Schematic Design Report
Warm Springs K-8 School

A joint effort with the Confederated Tribes of Warm Springs, Jefferson County School District & USDA
Table of Contents

Participants 1
Introduction 2
History & Process 3 - 17
Site Narrative 18 - 19
Building Narrative 20
Program 21 - 23
Consultant Narratives 24 - 38
Site Plan Drawings 39
Floor Plan Drawings 40
Conceptual Design Images 41
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Acoustic Engineer
Altermatt Associates, Inc.:
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Graham Roy
Introduction
The following Schematic Design Report is a culmination of the process and work completed to the end of this first phase of the design process, known as Schematic Design. Schematic Design establishes the general scope, conceptual design, scale and relationships among the components of the project. The primary objective is to arrive at a clearly defined, feasible concept while exploring the most promising alternative design solutions. The Architect will prepare a series of rough plans, known as schematics, which show the general arrangement of rooms and of the building on the site. Models and/or illustrations are prepared to help visualize the project as necessary. Preliminary costs are estimated based on overall project volume and preliminary site design. The project proceeds to the next phase (Design Development) when the Owner approves this Schematic Design.
History & Process

History

The District
Jefferson County School District 509-J serves the communities of Madras, Warm Springs Reservation, Metolius and Antelope with seven schools, 2,900 students, grades K-12 and 400 staff members. The district is proudly among the most culturally diverse in Oregon with equal populations of Native America, Hispanic, and Caucasian students. Jefferson County School District operates one primary, one intermediate, two elementary, one K-8, one middle school and one high school.

The Tribes
The Confederated Tribes of the Warm Springs (CTWS) Reservation of Oregon is a federally recognized Indian Tribe located in the north central part of Oregon, 104 miles south of Portland and 60 miles north of Bend, with tribal headquarters located just off Highway 26 in the community of Warm Springs. The Reservation consists of 640,000 acres and is home to three (3) tribes, the Warm Springs, Wasco, and Paiute Tribes, with each Tribe having their own diverse history and heritage. Currently there are approximately 5,062 enrolled Tribal Members, 838 Tribal employees, and a population of approximately 4,130 living in the community.

District Administration
The District is administered under Oregon statutes as a unified school system with a five-member Board. The Superintendent is the chief executive officer of the school district and, as part of his duties, is responsible for all non-instructional support services. In the area of support services, the Superintendent is assisted by the Director of Human Resources and Operations.

Tribal Administration
CTWS operates pursuant to a Constitution and By-laws and a Corporate Charter adopted by the Tribal membership in 1938 pursuant to the Indian Reorganization Act of 1934. The governing body is an eleven-member Tribal Council made up of eight members elected for three year terms representing three voting districts on the Reservation (Simnasho, Agency and Seekseequa) and three chiefs representing the three Tribes in the confederacy for lifetime terms. The Tribal organization is headed by the Secretary-Treasurer and the Chief Operating Office. The Tribal government provides essential governmental services on the Reservation including but not limited to public safety (police, fire and ambulance services), a court system exercising criminal and civil jurisdiction, social services (child welfare, community counseling, general welfare assistance, etc.), health care services, educational services including early childhood education, utilities services, natural resources protection and management. In addition the Tribe owns and operates several enterprises including Warm Springs Forest Products Industries, Warm Springs Power and Water Enterprises, Warm Springs Composite Products, Kah-Nee-Ta Resort, Indian Head Casino, Warm Springs Credit Enterprises, and others.
Project Background
The District passed a construction bond in May 2012, of which approximately $10,736,300 is set aside for the construction of a new K-8 School Building located in Warm Springs. Through a Memorandum of Agreement and an Interagency Education Agreement between the Jefferson County School District 509J, the Confederated Tribes of Warm Springs, and the Bureau of Indian Affairs, the Confederated Tribes of Warm Springs will provide 50% of the total project budget of $21,472,600 for the construction of an approximately 80,000 square foot K-8 school with supporting athletic facilities on approximately 20 acres of land. The Tribes intend to fund their portion of the construction costs from a loan program through the United States Department of Agriculture and/or other federal funding sources, therefore the successful architect firm will need to be approved by the USDA. The estimated cost of the Project is $16,635,000. The Owners intend to provide Construction Management services throughout the design and construction of the Project. The preliminary schedule for the project can be found on the following page.
### Warm Springs K-8 School
#### Preliminary Schedule
Revised 10-29-2012

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<tr>
<th>DESCRIPTION</th>
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![Timeline](image)

BBT Architects, Inc.
Process

Prior to the design process beginning, an architect and a construction manager were selected. Following these selections, a Design Guidance Team was developed. The role of the Design Guidance Team (DGT) is to provide guidance of the design of the new school and to report to the Core Team who provides overall guidance of the project, along with being the primary communicators. The DGT is made up of community members, administrators, and staff; balanced with both CTWS and 509J representatives.

The DGT met at least once a week from October 18th until December 20th. A schematic design work plan was provided at the first meetings which spelled out the process. The following pages are some highlights from the process.
# Proposed Workplan

for the

Design Team of the K-8 School in Warm Springs
Confederated Tribes of Warm Springs Jefferson County School District

<table>
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<tr>
<th>DATE</th>
<th>TASK</th>
<th>PARTICIPANTS</th>
<th>TIME</th>
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| Week of October 22nd | **PROJECT LAUNCH**
  - Introductions
  - Discuss Roles and Responsibilities
  - Review Workplan
  - Discuss Givens
  - Discuss Communication Plan
  - Establish Guiding Principles
  - Forward Thinking Session | Design Team &
  Architect Team | 1.5 Hrs. |
| Week of October 29th | **PROGRAM REFINEMENT**
  - Educational Goals
  - Review Existing Program
  - School Tours
  - Day and Life as a Student
  - Staff Conversations | Design Team &
  Architect Team | 2 Hrs. plus tour |
|                  | **COMMUNITY FORUM #1**
  - Explain Overall Design Process & Schedule
  - Listening Session
  - Establish Guiding Principles
  - Forward Thinking Session | Design Team,
  Architect Team &
  Community | 2 Hrs. |
| Week of November 5th | **BRAINSTORM SESSION**
  - Share and Discuss Sustainability Strategies
  - Brainstorm Site Options
  - Brainstorm Floor Plan Options
  - Prioritize Site Options
  - Prioritize Floor Plan
  - Visual Survey | Design Team &
  Architect Team | 8 Hrs. |
|                  | **Begin Schematic Design**                                           |                                           |            |
| Week of November 12th | **FLOOR PLAN & SITE PLAN REVIEW**
  - Refine Floor Plan
  - Refine Site Plan
  - Review Concept Design Images | Design Team &
  Architect Team | 2 Hrs. |
| Week of November 19th | **DESIGN REVIEW**
  - Refine Floor Plan
  - Refine Site Plan
  - Refine Concept Design Images | Design Team &
  Architect Team | 2 Hrs. |
|                  | **COMMUNITY FORUM #2**
  - Review Guiding Principles
  - Progress Report
  - Update on Brainstorming Session
  - Q & A | Design Team,
  Architect Team &
  Community | 2 Hrs. |
## Proposed Workplan
for the
Design Team of the K-8 School in Warm Springs
Confederated Tribes of Warm Springs Jefferson County School District

<table>
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| Week of November 26th | SYSTEMS WORKSHOP  
• Discuss Mechanical Systems  
• Discuss Plumbing Options  
• Discuss Electrical & Data Options  
• Discuss Lighting Options  
• Discuss Responsible Solutions | Staff, Consultants, & Architect Team    | 4 Hrs. |
| Week of December 3rd   | FINAL SD DESIGN REVIEW 
• Review Schematic Design Package  
• Measure Against Guiding Principles  
• Measure Against Budget  
• Refine As Needed  
• Develop Cost Estimates  
• Final Review with Costs | Design Team & Architect Team | 2 Hrs. |

### Begin Design Development

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| Week of December 10th | DESIGN REVIEW  
• Review Floor Plans  
• Review Site Plans  
• Review Design Details  
• Discuss Materials & Colors | Design Team & Architect Team | 2 Hrs. |
|                  | FOCUS GROUPS 
• Meet with Building Users  
• Discuss Details of each Space  
• Refine Plans | Design Team, Staff, & Architect Team | 8 Hrs. |
|                  | COMMUNITY FORUM #3  
• Review Guiding Principles  
• Progress Report  
• Next Steps  
• Q & A | Design Team, Architect Team & Community | 2 Hrs. |
| Week of December 17th | DESIGN REVIEW  
• Review Floor Plans  
• Review Site Plans  
• Review Design Details  
• Review Materials & Colors | Design Team & Architect Team | 2 Hrs. |
| Week of January 7th | FINAL DD DESIGN REVIEW  
• Review Development Package  
• Measure Against Guiding Principles  
• Measure Against Budget  
• Refine As Needed  
• Develop Cost Estimates  
• Final Review with Costs | Design Team & Architect Team | 2 Hrs. |

Begin Construction Documents (January - April 2013)
The Design Guidance Team was provided with Givens for the project, which was established by the Core Team. Givens are non-negotiable items that were developed prior to the project starting.

### Givens

- More instruction time for students by increasing capacity and changing grade configuration.
- Safe and secure campus and building for all.
- Spend the project’s dollars wisely.
- On time and on budget.
- Efficient site and building design.
- Provide a variety of community use spaces that can be zoned off from other spaces.
- Expandable and adaptable building for future growth and change.
- Provide a positive learning environment that provokes interest in learning.
- Maximize local, economic impact.
- Design for culture inclusion.
- Form follows function.
- Easily maintained and long lasting facility.

Prior to developing what are known as the Guiding Principles, a few videos were shared of honored educational facilities that have received high regards from Council of Educational Facility Planners International (CEFPI). This expanded knowledge of each team member, giving them an opportunity to see what newly designed educational facilities might look like.
Guiding Principles for the new school were developed by asking and prioritizing the following questions. These will be used throughout the process as the main goals of the new school design. The group was empowered to always keep these in mind at each step along the way:

- As a Student, what is the most important goal for this project?
- As a Staff Member, what is the most important goal for this project?
- As a Tribal Member, what is the most important goal for this project?
- As a Parent/Community, what is the most important goal for this project?

The results are as follows:

**Guiding Principles**

1. The school will visually reflect the culture of the tribes.
2. The building will make use of natural light and ventilation; spaces will be bright and welcoming.
3. The latest technology will be made available to the students.
4. All students’ needs will be considered equally.
5. The design will promote effective education principles.
6. Learning opportunities will be available outside the building as well as inside.
7. Common use spaces for learning and activities (both large and small) will be incorporated into the building design.
8. Durable, low maintenance materials and fixtures will be used throughout the building and campus.
9. The school will include multi-purpose spaces that can be used by the community.
10. Safety and Security for students and staff will be incorporated into the building and campus design.
With the Givens and Guiding Principles set, a Visual Survey was conducted with the DGT. A series of photos were made available for the DGT to react and provide comments. These were images of buildings (exterior and interior) along with cultural images. The DGT members each wrote comments about what they liked or disliked about the images, which will assist the architects as they move into the design.
Coinciding with these activities was the development of the architectural program. An Architectural Program is the process of discovering the owner/client’s requirements and desires for a project. The following are what is included in the program:

- The types of spaces frequently included in the building type
- The space criteria (number of square feet per person or unit) for those spaces
- Typical relationships of spaces for these functions
- Typical ratios of net assignable square footage (NASF—areas that are assigned to a function) to gross square footage (GSF—total area to the outside walls) for this building type
- Typical site requirements for the project type.

The preliminary Schematic Design Program is included in this report.

Along with these activities with the DGT, there were a series of activities that that reached out beyond the DGT. For instance, the entire staff of both Warm Springs Elementary and Jefferson County Middle School had the opportunity to provide input in the needs of the school. Additionally, the architect spent a day at each school to have a “day in a life as a student” which provided the architects first hand of the issues at both existing facilities along with the student perspective.
20 DGT members and Community members traveled to the Portland area to visit three schools. Those three schools were:

**Rosa Parks Elementary (K-5)**
Portland, Oregon

**Aloha Huber Park School (K-8)**
Beaverton, Oregon

**The Ridges (K-5 and 6-8)**
Sherwood, OR

These tours provided the group with exposure to ideas of recently designed school facilities. During the travel times, we debriefed on each school we visited. The following pages include comments made by the group relating to each school.
Rosa Parks Elementary School

- Fairly modern looking building, but the trees and landscaping help it to feel warm and “homey”
- Liked that there is a community room, and that it’s close to the entry
- Liked the ability to close off portions of the school so some areas can be used for after-hours activities
- Liked the “porches” or break out learning spaces in the classroom pods
- Liked the transparency (the glass) between the classrooms and the porches
- Liked the transparency and views between the porches and the corridors to the environment
- Liked the open feel of the porches (transparency to the environment, high ceilings)
- Liked the white boards in the porches
- Liked the integration of the boys/girls club into the school, and the way it can be closed off or opened up to the rest of the school (the movable glass wall)
- Liked the garage doors that opened up the cafeteria to the outside courtyard
- Liked the stained concrete floors
- Disliked the noise from the toilets in the break out learning spaces
- Disliked the mini blinds (they were in bad shape after a few years of use)
Aloha - Huber K-8 School

- Some felt the look of the building was too institutional and cold
- Disliked the long double-loaded corridors without views to the environment
- Disliked that the library felt separated from the learning areas (too segregated, not welcoming)
- Disliked the carpet at the entry lobby, felt it hadn’t worn very well
- Disliked doors in the common toilet rooms
- Felt the vinyl floors would be too slick
- Disliked the colors, felt they were too cold
- Liked the stage off the gym as the music room; serves dual purpose
Ridges Elementary & Middle School

• Liked the transparency between classrooms, break out learning areas, and the environment
• Liked the break out learning spaces looked onto courtyards
• Loved the use of glass in the common learning areas (media and computer lab, etc) to make the corridors feel very active
• Liked the courtyards, particularly the deep steps to allow seating for learning and for gathering; felt they would be active courtyards
• Liked the water feature in the courtyard that can be used as a learning tool for the kids
• Some felt there was too much use of CMU and metal panel on the exterior, but the colors were warm/others really liked the split-faced CMU (durable and warm color)
• Liked the ability to lock the school during the school day
• Liked the TV monitors throughout the building to display changing information
• Liked the split playgrounds for younger and older kids
• Liked the pocket doors between classes that opened without removing everything that’s pinned to the wall
• Liked the pin-up strips attached to the corridor walls to allow display of children’s art work
• Liked the concrete floors
• Liked the community room, and that it has a direct access to the outside.
• Liked the warmth of materials on the interior (use of wood, warm paint colors)
• Liked the details throughout (signage, wall coverings/treatments, benches, etc.)
• Concern that one gym will be adequate – plan for a future gym addition.
Thus far, three Community Forums have been conducted. The activities for the forums have mimicked the activities that the DGT participated in, such as the Visual Survey and the Guiding Principles. A variety of community members participated in these. Additional Community Forums will be held during Design Development phase.

With all the valuable input given from the Design Guidance Team, staff, students, Community members, and others, several site plan options, floor plan options, and options for the overall design approach were shared with the DGT and discussed. These were revised and continue to be reviewed. The final direction for the design is reflected in this report.
Site Narrative

The 20-acre site is located on a bluff at the intersection of Tenino and Chukar roads, removed but visible from Highway 26. Residential neighborhoods border the site to the south and west. Views are impressive in all directions from the site, but are particularly impressive to the southwest (Mt. Jefferson), and the northeast (Palisade Cliffs). The site is relatively flat, with a gentle slope from a high point on the southwest corner to a low point on the northeast corner.

To make best use of site access off Tenino and Chukar, the schematic plan locates the school on the eastern half of the site. To both maximize the views and to consider possible use of solar panels on the roof, the building is oriented 20 degrees off true north/south orientation. This allows the best views to Mt. Jefferson from the commons area, and a long roof in the east/west direction for possible solar panels. To honor tribal practices, the entry to the building is from the east, the exit is on the west. Playgrounds and playfields are located to the west of the building; this allows views to the west from the fields, while providing a buffer area of un-built land to ensure views to the west from the building.

Starting with bus drop-off from Tenino at the north side of the site, with parent drop off and parking from Chukar on the east side of the building, we learned that the majority of students will be arriving by bus and will go directly into the commons. We modified the plan to bring bus parking closer to the commons, with an entry plaza for the bus drop off. Also in response to comments received about parking, we added some parking close to the playfields, some parking adjacent to the main school entry, and additional staff/visitor parking to the north to be used both during the school day and for after-hours events.

With input from Travis Wells, Tribes Engineer, we learned that water lines run along the eastern edge of the site. To accommodate these without having to disturb them, we’ve located only parking in that area. We have also learned from Bobby Brunoe that there are traffic site-line concerns for entering the site off Chukar. We will meet with the traffic authority to discuss possibilities for mitigating traffic issues, and the ability to retain access from Chukar. Suggestions have also been received from the DGT to rotate and stagger the playfields at consecutive elevations to reduce grading requirements; we will explore this with the Civil Engineer.

We have concentrated the built work on the eastern 2/3 of the site. This provides three benefits: it allows space for future buildings on the site which could share the playfields (a small high school, a boys’ and girls’ club, etc.), it reduces the amount of developed area that needs to be maintained, and it minimizes the amount of area that needs to be monitored by staff (increasing security for the school).

See the following page for a detailed description of site elements.
Parking
Parent drop off and staff/visitor parking are accessed off Chukar (to be confirmed, as described earlier in this narrative). There are approximately 100 spaces provided for staff/visitor parking. Sixty of those spaces are located to the north of the building and can be used for event parking. Bus drop off is accessed off Tenino and is routed close to the commons area where students will enter into the building in the morning. There is space for 1-4 buses. An additional 40 parking spaces are provided adjacent to the playfields. These are accessed off the bus loop, and will be available for use only after school and on weekends/holidays.

Play areas
There are separate hard play and soft play areas designated for K-5 and 6-8 students. There is one covered play area to be shared by all students which will have a basketball court in the long direction, and half court goals in the short direction. Play areas are directly adjacent to, and accessible from, the commons. Based on input from the DGT, the following playfields will be provided: full size track with a football field in the middle, two flat multi-use fields the size of a soccer field, two uncovered basketball courts, and one covered basketball court.

Outdoor learning
The building is shaped to form two outdoor learning courtyards. These courtyards will be developed to provide areas for learning (paved areas and seating for instruction, possible garden areas for learning about native plants and foods, etc.). The north courtyard is accessed from the K-2 and 3-5 classroom pods, as well as from the media center; this courtyard is called the “Water Court” and will incorporate an element to describe and learn about the hydrologic cycle. The south courtyard is accessed from the 6-8 classroom pod, the discovery lab, and the athletic wing corridor; this courtyard is called the “Earth Court” and will incorporate an amphitheater built into the site making use of natural site grades.

On Site storm water treatment
Storm water will be retained and treated on site in bioswales, providing “wetland” areas and another opportunity for students to learn and become responsible stewards of the environment.

Entry Plaza
The main entry into the building is from the east. A plaza will be designed to allow students to congregate while waiting to be picked up. A large covered area with benches, that will be visible from reception, will be provided.

Community Entry
The community entry and exit to the play areas, is on the west end of the building. This entry will be used for community and school events after hours. The commons and athletic wing of the building are grouped together so they can be easily closed off from the rest of the school during events, providing security while opening the school to community use.
Building Narrative

To arrive at the basic design concept, we held community forums, meetings with the design group team, meetings with elementary school staff, tours of three schools in Portland, and tours of the WS Elementary School and the Madras Middle School. With extensive input from the community, staff and school board members, students and the design group, we derived design guidelines to inform the design.

Two of those guidelines provided a starting point: the District and Tribes agreed that they would prefer a single story building, with some separation between older and younger students. With these general guidelines, we developed three single-story classroom pods, with 9 classrooms each, clustered around shared “break out” learning spaces. A fourth pod (or wing) was designed to house the athletics and commons/cafeteria functions. The four pods were stitched together by a common “street” which houses spaces that are used by all students and staff.

The need for natural light and ventilation, along with a strong connection to the environment, was also commonly expressed. To allow this, all learning spaces have windows either with views of Mt. Jefferson, the Palisade Cliffs and surrounding bluffs, or the learning courtyards. Common learning spaces (media center, discovery lab, break out rooms) have both windows and doors to outdoor learning opportunities.

The common “street” which links the four wings is bounded on the west by the commons area, allowing views through the space to Mt. Jefferson, drawing one along the street. Active spaces and visual connect to the exterior are incorporated along the street to minimize the effect of an interior corridor: nodes with seating at the entries to the four wings, the media center at the heart of the building, and the commons area at the west end.

The form of the building is derived from a traditional language of gabled roofs, wood columns, and clerestory windows. The simple building forms sit quietly on the site, integrating and not overpowering the impressive natural beauty of the area. In addition, keeping the building forms simple will minimize maintenance and construction issues, allowing costs to be kept in check. While the forms of the building will be simple, the materials will be rich, welcoming, and durable: wood accents to warm the entry and nodes along the common street, energy efficient aluminum windows, etc.

Opportunities for cultural references are incorporated in the form and layout of the building: east/west building orientation, the common street which can include a reference to the river to draw one through the building, learning pods which can be named for sacred animals (salmon, elk, etc.), outdoor learning spaces which can incorporate native vegetation and gardens, etc.

Future expansion opportunities are provided to allow the easy addition of classrooms and a second gym.
<table>
<thead>
<tr>
<th>Area</th>
<th>Number of Classrooms</th>
<th>Proposed Total SF</th>
<th>Per Classroom</th>
<th>Designd FL</th>
<th>Proposed Total SF</th>
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| Classrooms | 65 | 65 | 10 | 65 | 10 | Classrooms-

**Warin Springs K-8 School - 650 Students**

**Preliminary Architectural Program**

Revised December 18, 2012
<table>
<thead>
<tr>
<th>Subtotal: All Areas</th>
<th>4,273</th>
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<tbody>
<tr>
<td>Kitchen/Prep Area</td>
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<td>Staff &amp; Shared Building Services</td>
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<tr>
<td>Staff Toilet</td>
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<td>---------------------</td>
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<td>Outdoor Amphitheater</td>
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<tr>
<td>Track with Football in Center</td>
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<td>Sidewalk Area</td>
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<td>Hand Play Area</td>
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<td>Visitor Parking</td>
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**TOTAL**

| Goal 60,000 SF | 80,720 |
| 83,512 |

**P-8 School**
Consultant Narratives

Civil Engineer - WHPacific
Landscape Architect - Vallier Design
Structural Engineer - Walker Structural Engineering
Mechanical & Plumbing - MFIA, Inc.
Electrical Engineer - MFIA, Inc.
Low Voltage - MLC Engineering
Food Service Consultant - RSA
Civil Narrative - WHPacific

The development of a new kindergarten through 8th grade (K-8) school facility is proposed on a +59.91 acre parcel on the Warm Springs Indian Reservation. The site is located south of East Tenino Road and west of Chukar Road. The facility is anticipated to include a +80,000 s.f. building, associated access drives, parking areas, bus loading areas, hard and soft play areas, sports fields, and trails. The proposed facilities are planned to be constructed on the easterly two-thirds of the property. The westerly portion of the property is proposed to remain in its natural condition.

WHPacific reviewed conceptual site plans, prepared by BBT Architects, for the proposed K-8 school for the site access, utility, grading, drainage, parking, play areas, and other development design considerations. The following narrative is provided for your review and consideration.

Access
East Tenino Road is classified as an arterial within the Warm Springs road way system. The posted speed limit is believed to be 35 mph (this will be verified). Chukar Road is a local street and provides a connection between East Tenino Road and Quail Trail to the south. Chukar Road is posted with 25 mph speed limit signs.

WHPacific reviewed potential points of site access to both roads based upon AASHTO intersection sight distance guidelines. Design speeds of 45 mph for Tenino Road and a 25 mph was considered in establishing the minimum required sight distances for safe turning movements from the site. Acceptable driveway connections to both roads are shown on the attached Driveway Location Exhibit, based upon the preliminary reviews. These access points should be verified in the field.

Utilities
Sanitary Sewer: Sanitary sewer mains exist within the site. These 10” diameter mains flow from the southeast portion of the site to the northwest and leave the site roughly in the middle of the East Tenino Road frontage. The sewer continues to the waste water treatment plant to the north. Additionally, a pressure sewer force main crosses Chukar Road and discharges into the gravity sewer system at an existing manhole roughly 200’ west of the road. This pressure line serves the mill, Casino, and Museum along Highway 26.
It is assumed the proposed K-8 building can connect to the existing gravity sewer mains within the site. Standard building sewer extensions are anticipated. Adequate separation distance appears to be available between the existing sewers and the building. Therefore, re-routing of the existing sewers does not appear to be necessary.

**Water**

A water main has been stubbed to the property near the southeast corner of the site. It is anticipated this main will be extended within the site to provide fire protection, domestic water, and irrigation supply. Water mains will likely be routed around the perimeter of the building for adequate fire hydrant spacing.

WHPacific will complete an off-site analysis of a portion of the existing Greeley Heights water system to evaluate available capacity and system constraints. This analysis will confirm the need for additional reservoir storage and/or recommend possible system improvements to enhance the capacity of the existing system and provide adequate fire flows to the K-8 school site.

**Storm Water**

The site designs will address storm water collection and disposal on-site. Infiltration testing, by the Geotechnical Engineer, is recommended to provide infiltration rates for use with the site disposal designs. Drainage facilities may include infiltration swales, extended dry detention ponds, permeable surfaces, underground storage galleries, and drywells. The use of drywells may be limited to disposal of roof drainage.

The topographic survey notes a couple of drainage ways crossing the proposed site facilities. These appear to be normally dry, but could convey storm runoff during heavy thunder showers or from snow melt. The site design will need to consider these natural drainage ways and may need to incorporate culverts or other means to accommodate runoff.

**Franchise Utilities**

The site is within the Pacific Power service district. It is anticipated that 3-phase power will be extended to the northeast corner of the site from existing facilities along East Tenino Road. A sectionalizing cabinet is proposed to be set near the Chukar Road intersection with East Tenino Road. From this cabinet, power is anticipated to be extended to a proposed transformer near the school building. The transformer will provide the electrical service to the building.

Travis Wells reports communication service will be provided to the northeast corner of the site through a fiber optic cable connection. A couple of options for the service provider and point of origin are still being worked out.

Natural gas service is not available. The site design will consider space for the placement of propane tanks.
Site and Grading Plans

The site plan is being developed to accommodate parking for approximately 100 vehicles near the main school entrance. For safety and congestion reasons, visitors and parent drop-off/pick-up areas will be separated from the bus routes for loading and unloading. The bus loading area is planned to be near the cafeteria/commons area of the building.

Additional parking is planned near the sports fields. The use of the site is intended to extend beyond normal school hours, allowing some community use of the facilities. The site design will also consider access routes for service trucks (kitchen supplies, propane, recycling, trash) and for adequate fire or emergency access around the perimeter of the building.

The existing ground slopes of the site vary from approximately 2.5% to 8%. While these slopes are not too excessive, the construction of the building and play fields with large footprints across these slopes will require considerable earthwork efforts. Approximately 15-feet of existing ground elevation difference is noted across the building footprint. Likewise, the track/football field configurations have about 13-feet of existing ground elevation change.

The site grading plan will attempt to balance the cut and fill closely, to avoid the import or removal of material from the site. This will require excavations into the hillside for a portion of the building pad, and construction of embankments for the other portion. The geotechnical report should provide recommendations for the construction of embankments to support structures.

Terracing of the cut and fill banks is recommended to help establish vegetation and reduce erosion. The terracing of cut banks adjacent to play fields can provide a seating area for spectators.

The site improvements are expected to include fencing around the perimeter of the site, or portions of the site. Cattle guards may also be used across the driveways to deter the free range livestock.
Landscape Narrative - Vallier Design

People entering the site from Chukar Street will be greeted by an entry/location sign that is reflective of the important iconic tribal imagery used in the buildings and surrounded by plantings that highlights the entry and foreshadows the design of the school. The secondary entry off of E. Tenino Road will also have an entry/location sign that is of similar design as the primary entry off of Chukar Street.

The site landscape will be primarily the 'undisturbed' high desert ecotype. The built site will be largely planted with native and culturally significant vegetation used in ceremony, for food and art. The palette of site materials will be influenced by the building exterior and interior finishes in order to marry the site and the structure. The paving materials will be earth-toned colored concrete in varied patterns. Site furnishings will be a combination of purchased benches, trash receptacles and tables in combination with constructed lava rock and concrete seat/retaining walls. Planting will be primarily made up of low maintenance grasses and native plant material accented by architecturally formed trees and shrubs in geometric patterns that highlight the layout of the campus and the building. Earth toned concrete colors will be repeated in each plaza but the paving patterns and plant beds will be unique to each space. Native plants may be harvested from the construction zone and replanted in the disturbed areas of the site. Geometrically arranged trees and plants will punctuate key areas of the site to highlight the building and its key spaces. The foundation of the building along the front plaza will be planted to anchor the building. Each plaza will have its own identity. Important cultural images and traditions will be integrated into each plaza space.

The entry plaza off of Chukar Street will provide a welcoming, inclusive feeling that allows for congregating as well as waiting. There will be seating provided by a combination of benches and low walls. Trees will be planted on each side of the plaza to direct visitors focus to the entry. The understory will be important plants used for trade such as bear grass and food such as huckleberries. The plaza hardscape will be designed using patterns reflective of the traditional and artistic heritage of the Confederated Tribes of Warm Springs. One idea is to incorporate patterns from the woven baskets used to gather huckleberries into the hardscape. Greetings in the native languages of each tribe may be inscribed into the paving or walls, Kiksht (Wasco), Numu (Paiute) and Ichishkiin (Sahaptin) to reinforce the importance of the traditional language of each tribe. 'It is extremely important for the Warm Springs people to come together and strive for our languages to again become the first languages of our children.' The plaza space off of the Tenino Road entry and bus drop off will also have greetings to the children and will be reflective of the entry plaza design to tie the entry spaces together. The plaza space will have a relationship to the music room and commons room and may have seating that can be used to compliment their uses.
The plaza off of the primary (K-5) wings will be dedicated to water and its importance to the tribes. Images of the river will be integrated into the paving and design of the space. A ‘river’ will run through the plaza and will be cast into the hardscape. The river will follow a sinuous course through trees and rocks set into the paved and landscapes space between the building wings. The water court will be used as an outdoor lab and plants associated with the riparian environment will be used such as the wapato root. Outdoor classrooms will consist of areas of seating and open paved spaces that will allow for outdoor learning opportunities. Salmon imagery will also be reflected in the paving to highlight their importance as a food source to the tribes. A net pattern may be integrated into the seating spaces to spark discussion of the use of dipping nets and fish dams.

The plaza space between the gym and the middle school wing (6-8) will represent earth. The plaza will have a space for performance adjacent to the media center and amphitheater seating at the other end of the space. The area between the two key spaces will be landscaped with plants that were important food sources to the tribes. Garden space will be provided so that growing and harvesting can occur. Places that are sacred to the tribes can be represented in the design, earthwork and arrangement of the space such as the Wakmap mound.

The play yards will be located off of the west side of the building. The hardcourt area will be split into two spaces divided by a covered basketball court. The primary yard will serve the K-5 age group and will have game courts and educational striping on the ground plane and elements such as tetherball, ball wall and drop shots. Accessible play structures and other apparatus will be located off of the hard court in the soft play area. Fitness elements will be a part of the play structures such as chinning bars and overhead ladders. The soft play yard for the 6-8 age students will have more fitness elements and may have a par course that may be used as part of the physical fitness curriculum. The hard court areas will have games such as basketball and volleyball.

Playing fields will be located off of the hard and soft play areas consisting of two large grass multipurpose fields, two basketball courts and a track and field will be a part of the campus. The track and field will have a six-lane all weather track that encloses a grass football/soccer field. Bleachers will be installed on the east side of the track for spectators. The basketball courts will be located close to Tanino Road so that the community may easily access the courts.

The site will be ringed by a gravel or stabilized earth trail that will have seating areas and interpretive signs located at key points. The interpretive signs will highlight views and landmarks, the native landscape and tribal culture.
Structural Narrative - Walker Structural Engineering

Main Entrance / Central Section & Corridor
One story wood framed area with ridge line extending the length of the section and 2x6 bearing corridor walls. We envision some heavy timber elements and a large covered entry at the main entrance with pre-engineered wood trusses or TJI’s throughout the majority of the remaining areas. A platform framed catwalk with most likely TJI’s will extend most of this length to allow access to mechanical areas. Further, there may be some heavy timber framed areas with decking in the media center. Clerestory windows with an extended overhang will face north and add lighting to the corridor. The lateral system will consist of wood sheathed exterior/interior walls with holdowns at ends if required. Additionally, the concrete slab on grade will be exposed at the main entrance and down the corridor towards the gymnasium and this is the only area where this occurs.

Classroom Wings
Three (3) identical one story wood framed sections with pre-engineered wood trusses, 2x6 bearing corridor walls with typical 2x6 exterior wall construction. Classroom wing corridors will have wood framed catwalks for mechanical access similar to the main central section as well as potential heavy timber framed areas at activity spaces. Clerestory windows with an extended overhang will be constructed to add light to the activity spaces. The lateral system will consist of wood sheathed exterior/interior walls with holdowns at ends if required.

Commons Area
One story wood framed area with sloping roof most likely with taller walls and timber frame elements combined with larger storefront openings. Exterior wall sections will be included for wood sheathed shear walls to avoid costly steel moment frames.

Gymnasium / Locker Rooms
Gymnasium will be constructed with 8” fully grouted CMU walls with steel open web trusses spanning from side wall to side wall. Basketball backboards will be suspended from roof system so steel girder trusses will likely be used at these locations. Locker rooms and surround areas will also utilize 8” fully grouted CMU walls but since the roof spans are much shorter, wood I-joists/Open-webbed joists could be used to save cost. Roofs in these areas will be flat or minimally sloped for drainage and the lateral system will be comprised of the various CMU walls to resist earthquake or wind forces.
Mechanical Narrative - MfIA, Inc.

Mechanical System
VRV Systems
The VRV system is the variable refrigerant volume system. This system utilizes refrigerant to move heat instead of water. The VRV system is comprised of a ground mounted heat pump associated with a series of fan-coil units; one for each classroom, or one for a bank of 2 to 5 offices. If the classroom needs heat or cooling, the fan-coil turns on and circulates the classroom air, heating or cooling the air as necessary. The VRV system is capable of heat recovery through the refrigerant (heat exchange media). When one room needs heat, and second room needs cooling, the VRV system is able to pull heat from the warm room and transfer it to the cool room. All spaces served with the VFV system will have mechanical heating and cooling.

The ventilation will be provided with a means of 100% outside air (OSA) air handlers with an air to air heat recovery and a propane fired furnace to bring the fresh air to a neutral temperature prior to supplying them into the spaces. Propane fired furnaces will provide the balance of heat after the heat recovery system has transferred heat from the outgoing air to the incoming. Rooms will have occupancy sensors and CO2 sensors, allowing the air handlers to deliver less ventilation air when the room is not fully occupied. Please note: A Hybrid System of VRV and Biomass Fuel System is still being explored. Final decision of a system will be made during Design Development.
IDF/MDF
The data rooms may require cooling 365 days a year. These rooms will be cooled using ductless split systems. This has a small roof mounted condensing unit and a wall or ceiling mounted fan-coil unit. Having these rooms on independent systems allows them to operate 24/7. If these rooms were cooled using the main HVAC system, the large HVAC equipment would need to run all the time, reducing the equipment life of the larger system and causing unnecessary energy consumption.

Gymnasium
The gymnasium locker rooms will not be mechanically cooled. A heating only unit will provide ventilation and heat for the space. The unit will have the ability to provide 100% outside air when “free cooling” is desired. The locker rooms which are 100% exhausted will use a heat recovery system to reduce energy costs.

Controls
A web accessed control system, (DDC) will be provided for the the school. The system will allow internet access to the control and monitoring of the school.

While the VRV system will be monitored and enabled by the DDC system, the VRV will use its own stand-alone controls. This allows the VRV system to utilize the heat recovery through the refrigerant circuit. The gymnasium unit will be controlled by the DDC system.

Plumbing Narrative - MFIA, Inc.

Hot Water
Water heaters will be provided in the mechanical room. These water heaters will be propane fired and have an operating efficiency of 93% or higher. Water will be stored at 140°F but will be reduced to 120°F before being supplied to any fixtures. A hi/low mixing valve station will be used to reduce the hot water temperature.

Each hot water system will have a recirc loop. This allows faucets to have hot water within a few seconds of being turned on.

Fixtures
Floor-mounted water closets will be sensor operated with 1.3 gallons per flush valves. Urinals will be provided with low consumption 0.5 GPF flush valves. All electronic flush valves to be provided with permanent power connections.

Hose bibbs will also be provided approximately every 100 feet around the building exterior. All hose bibbs will be key operated.
Materials
Waste/vent: ABS/PVC
Water 1” and larger: Copper
¾” and smaller: PEX piping
Propane: Schedule 40 black steel.

Ductwork
Galvanized sheetmetal insulated per code.

Fixtures
Floor-mounted water closets will be sensor operated with 1.3 gallons per flush valves.
Urinals will be provided with low consumption 0.5 GPF flush valves. All electronic flush valves to be provided with permanent power connections.

Hose bibbs will also be provided approximately every 100 feet around the building exterior. All hose bibbs will be key operated.

Fire Protection Narrative - MFIA, Inc.

Fire Risers
One fire risers will be required at this school.

Sprinklers
The building will be sprinkled in its entirety. Areas outside the building envelope that require fire protection will utilize a dry loop to prevent frozen pipes.
Electrical Narrative - MFIA, Inc.

Site Utilities
Power Utility
Power to the building electrical service will originate from a pad-mounted utility transformer. Access to the transformer location will need to be provided via a paved surface rated for heavy-vehicles. The service voltage will be 277/480-volt, three-phase.

Power Distribution
Electrical Infrastructure
There will be one main electrical service for the project. The main service metering switchgear will be a NEMA 3R enclosure, and will be mounted on the exterior of the building near the pad-mounted transformer location. The incoming service voltage will be 277/480-volt, three-phase. 480-volt distribution boards, step-down 480-volt / 208-volt dry-type transformers, and 208-volt sub-distribution boards will be located in the Mechanical Mezzanine spaces. 480-volt and 208-volt branch panelboards will also be located in the Mechanical Mezzanines, and will be near main electrical load locations in order to minimize the length of individual branch circuit homeruns.

Emergency System
An emergency generator will be provided for the project, and will serve Life-Safety and Optional Standby loads. The generator will utilize the on-site propane tank as a fuel source. Emergency egress lighting will be powered via a Life-Safety branch automatic transfer switch. An additional automatic transfer switch will be provided for the Optional Standby loads. LED exit signage will be provided to indicate the paths of egress out of the building, and select lighting fixtures will be connected to Life-Safety branch circuits to provide the code required egress lighting footcandle levels.

Photovoltaic System
A photovoltaic array may be installed, and would feed into the main service metering switchgear via a back-feed rated circuit breaker. The two choices available for the array location are roof-mounted or ground-mounted. Further discussions are needed in order to finalize the array location.
Lighting

Parking Lot Lighting
Site lighting will be provided via LED fixtures mounted on 20'-0” poles. Fixture heads will be full-cutoff in order to meet Dark Sky requirements. The site lighting system serving open parking areas will be provided with occupancy sensors at each pole location to meet the power reduction requirements of the Oregon Energy Code. All site lighting will be connected at 480-volt.

Exterior Building Mounted Lighting
The building exterior lighting will consist of wall-mounted LED architectural wall packs to provide general area lighting, and LED down lighting to highlight the canopy and overhang areas. All fixtures will be full-cutoff to meet Dark Sky requirements.

Interior Lighting
The Cafeteria/Commons will be provided with pendant suspended architectural fixtures with compact fluorescent lamping and electronic ballasts. Corridor areas will be provided with recessed direct/indirect fluorescent 2’ x 4’ fixtures with T8 lamping and electronic ballasts. Classrooms, Media Center, Labs, and Conference rooms will utilize pendant suspended linear direct/indirect fluorescent fixtures with T8 lamping and electronic ballasts. Office areas will be provided with recessed direct/indirect fluorescent 2’ x 4’ fixtures with T8 lamping and electronic ballasts. Mechanical / electrical spaces, Kitchen, Storage areas, and Locker / Shower rooms will be provided with surface mounted fixtures with acrylic wraparound lenses. The Gymnasium will be provided with suspended highbay fixtures with T-8 lamping and electronic ballasts. Interior LED lighting will be used in some specialty areas throughout the project. All interior lighting will be connected at 277-volt.

Lighting Controls
Multi-level switching schemes will be used as a standard, with dimming control kept to a minimum as dictated by space usage. Networked programmable lighting control panels will be provided to schedule on / off sweep times for the site and building interior lighting. Local over-ride switches will be provided to bypass the lighting control schedule when lighting is needed in areas during normally unoccupied times. Local occupancy sensors will be provided for offices, work rooms, storage rooms, restrooms, and conference rooms. The lighting control system will be provided with an Automation Interface Module to allow integration of lighting monitoring/control functions with the building DDC system.
Low Voltage Narrative - MLC Engineering

**Fire Alarm**
A fully addressable fire alarm system will be provided for the building consisting of main control panel, remote annunciator panels, digital communicator, batteries, smoke detectors, heat detectors, manual pull stations, strobes, horn/strobes, exterior bell and miscellaneous equipment for a complete and operational system. System will be integrated with lighting control system and door access control system.

**Communications Systems**
Communications (data, phone and cable television) equipment and cabling infrastructure will be provided for the project to support owner supplied servers and computers. System will consist of racks, wiring management, distribution panels, backbone cabling, horizontal cabling and outlets. Wireless access ports will be provided throughout the building. Data cabling will be Category 6.

**Communication Pathways Systems**
Cable trays will be provided above accessible ceiling spaces along the corridors/hallways and J-hook in remaining areas for routing of communication cables.

**Intercom / Paging Systems**
Classroom intercom and zoned building paging system will be provided with selectable music input and integrated with phone system.

**Voice Enhancement System**
Classrooms and media center will be provided with voice enhancement systems integrated with media presentation equipment and building paging override.

**A / V Sound Systems**
Reinforced sound systems will be provided in the music, cafeteria/commons and gym.

**Media & A / V Systems**
Cabling infrastructure will be provided for projectors, smartboards, digital presenters and laptops within classrooms, media center, cafeteria/commons and gymnasium.

**Clock System**
New wireless GPS battery operated clock system will be provided throughout the school. Clocks will be 12 hour and 12-inches diameter located throughout the school.

**Fire Alarm**
A fully systems will be provided for the school and will consist of door access controls, intrusion detection and video surveillance. Systems will be integrated with fire alarm system and lighting control system.

**DAS Emergency Radio Responder**
A distributed antenna system will be provided for emergency responder radio coverage meeting present Oregon Fire Code Chapter 5 Section 510.
Food Service Narrative - RSA

Warm Springs K-8 School is expected to have a maximum enrollment of 650 students. The Food Service Program serves breakfast and lunch. It meets or exceeds USDA meal patterns for students in kindergarten through 8th grade. The food service system, as outlined by Nutrition Services, will be batch cook and serve. This food service system relies on once a week delivery of staple items and twice a week delivery of milk and produce. Some baked goods shall be prepared on site. Emphasis on fresh preparation is expected.

Breakfast is offered with a rotation of main items and standard cold options with fruit and milk as available choices. The kitchen will cook and serve lunch entrees from scratch, while offering daily fruit/salad Variety Bar offerings and milk.

This School also has not yet determined how many lunch periods or what their duration will be. If we use a standard lunch period of approximately 30 minutes as a baseline, this effectively limits the lunch period service time to 20 minutes (including 5 minutes passing time on each end). We can now examine the number of required lunch periods, time for service and number of Points of Sale (POS) required.

In consultation with Nutrition Services, RSA projects an 80-85% participation rate in the school lunch program. This equates to serving 553 total students at once or 185 students per lunch period, in a three lunch period cycle. Two queues will form entering a "Mirror Image" Service Line, exiting at one (1) Points of Sale (POS), which will have tray slides on both sides. These points of sale are designed to move 5-8 students through them per minute. Nutrition Services will need to move 9.25 students through per minute, in order to feed all students in the allotted time. This leaves the last student served a maximum of 5 minutes to eat. This location will have power and possibly a data drop fixed in the floor, feeding back to the kitchen office computer.

The Foodservice Facility will feature a covered Receiving area capable of storing dropped pallet jacks. These pallets will be broken down and hand carted to Walk-In Cold & Dry Storage Areas. No pallets will be carted through the facility. The district prefers using all electric kitchen appliances, regardless of the availability of propane gas. There will be a Cooking Line with Hot Holding and the capacity to Blast Chill hot food, before storing it in the Walk-ins. No ice machine is required. A Scullery, Central Prep Area, Baking Area, Office, Break Table, Rest Room and Lockers will comprise the remainder of the Foodservice Facility. A janitorial mop sink is required to be accessible.
The accompanying Service Area will receive hot and cold food from pass-thru cabinets built in to a dividing wall masking the main kitchen. The process of traysing up food and handing it to the students is still being developed. All exposed food on the service line will be protected by adjustable breath guards. Disposable Trays will also be used. We are exploring the need for adjustable height service line carts to accommodate K-5 vs 6-8 height variances and self-serve challenges at the variety bar. Students are served the entrée of their choice and proceed to a variety bar, milk cooler and then to the Point of Sale. A tray drop off, garbage and recycling area is to be determined.
excellence is everything