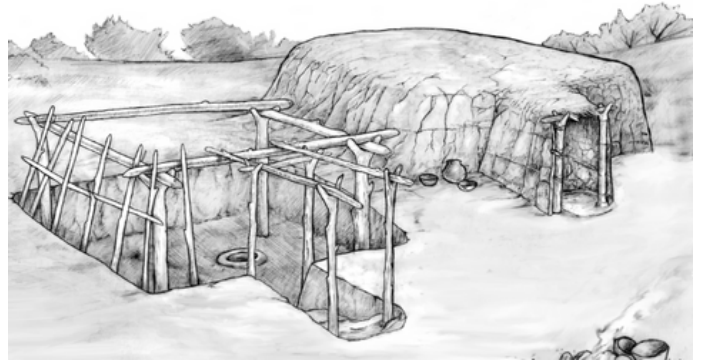


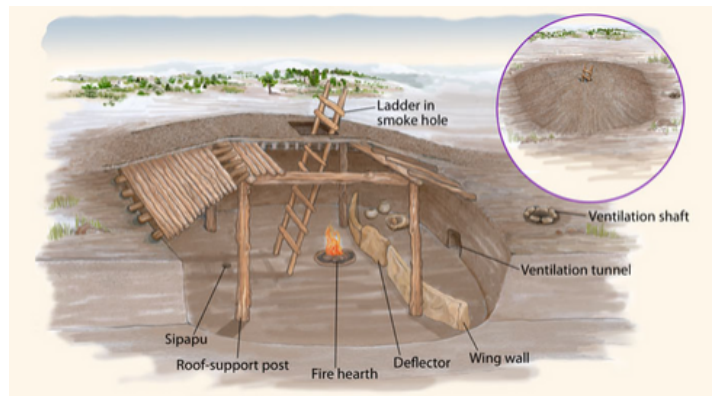
Examples of Southwest Native American Houses

This is a picture of a pit house. Pit houses were some of the earliest houses built by Native Americans in the Southwest. A pit house is a house that is partially dug into the Earth. First, a hole was dug into the ground. The hole could be a circle, square or rectangle in shape. Then, a wood frame is built. Even though there are not a lot of trees in the Southwest, Native Americans could find mesquite wood to build the frame. The frame was held together with cords that were made of animal tendons. Tendons are strong cords of tissue found in animals and people. Next, bundles of sticks and grass were used to cover the outside of the house. Finally, the entire outside was covered with a layer of mud.



<https://desert.com/pithouse-architecture/>

This picture shows what the inside of a pit house might look like. The pit house kept people cool in the summer and warm during colder weather. There was a place to build a fire and a hole in the roof to let the fire's smoke out. There was also a shelf area was used to place household jars and other objects on. A wooden ladder allowed a person to climb out of the house. If no one was living in a pit house, the space could be used to store food.



https://www.crowcanyon.org/EducationProducts/pueblo_history_kids/pueblo_1_houses.asp

This is a photograph of chunks of adobe found by archaeologists. Adobe is a kind of mud mixed with other materials such as plants, sand, clay, grass, and straw. You can see outlines of grass and plants in the adobe chunks in the picture. All of these ingredients are mixed with water. The adobe mixture was then poured into rectangular molds. A mold is an empty contained that can shape a mixture. The molds were set out in the sun to bake. Once the pieces dried, the hardened pieces of adobe were used as bricks used for building.



https://www.crowcanyon.org/EducationProducts/pueblo_history_kids/pueblo_1_houses.asp

Examples of Southwest Native American Houses

This is a photograph of a Zuni Indian pueblo settlement. The Zuni Indians are part of a larger group known as the Pueblo Indians. The word “pueblo” is a Spanish word that means settlement or town. The buildings found in these settlements were made of stone, adobe, and wood. The houses have flat roofs and can be one or more stories tall. The pueblos were built of stone blocks. Then adobe mud was applied over the stone to seal the cracks. This kept cold air out. The earliest pueblos had no doorways. Instead, people moved from room to room using ladders and holes in the pueblo ceilings. This method helped protect people from robbers or intruders because the ladders could be pulled up so no one could get onto a roof or into a room. Some pueblos were very large. Hundreds of people could live in a pueblo settlement.



<https://www.britannica.com/technology/pueblo-architecture>

This is a drawing of what the inside of a Pueblo house looked like. The floors were made of stone. Wood columns were used to support the ceilings, which were also made of wood. Because wood was not easily found, people would travel great distances to find strong trees and bring them back to be used in building. The pueblo also had places where fire pits were dug and where windows were cut out. Today, there are many pueblo ruins found throughout Arizona.



https://dcc.newberry.org/items/interior_of_an_estufa_new_mexico

This is a photograph of a Navajo Indian house called a hogan. The first hogans were dome-shaped. This means they had a rounded roof. They were built out of logs or stone and then covered with mud and dirt to seal up any openings. The entrance almost always faced the east. This was so people could greet the sunrise every morning. There was no doorway. A blanket would cover the door opening.



<https://www.britannica.com/topic/hogan>

Examples of Southwest Native American Houses

This is a photograph of the inside of a hogan. Hogans consisted of one large room. The walls were made of heavy wood logs and the ceiling was made of wood planks. The floor was dirt. Many hogans had horizontal poles that would allow people to hang blankets, bedding or clothing. Other items might be stacked in a corner. There would also be a fire pit which provided heat for warmth and cooking.



https://upload.wikimedia.org/wikipedia/commons/4/48/Interior_of_a_Navajo_hogan%2C_ca.1901_%28CHS-3208%29.jpg

This is a photograph of an Apache house known as a wikiup. The Apache moved from place to place, so they needed homes that could be built quickly. The wikiup was shaped like a dome. This means that the house had a rounded top. The wikiups had no doors or windows. There was only one entrance that allowed people to go in and out. The inside was one room. Wikiups could be built in any size. They could hold one person or a whole family. Apache women built the wikiups and were responsible for taking care of it.



https://en.wikipedia.org/wiki/File:Apache_Wickiup,_Edward_Curtis,_1903.jpg

This is a photograph showing a frame of a wikiup. Poles made of wood were hammered into the ground. The poles were held together with strong plant fibers such as yucca. Then, the entire structure was covered with grasses. Many people used bear grass, which grows in Arizona. The grass was also tied down with yucca fibers. Wikiups were easy to build and could be taken down quickly too. Since there was not much wood available, people who lived in wikiups would take the wooden poles with them when they moved. This allowed them to use the same wood again. In cold weather, wikiups were covered with animal hides to keep people warm.



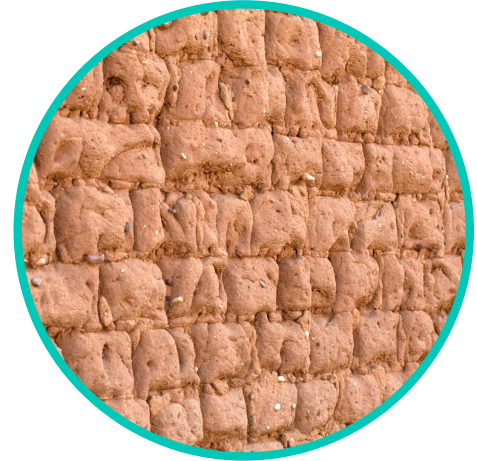
https://upload.wikimedia.org/wikipedia/commons/e/e3/Ribs_of_Apache_wickiup.jpg

Being an Architectural Historian

Architectural historians are experts on the following topics related to the architecture of Native Americans living in the Arizona and the Southwest.

Original materials that were used to build the structures:

- Architectural historians know that these buildings were built using materials that were available in the environment of Arizona. This means that adobe and stone were used as well as native grasses and some wood.
- The adobe was used both as bricks that were baked in the sun, and as a covering over stone walls.



What original design looked like:

- Architectural historians can determine the original design of these different buildings by looking at historical sources about the architecture of Native Americans living in the Southwest. These sources include historic paintings, sketches, photographs, architectural diagrams and archaeological writings that help show what these structures looked like.
- Architectural historians also can closely examine each of these buildings and determine what parts of each building needs to be rebuilt or can be repaired. Architectural historians also look at the environment to determine any possible future problems that might occur.



Original purpose of these structures:

- To provide shelter for different Native American groups. In some cases, the homes needed to be portable such as the wikiup. Other structures such as the pueblo were built for long-term settlement.
- To provide protection. For example, the pueblos could only be entered by ladders. All the other structures have one opening.
- To provide community. In the case of the pueblo and even the pit houses, the structures were located close together to allow a community to grow and interact.



Steps to Evaluate Proposals

Step 1: Understand How to Evaluate Proposals

Architectural historians have to carefully read through proposals to look for information that might seem problematic. While reading through your proposal, pay attention to the following things:

- Knowing HOW each house's current condition will be evaluated. How will the team collect its information? Will they be taking pictures and measurements? It is important that evaluators pick a method that will ensure the most accurate data is collected on the wall's current condition.
- Knowing what materials will be used. Are these materials similar to the ones that were originally used?
- Knowing that the team will repair each historic house in a way that is historically accurate, meaning it looks the same as when each house was built. Does their design change what the wall looked like?

Step 2: Read Proposal and Discuss Potential Problems

Read through the proposal you are given. Then, look through the sources you were given. These sources provide information about different types of houses used by Native Americans in Arizona. You should use the sources to determine whether the proposal will accurately repair the wall in a safe way. As your group is reading the proposal, highlight or circle sentences that seem problematic. For example, you should circle a sentence that says the evaluator has never evaluated a historical site before. This would be problematic because the evaluator wouldn't have the experience needed to restore a historic building.

Steps to Evaluate Proposals

Step 3: Fill Out Rubric

Fill out the rubric below. You will rank each topic on a scale of 1-5. 5 is the highest score you can give. When you finish filling out the rubric, calculate the total score. Then, write comments about whether you think this proposal should be used to restore the historic home.

	1	2	3	4	5
Choice of Materials	Choice of materials will completely change the look of the home and will not preserve necessary historical details.	Choice of materials is mostly, but not completely inaccurate.	Choice of materials is roughly half historically accurate and half not historically accurate.	Choice of materials is not 100% historically accurate, but changes were necessary for safety or other reason.	Choice of materials is 100% historically accurate and appropriate.
Plan to Evaluate Current Condition	Plan will not allow evaluators to accurately assess the home's condition.	Plan will allow some details to be collected about the home, but many questions will remain.	Plan will provide many details about the condition of the home, but some questions will remain.	Plan will allow evaluators to create a detailed assessment, but at least one question will remain.	Plan will allow evaluators to create a detailed and accurate assessment of the home that leaves no questions.
Plan to Restore the home in a Historically Accurate Way	The home's repairs will be made in a way that completely ignores historical accuracy.	The home will be repaired with very few accurate materials/structures, but is mostly inaccurate.	The home will be repaired with an attempt to keep it historically accurate, but includes many differences from the original construction	The home will be repaired mostly accurately with almost no difference from original construction.	The home will be repaired completely accurately with no difference from original construction.
Safety of Repair Crew Considered	Repairs are very dangerous and could result in harm to the crew.	Very few safety concerns have been addressed. Most of the project will be risky.	About half of the repairs are safe for the crew, while the other half of the repairs are dangerous.	Repairs are mostly safe with one or two risky steps.	Repairs will be made while considering the safety of all crew and has a plan to avoid or address all risks.

Score (out of 20):

Comments:

Group Assignments

On the following pages, you will see documents for group assignments. There are four group assignments total. If you have more than four groups, you can give multiple groups the same assignment.

Group Assignment #1: Pit House

Proposal to Evaluate

Restoration Focus:

- The entire structure needs work due to fire damage. Some of the pit-house frame is undamaged, while the walls will need complete restoration.

Plan to Assess Current Damage:

- We are going to send 2 evaluators to look at the guard towers and take notes. We will send the evaluators there for 8 hours total.
- The evaluators will type up their notes and email them to our team to provide their recommendations about what needs to be restored.
- We have not chosen which evaluators we are going to use. However, we don't want to pay them too much, as the repairs will already be expensive.

Plan For Restoration:

- Our plan is to first determine whether the frame can be reused or if it needs to be completely replaced.
- After we determine where the frame needs to be replaced we will rebuild using steel pipe because that will be stronger.
- To recover the walls we will use chickenwire and stucco instead of sticks, grass and mud. This will last longer.
- Students from the local technical college will do the work.
- Materials we plan to use: metal pipes, chickenwire, and stucco.

Group Assignment #2: Part of a Pueblo Village

Proposal to Evaluate

Restoration Focus:

- Rebuilding a section of the wall that has been neglected and is falling down. This is one part of the pueblo dwelling that has been damaged for some time and really needs repair.

Plan to Assess Current Damage:

- We are going to send an architectural historian and an archaeologist to look at this section of the wall. They will take notes and also video the damage for further study. The two will spend two days visiting the site and looking at the rest of the pueblo for research. They will also talk with local Pueblo Indians to get more background about the buildings. They will also determine if it is safe for a repair crew to be sent as this wall is located on one of the higher points of the pueblo.
- The architectural historian and the archaeologist will type up their notes and email them to our team to provide their recommendations on if it is safe to rebuild this section of the wall. They will also send video footage of the area that is in need of repair.
- The two doing the evaluation come highly recommended. The architectural historian is a specialist in Native American architecture of the Southwest and the archaeologist has worked on several Native American sites throughout the Southwest.

Plan For Restoration:

- We will focus on repairing the wall using as much of the original building material as possible. For areas that need complete replacement, traditional materials and construction will be used.
- Because of the height of the needed work, it can be very dangerous to repair. The repair crew will consist of Pueblo Indian artisans who specialize in repairing and restoring this type of architecture and who are familiar with the restoration process of historic pueblos.
- Materials we plan to use: stone, adobe, wood as needed.

Group Assignment #3: Apache Wikiup

Proposal to Evaluate

Restoration Focus:

- Heavy rains destroyed most of the wikiup. We need to build a new frame and replace portions of the wikiup covering.

Plan to Assess Current Damage:

- We are going to send a historian and an architect to look at the wikiup and take some photographs. They will probably spend about an hour there and then will go to the university library to find out more information. The historian will also meet up with the tribal council of the local Apache reservation to learn more.
- The historian and architect will type up their notes and email them to our team to provide their recommendations on what needs to be done in the way of repairs for the wikiup.
- The architect is known for her environmentally-friendly buildings and the historian is a recent graduate of the state university, who studied Arizona history.

Plan For Restoration:

- Even though there are some original parts of the wikiup, we are proposing to build an entirely new building using bendable wire that can be painted to look like natural wood. For the covering, we are going to use dried grasses that will be glued to the frame to make sure that it stays. The entire structure will then be spray painted to make it look more natural in its environment and to waterproof the structure. We think it is important to add this to protect the wikiup the next time heavy rains come.
- We will use some local construction crews that the architect has worked with in the past.
- Materials we plan to use: wire, dried grasses, spray paint and waterproofing materials.

Group Assignment #4: Navajo Hogan

Proposal to Evaluate

Restoration Focus:

- Rebuilding an entire wall that has collapsed due to age and to also repair a portion of the roof that has also collapsed. In order to support the entire hogan, the collapsed wall will need to be almost entirely rebuilt, before we can even think of repairing the roof.

Plan to Assess Current Damage:

- We are going to send a team of architectural graduate students to study and take notes. This team will spend three days to take measurements, photographs and any other research that is needed. The team will also determine if it is safe to repair the wall so that it can support the roof.
- The evaluators will try to determine the current strength of the wall and email what they find to our team to provide their recommendations on if it is safe to work on this section of the wall while it is supporting the fort.
- The students have just finished a project where they assisted a team of architectural historians and archaeologists with a Spanish mission architectural restoration.

Plan For Restoration:

- The new wall and roof will be rebuilt using natural materials that are as close to the original as possible. We would like to strengthen the wall with the help of a metal support so that the wall will not cave in. The roof will be repaired using the same kind of materials as a Navajo Indian would have used to build a hogan.
- We will use carpenters that are trained in the use of historic materials and who have worked on other historic buildings. This will be their first time working on a Native American building.
- Materials we plan to use include metal poles, wood beams, dirt, dried grasses and mud.

Teacher Key

Below are suggested ratings for each proposal. Students may have valid reasons for choosing other values, so this is meant to be a guide, not a list of correct answers.

Group 1:

- Two archaeologists are not as qualified as some other professionals would be to study the structure.
- One hour is not enough time to spend assessing what needs to be done for the pit-house.
- The materials suggested for the restoration are not historic.
- Low paid workers does not suggest that the work done will be correctly.
- Other than the hard hats there is no other safety procedures outlined.
- Suggested ratings: Materials: 1 Evaluation: 2 Restoration Plan: 2 Safety: 1

Group 2:

- Evaluators are highly recommended.
- Evaluation plan appears to cover all possibilities.
- Evaluators talking with Pueblo Indians is a great idea.
- The use of Pueblo Indian artisans who are skilled is very good.
- Materials to be used are historically accurate.
- Suggested ratings: Materials: 5 Evaluation: 5 Restoration Plan: 4 Safety: 4

Group 3:

- Evaluators are do not sound especially qualified for this project.
- The evaluation time is not very long, though meeting with the tribal council could be helpful.
- The plans for building an entirely new structure are not historically accurate.
- The materials to be used are not historically accurate for this structure.
- Local construction crews are not always qualified to do this kind of work.
- No safety concerns or measures are outlined.
- Suggested ratings: Materials: 1 Evaluation: 2 Restoration Plan: 1 Safety: 1

Group 4:

- Evaluation plan will allow for a detailed report.
- Evaluators are not as highly qualified and it is unknown if they are familiar with Native American architecture.
- Building crew sounds like they are familiar with historic architecture but not with Native American buildings.
- There are some modern materials being used, along with historically accurate ones.
- There are no safety concerns or a safety plan outlined.
- Suggested ratings: Materials: 3 Evaluation: 3 Restoration Plan: 3 Safety: 1