

GUIDELINES FOR CONDUCTING FIELD ARCHAEOLOGY IN OREGON

**Oregon State Historic Preservation Office
Salem, Oregon**

April 2007

FORWARD

The Secretary of the Interior has developed broad national performance standards and guidelines to assist federal agencies in carrying out their historic preservation activities. These federal standards and guidelines are entitled *Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines* (48 FR 44716-44742). Professionals working in the United States have long recognized the need to standardize archaeological field investigations; however, standardization has been slow to appear in the Pacific Northwest. Oregon SHPO's Guidelines¹ were established to meet this need and to fill the gap between the broad-based federal guidelines and the various previously published field manuals. They are intended to provide standards and offer general guidance without hindering the development and use of new and innovative approaches.

The intent is to clarify expectations for archaeologists, their clients and the public. The Guidelines describe widely accepted archaeological practices used in the Pacific Northwest Region. They also encourage the selection of methods and techniques generally found to be the most efficient and cost-effective. It is hoped that these guidelines will enable project sponsors to better understand and assess proposals for archaeological survey. Users of the Guidelines should feel free to contact SHPO staff with questions about particular problems or projects. It is anticipated that the Guidelines will be updated at regular intervals to incorporate unanticipated considerations and new approaches. The Guidelines were written primarily to cover activities on non-federal public and private lands in Oregon. Federal land managers deal with a different array of cultural resource laws and regulations, and after gaining a familiarity over their land-base, after many years of compliance survey and testing projects, have often instituted their own guidelines for working on their lands. Oregon SHPO's Guidelines are not meant to replace existing federal guidelines or mandate a change in their accepted strategy. Rather the Guidelines offer a summary of general archaeological practices that may be applicable throughout the state. If your project affects federal land in Oregon, be sure to contact the federal land managing agency to see if they operate under their own set of cultural resource guidelines.

So as not to "reinvent the wheel" these Guidelines represent a summary of information that has been drawn from other published SHPO guidelines (e.g., Arkansas, Florida, Mississippi, Vermont, Virginia) and practical experience working in the Pacific Northwest. These Guidelines should be considered a work in progress. Comments by archaeologists working in both the public and private sector are encouraged.

¹ References to Oregon SHPO's Field Guidelines are hereafter denoted by the term "Guidelines".

TABLE OF CONTENTS

	<u>Page #</u>
Forward	2
Table of Contents	3
Introduction	6
<u>I. Basic Site/Project Information</u>	9
Definition of an Archaeological Site	9
“Precontact” and “Prehistoric”	9
Three Phases of Archaeological Investigation	10
Criteria for Qualified Professional Archaeologists	11
Confidentiality of Sensitive Archaeological Site Information	12
SHPO Archaeological Records	12
Access to Archaeological Records	13
Professional Qualifications for Field Archaeologists	15
Determining Which Inventory Form to Use	16
<u>II. Archaeological Practices</u>	17
Introduction	17
Background Research	17
Area of Potential Effects (APE)	17
Field Inspection or Site Visit	18
Map Documentation	19
Defining Site Boundaries	19
Treatment of Inadvertent Discoveries & Site Protection	19
Inadvertent Discovery in the Course of Project Construction	19
Treating an Unanticipated Site Once Discovered	20
Long Term Site Preservation through Easements or Fee Simple Purchase	21
Curation of Artifacts and Documentation	21
If a Site is Located on Public Land	22
If a Site is Located on Private Land	22
Treatment of Human Remains	23
<u>III. Standard Field Methodology</u>	26
Field Methods	26
Surface Survey	26
Remote Sensing	28
Monitoring	28
Sub-Surface Testing	28
Shovel Probe/Test Pit Methodology	28
Test Units	29
Deep Testing	29
Historic Archaeological Site Recordation	30
Recording Measurements	30
Establishing a Permanent Site Datum	30
Isolated Finds	31
Treating Isolated, or Limited, Surface Artifacts	31
Treating Isolated, or Limited, Sub-Surface Artifacts	32

	<u>Page #</u>
Artifact Collection Policy	32
Pedestrian Survey	32
Subsurface Site Discovery Probes	32
Excavation	33
Defining Previous “Significant” Ground Disturbance	34
Permits for Archaeological Investigations on Nonfederal Public and Private Lands	34
Considering Standing Structures in the Project Area	35
Involving the Public	36
<u>IV. Archaeological Field Investigations</u>	37
Levels of Investigation	37
Research Design: All Phases	37
Standards for Preparing Research Designs: All Phases	37
Phase I Investigation: Identification Study	38
Research Design Requirements for Phase I	39
Conducting Background Research	39
Phase I Field Investigations: Field Study	40
Data Analyses and Reporting	44
Phase II Investigation: Evaluation Study	45
Research Design Requirements for Phase II	45
Field Investigations and Data Analyses	46
Public Education and Outreach	49
Collections Care and Management	49
Phase III Investigation: Data Recovery Study	49
Research Design Requirements for Phase III	49
Data Recovery through Controlled Excavation	50
Standards for Public Education and Outreach	51
Mitigation	52
Capping Sites with Fill	53
Mitigation Alternatives	54
Artifact Processing, Data Analyses and Curation	56
Field Tracking	56
Processing	56
Analyses	57
Conservation and Curation	58
Summary	58
Bibliography	59
Appendices	60
A. Establishing Site Significance	61
Determining Significance under Criteria D	64
Ability to Answer Questions Important to Understanding Oregon’s Past	65
Establishing Historic Period Site Significance	66
Defining a “Site” in the Context of Historic Period Archaeology	67
Research Topics to Help Evaluate Significance of Historic Period Sites	67
Identifying Important Research Questions and Necessary Data Sets	68
Quality of Site Evidence	68

	<u>Page #</u>
Summary of Information Needed by SHPO to Determine if Site Assessment Process Should Continue	69
Determining the Amount of Impact on a Significant Site	69
B. Preservation Deed Covenant	71
C. Guidelines for Underwater Archaeology	74
Phase I: Submerged Cultural Resource Study	75
Phase II: Submerged Cultural Resource Testing & Evaluation	77
D. Curation Standards and Guidelines for Archaeological Investigations in Oregon	78
E. Examples of Memorandum of Agreements & Programmatic Agreements	91
Exhibit A: Three-Party Memorandum of Agreement	92
Exhibit B: Two-Party Memorandum of Agreement	95
Exhibit C: Programmatic Agreement	98

INTRODUCTION

People have lived in Oregon for over 14,000 years. The vast majority of that history is unwritten with information concerning past events and lifeways accessible only through the archaeological record. Archaeological investigations in Oregon predominantly occur in response to federal and state laws that protect archaeological resources. The Oregon State Historic Preservation Office (SHPO) developed these Guidelines to provide a framework for those activities, as well as guidance for non-regulatory archaeological studies. These Guidelines provide an important perspective for refining and improving the current practice of archaeology in Oregon.

The Guidelines reflect various goals for Oregon archaeology:

- Ensure that archaeological research meets the highest professional standards.
- Identify important archaeological sites that contribute to our understanding of Oregon's precontact and post-contact history.
- Protect important archaeological sites and, when appropriate, gather information.
- Provide meaningful public benefits.
- Develop sound and reasoned public policy on regulatory archaeology.
- Keep archaeological studies as cost effective as possible.
- Standardize field methodology while allowing creativity and flexibility in the conduct of archaeological studies.

The Guidelines emphasize public education and communication with clients, landowners, local governments, tribes, community members, and interested constituencies. The Guidelines also stress the need for clear and improved communication about archaeological expectations, methods, findings, value, and relevance. These Guidelines are meant to allow for flexibility to ensure that the scope and cost of recommended archaeological actions are commensurate with a project's scale, level of anticipated impacts, project area characteristics, and the significance of sites that may be affected by the project. Archaeologists are encouraged to suggest alternative approaches to the Oregon SHPO whenever appropriate.

These Guidelines emphasize the importance of prioritizing archaeological investigations in an effort to focus consideration on the discovery of significant archaeological sites. The Guidelines also emphasize the importance of evaluating the significance of a site as early as possible in the archaeological assessment process.

The Guidelines are designed to provide technical guidance for archaeological professionals, federal and state agencies, private developers, researchers, and anyone else involved in Oregon archaeology. We recommend that the Guidelines be followed by all archaeologists working within the regulatory review process in Oregon, to ensure that the State's goals for Oregon archaeology are met and to help ensure appropriate compliance with federal and state laws (with exceptions noted below).

These guidelines are designed to guide archaeological field investigations and the recording of archaeological sites. Field investigations that involve above-ground resources should be completed by qualified personnel and coordinated with the SHPO's above-ground compliance

specialists. Researchers working with above-ground cultural resources should contact Sarah Jalving or Steve Poyser at Oregon SHPO to comply with the guidelines for above-ground field recordation.

The Oregon SHPO is involved in two major categories of project reviews:

1. Reviews in accordance with federal laws, primarily under Section 106 of the National Historic Preservation Act, referred to as “Section 106,” and sometimes under Section 110 of the Act. Under Section 106, federally funded, licensed, permitted, and assisted projects are subject to review. These regulations are codified in 36CFR800.
2. Reviews under state laws, primarily ORS 97.740-760 (*Indian Graves and Protected Objects*) and ORS 358.905-955 (*Archaeological Objects and Sites*).

In complying with Section 106 and Section 110, some federal agencies may have different requirements and procedures based on the nature of their programs and statutory authorities. Sometimes, alternative practices and requirements to these Guidelines are established in Programmatic Agreements in accordance with Section 106. Various portions of these Guidelines remain applicable to the conduct of archaeological assessments under any Programmatic Agreement. In particular, Appendix A relating to “Evaluating Site Significance” is intended to guide federal agencies doing archaeological project reviews in Oregon. Archaeological investigations on federal and state lands have additional requirements that supplement these guidelines. For example, permit provisions are established in federal (specifically the federal *Archaeological Resources Protection Act*) and state statute (Oregon’s ORS 390.235 - *Permit and Conditions for Excavation and Removal of Archaeological or Historical Material on Public and Private Land* – and it’s associated Administrative Rules [OAR 736-051-0080 to 0090]).

The Oregon SHPO, as well as federal and state land managers, will advise consulting archaeologists when additional or different provisions apply on public lands or to Programmatic Agreements. These Guidelines incorporate the Secretary of the Interior's Standards and Guidelines for Identification, Evaluation, and Archaeological Documentation. Professionals must ensure that all archaeological studies meet the relevant Secretary of the Interior's Standards and Guidelines (available at http://www.cr.nps.gov/local-law/arch_stnds_0.htm).

These Guidelines are organized into four major sections, describing the archaeological process from a general introduction of basic terms and policies to a detailed outline of each archaeological investigative phase. These sections include: I) Basic Site/Project Information; II) Archaeological Practices; III) Standard Field Methodology; and IV) Archaeological Field Investigations.

Section I – Basic Site/Project Information (pg.9) – provides a definition of an archaeological site in Oregon, outlines the criteria needed to be considered a professional archaeologist, and summarizes information regarding archaeological resources or research tools available at the Oregon SHPO, including access policy and confidentiality of site information.

Section II – Archaeological Practices (pg.16) – provides a brief description of the basic components of a site investigation (e.g., background research, determining a project’s Area of Potential Effect (APE), field inspection, site boundaries, and significance). This section is designed to familiarize clients, landowners, local governments, community members, and local constituencies with the archaeological review process so that the steps and goals are easily understood and supportable.

Section III – Standard Field Methodology (pg.25) – provides a brief overview of the different components involved in an archaeological investigation. This section is not only designed to inform the public of the archaeological process but is also designed to remind professional archaeologists of the range of alternatives at their disposal so that site evaluations and mitigation decisions are well thought out and commensurate with the proposed action.

Section IV – Archaeological Field Investigation (pg. 36) – describes the three basic phases of an archaeological investigation: 1) Site Discovery, 2) Site Evaluation, and 3) Mitigation. This section provides detailed guidelines for fieldworkers to assist them in completing their investigations.

I. BASIC SITE/PROJECT INFORMATION

DEFINITION OF AN ARCHAEOLOGICAL SITE

In general terms, an Archaeological Site is defined as:

- A) Ten or more artifacts (including debitage) likely to have been generated by patterned cultural activity within a surface area reasonable to that activity; or
- B) The presence of any archaeological feature, with or without associated artifacts. Examples of features include peeled trees, cache pits, hearths, housepits, rockshelters, cairns, historic mining ditches, petroglyphs, or dendroglyphs.

In general terms, an Isolated Find is defined as:

Any precontact or historic artifact occurrence that does not qualify for a site designation (i.e., ≤ 9 artifacts) is referred to as an Isolate Find.

In Oregon, an archaeological site is greater than 75 years of age (50 years of age on federal lands or related projects). Examples of archaeological sites would include: domestic/habitation sites, industrial sites, lithic scatters, middens, mounds, quarries, mines, stacked rock features, culturally modified trees, shipwrecks, petroglyphs, etc.

The presence of directly observed cultural material and/or feature(s) is the basis for recording a site. Archaeological sites are rarely defined solely on the basis of informant testimony. Direct observation of features and/or artifacts should always be sought to substantiate informant information. Generally, unsubstantiated informant testimony should be reported, but not on site forms. While exceptions to this policy may exist, they should be considered rare. For example, in cases where multiple informants offer independent, similar and/or supportive information on different dates with regards to the location and composition of a particular site (e.g., historic burial), a site form should be used to record this resource.

Site boundaries should be defined by direct observation of features and/or artifacts. Topography may be used to suggest potential boundaries that should be verified by testing, but these should be illustrated differently on the site form than boundaries determined through direct observation. In addition, historic background information should be taken into consideration when defining the boundaries of a historic site.

“PRECONTACT” AND “PREHISTORIC”

“Precontact” and “prehistoric” describe over 14,000 years of Native American history prior to contact with Europeans. In the past, the Oregon SHPO has generally used the term “prehistoric” to refer to the very long span of human history before written records were kept. However, “precontact” recognizes that history is not always written. Many archaeologists, Native Americans and historians who work in Oregon support the use of the term “precontact.” Thus, the Oregon SHPO uses “precontact” throughout these Guidelines to describe the thousands of

years of rich Native American culture before European contact. The terms “prehistoric” and “precontact” are interchangeable and using one or the other is a personal preference.

THREE PHASES OF ARCHAEOLOGICAL INVESTIGATIONS

There are three phases of archaeological investigation that need to be considered for all projects. These phases outline the steps of investigation that need to be followed in order to identify, determine significance of and mitigate for adverse effect to any significant sites that may be affected by a proposed project. These three phases are:

Phase I - Identification Study: The goal of Phase I investigations is to locate all archaeological sites that may exist within a proposed project’s APE that are potentially eligible for the State or National Registers of Historic Places. In order to accomplish this goal, a thorough background research of the history of land use activities within the project area is completed. This research should be followed by a surface survey of the project area and the excavation of subsurface probes in areas of high probability and low visibility. Subsurface probes are considered an important component of this phase in order to determine the location, nature and boundaries of any potentially significant archaeological sites that may not be visible on the ground surface due to previous ground disturbing activities (e.g., plowing, filling, industrial or residential development) or heavy vegetation. All discovered sites should be avoided and/or protected until they can be evaluated for their potential eligibility/significance.

Phase II-Evaluation Study: The goal of Phase II investigations is to establish whether or not a site identified during Phase I meets the criteria for inclusion in the State or National Register of Historic Places. To accomplish this task, subsurface excavations are often conducted to establish a site’s horizontal and vertical boundaries, general site integrity and composition. In some cases, testing is not necessary due to a preponderance of evidence regarding the site’s history, composition and integrity already being known (e.g., exposed cut-banks, shallow soil development, historic documentation, previous research). In such cases, an assessment of our knowledge of the site is compiled to establish the likelihood of the site containing information important to our local, state, and/or national history. Sites that are found to be ineligible to the State or National Historic Registers (NRHP) are promised no protection and need no further evaluation under the National Historic Preservation Act; however, some federal agencies continue to manage such sites (e.g., Federal Land Protection and Management Act-FLPMA) for their importance in the agency’s missions, such as public interpretation, cultural use or a lesser level of scientific importance than that supported by the NRHP. Sites identified as eligible should be avoided and/or protected. If impacts are unavoidable efforts should be aimed at minimizing any unnecessary impacts. Those sites or portions of sites that are found to be significant to the NRHP and that cannot be avoided or protected will need to receive mitigation under Phase III.

Phase III- Data Recovery: The goal of Phase III investigations is to recover the maximum significant cultural, environmental, and interpretive information and values from a site before it is destroyed in whole or in part. This investigative phase focuses around the use of data recovery through controlled excavation, and should include a high level of public education and outreach

to ensure that the proposed destruction of the site provides maximum benefits to a wide audience.

Each of these phases will be discussed in greater detail in Section IV of these Guidelines.

CRITERIA FOR QUALIFIED PROFESSIONAL ARCHAEOLOGISTS

Any archaeological investigation in Oregon should be conducted by qualified archaeological professionals who meet the Secretary of the Interior's Professional Qualification Standards, or for federal agencies, Office of Personnel Management (OPM) standards. Archaeological investigations conducted pursuant to federal and state laws must be conducted by qualified professionals. Under Oregon State Statutes (ORS 390.235(6) (b)) a:

“Qualified archaeologist” means a person who has the following qualifications:

- (A) A post-graduate degree in archaeology, anthropology, history, classics or other germane discipline with a specialization in archaeology, or a documented equivalency of such a degree;
- (B) Twelve weeks of supervised experience in basic archaeological field research, including both survey and excavation and four weeks of laboratory analysis or curation; and
- (C) Has designed and executed an archaeological study, as evidenced by a Master of Arts or Master of Science thesis, or report equivalent in scope and quality, dealing with archaeological field research.

For additional information on the Secretary of Interior's Professional Qualification Standards, see <http://www2.cr.nps.gov/laws/ProfQual83.htm>. As a courtesy to agencies, developers, communities, and other users, the Oregon SHPO maintains a **List of Archaeological Consultants**. Each of these consultants and/or agencies possess qualified professionals that meet the Secretary of the Interior's Professional Qualification Standards and have demonstrated ability to meet the Secretary of the Interior's Standards and Guidelines for Identification, Evaluation, and Archaeological Documentation (see http://www.cr.nps.gov/local-law/arch_stnds_0.htm). There may be other qualified consultants that do not appear on this list. The Oregon SHPO has established procedures for listing organizations or individuals on the consultant's list. Qualified professionals do not need to be on the consultant's list to conduct investigations in Oregon but the Oregon SHPO encourages their listing. SHPO will only accept reports (Phases I, II and III) resulting from Section 106, antiquities or state law projects from individuals or companies who meet these federal standards. If your project involves aboveground historic resources, Oregon SHPO requires agencies to retain qualified personnel who meet the Secretary of Interior's Professional Qualification Standards for History or Architectural History.

Inclusion on SHPO's archaeological consultants' list does not imply that the Oregon SHPO certifies personal or corporate qualifications nor does Oregon SHPO recommend or endorse these individuals or organizations. Work by individuals or organizations appearing on this list do not receive any special consideration. Oregon SHPO considers a thorough knowledge of Oregon and regional precontact and historic period archaeological, historic and ethnographic literature a

key requirement for conducting high quality archaeological investigations in Oregon. Thus, for example, understanding the Paleo-Indian period in Oregon is impossible without knowing the Paleo-Indian literature for the Plateau, Northern Great Basin and Northwest Coast Regions.

Confidentiality of Sensitive Archaeological Site Information

In the Oregon SHPO's experience, more sites are destroyed by lack of knowledge than by looting². Public education about archaeological sites is an important goal for Oregon archaeology.

By and large, disseminating general, non site-specific results of field investigations to local governments and other community organizations, landowners, libraries, and interested citizens is the preferred practice. However, to protect fragile, vulnerable, or threatened sites, the National Historic Preservation Act, as amended (Section 304 [16 U.S.C. 470s-3]), and Oregon State law (ORS 192.501(12)) establishes that the location of archaeological sites, both on land and underwater, shall be confidential. Under law, the Oregon SHPO may provide locational information to appropriate individuals and organizations for research and planning purposes. Oregon State law exempts archaeological site locations from the Freedom of Information Act. Specific project or site concerns with publishing or distributing site locations in reports or electronic media should be discussed with the SHPO as they arise.

SHPO Archaeological Records

Oregon SHPO maintains the largest database of archaeological records in Oregon. This data is available to all professional archaeologists to assist them in conducting future project reviews. Our records include:

- 1) Library of over 21,000 archaeological reports and 30,000 archaeological site forms;
- 2) Bibliographic database (ACCESS) of all archaeological reports including basic bibliographic information, site specific data on all sites addressed in reports, radiocarbon database, and obsidian source database. The majority of this information is also currently accessible on our webpage (<http://shpo.prd.state.or.us/archaeology.php>);
- 3) GIS database (ARCVIEW 9.2) of all previously surveyed areas and site locations. This information is directly accessible to researchers through a computer terminal at our Salem office;
- 4) Computer accessible copies of original SHPO USGS topographic maps showing state survey data mapped before 2002, georeferenced with current 7.5' USGS maps;
- 5) GLO maps for the State of Oregon (not georeferenced but computer accessible);
- 6) Orthophotos for the State of Oregon (georeferenced on GIS database);
- 7) Computerized copies (i.e., .pdf files) of all site forms and a majority of survey reports linked to the SHPO GIS and bibliographic databases; and
- 8) A site form database that will provide a searchable link between all recorded archaeological site forms. This site form database is a web-based 'work in progress', but it will take several years to access data from all previously recorded sites. All future site

² While more sites overall may be destroyed by lack of knowledge, our office acknowledges that the most important and information-rich sites have been and continue to be destroyed by looting.

forms will automatically be entered into this database. (Database due to be completed by May 1, 2007).

Access to Archaeological Records

It is in the public interest to protect Oregon's cultural resources. Oregon SHPO recognizes this need and therefore restricts access to some cultural resource information. Although SHPO reserves the right to restrict access to various types of cultural resource data, Oregon state law exempts archaeological site locations from the Freedom of Information Act. SHPO recognizes the need of scholars, researchers, archaeology and history consultants, and other public citizens to have access to these files in order to perform their jobs relating to the identification and protection of cultural resources.

The Purpose of this SHPO Access Policy is Four-Fold:

1. Assure that only qualified researchers have access to confidential and sensitive information.
2. Maintain a defensible record of who has viewed specific records
3. Ensure that the user is aware of the appropriate uses and limitations of the records
4. Provide an efficient format that is accessible to researchers and as a result, SHPO staff can fulfill their daily responsibilities.

The following guidelines concerning access pertain to all cultural resource records at SHPO, including but not limited to forms, documents, maps, images and digital information. Copies (.pdf) of most survey reports and site forms can be accessed through a researcher's computer at our Salem office. These documents are linked to our GIS and bibliographic (ACCESS) databases. Paper copies of all documents can be made; however, electronic copies of the data are not available. Filing out a Request Form when visiting the SHPO office can access any records not currently available in scanned format. SHPO staff will provide the individual with the requested information based on the guidelines outlined below. Users may not have access to files other than those provided by SHPO staff.

Access by Professional Archaeologists

Individuals working as archaeologists on projects who meet at least one of the following criteria may be provided with unrestricted archaeological records:

1. All "Qualified Archaeologists" as defined in ORS 390.235(6)(b).
2. Members of the Register of Professional Archaeologists (RPA).
3. Archaeologists possessing a Bachelor's degree in Anthropology or other staff members that have a written letter from their direct supervisor (who is a qualified archaeologist under ORS 390.235(6)(b)) justifying their need for access.
4. Graduate student with written justification for access from qualified faculty – (access may be limited-- i.e., project/thesis oriented).

Access by Non-Archaeologists

Other individuals may have limited access to archaeological records. The type and extent of data available to these individuals is determined on a case-by-case basis. General information concerning the presence or absence of an archaeological site within the boundaries of a proposed project will be provided to agencies requesting such information for management purposes. Site-specific data on known sites; however, will only be provided to professional archaeologists and tribal cultural resource staff.

Procedures for Access

1. Access to SHPO archaeological records, National Register case files and the Statewide Inventory of Historic Properties are by appointment only (these appointments should be made at least 48-hours in advance via phone with the staff person who will be assisting the researcher). A SHPO staff member will: A) arrange for work space that does not conflict with Oregon State Parks and Recreation Department or SHPO needs for the appointed day; and B) check the researcher in and take responsibility for seeing that the researcher is oriented and instructed in records handling and protocol for use of the SHPO's research computer and copy machine. The scope of the research for any above-ground records (e.g., National Register and Statewide Inventory files) needs to be provided at the time the appointment is made, preferably by Township, Range and Section. Our research hours are 8:00 am to 4:00 pm. If your appointment cannot be kept, please notify the SHPO staff no later than 8:00 am the day of the appointment. (Arrival later than 30 minutes after appointment time may result in the cancellation of the appointment and require you to reschedule).
2. No material from the SHPO files or library will be released to the researcher directly or taken off the premises, except by photocopy. Special care will be taken with regard to handling photographic prints in office files. To avoid inlaying fingerprints, prints shall be handled from the reverse side and edges only. No mark-up of prints or other file material is permitted. SHPO resource materials may only be accessed during scheduled appointments.
3. The researcher shall sign in at the front reception desk upon arrival and sign out at departure.
4. As a general rule, the public will not be allowed free access to any physical SHPO files. Instead, all archaeological survey reports and site forms are accessible via a computer terminal eliminating the need to handle the original and often fragile documents.
5. Photocopies/prints from on-line documents made by a researcher are charged at a rate of \$.20 per page in conformance with departmental policy. Payments can be made by cash, check or credit card. Checks are payable to Oregon State Parks and Recreation Department. Payment is due on the date of service and receipts will be provided. For a full list of charges see OAR 736-001-0030, which can be found at arcweb.sos.state.or.us/rules/OARS.

Professional Qualifications for Field Archaeologists

SHPO requires individuals or groups conducting federally-funded research, or research as a result of federal or state permits and licenses in the State of Oregon, to meet the minimum professional qualifications outlined in the Secretary of the Interior's *Standards and Guidelines, Archaeology and Historic Preservation's* "Professional Qualifications Standards" (*Federal Register* vol. 48, no. 190, 9-29-83, Part IV, pg. 44738-44739). Throughout the duration of the investigation, either the Principal Investigator or Field Director must be present in the field directing and monitoring the activities of the Field Crew. To meet the minimum professional qualifications in archaeology:

1. The **Principal Investigator** must: 1) have a graduate degree in anthropology, archaeology, or closely related field, plus: 2) at least one year of full-time professional experience or equivalent specialized training in research, administration or management; 3) at least four months of supervised field and analytic experience in general North American archaeology; and 4) demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a Principal Investigator in prehistoric archaeology shall have at least one year of full-time professional experience at a supervisory level in the study of resources of the prehistoric period. A Principal Investigator in historic archaeology shall have at least one year of full-time professional experience at a supervisory level in the study of resources of the historic period.

2. The **Field Director/s** should also have a graduate degree in anthropology, archaeology, or closely related field, and have considerable experience and demonstrated ability to successfully function in a supervisory capacity. This person should possess formal training and considerable experience in theory, methodology, analysis, interpretation, and report preparation, and have demonstrated the ability to recognize and evaluate both historic and prehistoric cultural features.
2. **Field Crew Member/s** should have an undergraduate degree in anthropology, archaeology, or closely related field, or possess considerable experience and have demonstrated the ability to recognize and evaluate both historic and prehistoric cultural features and artifacts. There are many avocational archaeologists in Oregon that routinely work closely with professional archaeologists on federal, state and privately funded archaeological projects. Oregon SHPO encourages professional archaeologists to work with the various avocational groups throughout the state (e.g., OAS) to help provide training and educational opportunities, both through lecture and field experiences.
3. **Any Archaeologist Conducting Research** (Phase I, II, and III) should have access to: 1) adequate field and laboratory equipment to conduct the survey, excavation, or other research; and 2) adequate facilities to properly treat, analyze, and temporarily curate cultural material obtained as a result of the investigation.

Determining which Inventory Form to Use

Resource survey project personnel typically record site data using either an Archaeology Site Inventory Form (egov.oregon.gov/OPRD/HCD/ARCH/arch_forms.shtml) or a Historic Property Inventory Form (www.oregon.gov/OPRD/HCD/SHPO/preservation_106.shtml). Samples of both forms, in addition to the Archaeological Isolate Find Form (egov.oregon.gov/OPRD/HCD/ARCH/arch_forms.shtml) can be found on the Oregon SHPO web page. Oregon SHPO considers archaeological resources to be cultural resources found beneath the ground surface (e.g., such as lithic scatters, shell middens, village sites, and building foundations) or artifact remains found on the ground surface (e.g., refuse scatters, collapsed log cabins, dendroglyphs). Archaeological site forms are to be completed in order to document these types of structures. The Archaeological Survey Report Guidelines (egov.oregon.gov/OPRD/HCD/ARCH/arch_crm.shtml) should be followed when reporting on related sites.

Similarly, for survey projects that focus on documenting buildings, structures, districts and property types comprising the existing built environment, data should be recorded using Historic Property Inventory forms. Surveyors often come across situations where it is unclear about which inventory form to use. Some property types could justifiably be considered an historic archaeological resource as well as an historic resource. Examples of such site types include ruins of mining camps, historic wagon trails, railroad lines, or abandoned irrigation structures. In these cases, contact Oregon SHPO staff for specific instructions

Oregon Archaeological Site Inventory Forms

As of March 1, 2000, all archaeological sites identified in Oregon must be recorded and submitted to SHPO for review and approval on an Oregon SHPO **Archaeological Site Inventory Form**. “Likely” or “potential” site areas should be noted in the report text and report maps, but need not be submitted on site forms. Any artifact occurrence that does not qualify for a site designation (i.e., ≤ 9 artifacts) should be termed an isolate find and an **Isolate Find Form** should be submitted along with the final project report.

II. ARCHAEOLOGICAL PRACTICES

INTRODUCTION

The purpose of archaeological investigations is to locate and protect archaeological sites *significant* to local, state, regional, and national history. It is important that all research efforts are adequately documented so that future preservation and interpretation projects can benefit from previous work. SHPO Guidelines (both Field and Report Guidelines) provide a framework for documenting the results of all archaeological investigations.

BACKGROUND RESEARCH

Background research is increasingly important to establish the potential significance of a site (an expected site or visible site) as early as possible in the archaeological assessment process. Background research establishes what types of potentially significant sites may exist in the project area and the likelihood (or not) of such sites existing in the project's locale; it helps define the character of such sites; and provides the justification for their potential significance. A thorough knowledge of local, state and regional archaeological, historical and ethnographic literature is fundamental to efficient and appropriate background research on individual projects. The extent of background research needed must be evaluated on the basis of the project area's potential archaeological sensitivity, project location, scope of work, degree of impacts, and other factors. As the name implies, background research should be completed early in the investigation process and before conducting fieldwork.

Background research should include a search of the Oregon Archaeological Records, relevant past archaeological study reports, Oregon Historic Sites and Structures Survey, National Register files, relevant historic contexts, historic maps and photographs (including General Land Office Survey maps and notes and Sanborn insurance maps) and any other pertinent publications, documents, records, and files. Much of this information is available at the Oregon SHPO office in Salem. Oral history can also be an important source of information. Interviews with knowledgeable local individuals and landowners (both Native and non-Native) may be appropriate. Guidelines for conducting oral history interviews are available on the Oregon SHPO web page (http://egov.oregon.gov/OPRD/HCD/ARCH/arch_oral.shtml).

AREA OF POTENTIAL EFFECTS (APE)

The Oregon SHPO uses the federal definition of "Area of Potential Effects" (APE) to describe the maximum area that may be affected by a project. Both direct and indirect effects to archaeological sites must be considered when determining the APE. A few examples of project related impacts in an APE beyond the actual construction limits of the project include:

- Borrow areas and other sources of fill material
- Disposal sites or waste areas
- New or upgraded access or haul roads
- Staging, storage, and stockpile areas
- Drainage diversions
- Mitigation areas

Federal definition of the APE:

The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. [36 CFR 800.16(d)]

FIELD INSPECTION/SURVEY OR SITE VISIT

A field inspection or site visit begins with a complete pedestrian survey of a project's APE, which is generally related to a specific project and any potential effects to significant sites that may result from the proposed project. The initial surface survey is intended to locate cultural resource sites, assess local landforms and major or minor environmental features (e.g., level land, relic or current watercourses, slope, rock outcrops, springs, etc.) that may have influenced previous land use. It is important that detailed information is recorded for all sites identified during a project's surface survey. This may be the only time that the site is ever visited so descriptions of observed artifacts, feature descriptions, site size, nature and integrity, site vegetation, and ideas you may have regarding the relationship of a site to local landuse patterns (e.g., historic refuse related to railroad logging camp or homestead) all merit recording. Photographs of the site and diagnostic artifacts, in addition to the creation of a site map should always be completed.

The archaeologist may excavate a limited number of shovel probes to confirm disturbance or soil integrity and to determine the presence of buried intact soil layers. Shovel probes are particularly useful in areas of high probability but low visibility and for establishing site boundaries. Archaeologists need to be aware that in Oregon, a state Archaeological Permit is needed before excavating any subsurface probes on nonfederal public lands (e.g., state, county, and city). When working on federal lands, all archaeologists need to check with the appropriate federal land manager to see if an archaeological permit is needed and what level of recordation their office would prefer (e.g., use of particular forms).

Past disturbance that may have seriously affected the preservation of significant archaeological sites must be sufficiently documented to allow for verification. Documentation of disturbance can include photographs, maps, representative core/column samples, and/or construction records. If the project's APE contains a visible historic period archaeological site or historic feature, additional information should be provided (see Appendix A – Establishing Historic Period Significance).

Accurate locations need to be recorded for all discovered archaeological sites. Location data should include a complete legal description (township, range and section) and UTM (Universal Transverse Mercator) coordinates. Use of GPS technology is strongly recommended.

MAP DOCUMENTATION

A site plan, if available, should be used as the base documentation map to document the result of the field inspection. If not available, the archaeological consultant should use the best, scaled project map available in conjunction with a hand drawn sketch or other appropriate format. Site location maps should include USGS topographic maps – 7.5-minute scale. All maps should include a legend, scale and north arrow, and be referenced to a permanent, replicable datum. Project area maps should identify sensitive areas, disturbed areas, newly recorded sites, or previously documented sites (identified by Smithsonian site number), relevant landscape or cultural features, and any other relevant information that can assist the client and reviewers in their respective planning, design, and review tasks.

Additional documentation may include past site plans showing previous construction zones and areas of previous disturbance. All maps should be dated. As appropriate, relevant location information should be recorded using a GPS technology. GPS readings using Oregon State Plane Coordinates NAD 27 or 83 must be provided for each archaeological site (be sure and state which is used). Clients may request map information in different formats such as CAD or GIS.

DEFINING SITE BOUNDARIES

Understanding the boundaries of a significant, or potentially significant, site is fundamental to designing an appropriate treatment plan for the site to avoid accidentally destroying part of it. Generally, establishing a site's boundaries should occur independently of any other arbitrary sampling strategy if there are ambiguities between the project's impact area and the site's boundaries. Sometimes, a site is suspected of extending into part of the APE that had not been previously identified as sensitive. When this occurs, the consulting archaeologist should inform the project sponsor and SHPO. The SHPO will request that additional site boundary testing be conducted in the area not originally identified as sensitive.

TREATMENT OF INADVERTENT DISCOVERIES & SITE PRESERVATION

Inadvertent Discovery in the Course of Project Construction

No matter how thorough a pedestrian survey has been, there is always the chance that a site will be inadvertently discovered during the course of project construction. For projects affecting nonfederal lands, the final report should include a plan that specifically addresses the process to be followed in the event of an inadvertent discovery. The intent of such a plan is to have a process in place to expeditiously deal with such discoveries. On federal lands, an inadvertent discovery plan has generally already been established by the federal land managing agency's specialists, in consultation with SHPO, either for the project or through a prior programmatic agreement. Federal projects are subject to different laws and regulations (e.g., NAGPRA) with each land managing agency often having their own procedures regarding how fieldwork is conducted, sites recorded, need for excavation permits, and notification procedures for inadvertent discoveries. Due to the diversity of procedures among federal agencies, such procedures are not addressed in these Guidelines. All archaeologists working on projects that affect federal lands need to work closely with the federal land managing agency's archaeologist

to become aware of what steps need to be followed when working on federal lands. For projects on nonfederal land, the Discovery Plan should include the following procedures:

1. The project will stop immediately if previously unidentified archaeological materials, sites or human remains are discovered during project construction.
2. If human remains are discovered, the Oregon State Police, Commission on Indian Services, SHPO, and appropriate tribes will be contacted at the time of discovery.
3. The project sponsor/client, developer, construction company, or project engineer, as appropriate, shall immediately notify a professional archaeologist.
4. The consulting archaeologist shall make a preliminary assessment of whether the cultural material or site is potentially significant and recommend additional steps to mitigate effect. This assessment and recommendation must be sent to Oregon SHPO for concurrence prior to commencement of any ground-disturbing activities. Depending on the project, the nature of the discovery, and the statutory jurisdiction, Oregon SHPO may ask the project sponsor to retain a consulting archaeologist to assist in development of a treatment plan. It is important that archaeologists are aware of state permit laws when working on nonfederal public or private lands in Oregon.
5. Depending on the statutory jurisdiction of the project (state law or federal law), the appropriate jurisdictional agency may need to get involved in discussions to resolve the matter in accordance with their respective authorities.
6. If the project falls under federal Section 106 jurisdiction, the process set out in 36 CFR 800.11 and 800.13 must be followed.

Treating an Unanticipated Site Once Discovered

- The project's consulting archaeologist will conduct a field assessment of the site to determine the site's potential State or National Register eligibility and the project's potential effects to such sites.
- The project sponsor/client may need to hire an archaeological consultant if additional information is necessary to determine significance, site boundaries, and State Register or National Register eligibility. Concurrence of all eligibility determinations should be sought from Oregon SHPO.
- If the site meets State or National Register criteria, the preferred treatment is avoidance and protection in place.
- Site significance and treatment options based on the nature of the site and the situation should be discussed and documented with the appropriate interested public parties.
- If site avoidance of a significant site is not possible, then archaeological data recovery of the site may need to be completed if other treatment options are not more appropriate.
- If the project falls under federal Section 106 jurisdiction, construction in the site area will not proceed until it has been reviewed and documented according to 36 CFR 800.11 and 800.13.
- If the project is located on nonfederal public or private land, an expedited archaeological permit must be applied for by the consulting archaeologist and received prior to any ground disturbing activities.
- All data recovery plans should be coordinated through the federal land manager's archaeologist (federal land) or Oregon SHPO (nonfederal public and private land).
- See Treatment of Human Remains Policy (later in this Section) if burials are discovered.

Long Term Site Preservation Through Easements or Fee Simple Purchase

Conservation easements or Preservation Deed Covenants are important tools to ensure long-term site protection for significant sites that can be wholly or partially preserved in-place. The project's consulting archaeologist should recommend a conservation easement or covenant for specific sites both to the Oregon SHPO and to the project sponsor wherever appropriate. The recommendation can be made in the Management Summary of the investigation report for Phase I or Phase II. Conservation easements may be stipulated, or as a condition in a Memorandum of Agreement under Section 106, or may be a voluntary action by the landowner.

In the latter case, the landowner may donate, or sell the development rights to, the land that contains the site to a non-profit organization, such as, the Archaeological Conservancy or a local land trust or other non-profit entity. Fee simple purchase of the site by a non-profit entity is another option that ensures maximum site protection. A site map showing the area meriting protection in perpetuity should support recommendations for an easement on the site. Detailed information on conservation of sites through easements (either through purchase or donation) is available at http://www.mckenzieriver.org/conservation_easements.htm. The Archaeological Conservancy specializes in the conservation of important sites through fee simple purchase (<http://www.americanarchaeology.com/aaquis.html>), although local and regional non-profits may also be interested partners. See Appendix B for a sample Preservation Deed Covenant.

CURATION OF ARTIFACTS AND DOCUMENTATION

Archaeological investigations usually result in the retrieval of archaeological materials (artifacts) and production of original data (notes, records, photographs). Artifacts and data are an integral part of the documentary record of an archaeological site and should be curated to ensure their stability and availability for future research. Artifacts that are removed from private lands in connection with a federal action are generally the property of the landowner. Notes, records and photographs generated as a result of a federal action are the property of the federal government, regardless of the location of the archeological site. Provision for the costs of curation may be made a condition to the issuance of a federal license or permit. When the owner cannot provide proper curatorial care, the federal curation standards recommend but do not require that the federal agency seek title to the collection.

The place where a project's artifacts and original data will be curated should be determined before beginning any fieldwork. Oregon SHPO encourages placement of collections with the Oregon State Museum of Anthropology (OSMA) in Eugene (<http://oregon.uoregon.edu/%7Eosma/contact.htm>), the principal repository for archaeological materials recovered from sites in Oregon for all precontact site collections, and the Oregon State University Anthropology Department for all historic site collections.

The National Park Service has established federal curation standards, entitled *Curation of Federally Owned and Administered Archeological Collections* (36 CFR 79), which apply to surveys, excavation or other studies conducted in connection with a federal action, assistance, license or permit. Oregon recognizes the federal guidelines as the established minimum

standards for the processing and curation of archaeological collections. These standards should be followed for all collections to be curated under an Oregon State Archaeological Permit. Oregon SHPO recommends adherence to these requirements for all archaeological collections generated in Oregon, in order to standardize curation practices, ensure professionalism in the treatment of archaeological materials, and to assure the availability of collections and documentation for future research.

Any repository that is providing curatorial services for a collection subject to the federal regulations must possess the capability to provide adequate long-term curatorial services, as set forth in 36 CFR 79, to safeguard and preserve the associated records and any material remains deposited in the repository. There is no grandfather clause in the federal regulations. This applies equally to repositories that agree to preserve collections after the effective date (October 12, 1990) as well as repositories that agreed prior to that date. If a repository's officials find that they are no longer able to provide long-term curation, they have the responsibility to consult with the federal agency responsible for the project regarding an acceptable repository for the existing collections.

If a Site is Located on Public Land

All archaeological material collected from federal or state lands or under state waters in Oregon is the property of the public entity entrusted to it. Thus, the land-owning or controlling federal agency (or designee) or state agency is responsible for ensuring the care and management of all collections recovered from their lands in perpetuity in accordance with federal laws, regulations, and guidelines or under Oregon State Statutes. As mentioned above, the Oregon State Museum of Anthropology at the University of Oregon in Eugene has been designated as the primary state institution that cares for precontact collections (ORS 390.235(2)). The University of Oregon has designated Oregon State University in Corvallis as the primary curation facility for historic archaeology collections. Other public or private museums in Oregon that meet Federal guidelines for curation of archaeological collections (36CFR part 79) may serve as long-term curatorial facilities but such alternative facilities must be approved in advance, in writing, by OSMA (see ORS 390.235(2)). Copies of all field notes and artifact catalog needs to be sent to OSMA within six (6) months of completion of fieldwork.

If a Site is Located on Private Land

All archaeological materials collected from private land in the course of archaeological investigations are the property of the landowner unless they are explicitly donated to a suitable organization that will care for and manage the collections. It is important that consulting archaeologists inform the landowner of their legal entitlement to the archaeological materials. After the completion of data analyses, if the landowner desires some or all of the recovered artifacts must be returned to the landowner since all artifacts remain their property. Thorough documentation and analysis should be afforded to important aspects of any data set that are to be returned to a landowner, since they may not be accessible to researchers again. This analysis is included as part of the investigation's final report. Consulting archaeologists should always ask the landowner to donate the collections to ensure perpetual access for future research, education, and public interpretation.

If the archaeological investigation on privately owned land is federal or state funded, and if the landowner relinquishes ownership of the collection, then that federal agency (or designee) or state agency is responsible for ensuring the care and management of the collection in perpetuity in accordance with federal laws, regulations, and guidelines or under ORS 390.235. Donation of a data collection from privately owned land must be documented by letter of agreement or other appropriate document between the landowner and interim or permanent caretaker of the collection.

Donating an archaeological collection and any associated care fee may have potential tax benefits for a landowner. Private developers may wish to consult a tax lawyer or accountant on this possibility.

Treatment of Human Remains

The archeological investigation or treatment of any human remains and burial sites must be undertaken with sensitivity for the wishes of descendants and groups culturally affiliated with the deceased, and must be conducted in full compliance with applicable federal and state law. Careful consideration, thorough planning, and extensive consultation should precede any excavation of burials. If a proposed project area contains or is likely to contain human remains (e.g., based on the proximity of known burials, historical records, oral accounts, or the results of previous investigations), the project sponsor or archeologist should consult with the Oregon SHPO to determine an appropriate course of action. The consultation process is likely to include the participation of the Oregon Commission on Historic Cemeteries and the Commission on Indian Services (CIS) for precontact burial sites, descendants, culturally affiliated groups, and other interested parties as pertinent to the human remains concerned.

The Federal Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001- 3013) establishes protection and procedures for the treatment of Native American human burials located on federally owned property or Indian lands. NAGPRA gives certain rights regarding the treatment and disposition of human remains, funerary objects, sacred objects, and objects of cultural patrimony to lineal descendants and to federally recognized Indian tribes when these groups demonstrate cultural affiliation. The law encourages the avoidance and preservation of archeological sites, which contain Native American burials on federal lands. NAGPRA requires federal agencies to consult with qualified culturally affiliated Indian Tribes or lineal descendants prior to undertaking any archeological investigations, which may encounter human remains, or upon the unanticipated discovery of human remains on federal land. The consulting parties decide the appropriate treatment and disposition of human remains and other cultural items recovered. This consultation may be a lengthy process and should occur early in project planning.

Current Oregon state burial laws protect: 1) all Native American burials and associated cultural resources (ORS 97.740-760); 2) abuse of a memorial (e.g., gravestones, tombs, monuments, fencing) to the deceased (ORS 166.076); and 3) the removal of dedication denoting a land's use for cemetery purposes and/or the discontinuance of cemetery and the removal of remains and markers (ORS 97.440 – 450). The law provides penalties for unauthorized removal of human

remains and the willful destruction/injury to any cemetery structures (such as a tomb, cairn, monument, gravestone, building, wall, fence, and railing) or vegetation (trees, shrubs, plants). In addition, if a burial is to be disinterred and then re-interred in a different cemetery, a permit must be obtained from the County Health officer or the State Department of Health and Mental Hygiene (Health - General Article, § 4-215).

In general, Oregon SHPO does not encourage the excavation of human remains, unless natural or human forces imminently threaten those remains. However, cemeteries and burials should be located, recorded, and evaluated as archeological properties when discovered through archeological investigations.

During a Phase I identification survey, archeologists should record active cemeteries on an Oregon Commission on Historic Cemeteries Survey form, while abandoned and/or isolated burials and human remains discovered during excavation activities should be recorded on an Archaeological Site Survey form. A Phase II site evaluation should examine the significance of the cemetery/burial by applying the National Register criteria. Phase I and II efforts should utilize non-destructive techniques to determine boundaries, age, cultural affiliation and significance of the cemetery/burial. Such techniques may include extensive background and historical research, informant interviews, thorough visual examination, careful probing, and ground penetrating radar. Excavation of cemeteries and burials is only appropriate for Phase III investigations, and must occur in full compliance with applicable federal and state law and following appropriate consultation with all relevant parties.

Generally, cemeteries and human remains are not considered eligible for the National Register (36 CFR § 60.4). However, cemeteries/burials may be eligible if they are integral parts of a larger historic district or site; if they derive primary significance from graves of persons of transcendent importance, age, association with historic events, or distinctive design features; or if their principal significance is their ability to yield important information. For further guidance on assessing the significance of cemeteries, see the National Park Service's National Register Bulletin 41, *Guidelines for Evaluating and Registering Cemeteries and Burial Places*. If identification and evaluation efforts determine that a cemetery or burial is not eligible for the National Register, the project sponsor/agency should comply with appropriate federal and Oregon law in further treatment of the resource.

If human remains are discovered during a field investigation or project construction on nonfederal lands, the following activities should occur immediately:

1. All work should halt in the vicinity of the discovery.
2. Notify the Oregon State Police in case the human remains are related to a crime scene.
3. Contact the Commission on Indian Services (CIS) to discover the appropriate Tribes for the area of discovery [503-986-1067].
4. Contact all of the appropriate Tribes mentioned by CIS in case the human remains are later determined to be Native American.
5. Contact Oregon SHPO who can help to ensure that the human remains are cared for immediately, that relevant parties agree upon a course of action, and that project activities can recommence while causing no harm to the discovered burial area.

If human remains are discovered during field investigation or project construction on federal lands, the following activities should occur immediately:

1. All work should immediately halt in the vicinity of the discovery.
2. Notify the federal agency archaeologist.
3. The federal archaeologist will contact the appropriate authorities (e.g., State Police, Tribes) as needed.
4. Work with the federal archaeologist to implement federal inadvertent discovery procedures in order to complete the field investigation.

III. STANDARD FIELD METHODOLOGY

FIELD METHODS

The following Section outlines standard field practices for archaeological investigations in Oregon. The Oregon SHPO is seeking a common sense approach to archaeological investigations and is open to discussion of alternative techniques and strategies on a case-by-case basis. Alternative approaches should be determined in consultation with the Oregon SHPO and the project sponsor prior to development of the Research Design, or during Scope of Work review.

Surface Survey

An intensive survey means an area has been walked; normally with closely spaced parallel transects of one or more people. An intensive sample survey inspects all the ground in specifically selected areas. The intensity of the survey coverage appropriate in a particular area will depend upon a number of variables. These include: 1) amount and nature of information already on record about sites; 2) types and densities of ground cover; 3) expected potential for, and density of, unrecorded sites; 4) known or estimated minimal size of various site types in the area; 5) specific needs of the survey project (i.e., complete inventory, sample survey, etc.); 6) anticipated use of the survey data (e.g., if the data are to be used for a predictive model, then a higher intensity may be required); 7) anticipated intensity of impacts (i.e., highway or residential construction, as opposed to selective timber harvest); and 8) previous disturbance (e.g., flooding or quarrying). Surface survey transect intervals should be no greater than 30 meters apart with a recommended maximum spacing of 20 meters. Ten meter transect intervals should be used when intensive survey coverage is required.

In general, the less that is known about an area, the more intensive the survey should be, both in terms of percentage of total area looked at and amount of ground actually inspected. The spacing between individuals walking in parallel transects will depend upon the nature of the sites in the area and the needs of the project. For example, if it is known that significant lithic scatter sites are located in an area, that lithic scatters in this area are typically less than 20 m in diameter and the purpose of the survey is to inventory all significant sites, then the space between survey transect interval should not be more than 20 m. If the size of sites is not known, then the space between individuals might start at 10 m and increase only as information about sites increases. Transect interval spacing should generally be based on the goal of the survey – to identify all sites that are potentially significant to the National Register of Historic Places.

Because environmental conditions (ground cover, season of year, and amount of recent rainfall, the nature of the alluvial or colluvial deposits) and modern disturbances may obscure the surface evidence, some technique of subsurface observation (e.g., shovel probes) should be a part of most surveys conducted. Subsurface probes should generally be no smaller than 30cm in diameter, cylindrical in shape, and spaced no greater than 20 meters apart. The report on an intensive survey followed by or accompanied by testing should define the amount and kinds of ground looked at and include a discussion of the nature of the sites as determined by the test

excavations. It is normally not possible to establish the significance of an individual site without testing to determine the nature of subsurface deposits.

Sites are identified by: surface features such as mounds, embankments, quarry pits, remains of houses or outbuildings, wells, and cellar holes; artifacts or refuse on the surface or recovered in tests; discoloration of the soil which may indicate midden or subsurface features; anomalous occurrences or concentrations of rock, non-native or exotic vegetation, anomalous plant communities (clusters of native cedar or pine in hardwood forest, for example), and/or decorative or domestic plants indicating historic activity; or combinations of the above.

Shovel, soil probe, and/or auger holes and test pits on archaeological sites should be made to determine the nature of the cultural and natural deposits below the surface. Historic archaeological sites, particularly residential (rural or urban) sites, may have successive buried ground surfaces because of filling around the structure and general grading around a house. Testing should be designed to determine this. The nature, placement, and size of such historic scatters (whether on the surface or just below it) should be determined in relation to other above and below ground features and contexts (rock piles, rock walls, domestic flowers, etc). Historic sites may include orchards, fields, etc., which may be located on early maps, discovered from oral accounts or found in archival sources. The general nature of the soil and the matrix in which cultural material occurs should be determined and that information provided in the report. The topographic and environmental setting of the site must be recorded.

Surface surveys on recently plowed agricultural fields may be an appropriate method for efficiently identifying the presence of a site. Walking transects of ≤ 5 meters apart is recommended to find evidence of small sites. To allow for artifact recognition, plowed surfaces should have recently received a minimum of $\frac{1}{2}$ inch of rain to wash dust and soil off of artifacts.

In Oregon, use of plowing as an archaeological field method is generally discouraged and should only be used if a plow zone already exists. If plowing the ground surface is being considered as a field investigation method and the surface is not now-an (or obviously a previously) open plowed field, it is necessary to first verify the existence of a plow zone through preliminary sub-surface testing prior to plowing. The importance of this has been demonstrated repeatedly: plowing a field that has never been plowed, or plowed generations ago to a shallow depth, can destroy a site. Harrowing a recently plowed field is appropriate; harrowing an old hay field or fallow field may not be appropriate. In floodplains, stratigraphic assessment is necessary to confirm suitability of surface collection as an appropriate method because in such cases plowing may not reach the depth of the precontact deposits. At a minimum, subsurface test pits are necessary to verify depth of plow zone, existence of buried plow zones or cultural levels, and stratigraphic context. In complex floodplains, deep backhoe testing may be necessary to obtain this information. Once it has been confirmed that a field has been plowed and if plowing is selected as the preferred investigative method, the next step is to determine the depth of past plowing so that plowing conducted to facilitate site discovery goes no deeper.

Remote Sensing

Historic period archaeological sites may be more readily discovered using modern technology such as metal detectors, aerial photography, ground penetrating radar (GPR), and electro-magnetic induction. These methods may be beneficial to guide the locations and configurations of subsurface testing. Typically, these technologies would be applied during Phase I investigations but can be used in all assessment steps. Remote sensing may not be substituted for standard shovel testing or excavation on terrestrially based Phase investigations.

If large cultural features are anticipated at a precontact site, GPR and electro-magnetic induction may be useful guides to help focus subsurface investigations.

Monitoring

Monitoring project activities may be employed in cases where there is a low probability of remains but inadequate survey has been undertaken; where survey and data recovery has been completed, but there is a high probability that project activities will encounter significant remains that there is reason to believe may still be present; and in cases where project exigencies preclude extended work stoppages. In these cases, a plan to address resources discovered during monitoring shall be established with SHPO prior to monitoring. Monitoring is normally a field method of last choice.

Sub-Surface Testing

Shovel Probe/Test Pit Methodology

The standard shovel probe/test pit interval for subsurface shovel testing is 20 meters. However, expected site size, landscape features, or the research design may require intervals of more or less than 20 meters. For example 5-meter to 10-meter intervals may be appropriate depending on expected site type, micro-topography, results of initial test pits, and other factors.

Shovel probes (i.e., cylindrical holes) are primarily useful in establishing the presence or absence of a site and in determining a site's boundaries. Shovel probes should be no smaller than 30 centimeters in diameter. Shovel test pits should generally be square and at least 50 centimeters on a side. Test pits should be excavated within a known site to assist in determining site composition and integrity. All pits should be excavated into the C-horizon (that is, through the full A and B horizons), or until two sterile levels (i.e., 20cm) are encountered below any culture-bearing levels and after extending a minimum of 50cm in depth. Subsurface testing within a known site's boundaries should always be square (i.e., no round probes) and no smaller than 50cm wide.

Site boundaries are to be established by excavating shovel probes in no less than four directions. Use of a standard 20m-grid pattern is preferred, however, thirty-meter interval shovel probes can be used to establish the general boundaries, with two consecutive negative shovel probes establishing the edge of the site. Thus, the interval between two distinct sites will be at least 60 meters. A 10-meter testing interval along each axis is recommended at the outer limits of the site

to establish more accurate boundaries. Site boundaries can be tentatively established when at least two consecutive negative shovel probes are excavated using 10-meter intervals. When assessing a site's boundaries, there is no need to probe every 20 meters within an area possessing surface artifacts. The presence of such artifacts is sufficient to verify that the site exists in the area. Subsurface probes should be placed beyond the extent of visible surface artifacts. A few subjectively placed test pits within the area containing surface artifacts may provide sufficient information on the depth of the cultural deposit, general artifact composition, and relative soil integrity.

Soil should be sifted through a maximum mesh size of ¼". One-eighth inch screen mesh is generally recommended for most site investigations in order to retrieve the full range of cultural material present and for the detection of small task-specific sites. Use of ⅛" or smaller mesh is required in special site areas, such as features or lithic workshops, if the research design requires this level of investigation and data collection, and generally in all Phase II and Phase III investigations. Depth provenience should be recorded by soil level if possible or a minimum of 20cm arbitrary levels for shovel probes and 10cm arbitrary levels for shovel test pits. Small test pit methodology may be inappropriate for identifying and investigating historic period archaeological sites and is usually inadequate for locating deeply buried sites in floodplains.

Test Units

Larger test units, are generally excavated during Phase II and III investigations when parts of a site need to be intensively studied. In special cases, such as expedited consultation (36CFR800.3(g)), test units may be appropriate during Phase I investigations to examine stratigraphy, accelerate assessment of site character and site significance, and identify historic period archaeological sites, for example. Test units can be of varying sizes, shapes, and depths depending on the objectives of the investigation, type of site, stratigraphy, soils, etc., but will be excavated by hand using trowels and/or shovel skimming; features should always be excavated by trowel. Arbitrary levels within soil horizons should be no thicker than 10 centimeters. The plowzone may be removed as one unit if reliable stratigraphic data over an area determines that this is an appropriate strategy.

Deep Testing

Hand excavation of deeper test units and/or mechanical excavation may be necessary to identify buried cultural deposits in floodplains and other depositional settings. Augers or cores are useful tools for examining deep culture-bearing sediments by extending test units below their maximum depth/level of safety. Mechanical excavations (typically backhoe) have the advantage of being quick, but unless they encounter some obvious cultural deposits, such as a feature, they may not be sufficient to determine whether or not buried cultural deposits exist unless screening is employed as a sample control. Hand excavation of larger test units (for example, 2.0m x 1.0 m or 2.0 m x 0.5m) has the advantage of exposing or identifying cultural deposits, where present, through excavation and sifting of all sediments. In cases where deep testing is warranted, Oregon SHPO recommends that it be consulted during preparation of the research design.

Historic Archaeological Site Recordation

For historic archaeological sites, all structural remains (ruins) and other features shall be recorded and mapped to the same standards as precontact sites. The archaeologist shall attempt to establish site function, length of occupation, and identity or social/economic background of the occupants.

All standing structures over 75 years of age (50 years for federal projects) should be photographed, mapped, described, and the surrounding area evaluated for archaeological potential. The map shall minimally be a schematic plan of the site showing the relationship of all standing structures to the project boundaries, a permanent datum and the terrain. Photographs should be keyed to the map. Note: If an archaeological survey finds no archaeological sites, but standing structures are present that need to be documented pursuant to this paragraph, the following information should be included.

1. This information on standing structures is necessary to assist SHPO staff in determining whether a professional historic architectural survey is necessary. The documentation is not expected to be equivalent to the documentation that would be undertaken by a Historian or Architectural Historian. SHPO Section 106 above-ground documentation forms can be used for recording such structures (see http://egov.oregon.gov/OPRD/HCD/SHPO/preservation_106.shtml).
2. If the investigator knows a historic architectural survey is scheduled for the property or has already been carried out, this information may be omitted upon approval by the SHPO.
3. Historic graves and cemeteries over 50 years of age are to be recorded. Permanent Smithsonian site numbers shall be obtained from SHPO for all archaeological burial areas (i.e., non-active cemeteries). Information regarding all historic graves and cemeteries will be shared with the Oregon Historic Cemetery Commission. If the SHPO determines the grave or cemetery may have potential significance under Criterion A, B, or C the SHPO may request additional evaluation by a historian or architectural historian.

Recording Measurements

In general, all measurements for prehistoric (precontact) sites will be recorded in the metric system. In cases of historic sites, including shipwrecks, English measurements can be reported with metrics in parenthesis.

Establishing a Permanent Site Datum

A permanent site datum should be established with GPS on a potentially significant site at the conclusion of the Phase I investigation so a site can be relocated. If such a permanent datum is not possible (for example, due to landowner concerns, etc.), then additional GPS positions should be taken and recorded for several nearby pre-existing, permanent reference points to help in site relocation. GPS datum and reference points should be illustrated on site maps.

ISOLATED FINDS

A true isolated find is an artifact that has been lost or discarded; there is no associated site or feature to provide important information about some past human activity. A single Native American projectile point lost in use comprises a typical isolated find. However, most seemingly “single” precontact artifacts - - such as a flake or scraping tool -- found in a shovel test pit or on the ground surface are not isolated finds. Rather, they provide a clue that a site may exist in the area around that artifact. In Oregon, an isolated find is defined as nine or less artifacts.

Treating Isolated or Limited, Surface Artifacts

Precontact period isolated finds identified through systematic surface survey may require, at a minimum, excavation of 2-4 shovel test probes/pits in the area of each surface manifestation. The need for and number of additional test pits to be placed in the area of a discovered isolate should be based on the probability of a site existing on the general landform that the isolate is found and the size and extent of the surface concentration. If a single arrowhead is discovered on a greater than 40% slope the likelihood of this tool representing a surface manifestation of a buried significant site would be minimal and therefore would not normally require the excavation of subsurface probes. However, if the arrowhead was discovered on a small bench above a major drainage, it is likely that more substantial deposits of cultural material could exist at the locale and subsurface probes would be recommended. Subsurface probes also help to document soil profiles within these concentrations. Subsurface probes/pits in isolated find locales are useful in determining the potential for sub-plowzone deposits. This additional information will improve planning for any Phase II field investigation that may be necessary. The use of subsurface shovel probes/test pits to determine if an isolated find is part of a buried site should be based on knowledge of local topography, previous landuse practices in the area and general site types that may be expected.

Some types of potentially significant historic period isolates, for example; those pertaining to military encampments, contact villages or early Euro-American settlement, may also need this type of treatment. Significant contact period isolated finds may require the excavation of subsurface probes to establish if a buried component is associated with the find. Each case should be examined to determine if this is needed. For example, the discovery of an isolated, discarded amethyst glass bottle would not necessitate the excavation of subsurface probes. On the other hand, a recent discovery along the Oregon coast of an early 18th century gold gorget suggested early contact between Europeans and Natives and highlighted the need for subsurface probes. A thorough background research of the area is essential to interpret historic isolate finds.

Treating Isolated or Limited Sub-surface Artifacts

Positive Phase I test pits that contain ten or more artifacts and are less than 30 meters apart confirm the existence of a site and thus do not need additional sampling during Phase I. A positive test pit, greater than 30 meters from any other positive test pit, that contains a total of nine or less artifacts of cultural materials is considered to be an isolate. In these instances, it is possible to eliminate the need for any subsequent testing by excavating additional test pits at reduced intervals around the original test pit. No further testing is needed provided all additional

test pits are negative and a larger unit contiguous with the first test pit produces no new information. If any of the additional test pits are positive, or if other types of artifacts or cultural deposits are identified around the initial find spot, more comprehensive testing may be needed to evaluate the site and assess potential project impacts. Some types of potentially significant historic period sites, for example, those pertaining to military encampments, contact villages, or early Euro-American settlement, may also need this type of treatment.

ARTIFACT COLLECTION POLICY

Pedestrian Survey

Oregon SHPO recommends that collecting should in principle be avoided at the survey level. Exceptions may apply in particular cases when archaeological material is considered threatened, rare or worthy of further study. In these cases, the project field director should determine when exceptions occur. In Oregon archaeological permits are required for archaeologists to collect artifacts from sites on non-federal public land or private land. However, OAR 736-051-0090 does permit the collection of an arrowhead from the surface of private land if accomplished without the use of a tool. In lieu of collecting, the following practices are recommended:

1. Detailed field recording should be made of precontact and historic artifacts, particularly where crews may lack adequate training for full assessment of the materials present.
2. Field Records should assess, or allow expert assessment, of site chronology and function (including relevant associations), and include descriptions of artifact types, rough counts, and the range of variability. Sampling may be necessary for large sites.
3. Field Records should include written and visual records, in particular ample photo-documentation (ideally digital). Photos should include site/feature overviews, close-ups of artifact concentrations, and artifact details, with north indicator and scale. Artifact illustrations are highly preferred.
4. In exceptional situations where collecting is deemed necessary all records, including field notes, site forms and reports should:
 - a. specify reasons for making the collection (e.g., emergency situation where artifacts might be threatened by vandalism or destruction);
 - b. provide an inventory of all artifacts collected;
 - c. indicate curation location/provisions.

Subsurface Site Discovery Probes

1. In Oregon an archaeological permit must be obtained before any subsurface probing is undertaken on any non-federal public lands.
2. An archaeological permit is not required for site discovery probes undertaken on private land.
3. It is highly recommended that an agreement with the private landowner regarding the curation of any discovered artifacts be made prior to excavating any discovery probes. To insure future research and long-term public access, artifact curation in a federally recognized museum is recommended.

4. If artifacts are not going to be collected during subsurface reconnaissance work on nonfederal public land, this must be stipulated in the archaeological permit and approved by the Oregon State Museum of Anthropology (OSMA). State law (ORS 390.235) links curation decisions to OSMA who reviews all permit applications.
5. If reburial of artifacts is approved, all artifacts should be thoroughly recorded and documented prior to reburial. Some method should be used to clearly indicate that they have been previously discovered – i.e. placed in plastic bags in the bottom of the unit.

Excavation (Units 50x50 cm and larger used in Testing and Data Recovery Projects)

1. When work is being done under a State of Oregon Archaeological Excavation Permit, everything from excavation units should be collected in the field and taken back to the laboratory. All artifacts should be curated following analysis. Modern items may be discarded in the laboratory. State law (ORS 390.235, sub-section 3) requires that everything of archaeological significance, 75 years and older, collected under an excavation permit must be curated.
2. In some circumstances culling of historic material may be acceptable but this should happen in the laboratory and only after consultation with the repository that will be curating the collection. In Oregon this is generally OSMA for precontact collections, OSU for historic materials, or an alternate facility agreed upon by OSMA.
 - An exception to the above policy may be made, particularly during data recovery excavations at large historic sites, if the project director obtains an agreement from the director of the approved repository that allows for culling of some redundant material types in the field (e.g., brick, glass, shell).
 - If culling is allowed to be done in the field during excavation the agreement outlining the accepted policy should be in writing and filed with SHPO in the archaeological permit file. Collection and culling policies should be adequately described in the project's final report.
 - Decisions on culling of artifacts should not be made in advance of excavation since such decisions are only appropriate within the context of each specific site.
 - Culled artifacts should be quantified and recorded, and documentation should indicate where the artifacts were disposed of. It is preferable that artifacts that are culled in the laboratory not be returned to the site for disposal.
3. Oregon SHPO recognizes that Federal agencies have a range of policies regarding collections.
 - Some have a “No Collection” policy and others have adopted a variety of approaches to collection strategies and curation, which include culling of some artifact types.
 - Although ORS 390.235 applies only to collections made under a State of Oregon Archaeological permit, SHPO recommends that Federal Agencies adopt these proposed recommendations in their approach to culling of historic artifact collections in Oregon.
4. For precontact and historic site excavations the preferred screen size is 1/8 inch mesh. However, other alternatives may be considered, based on site-specific contexts. The selection of screen size should be made by the Project Director and should be included in the research design that is reviewed by SHPO/OSMA during the archaeological permit

process. Reasons for the decisions on selected screen size (if greater than 1/8 inch) should be explained in the methodology section of the report.

- For precontact and historic sites, coarser mesh may be acceptable when controlled column samples from known features are processed through 1/8 inch and smaller screen mesh.
- Screen size may vary based on soil type (e.g. coarser mesh in wet or clay soils) or recovered artifact types (e.g., beads vs. tinned cans).
- Water screening should be considered where available, with soils having high organic or clay content that hinders screening and recovery.
- In some cases it may be appropriate to evaluate and adjust the screen size strategy (if needed) as an excavation proceeds.

DEFINING PREVIOUS “SIGNIFICANT” GROUND DISTURBANCE

Significant ground disturbance means that ground disturbance occurred to the surrounding area and soils sufficient to significantly alter a cultural site prior to a proposed project/activity. Past plowing, cultivation, and logging do not necessarily constitute "significant" ground disturbance since studies have shown that important cultural information can be retrieved from plow zones and logged surfaces. Deeper deposits such as fire hearths and garbage pits may also exist intact under the plow zone. In many cases, filling (on land or underwater) may not constitute "significant" ground disturbance since intact, important precontact and historic period sites may lie buried beneath the fill layer. It is important that adequate documentation of all previous disturbances be examined prior to making any recommendations for future actions or site evaluations.

PERMITS FOR ARCHAEOLOGICAL INVESTIGATIONS ON NONFEDERAL PUBLIC AND PRIVATE LANDS

Oregon State Law (ORS 358.905-955, 390.235, OAR 051-360-080 to 090) requires that all field investigations conducted on nonfederal public lands that will require any ground disturbance, and all investigations of known sites on private lands, require an archaeological permit. The Oregon SHPO issues such permits at no cost to the applicant. State lands include all lands owned by any state, county or city agency, including, for example, the Oregon State Departments of Forestry, Parks and Recreation, Fish and Wildlife, and Transportation. Such lands may include state owned historic sites, state and county parks, wildlife management areas, state forests, lands purchased for right of way, or lands purchased to allow for construction of state projects such as highway improvements or new construction. Archaeological permits are required for any surface collections or subsurface field investigation that has the potential of disturbing, destroying, or otherwise altering a site or sensitive area. Permits are not required for non-ground disturbing research activities (e.g., pedestrian surveys, photographic documentation, ground penetrating radar (GPR), and other non-disturbing research). Permit applications and information about the application process can be found on the SHPO web page (http://egov.oregon.gov/OPRD/HCD/ARCH/arch_excavationperms.shtml).

Archaeological consultants generally apply for permits on behalf of the applicable state agency or other client. The relevant state agency or client must sign or include written authorization within the permit application agreeing to fund the project through the recovery, analysis, write-up, and curation stages, if artifacts are recovered during the operation of the permit. In accordance with the federal Archaeological Resources Protection Act of 1979 (ARPA), it is illegal to excavate or remove archaeological resources from any federal land without a permit from the federal land manager (<http://www2.cr.nps.gov/laws/archprotect.htm>). Examples of federal land managers in Oregon include the U. S. Forest Service, Bureau of Land Management, Corps of Engineers, Bureau of Indian Affairs, and the U.S. Fish and Wildlife Service, among others. Individual land managers should be contacted for specific ARPA permit application information for their respective lands.

CONSIDERING STANDING STRUCTURES IN THE PROJECT AREA

Project areas may contain historically significant standing buildings or structures. Any building or structure older than 75 years on non-federal or private lands in Oregon may be eligible for inclusion on, or may already be listed in, the State Register of Historic Places. Any building or structure on federal lands, older than 50 years of age, may be eligible for inclusion on, or may be listed in the National Registers of Historic Places. In the course of routine background research, consulting archaeologists should establish whether any building, structure, complex or district within the project area is currently listed on the State and/or National Registers of Historic Places. These documents are on file at the Oregon SHPO in Salem and will soon be available on our web page. If listed on the State or National Registers, the form (or relevant portion of the form) should be copied and appended to the archaeological investigation report. Relevant historic information available on the State or National Register forms should be incorporated into the background research. Consulting archaeologists are not responsible for evaluating the architectural or historic significance of a structure or district or for assessing project impacts to usable standing structures. An architecturally trained professional should conduct this type of review. However, depending on the project circumstances, if no other documentation exists in the SHPO State or National Register files, it may nonetheless be useful to minimally document buildings and structures within the project area. The consulting archaeologist should discuss with the project sponsor/client the necessity and benefits of compiling minimum documentation on buildings or structures within the project's APE.

While judgments about a structure's architectural integrity and historic significance will be made by qualified professional architectural historians, the archaeologist, on the other hand, may be able to contribute useful and important information on the structure's history and historic context(s). Depending on the Scope of Work and project circumstances, it may be necessary or desirable for the consulting archaeologist to complete the locational and descriptive sections of the Oregon Historic Sites and Structures Survey form and photograph each building or structure if no State or National Register documentation exists. This documentation should be appended to the investigation report. Both descriptive and historic information should be summarized in, or fully incorporated into, as appropriate, relevant sections of the study report. When appropriate, the Research Design for the archaeological investigation may require subsurface testing in the perimeter of the standing structure to identify and evaluate potentially significant archaeological resources associated with the structure. Archaeological investigations around a structure should

only be undertaken if they have a high likelihood of providing important new information on the structure or complex. If appropriate, recommendations should be made in the investigation report for amending the existing State or National Register forms.

INVOLVING THE PUBLIC

The regulations (36 CFR 800) that implement Section 106 of the National Historic Preservation Act require enhanced public participation as early as possible in project planning (see various examples at <http://www.achp.gov/work106.html>). Section 800.2 (d) of the regulations requires that the federal agency or its delegate (sometimes the archeological consultant) seek and consider the views of the public. The following list identifies some of the individuals, organizations, and groups who may have an interest in the proposed undertaking and in potentially affected historic and archeological resources. This list is not exhaustive. In accordance with 800.2 (d) (1), the extent and nature of the “public” should reflect, among other considerations, the scale and complexity of the project and its effects, the relationship of the federal government to the project, and likely public interest or controversy. The Oregon SHPO can assist in identifying potential “public” that may have an interest in the project.

- Certified Local Governments. Contact information and a current list of Oregon towns with a CLG can be found at <http://egov.oregon.gov/OPRD/HCD/SHPO/clg.shtml>.
- Historical societies. The Oregon Historical Society maintains a list at their web page: <http://www.ohs.org>.
- Non-Profit Organizations. Examples include the Oregon Preservation Alliance (www.oregonpreservation.org), Archaeological Conservancy (www.americanarchaeology.com/aaabout.html), local land trusts (see http://www.mckenzieriver.org/land_trusts_in_oregon.htm), The Nature Conservancy, etc. Also see Special Interest Organizations, below, many of who are non-profits.
- Special Interest Organizations. Examples include the Historic Cemetery Commission, Historic Trails Commission, Oregon Heritage Commission, Oregon Cultural Trust, Washington Chapter of the Civilian Conservation Corps, etc. Most of these organizations maintain web sites that can be consulted for contact and other information.

IV. ARCHAEOLOGICAL FIELD INVESTIGATIONS³

LEVELS OF INVESTIGATION

There are three levels of documentation for cultural resources. The first two levels constitute components of what is defined in the federal standards as an "intensive" survey. Please recognize that this is different from a "reconnaissance" survey. Although defined in the federal standards, a reconnaissance level survey is not appropriate for projects submitted for review pursuant to Section 106 unless otherwise agreed upon by the Oregon SHPO and the project sponsor/client. For practical purposes the Oregon SHPO has divided an intensive survey into two levels: identification (Phase I) and evaluation (Phase II). The third level (Phase III) constitutes treatment for significant resources. Oregon SHPO normally does not recognize additional division into sub-phases (i.e., Phase Ia and Phase Ib). Each phase is defined briefly below.

RESEARCH DESIGN: ALL PHASES

The Research Design is the core of any archaeological investigation. It explains the need for an archaeological study in a given place. The archaeological research design describes the research questions being asked, the kinds of data that can be used to answer the questions, the kinds of sampling and field methods that will best locate and recover the data, the most relevant techniques of data collection and analyses, and how the results will be evaluated in reference to the expectations. Most federal archaeological fieldwork is associated with proposed land development projects that often have no primary research questions except to seek to identify and avoid any potentially significant sites within a project's Area of Potential Effect (APE). For such projects, the selected research design will often be general in nature and based on the likelihood to find particular site types that have been identified as likely through the field background research. Data recovery investigations, on the other hand, seek site-specific information on the history and importance of a particular site that is being tested. Answers to very specific questions are sought during such investigations. It is important that all investigations incorporate an appropriate research design.

Standards for Preparing Research Designs: All Phases

All Research Designs should meet the following standards.

1. Research designs must reflect the nature and scope of the project, the types of sites expected or known, potential impacts to significant sites, and other relevant factors.
2. Proposals should focus on the project area; on background research relevant to understanding the project area and sites it may contain; and on expected, or known, significant sites that may exist within that project area.
3. An appropriate level of research should be completed prior to developing the Research Design for any phase of investigation as a foundation for the task.
4. Research designs must meet *The Secretary of the Interior's Standards and Guidelines for Identification, Evaluation, and Archaeological*

³ This Section largely addresses archaeological investigation on terrestrial sites. For guidelines on investigating underwater sites refer to Appendix C.

Documentation (Standards and Guidelines) (see http://www.cr.nps.gov/local-law/arch_stnds_0.htm). The basic expectation for any Research Design is modeled from the *Standards and Guidelines*. These guidelines describe the federal expectations and set forth additional requirements.

5. Phase III Research Designs must be guided by the Advisory Council on Historic Preservation's *Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites* (see www.achp.gov/archguide.html).
6. Investigation methods must be selected that are most appropriate to expected site types and their potential significance.

The following questions can help guide choices of methodology:

- What don't we know about a particular site type?
- What types of information are worth learning about?
- Can we gain such information from this site?
- What are the best methods to achieve that learning?
- Is excavation necessary to learn from this site?
- For historic period archaeological sites, can we learn without digging?

PHASE I INVESTIGATION: IDENTIFICATION STUDY

Federal regulations that implement Section 106 of the National Historic Preservation Act refer to "identification of historic properties." The federal, legal definition of "historic property" is "any prehistoric (or in this case precontact) or historic district, site, building, structure, or object included, or eligible for inclusion in, the National Register of Historic Places..." (36CFR800.16(1)(1)). Thus, the goal of "identification" studies under the federal process is to locate National Register eligible (i.e. "significant" or "important") sites.

Practical considerations generally necessitate that archaeological investigations be divided into separate, sequential phases. The intent of the phased approach is to provide a practical framework for estimating the cost of finding a site and, then as a second step, for gathering additional detailed information for evaluating a site's significance. If a site can be determined significant at the completion of Phase I, it should be. If identifying and evaluating a site's significance is practical as a single step for a particular situation, then that should occur (i.e., 36CFR800.3(g)). The Guidelines emphasize the SHPO's goal of determining site significance as soon as is possible, based on available evidence, using the considerations discussed in Section II. Accordingly, the Research Design requirements for Phase I require definition of what is potentially significant, as non-significant sites are not considered further under the Federal consultation process.

Goals for Phase I Investigation are:

- Locate archaeological sites potentially eligible for the State or National Registers that may exist within the proposed project area, or
- Meet the objectives of the Research Design.

A thorough background review is conducted before beginning a Phase I field investigation. Supplemental background research is often important after completing fieldwork to better understand what was found and why it may be potentially significant.

Research Design Requirements for Phase I

The goal of the Phase I Research Design is to find sites that are likely to meet the National Register criteria and describe appropriate methods to find such sites. The Research Design describes the types of significant sites that are likely to be found within a given project area and the kinds of specific data likely to be found in such sites. It should outline basic research questions that can be addressed by this data, known comparable types of sites and their data, why finding such sites can contribute to our knowledge of Oregon precontact and/or history, and what appropriate methods are needed to find such sites. Research Designs are an essential part of a project's Scope of Work.

Conducting Background Research

The Research Design and Scope of work help define the extent of background research needed, potential impacts of the project, characteristics of the project area, and types of resources expected. For example, detailed information about the region's physiographic landscape, climatic change, past and present fauna and flora, and other environmental topics should be presented only if it has direct relevance to the project area's potential precontact or historic site values and expected site types.

Archaeological research should relate to addressing and refining relevant research questions. The use and development of historic contexts may prove advantageous in identifying future research questions in need of focus or refinement in the evaluations of particular site types (e.g., logging camps, CCC camps, gold mining operations, 19th century cattle ranches). Where appropriate, research can also relate to other local, regional, or national historic contexts, research questions, and issues. The Secretary of the Interior's Standards and Guidelines for Identification discuss the role of identification in planning and should be used for guidance (http://www.cr.nps.gov/local-law/arch_stnds_0.htm). The SHPO has developed additional guidance that should be used, where appropriate: see <http://egov.oregon.gov/OPRD/HCD/ARCH/index.shtml>.

Data sources that should be checked for all projects include:

1. **SHPO Database**⁴: (contains available site & survey data, GLO maps, ortho-photos; and soon will have a Donation Land Claim [DLC] layer)
2. **General Land Office (GLO) Survey Maps** and notes: earliest record of systematic survey across each land section.
3. **Sanborn Maps** (if working within a town of any size):
4. Historic Aerial and Orthographic photos: Early photos provide a visual record of change over a landscape through time (check US Army Corps of Engineer's Portland

⁴ Data sources marked in bold are considered primary sources that should be consulted for all projects. Non-bold underlined sources are considered secondary sources and are encouraged to be checked when available.

office for archive photos of your project area). Historic photographs can often be found at local museums, historic societies and the Oregon Historical Society Museum in Portland. Aerial photographs as early as 1930 are known to exist for the Columbia River, Oregon coast and much of the Willamette Valley.

5. Property Title Search: Useful for tracking change of ownership of land parcels through time. Records readily available at title offices and city halls.
6. Historic Records: Diaries, journals, photographic collections, ethnographic and ethnohistoric documents can often be found in local libraries, museums and historic societies.
7. Oral History: When available, interviews with area elders and knowledgeable people (both native and non-native) should be considered a valuable resource method. Important information on potential site locations, land use patterns, and historic disturbances may be provided by local artifact collectors, historical society members, landowners, Native Americans, and other community members, as appropriate to the research design, extent of the project, the characteristics of the project area, and other relevant factors (see SHPO web page for recommended guidelines for conducting oral interviews - http://egov.oregon.gov/OPRD/HCD/ARCH/arch_oral.shtml).
8. Federal Archives, Sandpoint Washington: Federal archives may provide supplemental historic data on federal lands, in addition to census data, timber surveys and other historic maps.

PHASE I FIELD INVESTIGATIONS: FIELD STUDY

The Goals of the Phase I Investigation Include:

- Conduct intensive background research.
- Identify and rank areas of archaeological sensitivity.
- Identify visible archaeological sites or other indicators of the presence or absence of sites.
- Identify and document extent of prior significant ground disturbance.
- Identify potential archaeological issues that must be considered during project planning.
- Establish, if possible, whether or not any evident sites have a high likelihood of being eligible for the State and National Registers.

To accomplish these goals, it is important that an archaeologist conducts the appropriate field investigations described in their Research Design. Field investigations may include, but are not limited to, surface survey, sub-surface testing, remote sensing studies, and combinations of these or other field techniques (see Section III);

- 1). Preliminary field investigations may sometimes be required specifically to identify stratigraphic or other conditions within the project area. For example, backhoe trenching is often necessary in floodplains to identify the depositional history and relative age of the landform and expose possible buried cultural layers;
- 2). Depending on factors such as the scope of work, known or expected site types, environmental characteristics of the project area, and so forth, interdisciplinary field investigations using soil scientists, geologists, biologists, architectural historians, historians, etc., may be required. The Research Design should anticipate and include such interdisciplinary expertise;

- 3). Oregon SHPO expects that considerations of site significance, to whatever extent possible based on existing data, are integral in all aspects of archaeological assessment, from the preliminary background research, through Research Design development, and during the Phase I investigation;
- 4). Determination of site "presence" or "absence" is not a satisfactory result of Phase I investigation. Phase I site documentation should provide enough information to recommend: treatment (for example, site avoidance); additional background research; recovery of additional information to gain a preliminary evaluation of site size, character, and significance; or, if there is sufficient evidence, a determination that the project will not affect a significant site;
- 5). In cases of limited artifacts or site evidence, it is difficult to understand the site type, extent, and its potential significance or to make any kind of recommendations in the absence of additional information. Thus, isolated or limited surface or sub-surface artifacts must be evaluated further at this phase;
- 6). If identified potentially significant sites will be avoided by project re-design after this phase of study, site documentation at the conclusion of Phase I must, at minimum, provide clear, mapped delineation of each site's spatial boundaries in relation to the locations of proposed project impacts. If this is not possible, Phase II investigation will most likely be necessary.
- 7). As sites are found in the field, the archaeological consultant should request Oregon Smithsonian inventory site numbers from Oregon SHPO with their submission of an Oregon site form. The Smithsonian site number should be incorporated into field notes and used on cataloging forms, in databases, on photo identification sheets, project maps and illustrations, in all project reports and other documents, and in the course of collections care and management.

In order to complete the Phase I investigation, the following field methods may be employed:

Surface Survey: An intensive survey means an area has been walked, usually with closely spaced parallel transects of one or more people. Survey transect intervals of $\leq 20\text{m}$ are generally recommended. An intensive sample survey inspects all the ground in specifically selected areas. The intensity of the survey coverage appropriate in a particular area will depend upon a number of variables:

- 1) Amount and nature of site information already available;
- 2) Kinds and densities of ground cover;
- 3) Expected potential for, and density of, unrecorded sites;
- 4) Known or estimated minimal size of various site types in the area;
- 5) Specific needs of the survey project (i.e., complete inventory, sample survey, etc.); and
- 6) Anticipated use of the survey data (e.g., if the data are to be used for a predictive model, then a higher intensity may be required).

In areas of high probability and low visibility, subsurface probes should always be used to assess the potential of buried significant archaeological sites. When heavy ground cover (e.g., pasture or forest) precludes normal visibility of either artifacts or features, some method (e.g., shovel

tests, rakes, surface scrapes) must be used to insure that there is a reasonable opportunity for the surface and/or subsurface deposits to be exposed (the interval for this exposure should be ≤ 20 meters).

Local informants should always be sought for information on artifacts and features, which may have been observed in the past and on historic features, buildings, or individuals known to have used or occupied the area.

Surface Collections – Surface collections are generally not appropriate upon during Phase I surveys. Whenever possible field methodology should seek to collect sufficient information from surface artifacts without collection. For surface collections, a representative sample of diagnostic and non-diagnostic artifacts should be collected during later phases of investigation. Oregon State law/SHPO requires that all material recovered from shovel tests and test units be collected and curated. The exceptions are materials such as brick fragments, gravel, shell, and unidentifiable metal, which must be weighed and described. However, at a minimum, a 10% representative sample of the latter should be collected and curated.

Site Discovery Probes/Tests - Shovel probes may vary in shape, size, and depth, but should not be smaller than 30 cm in diameter. The depth of the pit should terminate at sterile subsoil (i.e., after 2 sterile 10cm levels) or 100 centimeters below surface (cmbs); whichever comes first. In upland soils, sterile subsoil is usually reached between 40 and 60 cmbs. In marsh soil, deeply buried deposits may exist at depths greater than 100 cmbs. Reaching these deposits with standard shovel tests may be impractical and uneconomical. Auguring and coring should augment shovel testing. Within agricultural fields, finding no remains below the plow zone does not necessarily mean that no intact deposits remain. Standard shovel testing can miss deep or isolated features such as trash pits and hearths. A description and full justification for the determination for the depth of shovel tests is required in the draft and final reports. Representative soil profiles should be drawn and/or described for shovel tests conducted during the course of the survey. The soil profile for at least one shovel test excavated at each site must be drawn and/or described.

Spacing of transects and shovel tests will be variable depending on probability zone (high or low), surface visibility and the phase of investigation. As described in Section III, for Phase I surveys in large high probability-low visibility zones, parallel transects should be spaced no farther than 20 meters apart and shovel tests should be excavated at least every 20 meters along each transect. Smaller high-probability zones potentially subject to direct impacts should receive coverage and testing at a higher intensity. In low probability zones, parallel transects can be spaced up to 30 meters apart and shovel tests should be excavated following an agreed upon methodology for expected site types. If in doubt regarding subsurface probe intervals, consultation with SHPO is recommended.

When delineating site boundaries during Phase I investigations, shovel probes/tests should be excavated in a grid oriented along cardinal directions at ≤ 20 meter intervals on sites less than 50 meters across, and at ≤ 30 meter intervals for sites more than 50 meters across. Shovel probes/test pits should be excavated from beyond the anticipated site boundary towards the anticipated interior. When cultural materials are encountered, locate an additional test unit

midway back to the last previous unit to define the boundary. Shovel tests should continue until two consecutive negative shovel tests are encountered. Subsurface testing should be conducted at all sites for the purpose of boundary definition, regardless of surface visibility. When delimiting site boundaries in Phase II investigations, intervals of 5 or 10 meters are appropriate, depending upon the intensity of previous shovel testing and the size of the site.

All material from the shovel probes/tests should be screened. The maximum acceptable screen mesh size is ¼ inch (6.4 mm). One-eighth inch (3.2mm) screen mesh is generally recommended for all subsurface testing within a known site's boundaries in order to gain a maximum amount of information from all site disturbances. Should it not be feasible to screen the excavated material due to soil conditions, the material should be broken up with a trowel and examined. Shovel probes/tests should be dug using, at a minimum, controlled arbitrary levels no greater than 30cm.

Auger Tests - Soil core augers, soil probes, bucket augers, or posthole diggers may be employed when deep deposits are encountered or suspected or when other factors prohibit shovel testing. Material from auger tests must be screened. Auger tests are not a substitute for shovel tests, but rather should be considered as supplementary for purposes of detecting culturally modified soils only. Due to the extremely small volume sample obtained by augering, the minimum auger size is 15cm/6 in. Artifact volumes cannot be reliably estimated from auger sampling.

Excavations - Excavations refer to subsurface testing with standard manual techniques in units that typically measure 50cm x 50cm, 1 x 1 m or larger. Excavation units larger than 50cm x 50cm are generally not part of Phase I investigations, however, some consultants prefer to excavate larger units in sites at the time of discovery in order to make initial assessments of site eligibility. On small sites, such efforts may prove sufficient to establish site significance and the need for future consideration. All excavation units should be dug in controlled and natural or arbitrary stratigraphic levels. Levels should not exceed 10 centimeters. Appropriate and representative wall profiles and level plans shall be recorded.

A standard 1 x 1 m excavation unit may be adequate to provide information on stratigraphy, depth of deposits, and a sample of artifacts and features. However, one excavation unit is rarely ever adequate in large sites for Phase II or Phase III work. The plan for the number, size, and placement of Phase II and Phase III excavation units should be within the Research Design discussed with SHPO (i.e., in Archaeological Permit) prior to commencing field investigations.

If human remains are discovered during testing, all work must stop immediately and the State Police, SHPO, Commission on Indian Services (CIS), and all appropriate Tribes need to be contacted. All burial related data must be observed and recorded in the field and the information included in the final report. Fieldwork operations should follow a predefined protocol for the discovery of human remains. If human remains are Native American, coordination and consultation with all appropriate tribes must take place during all phases of the investigation. Because it is likely that human remains will not be available for additional or future study, the observations made during each data recovery project, both in the field and in the forensic laboratory, must be as complete as current techniques and interpretations allow and consistent with the highest standards of modern forensic studies. In addition, the stipulations of PL 101-

601 (Native American Grave Protection and Repatriation Act) must be followed if the project is funded through federal law or regulation.

Backhoe - Backhoe and other large earth-moving equipment can be a quick, cost-effective way to determine the horizontal and vertical location of deposits and features. The use of such equipment should normally be restricted to Phase III investigations when prior standard methods of testing have failed to yield features or undisturbed deposits and is generally not appropriate in Phase I investigations. Because testing with earth-moving machinery may destroy large areas of deposits, the use of the machinery should always be weighed against the possible effect on sites.

Monitoring - Monitoring following the completion of Phase I efforts is usually recommended in areas where survey and subsurface probes have proven negative, but there remains a high probability that project activities will encounter significant remains; in cases where there is a low probability of remains but inadequate survey has been undertaken; and in cases where project exigencies preclude extended work stoppages. Monitoring is normally a field method of last choice.

Remote Sensing - Remote Sensing is used to augment more traditional survey methods by identifying high potential areas for subsurface testing. Remote sensing (e.g., metal detector, proton magnetometers and ground penetrating radar) may be used in addition to shovel testing and excavation to aid in the identification of feature and artifact concentrations and the location of sites. Remote sensing may be particularly useful on historic and underwater sites where standard field techniques are inappropriate or excessively labor-intensive and may be used in lieu of or in combination with standard field techniques. Remote sensing may not be substituted in toto for standard shovel testing or excavation on terrestrially based Phase investigations.

Special Samples – Consideration should be given to appropriate special sample (e.g., soil, pollen, zoological, Cross-over immunoelectrophoresis (CEIP), paleobotanical, coprolite, phytolith, radiocarbon, thermoluminescent, archaeomagnetic, obsidian sourcing, and obsidian hydration) collection techniques, provenience, and curation, which must be described in the final report.

DATA ANALYSES & REPORTING

Data Analyses is normally limited in Phase I investigations due to the limit of subsurface activity and recovery incorporated in this phase of investigation. However, regardless of whether or not the project is pursued, the project sponsor is responsible for ensuring that the data analyses are completed once any artifacts, other cultural materials, and other types of data are recovered. The consulting archaeologist is responsible for conducting appropriate analyses and interpreting the data that tell the story of the site. The anticipated data analyses described in the Research Design are the basic analytical tasks that will be conducted subsequent to the field investigation. The tasks set forth in the Research Design are obviously based on the expected types of sites. The Phase I recovery of sufficient carbon or obsidian for temporal or sourcing analyses should be anticipated within the research design.

Reporting Guidelines can be found on the Oregon SHPO webpage (egov.oregon.gov/OPRD/HCD/ARCH/arch_crm.shtml) and are generally not incorporated here. However, it is important that field maps record all shovel tests and/or survey transect locations, site datum and boundaries, project boundaries, and natural and cultural features. The use of mechanical or laser transits, compass, LORAN, GIS, tape measures, or estimating distances and directions are appropriate as long as the instruments used are specified in the final report. Location of sites, shovel tests, and/or transects may be overlain on 7.5' USGS quad maps, remote sensing maps, sketch maps, blue prints, SYMAPs, piece-plotted diagrams, or other maps, but 7.5' USGS maps showing the project and site locations should be identified in the final report. The State site designation number (Smithsonian trinomial) should be used on all site maps in the final report.

PHASE II INVESTIGATION: EVALUATION STUDY

The following are supplementary requirements for Phase II.

Goals for Phase II Investigation are:

- Conclusively establish whether or not a site meets the criteria for inclusion in the National Register of Historic Places, if not known at the conclusion of Phase I.
- Meet the objectives of the Research Design.

Research Design Requirements for Phase II

The Phase I objectives serve as the core requirements for Phase II investigations. Phase II investigation may be necessary to gather additional information about a site's characteristics, site significance, and the project's potential impacts to the site. The goals of the Phase II investigation are to gather additional information on a site's character, integrity, condition, size and boundaries, stratigraphy, structure, function, and context(s) at a detail sufficient to evaluate its significance. If not previously determined, this phase of investigation will conclusively determine whether or not the site meets the National Register criteria.

Field investigations at a historic period archaeological site should not be conducted until thorough background research from traditional historic sources, including oral history, has been completed. The Oregon SHPO considers thorough background research mandatory in developing the final Research Design for the field investigation component of any study. Historic research is essential for framing important research questions, understanding data categories that may be present, designing appropriate methodologies to recover those data, and understanding potential site significance. If appropriate, the background research and the field investigation can be developed as two separate Research Designs, the latter depending on the results of the background research.

The Phase II Research Design should:

1. Meet the Research Design Standards.
2. Include the Phase I Research Design requirements.
3. Include the following:
 - a. Provide a detailed discussion of project objectives, research topics and research

- questions, and expected results. Research topics and questions must address and refine priority research topics and associated historic contexts or other relevant sources of information.
- b. Provide a detailed discussion of the proposed background research needed to obtain comparative information on potentially relevant site types, data categories, and necessary local and regional contexts.
 - c. If archaeological field investigations are warranted, describe and justify the sampling strategy, field methods, and intensity of investigation at each site to be investigated based on the site type, expected data categories, project and research objectives, and research questions.
 - d. Discuss the care and management for the recovered archaeological collections, including field notes, other records, artifacts, and other data categories to be recovered. Discuss how large volumes of redundant data, such as construction materials at a historic site, will be treated. Discuss potential discard options for expected categories of artifacts or other data types (e.g., bricks, shell, nondiagnostic metal fragments).

In order to determine the significance of a site, testing often must be done to establish the nature of the potential information that will answer research questions identified in the research design. For example, the fact that there may or may not be undisturbed deposits of cultural material beneath the plow zone is not in itself enough to say the site is or is not significant (see Appendix A on Establishing Site Significance). The archaeologist must balance the need for obtaining adequate information concerning the potential of the site to answer research questions with avoiding a major impact on the site by the test procedure itself.

If non-significance is to be established for precontact sites, subsurface tests must be made on all sites, even if visibility of ground surface is good. Testing of historic sites to determine significance needs to be evaluated against collected background research and site potential to yield significant information on area's history. Testing should also be done if ground visibility is not good, there are no surface indications of a site but the location is ideal (e.g., natural levees), or if inspection of modern landscape features suggests the possibility of buried surfaces or deposits that may contain cultural material. Different kinds of tests can provide different kinds and amounts of information on site structure, content, integrity, and quality.

Field Investigation and Data Analyses

Field methods should be chosen and implemented to satisfactorily meet the Phase II objectives. These may include, but are not limited to, additional shovel test pits at reduced intervals, block excavations around features and artifact concentrations, deep testing, and remote sensing studies. Recovered data will be analyzed and interpreted using appropriate techniques and theoretical frameworks for the purpose of addressing the research questions. Analyses of data recovered during the Phase I study will be integrated into the Phase II analyses, findings, methodological assessment, and interpretation of findings. Additional analyses, or even re-analysis, of some or all of the Phase I data may be necessary at this level of study. For precontact archaeological sites, radiocarbon (C14) dates should be obtained whenever possible at this phase of investigation. In all cases in which precontact sites are being studied, Phase II budgets must include costs for

radiocarbon dates in anticipation that suitable dating material will be recovered. The inclusion of funds for CEIP analysis, obsidian sourcing and hydration should also be listed.

Field Methods

Shovel Tests/Probes: Shovel tests/probes may be appropriate to refine site boundaries during Phase II or to discover the depth of plow disturbance and the condition of deposits just below the plow zone. Shovel tests/probes also provide similar below-surface information in areas where there is no plow zone, but where the surface of the site is obscured. These tests are usually ≥ 30 cm in diameter (50cm x 50cm preferred) and should be at least 50 cm deep (unless bedrock is found or the nature and integrity of a site can be determined before that depth is reached). Test units within a known site should always be square and no smaller than 50cm in width. When cultural material is encountered, shovel tests/probes should extend through at least two (2) sterile 10cm levels before stopping. One-eighth inch (3.2mm) screen mesh is generally recommended for all subsurface testing within a known site's boundaries in order to gain a maximum amount of information from all site disturbances. This smaller mesh size should be used for all site testing until testing demonstrates it to not be necessary (i.e., appropriate artifact classes demonstrated to be within site suggest use of a larger screen mesh [$\frac{1}{4}$ inch (6.4mm)]).

Finding no cultural material below the plow zone in shovel tests does not necessarily indicate that all evidence of past human occupation is in the disturbed plow zone, for there may be many features (trash pits, storage pits, and fire hearths) elsewhere on the site that might not be encountered in shovel tests. There may also be buried cultural deposits deeper than the depth of completed shovel tests. When shovel testing a site where there is material on the surface, a general guide is for the space between tests to be ≤ 10 m. When shovel testing an area with heavy groundcover where a site is suspected, test holes can be farther apart (15-20 m). Details of the testing and justification for the spacing and number of tests must be provided in the report.

Test Pits or Control Columns: Test pits (e.g., 50 cm x 50 cm, 1 m x 1 m, or 1 or 2 m x 50 cm) are appropriate for looking at the subsurface deposits of a site in order to establish site significance/eligibility. If a concentration of artifacts or a historic feature is observed on the surface, a test pit in that area is appropriate. At least one such test pit should provide information on stratigraphy, depth, and a sample of artifacts in context. If there is already a pothole or a natural erosional feature, cleaning the profile of that hole or eroded area may also provide a look at the stratigraphy. Such profiling may suffice for subsurface information on small sites, thereby eliminating need to impact the site further. A single test pit, however, will not always determine the full nature of the subsurface deposits on large and/or multi-component sites. More than one test pit in different areas of large sites may be appropriate for site evaluation and is necessary for determining adequate mitigation measures. Establishing eligibility of a large site based on one 1 m x 1 m test does not provide adequate data for planning mitigation measures or budgets.

As stated earlier, if human remains are discovered during subsurface testing, all work must stop immediately and the State Police, SHPO, Commission on Indian Services (CIS), and all appropriate Tribes contacted. Fieldwork operations should follow a predefined protocol for the discovery of human remains. All burial related data must be observed and recorded in the field and the information included in the final report. If human remains are Native American,

coordination and consultation with all appropriate tribes must take place during all phases of the investigation. Because it is likely that human remains will not be available for additional or future study, the observations made during each data recovery project, both in the field and in the forensic laboratory, must be as complete as current techniques and interpretations allow and consistent with the highest standards of modern forensic studies. In addition, the stipulations of PL 101- 601 (Native American Grave Protection and Repatriation Act) must be followed if the project is funded through federal law or regulation.

Other Methods: A backhoe trench can be an efficient quick way to get a soil profile where shovel and test pits seem inconclusive, to search for suspected buried deposits too deep for shovel or auger techniques, and to verify absence of intact deposits where disturbance appears complete. The geomorphological information to be gained from such a trench may be important in establishing age of deposits or context of multiple components, etc. For example, the nature of artifacts that are found on the surface in an area known to have been subject to large-scale periodic flooding may not be able to be defined by shovel, auger, and test pits. Testing with a backhoe may prove beneficial in order to expose general soil construction processes, in addition to their usefulness in locating suspected features that have not revealed below ground cultural material using other methods. The amount of testing with a backhoe must be weighed against its impact on the cultural deposits or other relevant project factors. The wholesale grading of extensively disturbed deposits may be appropriate to detect the survival of features still intact below plow zones or highly disturbed site surfaces.

Records must be made of all testing in the normal detailed manner used in any archaeological excavations. At least one photograph should be made of each test pit, profiles drawn of at least one wall of each test pit and backhoe trench, soil matrix described, artifacts described and analyzed by stratigraphic or arbitrary levels. Placement of test pits must be in relation to at least one datum, so that the pit(s) can be relocated in the future. Scale, direction/north arrow, datum, and location of all tests, must be indicated on all maps and photographs. Date and recorder should be included where appropriate.

Data Analyses

As mentioned earlier, the project sponsor is responsible for ensuring that all data analyses are completed once any artifacts, other cultural materials, and other types of data are removed from the ground regardless of whether or not the eventual project is pursued. The consulting archaeologist is responsible for conducting appropriate analyses and interpreting the data that tell the story of the site. The anticipated data analyses described in the Research Design are the basic analytical tasks that will be conducted subsequent to the field investigation. The tasks set forth in the Research Design are specific to the types of sites that are being evaluated. However, once excavation begins, there may be changes in the data recovered and the expected analyses. The archaeological consultant should immediately inform the client if the unexpected type and/or volume of data categories discovered requiring additional or markedly different analyses. Sufficient charcoal may unexpectedly be found in a feature, meriting a carbon 14 date during this phase of study. Obsidian may also be recovered enabling the obsidian sourcing and hydration studies to be completed.

Public Education and Outreach

The Oregon SHPO expects archaeologists to consider public education and outreach efforts after Phase II investigations if the site is determined to be especially significant. Depending on the results of the study, scale of the project, the character of the site, extent of interested publics, project sponsor, and other considerations, public education may also be appropriate during the field investigation.

Collections Care and Management

Phase II investigations are expected to collect more cultural materials, data, and records than Phase I. Accordingly, provisions should be made early on for the various decisions that must be made about collections care and disposition during investigations and analyses. See APPENDIX D for details on minimum curation standards for preparing collections.

PHASE III INVESTIGATION: DATA RECOVERY STUDY

The objectives for Phase I and II Investigations outline the core requirements for Phase III investigation. The Phase I and II investigations establish the foundation and framework for this last, most intensive, and intrusive level of archaeological study. The Oregon SHPO uses the Advisory Council on Historic Preservation's Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites (see www.achp.gov/archguide.html) for guidance on data recovery investigations in both federal and state projects. The following are supplementary requirements for Phase III.

Goals for Phase III Investigation are:

- Recover the maximum significant cultural, environmental, methodological and interpretive information and values from the site before the site is destroyed in whole or in part.
- Meet the objectives of the Research Design.
- Provide a high level of public education and outreach to ensure that the proposed destruction of the site provides maximum benefits to a wide audience.

Research Design Requirements for Phase III

The Phase III Research Design should:

1. Meet the Research Design Standards.
2. Include the appropriate Phase I and Phase II Research Design requirements.
3. Provide a detailed discussion of the research topics and questions to be addressed.
4. Discuss the types of data that must be gathered in order to address these topics and questions.
5. Discuss strategies and methods for recovering the needed data.
6. Discuss methods of analyses and interpretation.
7. Identify interdisciplinary experts who may participate in the study.
8. Identify proposed methods of public outreach.

Depending on the nature and scale of the project and proposed archaeological results and methods, the SHPO may recommend peer review of the Research Design.

Data Recovery through Controlled Excavation

As previously discussed, data recovery usually entails controlled excavation of a predetermined sample of the site's contents. Depending on the type of site, research questions, and data classes expected, a number of strategies might be used including block excavation, isolated units, and/or linear trenching. If necessary, heavy equipment such as a grader or front-end loader can be used to remove overburden. This is a very effective way of quickly removing sterile, disturbed, or non-significant fill, enabling labor-intensive hand excavation to be focused on those deposits that contain significant data. Whenever heavy equipment is used, archaeologists must be present to monitor the soil removal and record any artifacts or features that are exposed.

Although specific techniques may vary from site to site, all excavations should conform to the basic practices of data collection and recording. These include the use of standardized excavation units and a grid system, the use of natural or arbitrary levels to maintain vertical control (i.e., $\leq 10\text{cm}$), the screening of excavated soil using a standard $\frac{1}{4}$ inch (6.4 mm) or smaller mesh, appropriate to the artifact classes demonstrated to be within the site, the careful and standardized recording of provenience information including maps and stratigraphic profiles, and the maintenance of a complete photographic record of the excavation.

Screen Size: Screens should be used to recover specimens whenever possible during survey and excavation. Mesh no larger than $\frac{1}{4}$ " (6.4 mm) should be used, and suitable smaller mesh and/or flotation should be used to recover appropriate environmental remains (e.g., fauna, macroflora). One-eighth inch (3.2mm) screen mesh is generally recommended for all subsurface testing within a known site's boundaries in order to gain a maximum amount of information from all site disturbances. This smaller mesh size should be used for all site testing until testing demonstrates it to not be necessary.

The use of larger mesh screening to recover remains must be fully justified in the final report (e.g., "removed entire feature with trowel and brush due to fragile nature of remains"; "soil too clayey to screen - troweled all shovel tests"). The sample recovery technique ("dry" screened or water-screened) must be noted. When samples are floated, the screen mesh sizes used to recover all fractions of materials must be noted.

Size of Excavation Units: The size of excavation units may vary although the most common sizes are 1 x 1 m, 1 x 2 m, 2 x 2 m and 3 x 3 m. The advantage of larger sized units is that the spatial arrangement of any post molds, fire pits, or other features that are exposed during excavation are easily seen in plan view which facilitates accurate mapping. The disadvantage is that spatial control is compromised for those artifacts that are recovered during screening. This can be overcome by subdividing larger units into smaller blocks (e.g., 1 m or .5 m squares) and excavating these separately. Individual excavation units larger than a 3 x 3 m square are discouraged because of the lack of spatial control in the collection of smaller artifacts. Larger block recovery may be appropriate where site disturbance is demonstrated to be more or less complete, or where the plow zone is being removed in search of features.

Depth of Excavation Units: Excavation will continue until at least two sterile levels have been encountered. At sites where Paleo-Indian or Early Archaic components are suspected, deep coring or the use of backhoe tests to search for or expose deeply buried soil horizons may be required to ensure that these early and sometimes ephemeral sites are not missed.

Use of Natural Collection Units: An excavation takes place within natural units whenever possible. "Natural" means any unit of matter that displays abrupt and observable boundaries. Natural units may include soil stains, distinct strata, pits, mounds, or the rooms of a building. While most "natural" collection units will have had a cultural origin, this may not always be true. For example, wind blown sediments, alluvial silts, or storm surges may have created discernable strata that should be excavated as separate collection units. The use of natural units is specified to ensure that artifacts or other materials resulting from different depositional episodes do not become mixed during recovery.

When arbitrary excavation grid units are found to overlie a number of horizontally distinct natural units (sometimes referred to as features), excavation by natural units takes precedence. Thus, the material collected from a trash pit or storage pit is kept separate from the surrounding soil matrix in which the pit intrudes. Similarly, if the walls of a structure are encountered, materials from the outside of the structure are kept separate from those materials collected from the structure's interior.

The methods used to excavate cultural features depend on the type of feature encountered and the nature of the soil matrix. The preferred method is to pedestal the feature and then excavate half of it to expose a cross-section profile that can be mapped and photographed. The remaining half of the feature can then be excavated as a total sample. This is a particularly effective method when excavating in stable soils. In soft, sandy soils, feature fill may be removed as a total sample without pedastaling; however, no profiles are possible using this technique.

Standards for Public Education and Outreach

Public education and outreach should be considered an important component of all Phase III archaeological investigations. Too often the only record of significant archaeological projects is the creation of an access-restricted report that provides the public with no information on the importance of local land use history, changes in area lifeways, or how public monies are being

spent. Historic preservation efforts should seek ways to reach the public in helping them to become aware of their local history. Items to consider include:

- Landowners, towns (both local government and community groups), educators, students, and the general public are likely targets for education and outreach.
- To the greatest extent possible, education and outreach projects and programs should be conducted in consultation with the local community and other interested parties both during planning and implementation. School field trips and community lectures should be considered.
- Education and outreach activities should be coordinated with Native Americans as appropriate.
- Exceptional sites or special projects may require enhanced education and outreach as a component of the Phase I investigation.
- Historic archaeological sites may be suited to different types of education and outreach efforts planning and implementation.
- Working with a local reporter can help to develop accurate and sensitive reporting that will publicize a project's results without jeopardizing its long term preservation.

Public outreach in the form of site tours, or the production of reports appropriate for and informative for distribution to the public at libraries should be an integral component of the research design for Phase II and III undertakings.

MITIGATION

Mitigation of an adverse effect on an eligible archaeological site can be accomplished through one or more of the following actions: avoidance of impact, preservation or protection in place with legal covenants if possible, burial after testing if found to be appropriate, or data recovery. Agreement as to which mitigative action is appropriate is normally accomplished through a Memorandum of Agreement (MOA) or a Programmatic Agreement (PA), which includes a treatment plan. The first recommended mitigative option is avoidance of impact through redesign of the project. While avoidance is a perfectly legitimate tool to consider in Section 106 procedures, it must be understood that avoidance, in and by itself, is NOT a protective measure. That is, avoiding direct impact on an archaeological site may result in secondary or indirect impacts (for example, construction of playground facilities adjacent to precontact village site).

Protection or preservation is an active category of mitigation, something that is done to a site to protect it from any future adverse impact. Protection could involve development of the property for public interpretation, security measures limiting public access, local ordinances providing city or county protection with penalties, and so forth. Data recovery is another appropriate means of mitigation of adverse effect for archaeological properties. Through data recovery, the information contained in the site (or the portion of the site to be adversely effected by a proposed activity), which gives it its significance, is removed prior to project construction and the adverse effect on the eligible site is compensated for the excavation results. The site's significance is no longer in the ground; it is in the records and collections being curated. When data recovery efforts are restricted to a portion of a significant site (e.g., remaining site portions are capped or avoided), the site remains significant after the mitigation has been completed.

Mitigation through data recovery must begin with the development of a detailed research plan, which discusses and justifies the design of the investigation to retrieve from the ground the information needed to answer research questions. The strategy of the fieldwork must be explained in detail, and the proposed analysis and expected results must be discussed.

As mentioned during Phase II and III investigations, if recovery of human remains are discovered or are part of a data recovery program, the data which must be observed and recorded in the field, the kinds of analyses required, and the information to be included in the final report should be included in a protocol for the discovery of human remains. If human remains are Native American, coordination and consultation with all appropriate tribes must take place during all phases of the investigation. Because it is likely that human remains will not be available for additional or future study, the observations made during each data recovery project, both in the field and in the forensic laboratory, must be as complete as current techniques and interpretations allow and consistent with the highest standards of modern forensic studies. In addition, the stipulations of PL 101- 601 (Native American Grave Protection and Repatriation Act) must be followed if the project is funded through federal law or regulation.

For projects involving Section 106 review, the SHPO, the Federal agency, and the Advisory Council on Historic Preservation must approve the mitigation plan. In most cases, this plan becomes a part of a Memorandum of Agreement or Programmatic Agreement among these parties. Justification for the expenditure of public money on the data recovery project should be evident in the discussion of the expected results, and evidence of a signed agreement for curation of any recovered artifacts and records must be included in the plan.

Capping Sites with Fill

In certain circumstances, it may be appropriate to cap a site with fill to permit certain uses of the site area and/or to protect the entire site or surviving portions. The Oregon SHPO will not consider capping a site an adverse effect if the following two conditions are met:

- a. The cap material is potentially removable and does not forever bury the site. Some examples when capping may be considered (other examples may be appropriate) include:
 - Placement of geotextile cloth between surface and all applied fill;
 - 1' of fill over a site to construct a gravel access road or fire road;
 - 3' of fill over a site to permit bike path construction

Examples when capping of a site will not be considered a no adverse effect include:

- burying a site under a permanent, trafficked road such as a new highway.
- burying a site under a permanent building built on slab

In these examples, the site is “forever” inaccessible for research and its characteristics may be disturbed in unknown ways from vibrations, weight, chemicals, road salt, etc.

- b. There have been sufficient site investigations to determine the feasibility of capping and to gather sufficient data to ensure appropriate capping that will not adversely affect the site. This will require a Phase I investigation at the minimum and,

depending on the circumstances, may require Phase II investigations as well.

Mitigation Alternatives

Mitigation is defined as actions that reduce or compensate for the impacts an undertaking may have on a NRHP listed or eligible site. The appropriate mitigation measure depends on a number of factors, including the applicable criteria for NRHP eligibility, as well as the nature of the effects of a proposed project or undertaking. Whenever possible, the best alternative is to preserve the site in place and to protect it from damage. Nondestructive **avoidance and minimization alternatives** should be considered as the first option. These measures may include:

- **Limiting the size** of a project or undertaking to reduce the effect on significant sites. Since many sites are relatively small in size, it may be possible to avoid a site by reducing the size of the proposed undertaking in the vicinity of the affected resource.
- **Modification** of the project or undertaking through redesign, reorientation or other similar actions. The redesign of a proposed highway to include a bifurcated median to avoid a burial mound, or the redesign of a residential subdivision to include more greenbelt areas would be examples of this type of mitigation alternative.
- **Repair, rehabilitation or restoration** of an affected property. Although typically associated with historic structures, this mitigation measure may be applicable in the case of some historic sites that contain architectural features (e.g., iron smelter ruins, military fort, and defensive wall at a battlefield site). The restoration of vandalized or eroded surface features of a site may also be appropriate.
- **In-place preservation/protection** of deposits may be accomplished through several measures. For example, fill can be placed over buried sites and natural vegetation (with roots that will not extend below fill depth) planted to ensure stabilization. A conservation easement or restrictive covenant may be added to a deed; or a site may be donated to a preservation organization for conservation and preservation purposes. Also, the site can be designated as a greenbelt, nature preserve, or passive recreation area. Protection responsibilities are assigned to all federal and state land management agencies whose properties contain significant historic resources, as well as to those of federal, state and local agencies, and land developers whose activities are governed by the provisions of historic preservation law and might affect significant historic resources.
- **Restriction** of ground disturbance activities to depths shallower than the uppermost-undisturbed zone of significant sites. For example, parking lot development is one type of shallow or exposed construction activity that may occur without adversely affecting underlying deeply buried significant resources.
- **Monitoring** of ground disturbance activities to record significant remains if they are encountered. This is particularly useful if ground disturbance is expected to be minor or limited in spatial extent, where an upper disturbed layer can be affected without disturbance of a deeper intact deposit, and where conditions are such that hand excavation prior to the undertaking is feasible. For example, a highway-resurfacing project or development of a particular parcel of land located in the vicinity of a previously recorded site could be subject to monitoring and subsequent recording of exposed features and materials.

- **Off-Site Mitigation:** In the case of some projects or undertakings, it may not be feasible or appropriate to mitigate adverse project effects through any of the aforementioned measures. For example, suppose that the construction of a new telecommunications tower is determined to have an adverse visual effect to a NRHP-listed or eligible property or historic district. Given this, and similar circumstances, research and education options may be appropriate off-site mitigation measures. One of the following mitigation options may be appropriate in preserving the information about affected resources:
 - The preparation of a historic context for a particular category of historic resources (e.g., schools constructed by the Works Progress Administration [WPA]; drive-in movie theaters, Oregon prisoner of war camps, CCC camps in Oregon).
 - Prepare NRHP nominations for the affected properties.
 - Publish books, articles, technical assistance bulletins, land management plans, and local government comprehensive plans concerned with historic preservation issues, policies and procedures. This could include a written history of the community affected by the project or undertaking, in a format suitable for the public, such as a brochure, booklet or site on the World Wide Web.
 - Financially support a local museum or historical society or association engaged in local preservation activities.
 - Development of exhibits, videos, and web sites highlighting the historic resources and historic preservation programs of state and local governments. For example, this could include underwriting the preparation of a museum exhibit or traveling display
 - The preparation of classroom lecture material concerned with Oregon's precontact and historic heritage, historic resources, and historic preservation issues.
 - Historic tours, public archaeology programs, market days, and celebrations in historic districts, and other activities drawing attention to the historic resources representing the precontact and historic heritage of the state and our communities.

One of the conditions often required for project approval when preservation in-place (rather than data recovery) occurs is the recording of deed restrictions/covenants or easements for the affected property. When such actions are initiated by the property owner, in addition to a lower property tax valuation (actually a tax deferral) for the restricted area, the restricted property may be conveyed to a conservation organization or governmental body. The difference between the pre-restricted value and the restricted value may be deductible from individual or corporate income taxes. Consultation with legal counsel is advised. Copies of such restrictions or easements must be provided to the SHPO to evidence compliance with preservation conditions of project approval. See Appendix B for a sample of "Preservation Deed Covenant."

If a site preservation area later is reconsidered for development, it is recommended that, as a condition of project approval, the requirement to mitigate project impacts is considered to have been deferred and not waived. For example, if a golf course were redesigned such that previously preserved site areas will be adversely affected, site mitigation would be required. This requirement should be stipulated in the original preservation easement. For this reason, the locations of preserved site areas generally are marked on site development maps to assure that

their presence is not overlooked in any on-going grounds maintenance, landscaping, or development actions, and to facilitate protective monitoring efforts. Likewise, project approval documents may include penalty provisions (equal to or greater than the mitigation costs) for violations of preservation conditions.

ARTIFACT PROCESSING, DATA ANALYSES AND CURATION

While minimum standards for artifact processing, analyses, and curation are outlined below, investigators should tailor their activities to the unique aspects of each project. Overall, it is advisable to consult with SHPO, the curatorial facility, and any specialists early in the planning process.

Processing, analyzing, and curating artifacts must occur in secure and safe environments to prevent loss of significant data. The Principal Investigator and Project Archaeologist are ultimately responsible for ensuring that artifact data and integrity are preserved. The laboratory staff responsible for basic artifact processing and analysis must have sufficient knowledge to do the work, have access to appropriate comparative collections, and have access to experts when needed. Additionally, laboratory staff and/or the Project Archaeologist should have training in basic curatorial procedures.

Field Tracking

The choice of a system for tracking artifacts in the field is at the discretion of the investigator. However, the tracking system should be consistently applied throughout the project. During fieldwork, the recorder will enter a preliminary description of the artifacts in field notes and forms before placing them in labeled containers that fully protect them from damage. Artifacts can then be brought back to the laboratory for cleaning and analysis.

Processing

Before cleaning each artifact, the recorder will check its condition (e.g., for friability) and analyze its surface for easily lost information (e.g., pseudomorphs, organic materials, pigments, etc.). Artifacts should then be cleaned in a manner that preserves the information they contain. As an example, artifacts potentially suitable for CEIP analysis should not be washed. After they are clean, all diagnostic artifacts will be labeled to record site number, provenience, and catalog number. Care should be taken to ensure that important features like edge wear are not obscured during labeling.

Numbers written on artifacts are to be sealed with an appropriate sealant such as 10–15 percent solution of Acryloid B-72 in acetone or toluene. A small labeling area should be chosen, and an undercoat of the Acryloid B-72 placed on only this area of the artifact. The artifact will then be labeled on this area using black or white India ink. After allowing sufficient time for drying, an additional coat of the sealant is to be applied over the label. As an alternative to the white ink, white Acryloid B-72 is available commercially and may be substituted for the undercoat (a clear overcoat is still needed). Clear fingernail polish as a sealant is not acceptable.

All artifacts will be bagged individually or by type in self-sealing polyethylene bags at least 4 millimeters (mm) thick. Those available as food storage bags are not acceptable as they are often not polyethylene. A descriptive tag should be enclosed in each individual/type artifact bag. This tag should give provenience, description, and count for the contents. Artifacts must not be bagged until completely dried. Artifacts may be bagged by provenience or type (i.e., ceramics, lithics, etc., from all proveniences stored together, or all types of artifacts bagged by excavation provenience) based on the analysis needed. Diagnostic artifacts should not be bagged loose together with other materials that may damage or obscure edge wear or other important features. However, the laboratory methods section of the report will detail this information. The researcher should strive to curate all artifacts in a manner that will allow future researchers to duplicate their methods.

Identification tags for boxes or bags will be prepared. Tags will be made of an inert, waterproof, archivally sound material (e.g., Nalgene, Tyvek, polyweave, etc., or an acid-free paper tag inserted into an appropriately sized polyethylene self-sealing bag) and marked with ink that is fade-proof, waterproof, and archivally stable. The bags containing the artifacts will be labeled as well. All information on the exterior of the bag will be repeated on an internal tag of the type described above.

Laboratory staff should be aware of curation policies of the various repositories. Additionally, all artifacts should be handled to the standards of SHA/SSA/AIA and 36 CFR Part 79.

Analysis

If detailed analysis of certain archaeological materials is planned, it is advisable to include appropriate specialists as early in the project as possible.

Because most archaeological sites are valuable primarily because of their research potential, artifact analysis generally should follow well-established classification schemes and typologies. The choice of a specific system will depend on the investigator's goals and should be fully defined and referenced in the project report. Regardless of which classification system one uses, certain basic descriptions and analyses must be included in the report:

- Artifact identification number or provenience.
- Material (e.g., lithic, ceramic, glass).
- Class (e.g., projectile point, sherd, bead).
- Count and/or weight, as appropriate.
- Dimensions, if appropriate.
- Type (e.g., Clovis, Creamware, etc.).
- Noteworthy attributes (e.g., form, decoration, method of use, internal or external dating).

A laboratory or catalog sheet printed on archival paper with archivally stable, waterproof ink should be used to record the analyst's observations. In addition, the analyst may keep a diary of any observations, impressions, drawings, and any special analyses performed on the artifacts. This will become part of the official record when the collection is curated.

Conservation and Curation

Curatorial facilities should meet the standards outlined in 36 CFR Part 79; for Federal or federally assisted undertakings this requirement is mandatory. Selection of a facility is best made during development of the Research Design and MOA, since curatorial standards specific to the facility may influence conservation work during lab preparation and analysis. The designated curation facility should be identified in the project report. All pertinent field, laboratory, and report documentation should be archivally prepared and remitted to the curation facility with the artifacts. For projects where no artifacts were recovered, notes and other project materials should be prepared for curation. This should include any photographic material and electronic media including any artifact databases. If these databases are coded, a copy of the coding system should be supplied to the curation facility. See Appendix D for a more complete discussion of curation requirements.

SUMMARY

The sequence of work in consideration of cultural resources to be affected by federal/state projects should be efficient, economical, and justifiable. Briefly, the sequence is normally this:

- Locate and record basic information on all historic properties that are 50/75 years old or older in a project area.
- Test archaeological sites to see what is below the surface.
- Decide which sites are potentially National Register eligible and have the potential for providing significant information concerning precontact and historic lifeways and cultural processes. Provide adequate support for these determinations, including use of documentary research for historic archaeological sites.
- Arrange for appropriate curation of all artifacts and documents.
- Test those sites to establish their significance and, thereby, their eligibility for inclusion in the National Register. Documentary research is required for historic sites.
- Recommend the appropriate treatment for sites determined eligible for inclusion in the National Register.
- Mitigation in some form is required in all cases for sites in which human remains are expected or encountered, without exception (see (1): Advisory Council on Historic Preservation Policy Interpretation Memorandum 89-1, Treatment of Human Remains and Grave Goods; (2): PL 101-601, Native American Grave Protection and Repatriation Act; and (3): ORS 97.740-760, Indian Graves and Protected Objects.)
- Carry out mitigation measures.
- Publish results.

Bibliography

Andus, Patrick W. (finalized)

1997 How to Apply the National Register Criteria for Evaluation. *National Park Service Bulletin # 15*. USDI, National Park Service. Edited by Rebecca H. Shrimpton. Written by staff of the NRHP. (originally published 1990).

Bense, Judith A., Hester A. Davis, Lorraine Heartfield, and Kathleen Deagan

1986 Standards and Guidelines for Quality Control in Resource Management in the Southeastern United States. *Southeastern Archaeology* 5(1):56-62.

National Park Service

1997 How to Complete the National register Registration Form. *National Register Bulletin # 16A*. USDI, National Park Service.

O'Donnell, Eleanor

1998 Researching a Historic Property. *National Park Service Bulletin # 39*. USDI, National Park Service (originally published 1991).

Parker, Patricia L., and Thomas F. King

1990 Guidelines for Evaluating and Documenting Traditional Cultural Properties. *National Register Bulletin # 38*. USDI, National Park Service.

Shaffer, Gary D., and Elizabeth J. Cole

1994 Standards and Guidelines for Archaeological Investigations in Maryland. *Maryland Historical Trust Technical Report Number 2*. Office of Archaeology and Office of Preservation Services, Maryland Historical Trust.

APPENDIX A

ESTABLISHING SITE SIGNIFICANCE

ESTABLISHING SITE SIGNIFICANCE

Assessing site significance is often a cumulative process in which more and more data are collected to reach the point where significance can be established. Although that point can sometimes only be reached after Phase II investigations, at other times significance can be established sooner. This section of the Guidelines provides guidance in how to assess site significance and how to assess it as soon as possible. Thus, sites that are not likely to yield important information are eliminated from consideration early.

Oregon SHPO considers an archaeological site is significant until proven otherwise. If a decision of significance or non-significance is required and documentation about the site's attributes is inadequate, the site must be considered significant so that federal regulation will provide protection until the site's eligibility can be determined.

Archaeological investigations conducted under federal and regulatory requirements seek to identify "significant" archaeological sites. A significant site meets the criteria for inclusion in the State or National Registers of Historic Places. Both registers use the National Register criteria for evaluating significance. The National Register criteria are:

- Criteria A:** Sites that are associated with events that have made a significant contribution to the broad patterns of our history.
- Criteria B:** Sites that are associated with the lives of persons significant in our past.
- Criteria C:** Sites that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D:** Sites that have yielded, or may be likely to yield, information important in prehistory or history. National Park Service Bulletin #15 *How to Apply the National Register Criteria for Evaluation* (Andrus 1997:21) sets out two requirements for Criterion D of the National Register that are especially relevant to the Guidelines:
 1. The site must have, or have had, information to contribute to our understanding of human history or prehistory, and
 2. The information must be considered important.

Sites may also be eligible to the National Register for the associative value a site may hold for descendant communities. Such sites are generally referred to as Traditional Cultural Properties (TCP) and may be considered eligible due to their association with cultural practices or beliefs of a living community that (a) are rooted in the community history, and (b) are important in maintaining the cultural identity of a community (Parker and King 1990:1). See National Register Bulletin # 38 *Guidelines for Evaluating and Documenting Traditional Cultural Properties* for more details on this property type.

The most important thing to remember about significance, as the concept has developed in the context of historic preservation, is that it is a relative term. Significance must be evaluated within

a relevant context. Is it more or less significant than some other object, site, building, or structure? Does this make any difference as far as federal laws and regulations are concerned? The answer to these questions is no. Whatever the “degree” or “level” of significance, if significance (i.e., National Register eligibility) is agreed upon by the federal agency and the State Historic Preservation Officer (i.e., there is a consensus determination of eligibility) or if a determination is obtained from the Secretary of the Interior pursuant to applicable National Park Service regulations, then the Federal agency must assess effects, per 36CFR800.4(c)(2).

The National Register criteria must be used in establishing the significance and eligibility of any property for nomination to the National Register (see Andrus 1997). Criterion D, that the property has contributed or may be likely to contribute to information important to history or prehistory, is the most common criteria used for establishing eligibility of archaeological sites; however, other criteria may also be applicable. To establish that an archaeological site may indeed contribute information about history or prehistory, four attributes should be considered: structure, content, integrity, and quality (or resolution).

Site Structure refers to the overall vertical and horizontal configuration of the artifact-bearing sediments along with cultural features found within and upon those sediments (such as houses, barns, living surfaces, post mold patterns, pits, hearths, and/or noteworthy concentrations of artifacts). Within the natural strata of a site it may be possible to identify discrete cultural strata, which may be defined as sediments deposited by or substantially altered as a consequence of past human activity.

Site Content may be defined as the assemblage of natural and cultural materials contained within archaeological sediments. Natural materials could include naturally occurring pollen, plant remains, or animal remains reflecting past environmental conditions. Cultural materials such as stone or bone tools and manufacturing debris, pottery, fire-cracked rock, and preserved plant and animal food remains, indicate the kind of human activities that once took place at the site. Natural and cultural materials found in archaeological sediments may be analyzed and interpreted to provide inferences concerning past lifeways and environments. It is important to recognize, however, that a variety of natural and cultural processes may affect the preservation of materials, thus altering the structure and content of the site. In extreme cases, such alterations may effectively erase most or all traces of past human activity.

Site Integrity refers to the present physical condition of the site. In order to be listed in the NRHP, a cultural resource must meet Criteria A, B, C, or D **and** must possess **integrity**. According to the Guidelines for *How to Apply the National Register Criteria for Evaluation* contained in [NRHP Bulletin 15](#), integrity is "the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period" (Andrus 1997). The NRHP criteria specify that integrity is a quality that applies to historic and prehistoric resources in seven ways: **location, design, setting, materials, workmanship, feeling, and association**. These aspects, or qualities, of integrity, are defined below.

- **Location:** The place where the historic property was constructed or the place where the historic event occurred. The relationship between the property and its location. Has the property been moved, or has the location been altered significantly?
- **Design:** The combination of elements that create the form, plan, space, structure, and style of a property.
- **Setting:** The physical environment of a historic property.
- **Materials:** The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- **Workmanship:** The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- **Feeling:** A property's expression of the aesthetic or historic sense of a particular period of time.
- **Association:** The direct link between an important historic event or person and a historic property.

Analysis of integrity should be based on careful research in terms of both documentation of the property's history, and physical inspection of the property. For properties important for their information potential, such as most archaeological sites, integrity depends on the presence of those parts of the property which contain the important data and which survive in a condition capable of yielding important information. Comparative information about similar sites that have survived should be considered during the evaluation of integrity. For example, a partially disturbed prehistoric site, which nevertheless retains some information on the form and function of bone tools, may be eligible if it can be shown that the information contained in that site is important because bone preservation is almost unknown in the region.

Site Quality or resolution refers to how observable or recognizable the condition is using contemporary archaeological field methods. Assessment of site condition and quality is based upon a careful analysis of the potential impacts of a host of processes affecting natural and cultural materials. As these materials cease to be a part of a living human ecosystem they become incorporated into an archaeological context. These attributes, common to all archaeological sites, can provide a basis for evaluating significance of a specific archaeological site. In making this assessment, the present condition of the site must be such that its content, along with the context of those materials within the overall structure of the site, will permit interpretations to be made concerning past human activities and cultural processes. The likelihood must exist that any such interpretations will add substantially to the present understanding of one or more of a series of research problems (mentioned elsewhere in the archaeological literature) dealing with past human activities and cultural processes at the local, state, regional, or national level.

In order for a site to be determined not significant, it must be demonstrated through adequate documentation from fieldwork and from historic sites archives that the site cannot provide this information. When completing site and nomination forms, the National Register criteria under which a determination of eligibility has been made must be indicated.

Although precontact archaeological sites may be eligible for inclusion in the National Register under Criteria A, B, and C, their significance is most often established under Criterion D.

Extensive site investigations in Oregon lead us to conclude that a precontact site will meet Criterion D if it has the following characteristics:

- a. The site has integrity; and
- b. The site contains multiple categories of data; and
- c. The site can help answer specific, detailed questions that are important to understanding Oregon precontact or contact period and can be justified as having value to the public.

Category (a) has been addressed above. The following section addresses expected site characteristics related to (b) and (c) above.

Determining Significance under Criteria D

A site must contain, or be likely to contain, sufficient categories of data to address important research questions. To address a particular Research Topic, sites must at minimum contain the types of data shown in the Data Requirements columns of Table 1.

Research Topics	Data Requirements (see details below)							
	1	2	3	4	5	6	7	8
Adaptation	X	X	X	-	-	X	-	X
Chronology	X	X	X	-	-	-	-	-
Technology	X	X	-	-	-	-	-	-
Exchange/trade	X	X	-	-	X	-	-	-
Settlement system	X	X	X	X	X	-	-	X
Subsistence system	X	X	X	X	-	X	-	-
Socio-political organization	X	X	X	X	-	-	-	-
Human biology	X	X	X	-	-	X	-	-
Belief system	X	X	X	-	-	-	X	-
Environmental change	-	X	-	-	-	-	-	X

Table 1: Assessment of Significant Data Needed for Determining Significance

Data requirements for a site to address the respective research topics:

- 1. Site contains items, deposits, and/or surfaces that can provide inferences about past activities.
- 2. Site contains items or deposits that can identify the site’s time period.
- 3. Site possesses spatial relationships among items, deposits and/or surfaces which can be reconstructed.
- 4. Site contains deposits with floral, pollen, faunal or other botanical and zoological data.
- 5. Site contains items whose potential source area(s) can be identified.

6. Site contains the remains of at least one inhumation sufficiently preserved to permit analysis of diet, health, pathologies, or demographic data; or contains evidence of at least one cremation.
7. Site contains non-utilitarian items or deposits that can provide inferences about past beliefs.
8. Site contains natural or cultural deposits or surfaces with data pertinent to paleoenvironmental reconstruction (including past vegetation, fauna, landscape, water sources, or climate) of the locale or larger region.

Ability to Answer Questions Important to Understanding Oregon's Past

Research questions regarding Oregon's prehistoric cultural heritage provide a baseline for examining a precontact site's potential significance. The research questions are organized by research topic listed in Table 1. To answer these research questions, at a minimum, sites must contain certain categories of data and characteristics. Evaluations of site significance must be as specific as possible in relating a research question to available or presumed site data. Significant sites contain categories of data that have a high likelihood of providing important information that will respond to one or more of these questions.

Settlement System (including Human Populations):

- How many people lived in Oregon during the precontact period? 5000? 50,000?
- How did settlement patterns in Oregon change over time and in what way did these patterns differ between regions (e.g., Coast, Cascade Mountains, Great Basin, and Columbia River)?

Adaptation:

- How did Native people successfully survive Oregon's winters? How did changes in climate affect the people? How did people successfully adapt to colder/warmer climates?
- How and why did lifeways and technologies change or not change in Oregon over time? What caused changes? How long did changes take? How did changes in one aspect of life affect other aspects of life? Did different parts of Oregon see different changes? Where and why?
- How and when did contact with Europeans effect the original Oregonians?

Environmental Change:

- Did environment change during the period of site occupation being studied and if so, how did use of a particular site change? How are these changes revealed in the archaeological record?
- Did Oregon's earliest inhabitants co-exist with extinct mammals?
- How did Oregon's environments and climate change through time and how did native people adapt to these changing conditions?
- What was the distribution of native flora and fauna (including native fish species) over time?

Exchange/Trade:

- How did Oregon's Native people fit into the tremendous Northwestern and broader regional trading networks that began in the earliest period of Oregon prehistory? What did the people receive and what did they trade out? Why?

Subsistence System:

- How did subsistence activities change across the Oregon landscape through time? When did fishing become a primary subsistence focus and what effect on local lifeways did this intensification have?

Socio-political Organization:

- Were there different, and separate, Native American cultural communities in Oregon during precontact and contact? If yes, where were these communities located? How did they interact? What did they have in common? What were their differences? How do we recognize them in the archaeological record?
- Was there ethnic continuity in Oregon's Native people over the entire pre-contact period? If yes, were there breaks/gaps in that continuity? If no, what ethnic differences, changes existed?

Belief System:

- What types of locales were preferred by Native American people for burial sites? Why did burial practices change over time? How can we better predict, and thus better protect, the locations of Native American cemeteries and burial sites from different periods of history?
- What forms of rock images (i.e., pictographs, petroglyphs) are found within a given area? What is the tribal and/or ethnographic history of such locales? Interpretations for given images? How did such sites change over time (e.g., design motifs, use of color, interpretive role to local native peoples)?
- How were rock cairns incorporated into the local belief system? What variety of cairn types are present in an area and does cairn formation vary based on intended use (e.g., rock on rock vs. stacked rock pile)? Are cairns still being used and/or constructed for current religious observance? If so, has the type of cairns built, preferred construction area or incorporation of such cairns changed over time?

Establishing Historic Period Site Significance

In Oregon, the "historic period" is generally considered to begin in 1805, with the arrival of Lewis and Clark to the Pacific Northwest. While it is true that limited contact from ships are known to have occurred along the coast prior to 1805, this contact was extremely limited, of short duration, with no written records of its extent or effect. Historic period archaeological sites, even those with good integrity, do not automatically have historic significance. The Oregon SHPO supports archaeological significance of historic period archaeological sites during the regulatory process if they have a very high likelihood of providing important information. Such information is usually available from ethnographic and ethnohistoric documents and

photographs, and oral history interviews, however, the historic record of what occurred at an archaeological historic site can only be confirmed by testing of that site.

In contrast to precontact sites that can only be discovered and studied through archaeological investigation, many kinds of historic period sites can be understood through historic maps, photos, drawings, written records and, sometimes, oral histories. For these kinds of historic sites, it is critical to ask at the earliest time possible whether they might have archaeological significance and how archaeological methods at that site can significantly and measurably improve our understanding of Oregon's past. The question of "importance" of historic period sites needs to be addressed carefully with consideration given toward whom the importance is held. If the site is important to just one historical archaeologist or to just a few members of a community, its significance will be difficult to justify. An exception to such limited significance would be those sites that represent traditional cultural properties (e.g., local meeting hall, church or other feature) and are considered essential to the continuity of a small community of people.

Some types of historic period sites do not have the potential to provide information important to a broad public. Some sites, (e.g., many types of mills-flour, logging, salmon processing), may be well documented in written and other records and many exist as standing structures; archaeological investigations may not provide useful or outstanding complementary information. In such a case, historic research may be far more informative than an archaeological investigation.

The Oregon SHPO supports several policies regarding historic period archaeological sites. A site shall be studied archaeologically in the regulatory process if:

1. It addresses or is likely to address in a significant way the priority research topics listed in these Guidelines.
2. It has the potential to add important information to or verifying the written and archival record.

Defining a "Site" in the Context of Historic Period Archaeology

Historic archaeological sites in Oregon that are located on non-federal public or private land generally date from 1805 – 1930. On federal lands historic sites generally need to be at least 50 years of age. For purposes of these guidelines, a "site" must involve an assemblage or cluster of data sets that usually includes foundations, ruins, or some type of structural remains, features, deposits, and other man-made alterations to the landscape that can be investigated using a combination of historic research and archaeological investigations to varying degrees. Some kinds of important sites were temporary occupations or encompassed traditions or activities that did not produce foundations, ruins, or other structural remains. In such cases, features and deposits are the core site components.

Research Topics to Help Evaluate Significance of Historic Period Sites

In the context of historic archeology, there are as many research topics and questions as there are scholars asking them. They need to be pared down to what's most important to a broad public. The following research topics were identified by the SHPO as priorities since they may only be

addressed through archeological study. If a potential or identified historic period site can address these topics and related, important research questions, the site will be further considered by Oregon SHPO and may be recommended for further investigation through the regulatory process. Furthermore, archeological sites relating to a detailed historic context that meet the property type's registration requirements may be considered significant by the SHPO even though they are not associated with the priority topics below. For a discussion on historic contexts, see NPS Bulletin #16A *Guidelines for Completing National Register of Historic Places Registration Forms*.

The research topics listed below are general. They are intended to be used as a guide to assist in determining site significance and not all inclusive. The Oregon SHPO may still consider compelling sites that don't fall into these categories if they demonstrate the likelihood of providing important information to a community or to the state.

Examples of priority research topics important to Oregon history that may be addressed through archaeology at individual sites include:

- Native people and their communities after European contact
- Reservations, missions and schools associated with Native American resettlement efforts
- 19th century military history
- Hudson Bay trade related sites
- Abandoned communities (Oregon's "ghost towns")
- 19th century French settlement in Oregon
- Early Euro-American settlement including farmstead economy and technology, mining, logging, grazing, industry and commerce, health and nutrition, and transportation
- Pre-1900 industries and commercial enterprises
- Unanswered questions about Oregon's ethnic and minority groups
- Oregon's maritime history
- Unwritten stories of important Oregonians (pre-1900)
- Unique, rare, highly unusual, and exceptional federal, state, and local public works
- Unique, rare, highly unusual, and exceptional sites

Identifying Important Research Questions and Necessary Data Sets

The consulting archaeologist must first identify specific, important research questions that can be addressed at the site through archaeology that have not already been answered by historic documents or that are not likely to be answered by the historic record. Second, it's necessary to identify specific data sets that must be present at, as well as recoverable from, the site to answer the research questions.

Quality of Site Evidence

Archaeology is ultimately about site discovery; hence, the expression "seek and ye shall find" applies strongly to our discipline. However, regulatory archaeology requires a greater degree of focus in this quest to ensure that public and private funds are spent with the reasonable chance of discovering and researching sites that are important to the state and to individual communities.

Accordingly, the quality of the evidence about a site's existence in a particular location is an important consideration for the Oregon SHPO in determining whether or not to proceed with assessing an archaeological site.

Some examples of strong evidence for the existence of a site(s) in a given location include:

- 1) A recorded site.
- 2) Specific documentary reference to a site in that location from historic research.
- 3) Specific reference to a site in that location from knowledgeable local individuals.
- 4) Visible ruins and features on the ground surface.
- 5) Geographic or historic context that suggests the existence of a site or particular category of site
- 6) The standing structure itself is listed on or eligible for the National Register and is associated with a priority research topic; it may have archaeological components that contribute important archaeological information.

Summary of Information Needed by SHPO to Determine if Site Assessment Process Should Continue

As early as possible in the archaeological assessment process (Phase I), the consulting archaeologist should determine and demonstrate to the SHPO that:

- 1) The site has the potential of addressing one or more of the priority topics.
- 1) There is strong evidence for the site's existence in that location.
- 2) The site has the potential to answer -- through excavation -- specific, important research questions.
- 3) The research questions being asked are of interest to a broad audience.
- 5) The site is likely to contain specific and recoverable categories of data that answer the research questions.
- 6) The site exhibits integrity or the likelihood of integrity.

DETERMINING THE AMOUNT OF IMPACT ON A SIGNIFICANT SITE

Some projects that require a cultural resources survey and determinations of significance, occur in long, linear areas. Often sites may lie both inside and outside a right-of-way or project corridor where some portion of the site will be impacted and some will not. It is important that archaeologists and agencies understand the scientific and practical requirements of such a situation.

Consideration of significance must take into account the whole site, no matter what portion of it may be within the area of direct effect. It is imperative that significance be established on the basis of the nature of the whole site and its potential; decisions of mitigation are then made on the basis of the potential of that portion of the site that will be impacted to add information of importance to research questions. The problem that can occur when this sequence is not followed can be explained by example.

Archaeologists were conducting a cultural resource survey of a long linear federal project. They restricted themselves to looking only within the right-of-way. A site was discovered, testing was

done, undisturbed subsurface deposits were discovered which indicated potential for answering particular research questions, and significance was established. The report on this survey mentioned that other cultural material was noted to the west of the recorded site, outside the right-of-way, but no testing was done, and no determination of the size or nature of the site outside the right-of-way was made. A revisit to the site determined that this was a large site with excellent content and quality of information, the majority of which was outside the right-of-way. The nature of the whole site was defined and its significance established in relation to its research potential. On this basis, it was possible to determine that the portion of the site in the right-of-way was so small that the impact of the project would not be adverse relative to the whole site, and therefore little to no mitigation of that impacted portion was required.

In this case, failure to determine the nature of the whole site during the initial survey caused much more expense than would otherwise have been required. In cases where access to an entire site is not possible (e.g., landowner permission denied, outside ROW and funding agency will not permit expansion), the site will be treated as significant and mitigation measures will be evaluated accordingly.

The United States Department of the Interior's National Register Program has published several Bulletins as tools to help guide archaeologists, agencies, managers, and others in evaluating archaeological site significance. These include:

- *How to Apply the National Register Criteria for Evaluation* (NPS Bulletin #15)
- *Guidelines for Evaluating and Registering Archaeological Properties (2000)* (NPS Bulletin #36)
- *Guidelines for Identifying, Evaluating and Registering Historic Mining Sites (1992)* (NPS Bulletin #42)
- *Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places (1992)* (NPS Bulletin #20)
- *Guidelines for Evaluating and Documenting Traditional Cultural Properties (rev. 1998)* (NPS Bulletin #38)
- *Guidelines for Evaluating and Registering Cemeteries and Burial Places* (NPS Bulletin #41)

These Bulletins and others can be downloaded from the National Park Service web site at <http://www.cr.nps.gov/NR/publications/> .

APPENDIX B
PRERSERVATION DEED COVENANT
(SAMPLE)

Preservation Deed Covenant

In consideration of the conveyance of certain **[improved]** real property, hereinafter referred to as **[name of property]**, located in the **[City of _____]**, County of _____, State of _____, which is more fully described as:

[insert legal description]

[Name of property recipient] hereby covenants on behalf of **[himself, herself, itself]**, **[his, her, its]** heirs, successors, and assigns at all times to **[specify: Federal agency transferring the property, or SHPO, or other]** to maintain and preserve **[name all those exterior and interior features that qualify the property for inclusion in the National Register; these may be named within the body of the paragraph or included as an attachment]** as follows:

1. **[Name of recipient]** shall preserve and maintain **[name of property]** in accordance with the recommended approaches in the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (National Park Service, 1983) **[or specify other relevant standard, management plan, archaeological treatment plan, etc., with full citation]** in order to preserve and enhance those qualities that make **[name of property]** eligible for inclusion in the National Register of Historic Places.
2. No **[construction, alteration, remodeling/disturbance of the ground surface]** or any other thing shall be undertaken or permitted to be undertaken on **[name of property]** which would affect the **[structural]** integrity or the **[appearance/cultural use/archaeological value]** of **[name of property]** without the express prior written permission of **[Federal agency transferring the property, or SHPO, or other]** signed by a fully authorized representative thereof.
3. The **[Federal agency transferring the property, or SHPO, or other]** shall be permitted at all reasonable times to inspect **[name of property]** in order to ascertain if the above conditions are being observed.
4. In the event of a violation of this covenant, and in addition to any remedy now or hereafter provided by law, **[Federal agency transferring the property, or SHPO, or other]** may, following reasonable notice to **[name of recipient]**, institute suit to enjoin said violation or to require the restoration of **[name of property]**. The successful party shall be entitled to recover all costs or expenses incurred in connection with such a suit, including all court costs and attorney's fees.
5. **[Name of recipient]** agrees that **[Federal agency transferring the property, or SHPO, or other]** may at its discretion, without prior notice to **[name of recipient]**, convey and assign all or part of its rights and responsibilities contained herein to a third party.
6. This covenant is binding on **[name of recipient]**, **[his/her/its]** heirs, successors, and assigns **[in perpetuity/for X years from the date of this instrument]**. Restrictions, stipulations, and covenants contained herein shall be inserted by **[name of recipient]** verbatim or by express

reference in any deed or other legal instrument by which **[he/she/it]** divests **[himself/herself/itself]** of either the fee simple title or any other lesser estate in **[name of property]** or any part thereof.

7. The failure of **[Federal agency transferring the property, or SHPO, or other]** to exercise any right or remedy granted under this instrument shall not have the effect of waiving or limiting the exercise of any other right or remedy or the use of such right or remedy at any other time.

The covenant shall be a binding servitude upon **[name of property]** and shall be deemed to run with the land. Execution of this covenant shall constitute conclusive evidence that **[name of recipient]** agrees to be bound by the foregoing conditions and restrictions and to perform to obligations herein set forth.

APPENDIX C
GUIDELINES FOR UNDERWATER ARCHAEOLOGY

Underwater Research

Oregon possesses a diverse range of submerged cultural resources, ranging from canoes and pirogues to steamboats, schooners, ocean-going vessels, and aircraft, as well as prehistoric sites inundated through dam construction and coastal subsidence. These sites receive the same level of protection as do terrestrial sites. In addition to the aforementioned laws (e.g., NEPA, NHPA) governing terrestrial site protection and mitigation, additional legislation, such as the Abandoned Shipwreck Act of 1987, serve to further protect these important resources.

The following section briefly outlines Phase I, II, and III techniques and guidelines that should assist archaeologists and agency administrators in developing research designs capable of retrieving sufficient amounts of data in order to identify and evaluate submerged cultural resources, primarily sunken vessels. Each phase should be approached within the context of a research design with project results contributing to a better knowledge and understanding of Oregon's past.

Phase I: Submerged Cultural Resources Survey

The overall goal of a Phase I submerged cultural resources survey is to locate and evaluate resources within the project's area of potential effects. During this phase of research, archaeologists need to recover sufficient information to determine whether further investigations at the site/s are necessary to address National Register eligibility. Specific objectives of the Phase I submerged cultural resources survey include: 1) a review and search of the historical records pertaining to the general project area; 2) a field inspection and complete Phase I survey to determine the presence, nature and degree of integrity, if possible, of remains within the project's area of potential effect; and 3) an evaluation of the potential impact of the project on the identified resources.

Fieldwork Guidelines

The areas surveyed and the methodologies employed should be decided on an individual project basis. The following list, however, provides basic guidelines that should assist the archaeologist in retrieving adequate information:

General

1. Each submerged and visible watercraft, as well as other cultural resources (e.g., bridges, structures) identified in the project's area of potential effects, should be recorded and preliminarily evaluated as to its National Register eligibility.
2. Due to varying levels of survey complexity often associated with riverine and marine environments, such as water depths and poor visibility, remote-sensing technologies should be used. Remote-sensing technologies should include, but not be limited to, systematic magnetometer survey, bathymetric or fathometer survey, and side-scan sonar. All instrument data should be recorded in concert with a Differential Global Positioning System (GPS).
3. A magnetometer survey will detect most anomalies in the project's area of potential effects. Archaeologists will need to conduct more detailed systematic magnetic surveys for all anomalies

thought to be potentially significant. Analyses of the initial and more detailed magnetic surveys should provide the principal investigator with enough information to determine the identity of the anomaly and the potential for further testing.

4. If it is determined that additional testing of an anomaly is needed/required, then side-scan sonar should be employed to enable the principal investigator to make a more precise determination regarding the anomaly's National Register potential. Side-scan sonar may be excluded from use when field conditions prohibit or dictate otherwise. In these instances, a justification for not using side-scan sonar must be discussed in the report. It is important that all generated data (side-scan sonar, magnetometer, etc.) be correlated in order to produce as accurate a survey result as possible.

5. Systematic water jet probing from the deck of the survey boat or adjacent bank-lines should be conducted to determine the location and extent of all identified submerged watercraft and other potentially significant underwater resources.

6. All exposed watercraft elements should be fully recorded to the extent possible with a detailed discussion provided in the report.

7. Survey and site/s locations must be depicted on 7.5' USGS topographic maps.

Magnetometer, Bathymetric/Fathometer

1. Magnetometer and Bathymetric/Fathometer are remote sensing instruments that produce survey data capable of being downloaded into a computer database. There are two types of magnetometers currently used in the field of underwater research, a proton precession magnetometer and a cesium magnetometer. The proton precession magnetometer is probably sufficient for the Phase I cultural resource survey. Data collected from the magnetometer survey should be of sufficient precision and quality to allow for interpretations.

Side-Scan Sonar

1. Archaeologists are encouraged to use the highest frequency side-scan sonar possible, such as 500 kHz. Higher frequencies produce superior resolutions thereby allowing for better identification and interpretation of targets. While lower frequency side-scan sonars, such as 100 kHz, can produce good results, they do not produce the high quality results higher frequency side-scan sonars do. Again, archaeologists are encouraged to utilize a side-scan sonar capable of recording data that can be down loaded into a computer database (note: some side-scan sonars are equipped with video monitors, but are incapable of storing the generated data).

Positioning Systems

1. A positioning system should be incorporated into all submerged cultural resources surveys, so archaeologists can easily map and relocate any targets encountered. To ensure precision during the remote sensing survey a ± 5 meter variance in positioning data is suggested. In order to achieve this accuracy, the archaeologist should use either an on-shore total station or a Differential (or corrected) Global Positioning System (GPS). The on-shore total station may be more practical and feasible if: the survey area is limited in scope, the line of sight between shore and survey vessel is good, and/or there is a single target involved.

Remote Sensing Survey

1. Transect lane spacing should not exceed 30 meters (100 feet).
2. Positioning control points should be obtained at least every 30 meters (100 feet) along transects.
3. Background noise for the magnetometer data should not exceed ± 3 gammas.
4. Magnetic data should be recorded on the 100 gamma scale.
5. The magnetometer sensor should be towed a minimum of 2.5 times the length of the boat or projected in front of the survey vessel to avoid vessel noise.
6. The survey should utilize the Universal Transverse Mercator (UTM) grid system when providing site and feature locations.
7. Additional, more tightly spaced transects should be run over all potentially significant anomalies.
8. Differential GPS survey control should be used to determine the exact locations of the magnetic anomalies or exposed watercraft.

Phase II: Submerged Cultural Resource Testing and Evaluation

The primary objective of the Phase II investigation is to determine if the site in question is eligible for inclusion in the National Register of Historic Places (note: Phase I and II underwater investigations are sometimes combined into a single activity. The governing/contracting agency is responsible for ensuring that a scope of work exists in which the specific tasks are outlined and that the proper officials are notified). Unlike terrestrial sites, National Register eligibility for most submerged cultural resources will be determined using most of the established Criterion, as opposed to just Criterion D (see National Register Bulletin 36). However, as with terrestrial sites, "In order to determine the significance of a site [under Criterion D], enough subsurface investigation must be done to establish the potential for information that can be used to formulate and answer research questions" in regard to a regional context (Bense et al. 1986:56). Investigation objectives include, but are not limited to: 1) the vertical and horizontal extent of intact deposits within each site; 2) the density and distribution of the deposits within each site; 3) the cultural affiliation of the components represented at each site; 4) the presence of undisturbed submerged features or buried stratified deposits at each site; 5) the classes of remains retrievable; and 6) whether the site is eligible for inclusion in the National Register. Phase II investigations should not be initiated without consultation with SHPO.

APPENDIX D

**CURATIONS STANDARDS AND GUIDELINES
FOR ARCHEOLOGICAL INVESTIGATIONS IN OREGON**

**CURATIONS STANDARDS AND GUIDELINES
FOR ARCHEOLOGICAL INVESTIGATIONS IN OREGON⁵**

TABLE OF CONTENTS

Introduction 1

Processing, Conservation and Collections Management of Artifacts and Records 2

A. Goal 3

B. Disposition and Curation of Collections 4

C. Oregon State Archaeological Collections 6

D. Processing Material Remains 10

1. Cleaning 10

2. Labeling 10

3. Packaging 12

4. Selective Discarding 14

E. Conservation Standards 14

1. Definitions of Conservation Terms 15

2. Qualifications for a Professional Conservator 16

3. Collections Care Specialist 16

F. Archaeological Materials Which Require Consultation with a Conservator and Conservation Treatments 16

1. Wet Recovery of Material Remains 16

2. Artifacts Recovered from Dry Burial Environments 16

3. Human Remains 17

4. Other Types of Material Remains 17

G. Processing Associated Records 18

1. Required Records 18

2. Labeling 20

3. Packaging 20

⁵ These curation guidelines have been borrowed and slightly modified from Maryland SHPO's *Standards and Guidelines for Archaeological Investigations in Maryland* (Shaffer and Cole 1994).

Introduction

Archaeological collections -- artifacts and their associated documentation -- represent an extraordinary and valuable source of information about past human life and culture. In Oregon, archaeological evidence provides a significant source of information about prehistoric Native American cultures. Archaeological data recovered from sites occupied during the historic period usually contain important information not found in historical documents, and this evidence has greatly expanded our understanding of life in Oregon during the historic period. As new questions about the past and new techniques for analyzing material culture are developed, these collections are examined and reexamined for the potential insights they might yield. Materials from these collections are incorporated into educational programs such as museum exhibits, study collections, and teaching aids in the continuing effort to teach Oregonians about their rich and extensive history. Indeed, archaeological collections are as significant and valuable as the sites from which they come, and their preservation is a top priority of the Oregon SHPO.

Collection means material remains that are excavated or removed during a survey, excavation or other study of a prehistoric or historic resource, **and associated records** that are prepared or assembled in connection with the survey, excavation or other study. This document presents the standards and related discussion on the following items: the goal of the standards, disposition and curation of collections, processing material remains and associated records, and sources of technical information. For conservation services information, contact the Collections Manager at the Oregon State Museum of Anthropology (OSMA).

A. Goal

The goal of the following standards is to ensure that all archaeological collections generated by professional or avocational archaeologists in Maryland receive the same quality of processing, packaging, documentation, and curation, including stabilization of artifacts or conservation treatment if needed to preserve the artifact(s). Treatment of collections in accordance with these standards will help to provide long-term preservation of artifacts and records for present and future generations.

The terms *curation, conservation, and archival practices* are defined below. **Curation** means *managing and preserving a collection according to professional museum and archival practices.* Curators manage the protection and preservation of collections through the services of professionals in the fields of conservation and collections management.

Conservation means *the preservation of cultural property for the future.* Conservation activities include examination, documentation, treatment, and preventive care, supported by research and education. (*American Institute for Conservation Directory*, 1998, "AIC Definitions of Conservation Terminology," p. 22).

Archival practices are those, which promote the preservation of objects through the use of acid-free housing materials and labels and/or controlled environments. Housing materials may include acid-free boxes, papers, folders, and bags made from non-off-gassing products.

This document outlines overall procedures for the cleaning, labeling, cataloging, packaging, documenting, and curation of collections. The standards included in this document are not intended to substitute for more detailed laboratory methods and procedures. It is assumed that archaeologists will employ applicable current standards of professional knowledge in their curation of artifacts and records. The procedures and materials presented herein meet standards. Archaeological professionals are encouraged to manage and preserve collections according to curatorial and archival practices recommended in professional publications (see Bibliography) and by conservation and collections professionals for treatment and curation of archaeological materials and records.

The Oregon SHPO depends on Principal Investigators and Project Managers to serve as curators for the sites they are investigating and to set priorities for stabilization and conservation of artifacts based on their knowledge of the archaeological resource. OSMA's Collections Manager is available to assist Project Managers with collections decisions and will provide recommendations for curation materials and conservation treatments.

The disposition of a project's artifacts and records as a collection should be decided prior to initiation of fieldwork. **Prior to contract award**, project archaeologists should contact the selected repository for its curation requirements. Curation should be identified within the research design.

B. Disposition and Curation of Collections

To ensure the long-term preservation of archaeological materials and associated records, and to provide access to collections, a repository should be selected which meets standards for curation and makes collections available for study. Federal curation standards provide a definition of the term *repository* that is applicable in the U.S. **Repository** means a facility such as a museum, archaeological center, laboratory or storage facility managed by a university, college, museum, other educational or scientific institution, a federal, state or local government agency or Indian tribe that can provide professional, systematic and accountable curatorial services on a long-term basis (36 CFR§79).

A repository should have the capability to provide long-term curatorial services. Required factors include appropriate physical facilities, temperature and humidity controls, security, controlled access, fire protection and suppression, record maintenance and storage, routine inspection, and qualified staff. Collections generated by federal agencies and undertakings must be curated within an appropriate repository.

In addition to considering a repository's technical qualifications, the federal standards offer further guidance on how to select a suitable repository for a collection. In general, it is advisable to curate a collection in a repository which is located in the same state where the collection originated, and which maintains other collections from the same site, project area, or broader geographic region. Collections should not be subdivided and stored in multiple locations, unless such storage is warranted due to conservation, research, exhibit, or other legitimate purposes. Finally, material remains and their associated records should be curated at the same repository in order to sustain the collection's integrity and research value.

The following state and federal facilities in Oregon currently meet the minimum standards for curation repositories:

- **The Oregon State Museum of Anthropology (OSMA)**
- **Oregon State University Anthropology Department**
- **Tamástslikt Cultural Institute**

Situations may arise where a property owner requests to keep the material remains recovered from the owner's property. Under these circumstances, the archaeologist is requested to strongly encourage the owner to donate the collection to a suitable repository by explaining the reasons for appropriate curation and by providing information on incentives for such a donation (tax benefits, recognition in the community, ensuring accessibility for historical research for future generations). A repository may be willing to accept the entire collection and then loan selected items back to the property owner for display or study purposes if the owner satisfies requirements for loans outlined in the repository's collections policy. If a property owner insists on retaining possession of the artifacts recovered from private property, the items must be returned to the owner.

Prior to transferring material remains to property owners who will maintain ownership, the objects should be cataloged, processed, and packaged in accordance with professional standards. In addition, the objects should be thoroughly recorded, including photographing and drawing diagnostic artifacts and other objects critical to the interpretation of the archaeological resources. The Trust advocates the digital scanning of information to make it more accessible. The resulting documentation should be incorporated into any associated collection records, all of which should be deposited in a suitable repository along with a clear identification of the location of the transferred material remains in the owner's possession. Finally, it is recommended that the archaeologist provide the owner with written curatorial recommendations on how to store and handle the collection to avoid or minimize damage and deterioration of the items. The owner should also be supplied with a copy of information on incentives for future donation of the collection to an appropriate repository, and sources for additional technical assistance and advice.

C. Oregon State Archaeological Collections

Archaeological collections curated by the State of Oregon consist of specimens from all periods of American prehistory and history, ranging in date from the Paleo-Indian period of 10,000 to 12,000 years ago through the twentieth century. The artifacts were recovered from archaeological surveys and excavations by state archaeologists, consultants, avocational archaeologists, and private donors. The artifacts and the contexts in which they were found constitute a major part of the surviving record of prehistoric Indians in Oregon. In addition to the artifacts, the state collections contain the associated records (field notes, photographs, maps, etc.) related to the material remains.

D. Processing Material Remains

Archaeological investigations often produce material remains from the area under study. The federal regulations provide the following definition of material remains: *Material remains*

means artifacts, objects, specimens and other physical evidence that are excavated or removed in connection with efforts to locate, evaluate, document, study, preserve or recover a prehistoric or historic resource. Material remains may comprise a wide variety of items, including: architectural elements, artifacts of human manufacture, natural objects used by humans, waste or debris resulting from the manufacture or use of human-made or natural materials, organic materials, human remains, elements of shipwrecks, components of petroglyphs or art works, environmental or chronometric specimens, and paleontological specimens recovered in direct physical association with a prehistoric or historic resource. The nature and composition of the material remains will prescribe its specific handling and treatment. However, the general procedures listed below must be followed in the processing of material remains.

1. Cleaning

All artifacts must be cleaned. Professional standards should be followed so as to preserve information. (Exceptions to cleaning: Artifacts designated for special studies, such as blood residue analysis, can be curated in an unwashed state. These artifacts must be packaged separately from the rest of the collection. The packaging must be archival and stable. Containers with these special artifacts must be clearly marked, and any specific instructions must accompany the artifacts. The artifact inventory must note the artifacts' unwashed condition.)

2. Labeling

The value of a collection is in the maintenance of provenience for the cultural material. Good labeling techniques ensure that provenience information is retained. If an artifact becomes separated from its bag or is removed for study or exhibit purposes, the label ensures that the object's provenience is retained and that the object may be returned to its appropriate place in the collection. **a. All artifacts must be labeled with provenience information including, at minimum, the official state site number (or X number for isolated finds) and official state lot number.**

The OSMA Collections Manager (or other selected federally recognized curation facility) must be contacted to obtain the next available lot number for any previously recorded site. This requirement is essential, in order to ensure that lot numbers are not duplicated during subsequent work at the same archaeological site.

Archaeologists may add additional designations following the official site and lot numbers, if desired, to suit individual cataloging and analysis needs, e.g., full provenience system utilized. Please contact the Collections Manager for any questions or concerns regarding the lot numbers.

b. Artifacts are to be marked using a clear Acryloid B-72 undercoat before marking, and a topcoat of clear Acryloid B-72 applied to form a protective sandwich around ink. Permanent archival quality ink is to be used. If application of the topcoat smears the lettering by dissolving the base coat, try different ink or apply a coating of Arkon P-90 or Acryloid B-67 as a topcoat, since these resins use a different solvent type (mineral spirits or benzine). Care must be exercised when using mineral spirits or benzine as the fumes are hazardous to health and the solvent tends to creep across a surface. Dark artifacts can be prepared for marking with an undercoat using titanium dioxide in Acryloid B-72, or marked on an undercoat of clear Acryloid-B72 with

archival-quality contrasting waterproof ink. Materials such as gesso are not recommended, as recent studies show that it yellows and peels with time. Polymers such as bakelite, rubber, and plastics should not be labeled, but placed in well-labeled bags. Archaeologists must employ the best current standards of professional knowledge in labeling artifacts with ink, sealant, and white backing when needed. Consult the supply list in the appendix or contact the OSMA Collections Manager for a list of acceptable marking materials and procedures.

c. Artifacts too small to be marked, or impractical to mark for other reasons (such as fragility or unwashed condition), are to be placed in perforated polyethylene zip-lock bags (minimum thickness = 4 mil) or other acceptable packaging material (see item 3.a below). Provenience information on the label must include site and lot number, surface area, test pit or unit, and coordinates when available. Bags with small artifacts are then placed in a general provenience bag on which full provenience information, including level/layer, excavator(s), collector(s) and date of collection are to be applied. It must be written in permanent black marker on the bag's exterior, and must be duplicated with permanent, fade-proof ink (such as Pigma) on an archivally-stable tag (such as acid-free and lignin-free paper, Mylar, or tyvek) enclosed in the bag.

d. If individual classes of artifacts are present in bulk (e.g., over 200 pieces of window glass from one provenience), only 10% of the objects need to be individually labeled. These types of artifacts may include: shell, fire cracked rock, flakes, window glass, nails, brick, non-human bone, slag, mortar, and coal. All diagnostic artifacts, however, must be labeled, as feasible. If questions regarding artifact labeling arise, contact the Collections Manager of your selected curation facility.

e. All other classes of archaeological material (e.g., processed floral and soil samples) must be assigned a lot number and appropriately labeled with provenience information.

f. All collections must be accompanied by a catalog (see section F) which includes a key clearly translating the labeling system employed to record the provenience information. The catalog is very important for future use of the collection.

3. Packaging

a. Artifacts must be stored in perforated, permanently marked, polyethylene zip-lock plastic bags (minimum thickness = 4 mil), as feasible. Tiny or delicate objects must be stored in archivally-stable, acid-free materials with appropriate padding and protection (see item D.3.e below). Perforation of plastic bags or other airtight packaging is necessary to allow air exchange and avoid cargo sweat.

b. All plastic bags must be permanently labeled on the exterior and on an interior tag with appropriate provenience information. Provenience information must be written in permanent black marker on the bag's exterior, and must be duplicated with permanent archival ink on an archivally-stable tag (such as acid-free paper, Mylar, or tyvek) enclosed in the bag.

c. Artifacts must be grouped and bagged by provenience, and separated by material type within the provenience. Exceptions may be warranted for small lot sizes and for legitimate

research, conservation, and exhibit purposes. Stabilization of some materials such as metals may require microenvironments. However, the documentation accompanying the collection must provide an explanation and justification for the organization system employed.

d. All other classes of material remains (such as floral and faunal samples) must be placed in acceptable, sealed, perforated containers and permanently labeled with the provenience information (including site and lot numbers).

e. Archival-stable, acid-free packing materials must be used for packaging all objects. Fragile and delicate objects must be specially packaged to ensure proper protection during shipping and storage. Oregon SHPO recommends the use of small acid-free boxes padded with acid-free foam core or ethafoam blocks. For oversize items, contact the Collections Manager for appropriate packaging recommendations. The Collections Manager will consult with the state's conservators to provide guidelines for packaging and supporting fragile or oversized artifacts to create safe and archival-stable shipment and storage.

f. All artifacts must be placed in acid-free materials to provide adequate protection for shipping and for final storage at a repository. Artifacts should be packaged by sequential lot number whenever possible, to increase accessibility for researchers. Coroplast boxes are a standard for artifact boxes due to their durability, resistance to wetting, and the ability to create a limited controlled environment.

g. Specialized storage containers or packaging materials may be utilized, if warranted. However, use of alternative materials requires the prior written approval of the Collections Manager at the selected curation facility, due to shelf configuration and space requirements.

h. All artifact containers must have temporary labels to identify the containers' contents, provenience, and lot numbers. The repository will provide labels for storage.

i. Standard boxes or containers should weigh no more than 40 pounds when full.

4. Selective Discarding

Certain types of material **may** have questionable long-term research value and thus may not warrant permanent curation with the collection. These materials **may** include: brick, mortar, slag, coal, shell, and recent 20th/21st century debris (i.e., less than 50 years old). It may be more prudent to discard these items following analyses, rather than to permanently curate the materials with the collection. The collection's catalog must specify the types and quantities of discarded materials, along with a justification for the selected discard, **including means and location**, and a note **in the catalog** that the items were discarded. **The discard of bulk artifacts such as fire-cracked rock, window glass, shell, and other materials is a topic of ongoing national discussion. As curation storage space is filled and curation box fees rise, archaeologists and institutions curating archaeological artifacts are discussing the need for rigorous discard policies that minimize the loss of important archaeological information.**

E. Conservation Standards

Artifacts excavated from archaeological sites should be preserved. Preservation can be accomplished by preventive conservation techniques using controlled environments or by simple cleaning, desalination, drying, and coating. In some cases, full conservation treatments using chemical or mechanical cleaning, electrolytic reduction, and other special techniques are required. A conservator should provide an assessment to determine which artifacts need treatment and what type of treatment would be most effective in terms of preservation and cost. The significance of artifact(s) in terms of curatorial priority must be determined by the principal investigator. Artifacts that are low in curatorial priority or need minimal treatment are best treated with simple stabilization techniques to minimize deterioration, followed by placement in a preventive conservation program, which includes appropriate storage materials, mounts, and environmental conditions. When developing a scope of work, if the nature of the site suggests that artifact conservation will be necessary, a conservator should be consulted and arrangements should be made for consultation during the planning phase and for site visits during excavation. There is no generic prescription for stabilization and conservation of artifacts. Each artifact is individual not only in its significance, which is determined by the principal investigator, but in the degree and type of deterioration. A professional conservator must perform artifact condition evaluations. Through examination of the artifacts, condition and degree of degradation can be established.

The conservator will then be able to recommend the most cost-effective and safest methods for preserving information and artifacts. Recommendations for minimal preservation of the artifacts must include treatment to eliminate conditions causing deterioration. Having a conservator on call while in the field will provide quick response to a request for help, reduce the loss of information through rapid deterioration, and reduce the cost of stabilization and treatment of artifacts.

1. Definitions of conservation terms: These definitions are taken from the *American Institute for Conservation Directory*, 1998, "AIC Definitions of Conservation Terminology," p. 22.

Conservation Treatment means *the deliberate alteration of the chemical and/or physical aspects of cultural property, aimed primarily at prolonging its existence*. Treatment may include intervention by means of chemical or mechanical procedures to remove disfiguring coatings, corrosion products, or stains; to repair objects; and to apply materials to stabilize and protect surfaces of artifacts from handling and environmental changes during future study, interpretation and exhibit. All conservation treatments and information discovered in treatment activities are documented in a permanent archival format. Any treatment process intended to return cultural property to a known or assumed state, often through the addition of non-original material, is called **restoration**.

Stabilization means *treatment procedures intended to maintain the integrity of cultural property and to minimize deterioration*. Stabilization is preservation through minimal intervention to prolong the existence of the cultural property and prevent loss of informational content. Methods of stabilization include control of the environment in which the artifact(s) or collections are stored or exhibited, mounts, consolidation treatments, surface treatments, simple implementation of maintenance and handling procedures, and pest management.

Preventive Conservation means the mitigation of deterioration and damage to cultural property through the formulation and implementation of policies and procedures for the following: appropriate environmental conditions, handling and maintenance procedures for storage, exhibition, packing, transport, and use; integrated pest management; emergency preparedness and response; and reformatting/duplication.

2. Qualifications for a Professional Conservator

The American Institute for Conservation (AIC), a national association of professional conservators, has established ethical standards for its members. Conservators must have practical experience, a broad range of theoretical and scientific knowledge, and be committed to maintaining high standards and an ethical performance of duties. A copy of the “AIC Code of Ethics and Standards of Practice” is included in the appendix. A brochure guide, “How to Choose a Conservator,” may be obtained from the AIC. The Foundation of the AIC (FAIC) has a Conservation Services Referral System which provides, on request, a computer-generated list of conservators who have met peer review, practice conservation in the specialty of inquiry, and are located near the inquirer.

3. Collections Care Specialist means an individual who is trained and experienced in specific preventive care activities. **Preventive Conservation** is performed by Collections Care Specialists trained in collections care, which includes proper packaging, maintenance of environmental conditions suitable to preservation of the collections, handling of collections, and integrated pest management. They work closely with conservators to maintain the proper conditions for collections.

F. Archaeological Materials Which Require Consultation with a Conservator and Conservation Treatments

1. Wet Recovery of Material Remains: Material remains recovered from submerged sites or waterlogged contexts (such as a marshy area or soil levels beneath the water table) require special handling and treatment to ensure the stability and long-term preservation of the objects. Wet conditions often promote excellent preservation of certain materials, particularly organic remains (such as wood, leather, cloth, and botanical remains). However, once these materials are excavated and removed from their wet environment, rapid deterioration will occur unless the items are appropriately and promptly treated. Projects involving or anticipating the recovery of wet material remains must include provisions and funding for the appropriate treatment of those materials by a trained professional conservator. It is prudent to have a conservator on call to assist in the recovery of wet materials in the field due to the fragility and rapid deterioration of wet materials upon excavation from the burial environment.

2. Artifacts recovered from dry burial environments: Like wet material remains, certain other types of materials also require professional handling and treatment to ensure their long-term preservation. These artifacts have been subjected to wet/dry cycles and are never totally dry. Such items may include metal objects (buttons, buckles, hardware) or organic materials (bone implements, leather), which will deteriorate without proper stabilization and treatment. SHPO strongly recommends consultation with a professional conservator prior to excavation to determine budgetary needs and procedures for processing materials to best preserve and stabilize

the artifacts. Prior to beginning fieldwork, arrangements can be made for a professional conservator to be on call to assist with difficult removal and stabilization of fragile artifacts. SHPO strongly requests the conservation of significant unstable material remains *prior* to curation of the collection and before collections from State compliance projects are submitted to a repository. Items that particularly warrant conservation include those unstable objects recovered from a provenience that is critical to the site's interpretation, as well as exhibit-quality objects. Projects that anticipate the recovery of unstable material remains (such as well and privy excavations or intensive historic site investigations) must include provisions and funding for the appropriate treatment of those materials by a trained professional conservator.

OSMA may refuse to accept collections with unconserved or unstable material remains. To maintain a storage environment suitable for long-term preservation, it may be necessary for the repository to refuse storage space for unstable materials that have not been conserved. For additional guidance on the treatment of material remains, contact the State Museum's conservators.

3. Human Remains: In general, the Oregon SHPO does not encourage the excavation and long-term curation of human remains, unless those remains are imminently threatened by natural or human forces, or unless the remains have outstanding research potential. Procedures for the treatment of human remains and associated grave goods may vary, depending on the anticipated final disposition of the remains and the wishes of descendants or culturally affiliated groups.

Treatment procedures must be established *prior* to initiating any excavation of human remains or undertaking a project that anticipates their recovery. Any treatment decisions must conform with applicable federal and state legislation, regulations, and policies.

4. Other Types of Material Remains: Other types of material remains (specimens, flotation and soil samples, etc.) must be appropriately processed before curation. Projects proposing or anticipating the recovery of these types of material remains should include adequate provisions in the budget for appropriate processing and specialized analyses. If sufficient funding is not available for analyses, the materials should be appropriately processed and packaged to ensure their long-term preservation for future analyses. Only soil samples retained for back-up analyses should be curated without prior processing. If not processed, soil samples retained for back-up analyses should be fumigated and/or freeze-dried.

G. Processing Associated Records

Archaeological investigations also generate important associated records, in addition to the materials recovered. 36CFR§79 defines *associated records* as follows: *Associated records* means original records (or copies thereof) that are prepared, assembled, and document efforts to locate, evaluate, record, study, preserve, or recover a prehistoric or historic resource. These records may encompass a broad variety of materials including: field notes, maps, drawings, photographs, slides, negatives, films, video and audio tapes, oral histories, artifact inventories, computer disks and diskettes, manuscripts, reports, remote sensing data, public records, archival records, and administrative records relating to the archaeological investigations. The materials contain essential documentation of the

archaeological research and warrant appropriate treatment to ensure their long-term preservation for future researchers. Conservation records are also important documents in the history of the artifacts and contain information about artifact materials, use, and manufacture. These documents are important to the archaeological record and for long-term preservation of collections.

The scope of a given archaeological investigation will determine the kinds of associated records produced for a project. To ensure the most complete preservation for the future, your selected curation facility may request that in addition to the continued submittal of acid-free copies of reports and records, all digital files be submitted in a format which can be migrated according to the best practices currently available. Please consult with the facility's Collections Manager concerning compatible formats for migration of data. The nature and composition of the resulting records will prescribe their specific handling and treatment. However, the following general procedures must be followed in the processing of associated records:

1. Required Records

a. Two archivally-stable copies of all original project records, field and laboratory, should be prepared and submitted for curation with the collection. The original on acid-free paper and one copy on acid-free paper by a heat fusion process (laser and Xerox dry process) are acceptable; any originals that are not archivally-stable must be submitted with two copies on acid-free paper or one acid-free copy with a digital copy. Original records submitted should be legible, unbound, and unpunched. Copies should be double-sided (if feasible), and on 8½" by 11" paper. Digital copies of documents should be in a format that will facilitate migration of data according to best current practices.

b. All associated photographic documentation must be submitted for curation with the collection. Transparency slides, negatives, and contact sheets based on chemical processing are the preferred forms of photographic documentation; however, digital images will be accepted. If submitting digital images, uncompressed TIFF (Tagged Image File Format) files submitted on CDR (not CD-RW) disks are preferred. The CD-R insert must be marked with the date, the name of the project or grant producing the images, the firm or individual submitting the disk, and the name(s) of the photographers(s). An inventory sheet with the same information and also listing the file names, or a print-out equivalent to a contact sheet with a thumbnail of each image, must accompany the disk, preferably in the case insert. Translucent polypropylene cases are recommended for storage of CDs. Label inserts should be on acid-free paper. Do not mark on the CD as the inks may damage the disk.

c. All conservation records, including treatment records, stabilization and assessment records, photographs, and materials analysis data must be submitted for curation with the collection. Conservation records must meet the requirements of section 1.a. above. These records will be kept in the permanent conservation files for artifacts.

d. An inventory of all associated records and a catalog of photographic materials, along with an explanation of labels, must accompany all collections (see section H below).

e. A digital copy of the computerized artifact catalog should be submitted with the hard copy records, if available. Consult the Collections Manager to determine suggested media and format.

Digital information submitted on CD-R (not CD-RW) disks is preferred. Label inserts should be on acid-free paper. Do not mark on the CD as inks may damage the disk. The CD-R insert must be marked with the date, the name of the project or grant producing the data, and the firm or individual submitting the disk. An inventory sheet with the same information and also listing the file names must accompany the disk.

2. Labeling

a. All project records and packaging must contain permanent labels.

Labels must identify, at a minimum, the project name, site number, and date of preparation. Labels should be written directly on the records or sleeves, as appropriate.

b. All photographic documentation must be clearly labeled. Labels must contain, at a minimum, the site number, date the photograph was taken, a description of the subject of the photograph (feature/square, layer/level), and the direction of view, as appropriate.

3. Packaging

a. All records must be packaged using archivally-stable, acid-free materials. Containers must be permanently labeled.

b. All photographic documentation must be stored in archivally-stable, acid-free containers. Contact the curation facility *prior* to packaging for a list of approved materials. Containers must be permanently labeled.

H. Cataloging Material Remains and Records

All collections, including the material remains and associated records, must be inventoried. An itemized descriptive catalog must also accompany each collection. The catalog must provide a detailed description of the items, identifying and classifying the archaeological materials and records according to best current professional standards. The catalog maintains an essential record of the objects represented. Should an item ever become lost, stolen, or deteriorate beyond recognition, the catalog may be the only surviving record of that item. Catalogs are a means of obtaining information about a collection or specific items within the collection without handling the actual objects themselves. A detailed catalog will help minimize the need for subsequent handling of the objects. In addition to item-specific descriptions and provenience, the catalog should specify the collector or donor's name, project name, site Smithsonian and lot numbers, and date of collection.

Catalogs are frequently prepared and maintained in a computer database. The Trust requires that a digital copy of any computer database be submitted with the collection for permanent curation. Two archivally-stable paper (acid-free) copies of the catalog must *always* accompany the collection. Consult the Collections Manager to determine suggested media and format.

APPENDIX E

**EXAMPLES OF MEMORANDUM OF AGREEMENTS & PROGRAMMATIC
AGREEMENTS**

Examples have been borrowed and modified from the Florida SHPO Guidelines for Use By
Historic Professionals

EXHIBIT A: THREE PARTY MEMORANDUM OF AGREEMENT

MEMORANDUM OF AGREEMENT
AMONG THE U.S. BUREAU OF BURRO MANAGEMENT,
THE WASHAFORNIA STATE HISTORIC PRESERVATION OFFICE
AND THE
ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FIELDSTONE FODDER IMPROVEMENT PROJECT

WHEREAS the U.S. Bureau of Burro Management (Bureau) proposes to undertake the South Fieldstone Fodder Improvement Project (the Project), described as the preferred alternative on pages 12-17 of the draft Environmental Assessment titled "Draft Environmental Assessment: South Fieldstone Fodder Improvement Project" and dated December 4, 2003 (Draft EA); and

Identifies undertaking subject to review.

WHEREAS the Bureau has established the Project's area of potential effects (APE), as defined at 36 CFR 15 800.16(d), to be the watershed of South Fieldstone Creek as shown in Figure 2B of the Draft EA; and

Identifies APE.

WHEREAS the Bureau has determined that the Project may have adverse effects on archaeological site WFSF342 as described in the Washafornia State Historic Properties Inventory, on Big Rock Ridge, a place of cultural importance to the Motomak Tribe, and possibly to unidentified subsurface archaeological resources; and

Identifies properties known to be subject to adverse effect, with allowance for undiscovered properties.

WHEREAS the Bureau has consulted with the Washafornia State Historic Preservation Office (SHPO), the Motomak Tribe, Burros, Incorporated, the Eastern Washafornia Society, and the Advisory Council on Historic Preservation (Council) in accordance with Section 106 of the National Historic Preservation Act, 16 U.S.C. § (NHPA), and its implementing regulations (36 CFR Part 800.6(b)(2)) to resolve the adverse effects of the Project on historic properties; and

Identifies all consulting parties.

WHEREAS pursuant to 36 CFR 800.6(c)(2) the Bureau has invited the Motomak Tribe and Burros, Incorporated to sign this Memorandum of Agreement (MOA); and

Identifies invited signatory.

WHEREAS pursuant to 36 CFR 800.6(c)(3) the Bureau has invited the Eastern Washafornia Society to concur in this MOA; and

Identifies invited concurring party.

WHEREAS the Bureau intends to use the provisions of this MOA to address applicable requirements of Sections 110(a)(1) and 110(b) of NHPA; and

Use only where MOA actually will be used to address such requirements. Adapt as needed regarding other NHPA requirements or the requirements of other cultural resource laws, but document how each other law is satisfied separately from the MOA, to avoid implying that the ACHP or SHPO are involving themselves in matters beyond their authorities under Section 106.

WHEREAS the Bureau has coordinated preparation of this MOA with development of its Plan of Action under the Native American Graves Protection and Repatriation Act (NAGPRA) in accordance with 43 CFR 10;

Use only where NAGPRA applies, and where coordination has occurred (as it should). Make sure the Plan of Action (POA) is a separate document developed by the agency and tribe(s), but that it is consistent with the terms of the MOA and vice-versa.

NOW, THEREFORE, the Bureau, the SHPO, and the Council agree that upon the Bureau's decision to proceed with the Project, the Bureau shall ensure that the following stipulations are implemented in order to take into account the effects of the Project on historic properties, and that these stipulations shall govern the Project and all of its parts until this MOA expires or is terminated.

Note that this clause is conditioned upon the agency's decision to proceed with whatever it is considering vis-à-vis the undertaking (constructing it, implementing it, permitting it, assisting it, etc.). This is to make it clear that the consulting parties are not pre-empting the agency's final decision on the project under other pertinent authorities, including the National Environmental Policy Act (NEPA). Note that it also includes the language of NHPA Section 110(l), specifying the "governing" (contractual) authority of the MOA.

Stipulations

The Bureau shall ensure that the following stipulations are implemented:

(Insert stipulations. Always include a "sunset" stipulation)

Execution of this MOA by the Bureau, the SHPO, and the Council, and implementation of its terms, evidence that the Bureau has afforded the Council an opportunity to comment on the Project and its effects on historic properties, and that the Bureau has taken into account the effects of the Project on historic properties.

This ultimate clause is the assertion of the signatories that the agency has -- assuming it carries out the terms of the MOA -- complied with the two requirements of Section 106: to take into account the effects of the undertaking on historic properties, and to afford the Council a reasonable opportunity to comment.

BUREAU OF BURRO MANAGEMENT

By: _____ Date: _____

WASHAFORNIA STATE HISTORIC PRESERVATION OFFICE

By: _____ Date: _____

MOTOMAK TRIBE

By: _____ Date: _____

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: _____ Date: _____

CONCUR:

EASTERN WASHAFORNIA SOCIETY

By: _____ Date: _____

EXHIBIT B: TWO PARTY MEMORANDUM OF AGREEMENT

MEMORANDUM OF AGREEMENT
BETWEEN THE U.S. GOVERNMENT SERVICES BUREAU
AND THE MOTOMAK TRIBAL HISTORIC PRESERVATION OFFICE
REGARDING
THE BIG BROWN BANK REHABILITATION AND REUSE PROJECT

WHEREAS the U.S. Government Services Bureau (GSB) proposes to rehabilitate the Big Brown Bank Building at 75-25 East Peltier Street, Town of Motomak, in accordance with the documents entitled "Conceptual Plans for Big Brown Bank Rehabilitation" dated October 7, 2003 (the Undertaking); and

Identifies undertaking subject to review. For purposes of the example, assume that the Town of Motomak is within the boundaries of the Motomak Reservation, and the Motomak THPO has assumed the SHPO's responsibilities under 36 CFR 800.

WHEREAS GSB has established the Undertaking's area of potential effects (APE), as defined at 36 CFR 15 800.16(d), to be the Big Brown Bank Building itself, together with the streetscapes on Peltier, Banks, and Means Streets and the buildings facing the Big Brown Bank Building across all three of the above-named streets; and

Identifies APE.

WHEREAS GSB has determined that the Undertaking may have adverse effects on the Big Brown Bank Building and on the Deloria District as described in the report entitled "Historic Properties Survey, Big Brown Bank Rehabilitation Project", prepared by Architrave Associates and dated December 4, 2003, which GSB and the Motomak Tribal Historic Preservation Officer (THPO) have agreed meets the criteria for inclusion in the National Register of Historic Places, and possibly on archaeological resources lying beneath the Big Brown Bank Building and the surrounding streets; and

Identifies properties known to be subject to adverse effect, with allowance for undiscovered properties.

WHEREAS GSB has consulted with the Motomak THPO, the Town of Motomak, and the Washafornia Chapter of the American Institute of Architects (AIA) in accordance with Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470 (NHPA), and its implementing regulations (36 CFR Part 800.6(b)(1)) to resolve the adverse effects of the Project on historic properties; and

Identifies all consulting parties.

WHEREAS pursuant to 36 CFR 800.6(c)(2) GSB has invited the Town of Motomak to sign this Memorandum of Agreement (MOA); and

Identifies invited signatory.

WHEREAS pursuant to 36 CFR 800.6(c)(3) GSB has invited the AIA to concur in this MOA;
and

Identifies invited concurring party.

WHEREAS GSB intends to use the provisions of this MOA to address applicable requirements of Sections 110(b) and 111 of NHPA; and

Use only where MOA actually will be used to address such requirements. Adapt as needed regarding other NHPA requirements or the requirements of other cultural resource laws, but document how each other law is satisfied separately from the MOA, to avoid implying that the ACHP or THPO are involving themselves in matters beyond their authorities under Section 106.

WHEREAS GSB has coordinated preparation of this MOA with development of its Plan of Action under the Native American Graves Protection and Repatriation Act (NAGPRA) in accordance with 43 CFR 10;

Use only where NAGPRA applies, and where coordination has occurred (as it should). Make sure the Plan of Action (POA) is a separate document developed by the agency and tribe(s), but that it is consistent with the terms of the MOA and vice-versa.

NOW, THEREFORE, GSB and the THPO agree that upon GSB's decision to proceed with the Undertaking, GSB shall ensure that the following stipulations are implemented in order to take into account the effects of the Project on historic properties, and that these stipulations shall govern the Project and all of its parts until this MOA expires or is terminated.

Note that this clause is conditioned upon the agency's decision to proceed with whatever it is considering vis-à-vis the undertaking (constructing it, implementing it, permitting it, assisting it, etc.). This is to make it clear that the consulting parties are not pre-empting the agency's final decision on the project under other pertinent authorities, including the National Environmental Policy Act (NEPA). Note that it also includes the language of NHPA Section 110(l), specifying the "governing" (contractual) authority of the MOA.

Stipulations

GSB shall ensure that the following stipulations are implemented:

(Insert stipulations. Always include a "sunset" stipulation)

Execution of this MOA by GSB and the THPO, and its submission to the Advisory Council on Historic Preservation (Council) in accordance with 36 CFR 800.6(b)(1)(iv), shall, pursuant to 36 CFR 800.6(c), be considered to be an agreement with the Council for the purposes of Section 110(l) of NHPA. Execution and submission of this MOA, and implementation of its terms evidence that GSB has afforded the Council an opportunity to comment on the Project and its

effects on historic properties, and that GSB has taken into account the effects of the Project on historic properties.

Note that this ultimate clause is a little different from the one used where the Council participates in consultation, reflecting the language of the regulations with regard to this kind of MOA.

GOVERNMENT SERVICES BUREAU

By: _____ Date: _____

MOTOMAK TRIBAL HISTORIC PRESERVATION OFFICER

By: _____ Date: _____

TOWN OF MOTOMAK

By: _____ Date: _____

CONCUR:

WASHAFORNIA CHAPTER, AMERICAN INSTITUTE OF ARCHITECTS

By: _____ Date: _____

EXHIBIT C: PROGRAMMATIC AGREEMENT

PROGRAMMATIC AGREEMENT

AMONG

THE [NAME OF AGENCY],

THE ADVISORY COUNCIL ON HISTORIC PRESERVATION,

[AND] THE [designate SHPO, SHPOs, THPOs; National Conference of SHPOs; National Conference of THPOs; other parties] REGARDING IMPLEMENTATION OF THE [identify program, etc.]

WHEREAS, the [name of agency] proposes to administer the [name of program or project] authorized by [cite statutory authority]; and

WHEREAS, the [name of agency] has determined that the [program/project] may have an effect upon properties included in or eligible for inclusion in the National Register of Historic Places and has consulted with the Advisory Council on Historic Preservation (Council) and the [Oregon State Historic Preservation Officer (SHPO)/National Conference of State Historic Preservation Officers (NCSHPO)/others] pursuant to Section 800.14 of the regulations (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act; (16 U.S.C. 470f), [and Section 110(f) of the same Act (16 U.S.C. 470h-2(f)]; and

WHEREAS, [names of other consulting party/parties, if any] participated in the consultation and [has/have] been invited to [execute/concur in] this Programmatic Agreement; and

WHEREAS, the definitions given in Appendix ___ are applicable throughout this Programmatic Agreement;

NOW, THEREFORE, [name of agency], the Council, and the [SHPO/NCSHPO/other] agree that the [program/project] shall be administered in accordance with the following stipulations to satisfy [name of agency]'s Section 106 responsibility for all individual [undertakings of the program/aspects of the program].

Stipulations

[Name of agency] will ensure that the following measures are carried out:

[Insert stipulations here.]

() The Council and the [SHPO/NCSHPO/other] may monitor activities carried out pursuant to this Programmatic Agreement, and the Council will review such activities if so requested .The [name of agency] will cooperate with the Council and the [SHPO/NCSHPO/other] in carrying out their monitoring and review responsibilities.

() Any party to this Programmatic Agreement may request that it be amended, whereupon the parties will consult in accordance with 36 CFR 800.13 to consider such amendment.

() *Any party to this Programmatic Agreement may terminate it by providing thirty (30) days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the [name of agency] will comply with 36 CFR 800.4 through 800.6 with regard to individual undertakings covered by this Programmatic Agreement.*

() *In the event the [name of agency] does not carry out the terms of this Programmatic Agreement, the [name of agency] will comply with 36 CFR 800.4 through 800.6 with regard to individual undertakings covered by this Programmatic Agreement.*

Execution and implementation of this Programmatic Agreement evidences that [name of agency] has satisfied its Section 106 responsibilities for all individual undertakings of the program.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: _____ **Date:** _____
(Name and title of signer)

[NAME OF AGENCY]

By: _____ **Date:** _____
(Name and title of signer)

OREGON STATE HISTORIC PRESERVATION OFFICER

By: _____ **Date:** _____
(Name and title of signer)

[OTHER SIGNATORIES, IF ANY]