omitted, the MAP Lender shall submit a complete Phase I ESA. A summary submission is not acceptable. When there is no pre-application stage, any references thereto in Section 9.3, shall instead refer to the Application for Firm Commitment. The MAP Lender and/or its proposed mortgagor must inform the

Phase I ESA Professional preparer of all of the following additional Phase I ESA requirements:

- a. Purpose. It is a general industry practice to prepare a Phase I ESA to make an initial determination as to the potential occurrence of “hazardous substances” as generally defined by CERCLA, and of petroleum and petroleum products. However, HUD requires an initial determination as a part of the Department’s overall environmental responsibilities pursuant to 24 CFR 50.3(i).
- b. Phase I ESA format. The Phase I ESA must be prepared in accordance with the requirements of ASTM E-1527-05 “Standard Practice for Environmental Site Assessments”, “Phase I Environmental Site Assessment Process” using the table of contents and report format specified in Appendix X4, thereto.
- c. Phase I ESA Timing. The Phase I ESA shall be conducted within one-year of the submission date to HUD. However, such Phase I ESA that was conducted more than 180 days prior to the submission date to HUD, but within the allowable one-year period, must be updated pursuant to Section 4.6 of ASTM E 1527-05.
- d. Phase I ESA Professional Preparers Qualifications. The Qualifications of Environmental Professionals section of the Phase I ESA (see Section 9.3.A.1.b above) must describe the Professional’s qualifications as described in Section 9.2D.1 above.
- e. Finding Section. The Findings section of the Phase I ESA (see Section 9.3.A.1.b), must list obvious Recognized Environmental Conditions (REC), suspected or potential RECs as determined from statements made in earlier sections in the Phase I ESA, Historical Recognized Environmental Conditions (HREC) (see Section 9.3.B for further discussion of HRECs), and de minimis conditions (such as minor soil staining).
- f. Opinion Section. The Opinions Section (see Section 9.3.A.1.b) must discuss all of the prior Findings and whether or not each Finding is a REC. The justification for any finding deemed not to be a REC must be included in the Opinions section. If the Phase I preparer cannot make a statement as to whether a condition is or is not a REC, the Opinion

Section must state what information or further investigation would be deemed necessary to make such a determination.

- g. User Provided Information Section. The User Provided Information Section (see Section 9.3.A.1.b) must include a copy of the User Questionnaire as described in Section 9.3.A.2 below
 - h. Testing not required. The Map Guide's Phase I ESA does not require testing which is performed during the course of a Phase II ESA or as part of a remediation plan (see below). However, the Phase I ESA may reference and discuss a prior Phase II ESA in regard to concluding whether or not a condition is a Recognized Environmental Condition (REC).
 - i. Vapor Intrusion Screen. The Phase I ESA **must include** an initial vapor (a.k.a. gas) intrusion screen to determine if there is a potential for vapors to occur in the subsurface below existing and/or proposed on-site structures from those hazardous substances, petroleum, and petroleum products that consist of volatile organic compounds (VOC) and semi-volatile organic compounds (SVOC) and inorganic volatile compounds. The initial vapor intrusion screen amendment to the Phase I ESA shall be performed using Tier 1 "non-invasive" screening pursuant to ASTM E 2600 - 08 "Standard Practice for Assessment of Vapor Intrusion into Structures on Property Involved in Real Estate Transactions", as amended. (ASTM is in the intermediate stages of revising ASTM E 2600, possibly with a different name, which then will become the required version.) If the tier 1 vapor intrusion screen determines there is a potential for such vapors to occur in the subsurface below existing and/or proposed on-site structures these condition shall also be deemed to be RECs for purposes of the Phase I ESA.
 - j. Previous Remediation. When previous remediation has been performed, or remediation is currently taking place, the Phase I ESA must fully document such remediation, including any involvement from local, State or Tribal, and/or Federal environmental (LSTF) Authorities.
2. User Questionnaire. The sponsor and/or developer shall provide the environmental professional preparing the Phase I ESA with the completed "User Questionnaire" information required in Appendix X3 of ASTM E-1527-05, as amended.

3. HUD's Evaluation of the Phase I ESA. The Phase I ESA will be evaluated by HUD to determine if the property is acceptable for the hazards reviewed. If it is unacceptable because it shows an identifiable hazard, i.e. a REC, as described in ASTM E 1527-05, and no corrective action is deemed feasible by HUD, then HUD may reject the property.

B. Phase II ESA

1. Purpose. The purpose of the Phase II ESA is to provide and investigate specific technical issues and report on them, based on testing, sampling, etc., to confirm the identity of suspected contaminants, and/or to quantify the extent of an observed or suspected liability, such as underground storage tanks (UST), or surface or ground water contamination.
2. When Required. A Phase II ESA is required if;
 - a. The Phase I ESA indicates that there is a REC and corrective action is potentially feasible, or
 - b. The Phase I ESA comes to no definite conclusion regarding the presence of a REC, or
 - c. HUD requires a Phase II ESA for reasons that must be described to the Lender.
3. Exception. In some cases and with HUD permission, the Phase II ESA may be bypassed for remediation which is described Sections 9.3.C, D, and E below).
4. Preparation Requirements. The Phase II ESA must describe how it conforms to the most current version of ASTM E 1903 (currently 1903-97), "Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process," as amended. It must describe the methodology, data and sampling procedures used in the process, in addition to any relevant tests or laboratory results. ASTM is in the advanced stages of revising ASTM E 1903, which then will become the required version. Phase II ESA investigator qualifications as described in Section 9.2D.2 above, must be discussed in the Phase II ESA.

5. New Construction or Substantial Rehabilitation Projects using Pre-application. For new construction or substantial rehabilitation using the pre-application process, the Phase II ESA, if required, shall be submitted by the Lender at the pre-application stage and must be reviewed by HUD before an invitation is issued to submit an Application for a Firm Commitment
6. Historical Recognized Environmental Conditions (HREC). If the Phase I ESA indicates that there is a HREC, as described in ASTM E 1527-05, i.e., a hazard has been remedied and an LSTF Authority has issued a no further action (NFA) letter or similar approval, HUD may for its purposes either deem the NFA as completion of the remediation or it may require a Phase II ESA and/or further remediation.
7. Horizontal and Vertical Extent of the Study. The Phase II ESA usually need not determine the total horizontal and vertical extent of contamination, but must proceed to a point where it indicates the location of hot spots of greatest concentration and risk.
8. Vapors. If it is determined that there is a potential for vapors to occur in the subsurface below existing and/or proposed on-site structures either identified from the Phase I ESA (see Section 9.3.A.1.i, above) or from this or prior Phase II ESAs, the Phase II ESA shall either include either a tier 2 screen (pursuant to ASTM E 2600), a tier 3 vapor intrusion assessment (VIA) pursuant to LSTF policy and/or procedure (as discussed in ASTM E 2600), or go directly to Tier 4 “mitigation” (as discussed in ASTM E 2600).
9. When Remediation is not required. When the Phase II indicates that only low levels of contamination are present on the site, remediation (See 9.3.C, D, and E below) is not necessary, if the borrower submits a determination that the current level(s) of the contamination is (are) deemed to be in a de minimis condition; that is, any contamination that is present must not be considered to be a health, safety, or environmental risk, without the need for engineering or institutional controls. This de minimis level is usually the equivalent of a Statewide, non-site-specific level, sometimes called a tier I level or method A level. If there is some question as to whether the contamination is deemed as de minimis, a determination is required from the appropriate LSTF authority.

C. Remediation Plans - General

The following requirements apply to all remediation plans

1. Complete site characterization.
 - a. Anytime a site has been identified from a Phase I or Phase II ESA (see Sections 9.3A or B, above) as having contamination (or contamination exposure pathways), be it vapor (gas), liquid, solid, dissolved, or non-aqueous phase liquid (NAPL), above de minimis levels, a complete site characterization (sometimes known as special site assessment report, a detailed Phase II ESA, or even a Phase III ESA) must be prepared as the initial step of any remediation plan.
 - b. It must determine the total horizontal and vertical extent of such contamination, exposure pathways, and potential receptors (a.k.a., conceptual site model).
 - c. It must be based on the appropriate combination of the following ASTM Practices and Guides, as amended, as determined by the remediator's environmental investigator. Lesser degrees of site assessments or non-conformance are not acceptable. These ASTM Practices and Guides are as follows
 - i. D 6235-04, "Practice for Expedited Site Characterization of Vadose Zone and Ground Water Contamination at Hazardous Waste Contaminated Sites"
 - ii. E 1689-95 "Standard Guide for developing Conceptual site models for Contaminated Sites"
 - iii. E 1903-97, "Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment", as amended
 - iv. E 1912-98, "Guide for Accelerated Site Characterization for Confirmed or Suspected Petroleum Releases"
 - d. All of the requirements of Section 9.3.C.2, 3, and 4 must be met.
 - e. It must discuss how it meets with the appropriate Practices or Guides, listed here, and/or the appropriate LSTF procedures.

- f. It must indicate how it meets the requirements of any applicable LSTF regulatory procedures
2. Any remediation studies and plans must be prepared in the form of a report which includes a detailed, common language summary and discusses how it meets with the appropriate Practices or Guides, listed here, and/or the appropriate LSTF procedures.
3. Any remediation studies and plans must be presented to HUD at the same time as the Phase I ESA and, if applicable, Phase II ESA.
4. Environmental investigator qualifications as described in Section 9.2D.2, above, must be discussed in any remediation reports.
5. Submission of remediation plan including the site characterization as described in Section 9.3.C.1, above. For Lenders using the pre-application process the remediation plan must be submitted at the pre-application stage, and must be reviewed by HUD before an invitation is issued to submit an Application for a Firm Commitment. Evidence of approval by the LSTF Authority must be submitted with the Application for firm commitment.
6. The remediation plan must cover all relevant contaminant phases: vapor (gas), liquid, solid, dissolved, and NAPL.
7. Remediation Timing - Uncertain Determination of Cost and/or Effectiveness of Remediation. If HUD determines that it is uncertain whether or not implementation of the remediation plan will remove the contamination or bring it to a de minimis level, the remedial work must be completed, including clearance testing, and the remediation itself must be approved, including issuance of any clearance and closure documents, by the LSTF authority prior to issuance of the Firm Commitment.
8. Remediation Timing - Definitive Determination of Cost and Effectiveness of Remediation. If the extent of contamination can be definitively determined and the cost of removing that contamination can be specified, HUD may allow a remediation plan that has been approved by the LSTF authority that;
 - a. permits the remediation including site testing, any clearance and closure documents, and the approval by the LSTF, prior to initial endorsement, or

- b. if the applicant can show cause why it would be impractical to complete remediation prior to initial endorsement, permits the remediation including site testing, any clearance and closure documents, and the approval by the LSTF, prior to both final endorsement and initial occupancy. (See Section 9.4 for remediation costing.)
9. Disclosure protection during the course of remediation activities. All residents living regularly and construction workers regularly on site while remediation is taking place shall be duly informed and protected from contamination.

D. Remediation Plans – Complete Removal of Contamination

1. General Requirements. Except for those situations where Section 9.3E (Remediation Plans Allowing for Incomplete Removal of Site Contamination) applies, the Lender must submit a remediation plan designed to bring the contamination identified by the special site assessment per 9.3C to de minimis levels, eliminated to the extent necessary to meet the non site-specific LSTF authority standards, with no active or passive remediation still taking place. There also must not be a need for engineering controls, institutional controls, or monitoring wells.
2. All of the requirements for Section 9.3.C must be met.
3. Offsite Contamination and/or Vapor Intrusion Remediation. A remediation plan that involves control of off-site contamination per 9.3G and/or vapor intrusion remediation is not permitted under 9.3D but may be allowed under Section 9.3E remediation.
4. Groundwater Exception for Section 9.3.D. A site that is/will be acceptable if the contamination that exists or that will exist after completion of remediation, is or will be encountered solely in the groundwater, may be deemed acceptable if;
 - a. Institutional controls (IC) regarding the groundwater are/will be put in place, along with an O&M plan, approval by the LSTF authority, and any applicable enforcement requirements of LSTF authorities pursuant to such discussion in 9.3E. The ICs must prohibit any and all uses of the groundwater, and

- b. The highest anticipated levels of groundwater based on high groundwater and/or 100 year flooding events, are below the levels of any construction or potentially anticipated utility work, and
- c. There is no potential for vapors to occur in the subsurface below existing and/or proposed on-site structures pursuant to 9.3A.1.i and 9.3B.8 without the need for Tier 4 mitigation as discussed in ASTM E 2600.

E. Remediation Plans – Incomplete Removal of Contamination

1. Justification. If the costs are deemed to be exorbitant and/or the feasibility deemed impractical for remediation of on-site contamination to de minimis levels pursuant to 9.3D above, or if there is known or expected offsite contamination that poses a risk to the project site, the remediation plan may allow for incomplete removal, as described below. Justification for such incomplete removal must be submitted along with the remediation plan. Such justification must include documentation to HUD that shows that the cost of the incomplete removal of contamination, including any life cycle costs for Operation and Maintenance and any applicable Enforcement requirements of LSTF authorities, are sufficiently below the costs of complete contamination removal per 9.3D.
2. All of the requirements for Section 9.3.C must be met.
3. Bases. The corrective action must be a risk based corrective action (RBCA) based on the appropriate combination of:
 - a. The following ASTM Guides and Practices, as amended as determined by the remediator's environmental investigator:
 - i. E 1689-95 "Standard Guide for developing Conceptual site models for Contaminated Sites"
 - ii. E 1739 – 95, "Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites"
 - iii. E 1943 – 98, "Standard Guide for Remediation of Ground Water by Natural Attenuation at Petroleum Release Sites"

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- iv. E 2081 – 00, “Standard Guide for Risk-Based Corrective Action”
 - v. E 2091 – -05, “Standard Guide for Use of Activity and Use Limitations, Including Institutional and Engineering Controls”
 - vi. E 2435 – -05, Standard Guide for Application of Engineering Controls to Facilitate Use or Redevelopment of Chemical-Affected Properties”
 - vii. WK16004—“Draft Standard Guide for Risk-Based Remedy Selection” (when issued)
 - viii. E 2600 - 08 “Standard Practice for Assessment of Vapor Intrusion into Structures on Property Involved in Real Estate Transactions.”
- b. And/or LSTF regulatory procedures that may be followed in lieu of the ASTM Guides and Practices, as amended as listed in Section 9.3.E.3.a above, when the remediator’s environmental investigator determines their equivalence or greater stringency.
4. LSTF requirements. The RBCA must always meet the requirements instituted by any applicable LSTF regulatory authority.
 5. RBCA report(s) requirements The RBCA report(s);
 - a. must meet all of the requirements for Section 9.3.C, and
 - b. must discuss how the remediation plan complies with the applicable ASTM Guides and Practices and LSTF regulatory procedures as listed/discussed in Section 9.3.E.3, above.
 6. Risk-Based Corrective Action (RBCA). The corrective action must be an RBCA which is usually supported by the applicable combination of;
 - a. Engineering and Institutional Controls (EC/IC).

- i. An appropriate mix of engineering controls such as capping and slurry walls, and institutional controls such as protective covenants and access restrictions are usually required for all RBCAs, and shall follow the guidance in ASTMs E 2435- 05 and E 2091-05 (above). The RBCA must indicate how it met these Guides.
- ii. Operations and Maintenance Plan (O&M) Plan. An O & M plan IC with approval by the LSTF authority, and any applicable enforcement required by LSTF authorities pursuant to such discussion in; ASTM Guides, as amended as determined by the remediator's environmental investigator. (NOTE: LSTF regulatory procedures may be followed in lieu of these ASTM Guides, as amended when the re-remediator's environmental professional determines their equivalence.) The applicant must have in place an Operations and Maintenance (O&M) plan for management of all contamination remaining on the site and any controls thereto. If HUD determines that the mortgagor does not have sufficient capacity to manage the O&M plan, the mortgagor must contract an appropriate servicer to do so. (See Section 9.4 for costing.)
- iii. Hard Cap Engineering Control. A hard cap EC, such as concrete, generally is required if any contamination will remain on the site after final endorsement. The depth of any such remaining contamination should be greater than: the depth of the foundations of any existing or proposed structures including sumps, any existing or proposed utilities on site, and five feet below the surface. In certain situations, HUD may allow for a soft cap (e.g. dirt) if other engineering controls such as an impenetrable geotextile fabric are included. Even if engineering controls are not required for such RBCAs, institutional controls are still required.
- iv. Slurry Wall Engineering Control.. A slurry wall or equivalent type EC may be required to prevent offsite contamination from migrating onsite or from a contaminated portion of a site to an uncontaminated portion.
- v. Monitored Natural Attenuation and Enhanced Passive Remediation (MNA/EPR). MNA/EPR such as by bio-augmentation where no additional active input is required and passive engineering controls such as a slurry wall may be allowed as part of the RBCA. In such cases the LSTF authority must issue a conditional No Further Action Letter or similar approval. Monitoring wells pursuant to the above

RBCAs and meeting the requirements of Section 9.3F will be required to monitor the progress of the remediation. When MNA/EPR is part of the RBCA, the remediation may continue beyond initial endorsement provided that the LSTF authority has determined in writing that such undertakings would be present no threat to health, safety or the environment.

- vi. Vapor Barriers. If there is a potential for vapors to occur in the subsurface below existing and/or proposed on-site structures, Tier 4 mitigation is required as discussed in ASTM E 2600, unless a tier 3 VIA is performed pursuant to LSTF policy and/or procedure (as discussed in ASTM E 2600) and determines that it is in compliance with such policy and/or procedure. Where feasible, such controls shall consist of a poured-on vapor barrier to be used in conjunction with the active and passive venting systems.
 - vii. IC regarding the groundwater contamination, if applicable as described in Section 9.3.E.6.c are/will be put in place
- b. No Further Action Letter (NFA). The LSTF authority must issue an NFA, or similar approval, except that a conditional NFA may be allowed pursuant to MNA/EPR (see Section 9.3.E.6.a.v). The NFA or conditional NFA must be issued pursuant to the time lines stated earlier in this Section 9.3.C. Additionally, the LSTF authority(ies) must indicate that the remediation that has taken place, and in the case of an MNA/EPR will be taking place is protective of health, safety and the environment.
- c. Groundwater Requirement. A site is/will be otherwise acceptable if contamination that exists or that will exist after completion of remediation, is or will be in the groundwater, if
- i. Institutional controls regarding the groundwater are/will be put in place, along with an O&M plan, approval by the LSTF authority, and any applicable enforcement requirements of LSTF authorities. The ICs must prohibit any and all uses of the groundwater, and.
 - ii. The highest anticipated levels of groundwater based on high groundwater and/or 100 year flooding events, are below the levels of any construction or potentially anticipated utility work, and.

- iii. Any vapors from groundwater and/or soils are shown not to present a significant risk pursuant Tiers 1, 2, 3, and/or 4 of ASTM E 2600.
- d. Safety of and Disclosure to Residents and Workers. Anytime contamination above de minimis levels is allowed to remain on site, all maintenance workers who might perform activities that could compromise the engineering and/or institutional controls, construction workers, and building residents, etc. are to be informed of the general type and extent of contamination and the protective measures that have been taken.

F. Monitoring Wells, Flushing Wells, or Testing Wells

1. General Requirements. The presence of a testing or monitoring well on the property does not bar the property from consideration for mortgage insurance. If a monitoring well is required or exists to confirm that contaminants have been removed to intended levels or to determine that MNA/EPR is working properly, engineering/institutional controls as described in 9.3D will be required until such time as contaminants are reduced to de minimis levels and a Final No Further Action letter is issued by the LSTF Authority.
2. Monitoring Well Protocols. Monitoring protocols must be specified in the RBCA and monitoring must proceed to the point that indicates that contaminants have been removed to intended levels or that passive MNA/EPR is working properly.
3. Off-site Contamination – Acceptability. If a monitoring well is required or exists to determine if existing or assumed off-site contamination has migrated or might migrate on-site, the site is generally not acceptable unless associated engineering and institutional controls are put in place pursuant to a RBCA (see 9.3G) or unless the LSTF authority provides a statement that such off-site-site contamination would not present a risk to the health of the project's occupants if it were to migrate on-site.
4. Flushing Wells – Unacceptable. In no case may an initial endorsement take place when a flushing well is in operation or will be required.
5. Testing or Monitoring Wells Ordered by LSTF. A testing or monitoring well may also be placed on the property by order of the LSTF. The well may test or monitor contamination on the site or monitor for contamination from a neighboring site. If a monitoring well would be required or exists solely to monitor the general health of an aquifer used as for water supply or potential water supply, but not in relation to an

existing or potential hazardous condition, that fact is not a bar to environmental approval. The Lender must notify the HUD office processing the Application for FIRM Commitment if there is any placement of, or order to place, a monitoring or testing well.

6. Non-operating Wells. Non-operating wells are not a barrier to environmental approval, but must be capped over and must be closed out by the appropriate LSTF authority.

G. Off-site Contamination

If the Phase I and/or Phase II environmental site assessment pursuant to Sections 9.3A and/or B, above, determines that the existence or likely existence of off-site contamination presents a risk to the site or the residents of the project and the sponsor/developer has no management control over the offsite locations of the contamination, the site is not acceptable unless such off-site contamination is subject to a RBCA meeting all of the requirements of Sections 9.3C and E above.

H. Escrow

An escrow account must be set up for the maintenance of any monitoring wells and engineering controls, such as caps or slurry walls. More detailed information on escrow requirements is contained in Section 9.4.

I. LSTF Approvals and Reviews

Any approvals/reviews by an LSTF authority referenced in this section must be given directly by that authority and may not be given by a third party approved by that authority to act in lieu of the authority.

J. Unacceptable Sites

A site over a former solid waste landfill/dump and/or Superfund (National Priorities List (NPL) is generally not acceptable for development unless the hazardous substances, petroleum, and petroleum products are completely removed, the site is delisted, or for an NPL site only, the Federal Agency with management authority over the site gives approval of the site for residential usage.

K. Hazardous Substance Quantification

If any remediation plan that is a RBCA, identifies hazardous substances listed in 40 CFR 302.4 that will remain on the property after final endorsement, such plan shall determine the quantity of such hazardous substance and whether it exceeds the levels indicated at 40 CFR 373.2(b). (This is a requirement under CERCLA that would apply to HUD at any such time that HUD might own the property or take over its management.)

9.4

Field Personnel Responsibilities in Reviewing Cases Requiring Remediation

A. General Responsibilities

The Department assumes greater risk anytime that a Firm Commitment is issued on a contaminated site. The risk is even greater when a loan is closed on a site where complete removal of contamination is not possible, requiring monitoring possibly with continuous remediation techniques such as MNA/EPR that were previously discussed in Section 9.3.E and F. Therefore it is essential that field personnel exercise great care in the review process to assure that all reasonable measures are taken to mitigate HUD's exposure. Any special site assessment reports, Phase II or Phase III ESAs, should be reviewed so that the extent of the contamination is fully understood. The applicable ASTMs along with a more complete discussion of this issue is contained in 9.3.C. Although the Lender is responsible for assuring that environmental remediation contractors are qualified and experienced, field staff must still review references. Field personnel are also strongly encouraged to consult with their environmental officer.

B. Complete Removal of Site Contamination

1. Valuation. Valuation is generally responsible for the review of all environmental documentation and for the preparation of the SFNC and the form HUD-4128. The forms must be supplemented as needed to document the review and Valuation's conclusions as to the adequacy of the proposed remediation plan.

Any estimates of value or rents should be made as if the project is unaffected by contamination and conditioned on successful removal. The self-contained appraisal report must address any effect on marketability that may be present due to the prior environmental history.

2. **A/E & Cost.** The responsibility for determining if the cost estimate of the remediation plan is reasonable rests with the A/E & Cost staff. A/E & Cost staff should also determine if the contractor submitting the bid for removal is appropriately bonded and qualified to do the job. Cost data for remediation is not as plentiful as with more routine construction tasks. “Environmental Remediation Estimating Methods” might be helpful in some cases and is available through RS Means at <http://www.rsmeans.com>. In addition, the A/E & Cost staff may consult with local environmental remediation professionals about costs for similar work.
3. **Mortgage Credit.** Mortgage Credit shall administer escrow, and performance and bond payment requirements. The amount of escrow or bond shall be based on the estimated cost of the mitigation work from the contractor. The bond should be for at least 150% of the estimated cost, or an escrow may be established for at least the same amount. The manner of how the cash requirements for the escrow or bond are satisfied and the Lender and Mortgage Credits procedures for administering the escrow shall be in accordance with existing instructions in the Office of General Counsel’s Closing Guide. Higher escrow or bonding requirements will be necessary if the appraiser and/or the environmental officer determine that there is a greater than average risk that unforeseen problems will arise, resulting in increased cost. This determination should be based on previous experience with similar work and/or research through local environmental remediation contractors about their experience in containing the cost within their stated estimate.

C. Incomplete Removal of Site Contamination

1. **All Disciplines.** All disciplines should follow the guidance from 9.4.B (above) regarding initial removal or mitigation costs.
2. **Valuation.** In addition, Valuation must assure that the form HUD 92264 and narrative appraisal report contain an estimate of the annual expense or an additional amount added to the replacement reserve (i.e., the expense is for actual or anticipated replacement of a component such as a pump), related to any requirement for continuous monitoring and/or mitigation. The basis for the expense or additional replacement reserve will be obtained from a qualified engineer and/or contractor similar to the reserve for replacement requirement, which is based on the PCNA. The engineer/contractor’s estimate should be sufficiently detailed and supported to allow review by the A/E & Cost staff as well as the Valuation staff.

Any effect on marketability, value or rents related to the need for continuous monitoring/mitigation must be quantified and thoroughly discussed in the self-contained appraisal report.

D. Management, Coordination and Communication

In cases involving environmental mitigation that will occur after initial endorsement, extra attention should be given to the need for frequent communication, preferably with written documentation, between disciplines that are coordinated by team leaders and Hub/Program Center Directors. It is essential that there be no ambiguity in how information is conveyed relating to levels of contamination, cost estimates and the certainty of the effectiveness of mitigation.

9.5

Environmental Report

In addition to the submission requirements discussed in Section 9.3, HUD requires the Lender to provide a narrative Environmental Report along with any available supporting documentation for the project. The Environmental Report may be separate from the Phase I ESA or included within its body, but as a separate subset. This report should cover the relevant topics in the SFNC in the Forms Appendix. It should focus on those environmental issues that might affect the acceptability of the project including any compliance issues with state environmental laws. The Environmental Report must be submitted at pre-application for those Lenders using the preapplication process, or at the Application for FIRM Commitment stage for others.

Additionally, the following important environmental issues that should be included within the Environmental Report and are discussed below are:

- A. Lead-based Paint (not covered in the Sample Field Notes Checklist (SFNC))
- B. Asbestos (not covered in the SFNC)
- C. Historic Preservation (Item 18 in the SFNC)
- D. Floodplain Management (Item 17 in the SFNC)
- E. Wetlands Protection (Item 22 in the SFNC)
- F. Endangered Species (Item 24a in the SFNC)
- G. Noise Analysis (Item 19 in the SFNC)
- H. Explosive/Flammable Hazards (Item 20 in the SFNC)
- I. Coastal Barrier Resources (Item 16, SFNC)

- J. Coastal Zone Management (Item 10, SFNC)
- K. Sole Source Aquifers (Item 24b of the SFNC)
- L. Airport Clear Zones (Item 21 of the SFNC)
- M. Other Federal or State Laws (Item 24 of the SFNC)
- N. Additional Hazards and Nuisances (covers pipelines, etc.) (Items 27 and 28 of the SFNC)

Also, these important environmental issues that are discussed in more detail below highlight the issues that HUD staff must analyze during their preparation of the Form HUD-4128 and SFNC and provide guidance by which the Lender can assist HUD. These brief descriptions are not substitutes for the requirements in the statutes, regulations, Executive Orders, and handbooks. Note that Item 23 “Toxic Chemicals and Radioactive Materials” of both the SFNC the Form HUD-4128 should include the Phase I ESA, discussed in Section 9.3, above.

A. Lead-Based Paint

1. Lead-based paint, which may be present in buildings built prior to 1978, is not a topic that is covered by Form HUD-4128 or the SFNC, but the topic must be addressed by the sponsor’s architect. See Appendix 5B of the Map Guide for substantial rehabilitation and Appendix 5C for existing buildings to be refinanced or purchased under Section 223(f).
2. The Environmental Report for pre-1978 substantial rehabilitation, 223(f), and 232/223(f) should cover lead-based paint.
3. Lead-based paint requirements are applicable to housing built before 1978, except they do not apply to housing designated exclusively for the elderly or persons with disabilities, unless a child of less than 6 years of age resides or is expected to reside, and they do not apply to 0-bedroom dwelling units. This section is relevant to conversion, major rehabilitation, and to refinancing or purchase of housing under Section 232(f). It is not applicable to rehabilitation, refinancing or purchase of health care facilities.
4. All HUD regulations on lead-based paint are found at 24 CFR Part 35. Copies of the regulation, along with guidance materials, may be downloaded from <http://www.hud.gov/offices/lead/enforcement/lshr.cfm> or obtained by telephoning 1-800-424-LEAD.
5. Under the regulation there are different requirements for
 - a. Residential properties built before 1960,
 - b. Residential properties built between 1960 and 1977, and
 - c. Properties built before 1978 being converted from commercial or industrial to residential and for residential properties built before 1978 undergoing major rehabilitation.

For residential properties built between 1960 and 1977 the owner must agree to incorporate ongoing lead-based paint maintenance practices, as specified in the

regulation, into routine building operations. For pre-1960 residential properties, a risk assessment must be conducted to identify lead-based paint hazards, and any identified lead-based paint hazards must be treated with interim controls and a clearance examination passed prior to final endorsement (or after endorsement using escrowed funds). The terms “risk assessment”, “lead-based paint hazards”, “interim controls”, and “clearance examination” are defined in the regulation. Also, owners of pre-1960 properties must agree to incorporate ongoing lead-based paint maintenance into regular building operations and maintenance activities. Furthermore, owners of pre-1960 properties have the option of conducting “standard treatments”, defined in the regulation, instead of a risk assessment and interim controls. For conversions and major rehabilitations, there must be a lead-based paint inspection to identify all lead-based paint; and all lead-based paint must be abated and a clearance examination passed. When practicable, abatement shall be achieved through paint removal or component replacement. If those methods of abatement are not practicable, such that substrate material this is architecturally significant would be damaged, permanent encapsulation or enclosure may be used as abatement methods. If encapsulation or enclosure is used, ongoing lead-based paint maintenance shall be incorporated into regular building operations maintenance activities. Furthermore, instead of performing an inspection, owners of conversions and major rehabilitation projects have the option of presuming lead-based paint and lead-based paint hazards throughout the property, as set forth in the regulation, and conducting abatement on all applicable surfaces. Certain notice requirements also pertain to all three types of properties.

6. The cost of lead-based paint hazard controls may be included in the proposed mortgage loan with HUD approval.
7. Most rental transactions are also subject to the HUD-EPA lead-based paint disclosure rule at 24 CFR Part 35, Subpart A).

B. Asbestos

1. While many uses of asbestos are technically allowed today, several uses of asbestos have been banned starting in the early 1970s, and many commercial enterprises have stopped installing asbestos products as of the late 1970s. Some of the more common examples of asbestos containing materials include insulation, sprayed on finishes, such as ceilings, vinyl floor tile and the adhesive to fix the tile in place, siding, and roofing.
2. Asbestos is not a topic that is covered by Form HUD-4128 or the SFNC, but for structures built before 1978, the topic should be included in the environmental Report and must be addressed by the sponsor’s architect. See Appendices 5B and 5C.
3. Therefore, on any building built before 1978, a qualified asbestos inspector must perform a comprehensive building asbestos survey that is based on a thorough inspection to identify the location and condition of asbestos throughout any structures. In those cases where suspect asbestos is found, it would either be assumed to be asbestos or would

require confirmatory testing. If the asbestos survey indicates the presence of asbestos or the presence of asbestos is assumed, and if the Application for Firm Commitment is approved, HUD will condition the approval on an appropriate mix of asbestos abatement and an asbestos Operations and Maintenance (O&M) Plan.

4. If there is asbestos and it is friable or damaged, HUD strongly recommends that it be removed. If asbestos is not friable or damaged, HUD recommends that at a minimum, it be encapsulated which would be incorporated in the O&M plan.
5. The cost of any asbestos abatement activities may be included in the proposed mortgage loan-with HUD approval.
6. All asbestos abatement shall be done in accordance with EPA requirements for air pollution prevention and OSHA requirements for Worker Protection.

C. Historic Preservation (HUD Form HUD-4128, Part A, No. 18)

1. HUD must follow the procedures implementing the National Historic Preservation Act (16 U.S.C. 470 et seq.) with regulations found at 36 CFR Part 800. All Applications for Firm Commitment for HUD mortgage insurance, whether new construction, rehabilitation, refinancing or conversion from non-residential to residential property, are considered “federal undertakings” which require HUD to make a determination of no effect, no adverse effect, or adverse effect upon historic properties. An historic property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. HUD must consider the area of potential effect, regardless of whether the property is on vacant land, is a rehabilitation of an older property, or is located in an historic district.

2. Lenders may obtain from the HUD office the name and address of the State Historic Preservation Officer (SHPO) who has the right to comment on the proposal. The request from the borrower or Lender to the SHPO should consist of a narrative explaining the proposal and the front page of HUD Form 92013. It should be made as early as possible in the development process.

3. Due to differing relationships between field offices and SHPOs, procedures vary from State to State. Some SHPOs will not accept requests that do not come from HUD directly. If this is the case, the Lender should contact the Hub or Program Center. In summary, the Lender should notify the SHPO when submitting exhibits for pre-application review or earlier. If a problem is expected, it should be discussed with the Hub or Program Center. The response from the SHPO need not be received by HUD prior to the Application for a Firm Commitment, but must be received by HUD before a commitment is issued.

4. The SHPO is allowed 30 days (from the receipt of sufficient information from HUD) to reply to requests for consultation. If there is no reply within that time, and if there is no reason

to believe that historic properties will be affected, HUD may make a determination of no effect, and a commitment may be issued. Where an undertaking (HUD insurance) affects an historic property or historic district, the result of the consultation may be design change, research and preservation, salvage, or in rare cases, rejection of the Application for FIRM Commitment. Consultation for these procedures may take considerable time before a commitment can be issued.

D. Floodplain Management (Form HUD-4128, Part A, No. 17)

1. Applications for FIRM Commitment for mortgage insurance are subject to regulations regarding floodplain management found at 24 CFR Part 55 implementing Executive Order 11988 (Floodplain Management). The borrower should check the relevant floodplain map from the Federal Emergency Management Agency (FEMA). If any part of the site or integral offsite development is located within the 100-year floodplain according to the applicable FEMA map, this should be discussed with HUD at the pre-application stage.

2. Mortgage insurance shall not be approved for (1) a property, other than a functionally dependent use, located in a floodway, or (2) any critical action located in a coastal high hazard area, or (3) any non-critical action located in a high hazard area, unless the property is a functionally dependent use, or meets the conditions specified in 24 CFR 55.1(b) and (c). The terms “critical action”, “coastal high hazard area”, “floodway”, and “functionally dependent use” are defined in 24 CFR 55.2. 24 CFR 55.12 lists categories of proposed actions for which the floodplain management requirements in 24 CFR Part 55 are not applicable.

3. New construction in mapped 100-year floodplains is strongly discouraged. This flood buffer zone is extended to the 500-year floodplain for proposed rehabilitation, refinancing, or new construction for facilities housing or serving mobility-impaired individuals – a critical use. Sites for new construction, which are in the 100-year floodplain according to the FEMA Flood Insurance Rate Map, Advisory Base Flood Elevation Map, Preliminary FIRM, or any of their official FEMA digitized equivalents, will not be considered for mortgage insurance unless one of the following steps will be taken:

a. A Conditional Letter of Map Amendment (CLOMA) or Conditional Letter of Map Revision (CLOMR) has been obtained from FEMA. Where the applicant has a CLOMA or CLOMR, HUD approval for a Firm Commitment will be conditioned on the borrower: meeting the requirements of the CLOMA or CLOMR; obtaining a Final Letter of Map Amendment (FLOMA) or Final Letter of MAP Revision (FLOMR) prior to final endorsement; and, flood insurance on any building during the construction period until the FLOMA or FLOMR is issued; or

b. Extraordinary circumstances exist which lead HUD to the conclusion that there are no practicable alternatives to siting the project in the floodplain. In order to come to a conclusion of no practicable alternative, HUD must conduct an 8-step decision making process which includes publishing two public notices and taking comments, as summarized in 24 CFR 55.20. In such instances, prior to issuing the first public notice, HUD will need detailed information regarding exactly how the property will be altered and improvements designed. This information includes the elevation of the property, the elevation of the flood plain, and location of life support system. From the time any portion of the project is built, flood insurance is required. The eight-step process shall be completed before issuance of the Firm Commitment. HUD must develop the two notices but the costs of publication may be borne by the borrower. HUD approval for a Firm Commitment will be conditioned on the borrower obtaining flood insurance on any building during the construction period as well as obtaining and maintaining flood insurance for the term of the mortgage. All “critical actions” as defined in 24 CFR 55.2(b)(2), must comply with the requirements of 24 CFR 55.20(e).

4. Conversion projects, those changing a non-residential use to a residential use, are considered the same as “new construction” for floodplain in management.

5. For purchase or refinancing actions described in 24 CFR 55.12(a)(2) or repair, rehabilitation, modernization or improvement actions described in 24 CFR 55.12(a)(3) allows an abbreviated eight-step process to be used by the Hub or Program Center to determine their acceptability.

6. HUD will evaluate risks and mitigation measures in making its decision. It is HUD policy to discourage proposals if the lowest floor and/or the life support facilities or egress and ingress of the existing building are more than 12 inches below the 100-year floodplain line. See Sections 9.4.D.7 and 9.4.D.8 for additional conditions for issuance of the Firm commitment.

7. Where a site does not appear to be located in the floodplain on official FEMA maps, but shows evidence of flooding, HUD is not precluded from qualitatively evaluating the acceptability of the site. Lenders will be required to provide extensive data to aid HUD in evaluating floodplain sites.

8. In addition to processing under paragraphs 3-6 of this section, any building accepted for mortgage insurance that is located within a FEMA mapped floodplain is required to carry flood insurance in the amount of the loan for the term of the loan, subject to available maximum coverage. At the time of Application for Firm Commitment, the Lender is required to submit a completed Standard Flood Hazard Determination Form, and proof that the mortgagor has a commitment for flood insurance when the new mortgagor acquires the

property.

9. All leases (new and renewal) must contain acknowledgements signed by tenants indicating that they have been advised that the property is in a floodplain and flood insurance is available for their personal property. This applies to properties within the 100-year floodplain and to critical actions within the 500-year floodplain.

E. Wetlands Protection (Form HUD-4128, Part A, No. 22)

1. Applications for FIRM Commitment for mortgage insurance on new construction are subject to Executive Order (EO) 11990 "Protection of Wetlands". In general, the EO prohibits the development or disturbance of wetlands unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to the wetland. Proposals impacting wetlands must be reviewed by HUD to determine consistency with HUD wetland protection policy.

2. Wetlands are those identified on the National Wetland Inventory maintained by the U.S. Fish and Wildlife Service. Projects on land listed in the inventory will be considered only after HUD conducts an eight-step decision-making process which is the same as the one used for the flood plains process (See Section 9.4.D). It includes consultation, issuing two public notices and taking public comment. Wetlands under local or state jurisdiction are subject to state or local review as appropriate. The eight-step process is not applicable to state or local requirements.

3. Only in rare cases will rehabilitation, purchase and refinancing proposals involve wetlands impacts.

4. The Lender will be required to provide extensive data to aid HUD in evaluating wetland impacts. The Lender should consult early with the Field Office on any Application for FIRM Commitment with a site impacting wetlands.

F. Endangered Species (Form HUD-4128, Part A, No. 24)

Under Section 7 of the Endangered Species Act, HUD must consult with the U.S. Fish and Wildlife Service or, where applicable with the National Oceanic and Atmospheric Administration, whenever a proposal may affect an endangered or threatened species or its habitat. A required consultation should be assumed for any site within the critical habitat (as defined in 50 CFR Part 226) of a listed species. In areas where impacts on endangered or threatened species are a concern, all appropriate information regarding possible impacts of the project should be provided to HUD as early as possible. Consultation under Section 7 may result

in more stringent conservation measures than would otherwise be imposed. The Hub will advise the Lender where information on endangered species may be obtained.

G. Noise (Form HUD-4128, Part A, No. 19)

1. HUD standards regarding the acceptability of noise impacts on residential property are found at 24 CFR Part 51 Subpart B. For new construction and conversion from nonresidential to residential projects, these standards must be met. Where threshold criteria are met or exceeded, a noise analysis utilizing the methodology in the most current version of HUD's Noise Guidebook will be performed by HUD as part of HUD's NEPA environmental assessment. The HUD field office should be consulted prior to attempting to design mitigation measures.

2. For rehabilitation and refinancing, noise exposure by itself will not result in the rejection of existing properties for insurance, but will be considered as a marketability factor. For rehabilitation projects, HUD will encourage appropriate noise attenuation measures for inclusion in the alternation.

H. Explosive/Flammable Hazards (Form HUD-4128, Part A, No. 20)

HUD will not insure a property where structures and residents will be exposed to unacceptable risks posed by proximity to explosive or flammable hazards. This means that for new construction projects, and rehabilitation projects where unit density is increased or where there is a conversion from non-residential to residential or where a vacant building is made habitable, there must be an Acceptable Separation Distance (ASD) away from aboveground storage facilities with explosive or flammable material contents and similar industrial facilities. HUD standards regarding proximity to explosive or flammable hazards are found at 24 CFR Part 51 Subpart C. Analysis of sites near or in the vicinity of these types of facilities must be performed by HUD as part of the NEPA environmental assessment in accordance with the most recent version of HUD's guidebook, "Siting of HUD Assisted Projects Near Hazardous Facilities". If a plan is agreed upon with HUD before the invitation letter, these hazards may be mitigated during the construction period, if the work can be done on the subject property. For projects to be refinanced, purchased, and with minor rehabilitation, HUD will qualitatively evaluate the risks associated with proximity to hazardous facilities.

I. Coastal Barriers (Form HUD-4128, Part A, No. 16)

Under the Coastal Barriers Resources Act, as amended, and cited in 24 CFR 50.4(c), HUD is prohibited from insuring a project located within designated coastal barriers of the Atlantic Ocean, Gulf of Mexico, or the Great Lakes. Projects located within coastal barriers designated on

Department of Interior coastal barrier resources maps will not be accepted for processing.

J. Coastal Zone Management (Form HUD-4128, Factor 10, Planning and Findings)

Projects located within a state's coastal management zone must be found consistent with the approved state Coastal Zone Management program. In many states, HUD will require a letter from the State Coastal Zone Management Agency confirming consistency with the approved program. Mortgagees should be aware of the extent of coastal management zones in coastal states and contact the field office early when examining a proposal in a coastal zone.

K. Sole Source Aquifers (Form HUD-4128, Part A, No. 24)

Projects utilizing municipal water and sewer and with appropriate local drainage and runoff approval require no review for sole source aquifers. For other projects, new construction and some rehabilitation projects located within the boundaries of the recharge area of a designated sole source aquifer must be reviewed by EPA for their effect on the sole source aquifer. An aquifer is an underground body of water usually kept in place by rock, gravel, or sand. HUD offices will identify the local, state or Federal agency with maps of sole source aquifers.

L. Runway Clear Zone, Runway Protection Zones, Clear Zone, or Accident Potential Zone (Form HUD-4128, Part A, No. 21)

1. HUD standards regarding the acceptability of property located in Runway Clear Zones (also known as Runway Protection Zones), Clear Zones, and Accident Potential Zones are found at 24 CFR Part 51 Subpart D. An Accident Potential Zone is an area at military airfields that is beyond the Clear Zone.
2. Construction or major rehabilitation of any property located within a Clear Zone is prohibited. Acquisition, refinance and minor rehabilitation of projects within Clear Zones are allowed with some restrictions. HUD must determine that projects located in Accident Potential Zones are generally consistent with Department of Defense land use compatibility guidelines for Accident Potential Zones.
3. HUD, as part of its environmental review for an existing property, shall advise the Lender who will advise the mortgagor which is purchasing the property that the property is in a Runway Clear Zone, Clear Zone, and what the implications of such a location are. The buyer must sign a statement acknowledging receipt of this information. HUD may reject for mortgage insurance existing property within a Runway Clear Zone or Clear Zone because of the possibility that the property may be acquired at later date by the airport operator.

M. Other Federal or State Laws (Form HUD-4128, Part A, No. 24)

1. Applications for FIRM Commitment for mortgage insurance are also subject to provisions of other Federal authorities which seldom require action on the part of HUD, including the Wild and Scenic Rivers Act, Farmland Protection Policy Act, and regulations implementing the Clean Air Act. There are State regulations implementing air quality. HUD will advise the Lender if any actions under these or other Federal or State authorities are required.
2. The HUD office will also determine whether or not Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, is applicable to the project. This Executive Order requires that the provision of HUD mortgage insurance to projects not result in disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. When impacts of a project on a minority or low-income population, or siting of a project in an adverse environment raises questions of discrimination, HUD will perform the necessary analysis before determining acceptability of the project, during the pre-application stage. HUD will advise the Lender at the pre-application stage if this is a concern.
3. HUD may require mitigation of a variety of nuisances and hazards on the property which would affect the health and safety of residents and the security of the collateral.

N. Commonly found or Observed Additional Nuisances and Hazards (Form HUD-4128, Part B No. 27 and 28)

1. All parts of any structure must be at least 10 feet from the outer boundary of the easement for any high pressure gas or liquid petroleum transportation pipeline (Form HUD-4128, Part B, No. 28).
2. No structure shall be constructed within the easement of any overhead high voltage transmission line. In addition, all structures shall be located outside the engineered fall distance of any support structure for high voltage transmission lines, radio antennae, satellite towers, etc. This does not apply to local service electric lines and poles (Form HUD-4128, Part B, No. 28).
3. HUD has additional requirements regarding operating and/or abandoned oil or gas wells, sour gas wells, and slush pits. Additional information may be obtained from the HUD field office (Form HUD-4128, Part B, No. 28).
4. If any part of a site that would appear to be developed on filled ground, HUD may require

that all grading be properly controlled to prevent differential earth movement, sliding, erosion, and/or other occurrences which might damage dwellings, streets or other improvements (Form HUD-4128, Part B, No. 27).

5. Hubs may adopt additional requirements to address unique local concerns, but, if any local requirement is mandated, the Hub must inform the Deputy Assistant Secretary for Multifamily Housing and the HUD headquarters Housing Environmental Clearance Officer of the requirement and its rationale.