APPLICATION COVER PAGE
(Please Print or Type – All Fields Must Be Completed)

Project Name:	Eastern Oregon Regional Construction Hub
Amount Requested:	$487,850

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Superintendent: Robert Waltenburg		
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	Participating High School or Middle School Name (add additional rows as needed)	Lead Contact Name	Grade Levels	Student Enrollment
1.	Baker High School	David Frazey	7 - 12	1016
2.	Elgin High School	Matt Adams	7 - 12	175
3.	Pine Eagle Charter School	Joe Denig	7 - 12	100
4.	Vale High School	Stefen Maupin	9 - 12	300

Please check all that apply:

_X_ This project directly involves Career and Technical Student Organizations
Please note page of proposal that describes this relationship. Page:2, 4, 9, 10, 14, 20, 21, 22, 23 & bonus section pg.1

_X_ This project has a clear connection to STEM
Please note page of proposal that describes this relationship. Page: 12, 13, 17 & 20

Eastern Oregon Regional Construction Hub (EORCH)

Baker 5J - Elgin SD - Pine Eagle SD - Vale SD - BMCC - TVCC - NWCC - Grant ESD - Malheur ESD

EORCH closely ties the vision and purpose of CTE revitalization to rural Eastern Oregon's goals which supports the Governor's Initiative for Work Ready Communities. EORCH coordinates the integration of relevant and challenging construction trades instruction through a regional web-based educational hub/center. Initially, EORCH will consist of four districts located in three rural Eastern Oregon counties partnering with three colleges, two ESDs and several industry partners. The purpose is to provide rigorous, contextual, hands-on curriculum supported by industry-approved instruction, job-related experiences, industry certifications and college credit.

EORCH's virtual hub provides a central platform utilizing an interactive web-site. Through the hub, construction trades industry-approved curriculum, instructional resources, and cohort support from craft instructors, along with partner contact information, are accessible to all regional schools. In addition, EORCH identifies professional experience options, provides industry-approved assessments, develops student leadership activities and opportunities, and facilitates the **integration** of academic and workplace skills. This **innovative** concept connects multiple sites, instructors, and projects to make instruction and practical experience available across the region. This results in a cost-effective educational model. The abundance of learning options, the strong connection to industry, and the **experiential** support by partners provide relevance to the project. Regional participation is expected to **expand** as EORCH develops. The project will build on the 40-40-20 goals of the state by providing diverse learning options through collaboration with key CTE stakeholders.

INNOVATION The EORCH project enhances current regional Construction Programs of Study in several innovative ways. 1) School-based learning options which include: rigorous, relevant industry-approved curricula, technical skill development, centrally-located web-based access, and student industry certifications. 2) Cost effective instructional delivery is accessible to rural schools, both large and small. 3) Strong connection to industry provides validity to the project. 4) Regional partnerships with industry and education provides multiple pathway opportunities for experiential learning.

EORCH's main focus is the establishment of an interactive website that contains a variety of remotely accessible learning opportunities and resources. The site design integrates academics with CTE instruction. EORCH teachers will share lessons, PowerPoint presentations and videos demonstrating skill-based learning. The cost effectiveness of being able to share lessons and resources through the virtual hub makes this project available to all schools throughout the Eastern Oregon Region.

Another key **innovation** and an integral component of the project is the connection to Industry. EORCH will utilize The National Center for Construction Education and Research (NCCER) curriculum. EORCH teachers will become NCCER trained craft instructors and examiners. Each component school site will become a NCCER Certified Testing Center where students will receive industry certification and/or dual credit. The development of industry partnerships, regionally and statewide, will support student experiential learning through school-based construction projects, pre-apprenticeship and mentorship opportunities, job shadows, industry field trips and the development of a regional SkillsUSA program.

INTEGRATION This project supports **integration** in three ways. 1) The **integration** of academic achievement to workplace technical skill development prepares students for career and college readiness. 2) The **integration** of relevant and rigorous instruction with school and site-based experiential learning options leads to employability. 3) EORCH will **integrate** Construction Trades Pathways with industry-approved curriculum starting at the 7th grade to ensure that students are aware of career opportunities.

EORCH is designed to support academic common core standards by implementing Math-in-CTE in the construction classrooms. Math-in-CTE is a professional development model that helps CTE teachers elevate the level of mathematics instruction in their CTE courses. This is accomplished by developing Algebra I and above math-enriched lessons through collaboration with math teachers.

This project will support challenging instruction through project based learning, pre-apprenticeships/mentorships, and student leadership activities at the local and regional level. Upon completion of this project, students will have employability skills, meet diploma requirements, and be career and college ready. The EORCH project **integrates** learning from middle school through high school to postsecondary. The opportunity to build basic skills with the NCCER curriculum begins at grade seven and continues through placement in the trades or in post-secondary. Skill level assessment and the documentation of industry certifications will support future placement beyond the local level. The project will help plan and support the transition.

Expansion and Growth The EORCH project is designed to facilitate learning and experience in the building trades leading to the **expansion and growth** of Construction Programs of Study throughout the region. The NCCER curriculum is designed as modules to provide unit by unit instruction as a means of building overall skill and competency in construction.

The opportunity for **expansion and growth** is tied to the structure of the project. Initially the project will concentrate on development. Resources from the grant will fund the development of the virtual hub. Text books, online instruction, as well as assessment are included costs. The grant will support teacher training and teacher industry internships. Once established, the project will be self-sustaining through participating school districts' commitments. Additional school districts, with or without traditional construction programs, are expected to participate after the hub has been established. This model of instructional delivery can serve as a pilot for other CTE programs.

For the first time, CTE students in Eastern Oregon will have the opportunity to participate in SkillsUSA. SkillsUSA is a partnership of students, teachers and industry professionals working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. The organization has 13,000 school chapters in 54 states and territorial associations; none of these are in Eastern Oregon. By developing and implementing SkillsUSA Chapters in our four participating EORCH schools, students will build leadership qualities and interpersonal relationships. SkillsUSA is one way to promote the Hub to other regional schools.

Experiential Learning EORCH is designed to support **experiential learning** or on-the-job training. The program is also designed to articulate learning from entry up to the point of initiation of apprenticeship level of training for journeyman status or educational continuation in college. The goal of **experiential learning** at this level is industry certification for NCCER Core Construction Skills.

There are several ways identified in this project to support **experiential learning**. Industry and community partners will provide professional development and leadership as a member of the Regional EORCH Management Team or local Construction POS Advisory Committee. Each partnership is designed to meet specific goals linked to identify industry standards. Experiential learning will include programs such as work experience, mentorships, and/or the pre-apprentice programs. In addition community service projects, construction projects of differing sizes and complexity and/or school based construction activities will also be implemented. All will include performance-based or authentic assessment of technical skill competency based on industry standards.

EORCH and NCCER share the vision to provide "instruction that is universally recognized by industry and government as a training, assessment, certification center in construction and maintenance for the trades based on the integration of academic and technical skill based learning." Partnership support and agreements will make up a majority of the relevant student experiences. The delivery of CTE knowledge and skill in the classroom format and the blending of academic knowledge with application to technical skills will be commonplace in this project.

Project Description

A. PROJECT OUTCOMES AND PROGRESS MARKERS According to the Associated General Contractors of America on September 4, 2013, "*Nearly three-fourths of construction firms across the country report they are having trouble finding qualified craft workers to fill key spots amid concerns that labor shortages will only get worse...*" The survey also indicated that, "...*the most frequently reported difficulties are in filling such onsite construction jobs as carpenters, equipment operators and laborers…*" The Oregon WorkSource Investment Board predicts openings due to growth and replacement in the construction industry over the 2006-2016 decade. Many of Oregon's high growth, high paying, and high demand jobs are related in some way to the construction trades. To help alleviate this shortage in our communities, the primary vision of EORCH is to prepare our students for advanced entry into competitive construction trades or post-secondary education by equipping them with cutting edge trade skills, hands-on work experience, and strong academic competency. The Regional Hub connects multiple sites, instructors, and projects to make instruction and practical experience available across the region. EROCH is a partnership comprised of four rural school districts, (Baker 5J, Elgin SD, Pine Eagle SD, and Vale SD) located in three remote Eastern Oregon counties, two Educational Service Districts, two community colleges, one statewide workforce development college, and numerous industry partners to provide students with relevant, challenging, technical skill knowledge in the building trades.

Improved Sustainable Partnerships Building and sustaining partnerships is a key component of EORCH. The four component schools have formed a partnership to share instruction and resources. Collaboration with regional ESDs and community colleges has been successful in obtaining partner commitment in the EORCH project. The practical application and alignment to industry is the validating element in the EROCH program. During the course of the grant project and beyond, industrial partners have committed to various supportive activities. Professional development and mentorships provided by the industrial partners is invaluable.

OUTCOMES	PROGRESS MARKERS
1.1 Develop at least 10 sustainable partnerships with businesses in the construction trades to provide student pre-apprenticeships/mentorships, teacher internships, and professional development and/or training.	● develop standards and evaluation criteria ● two industrial partners will serve on the school's Advisory Committee ● develop criteria for pre-apprenticeship programs ● Professional Development conducted by Industrial Partners

Improve Student Access to CTE Programs through a Regional Hub EORCH leadership will consist of a regional management team and four local advisory committees. The management team is comprised of the co-directors, school representatives, four industry partners and the fiscal agent manager. This team is charged with ensuring that the outcomes and progress markers are addressed and implemented at each component school. The team will also compile the data for the final evaluation by developing standards and evaluation criteria for experiential options that are identified locally through school advisory committees. The advisory committees will review curriculum, provide guidance for schools' hands-on projects, and evaluate outcomes.

The school representatives will communicate the recommendations from the advisory committees to the management team.

Once established, EORCH will develop an interactive website for communication and instructional resources. Students and teachers from regional schools can access the EORCH website to gain construction knowledge and skill through posted presentations, shared lesson plans and video demonstrations of technical skills. Once a student feels confident in the acquisition of a concept he or she can request an assessment time at a certified testing center. If the student meets the NCCER certification criteria that student will receive an ID wallet card containing the list of acquired certifications.

OUTCOMES	PROGRESS MARKERS
2.1 EORCH will provide leadership and oversight for the program.	● establish the management team ● establish advisory committees ● quarterly meetings
2.2 Provide Increased access to construction education for students in Eastern Oregon.	● develop a web-based resource center accessible to teachers, students, and parents ● component schools' Craft Instructors will post 2 presentations, 2 lesson plans, and 2 video demonstrations on the EORCH website

Increase Academic Rigor, aligned to diploma requirements, industry standards and the Oregon skill sets Participation in the regional CTE construction program is expected to increase the academic performance of students in science, math, and communication in grades 7 through 12. Increasing rigor by establishing direct connections between academics and the skill set of technical application provides relevance to the content. Those connections work to tie math, science, and writing skills to the Oregon skill set within the Construction Program of Study (POS). They will also serve to meet Oregon's personalized learning and essential skills requirements for graduation. The application

of core academic skills into multi-step learning activities involving problem solving will better prepare students for the Smarter Balanced assessment. By aligning the Common Core State Standards (CCSS) in Math to construction industry standards through Math-in-CTE, students will be more equipped to analyze, critique, evaluate, and apply knowledge. Students will not only improve their performance on assessments they will also be college and career ready. Students will have an opportunity receive dual credit in construction courses including Applied Math and computer aided drafting (CAD).

OUTCOMES	PROGRESS MARKERS
3.1 Increase number of credits awarded for articulated courses by 50%.	● develop articulation agreements with partnering community colleges
3.2 Increase math achievement by 10% as measured by state assessment.	● connect the educational programs to the industry with experiential options ● CTE teachers will work collaboratively with math teachers to develop Math-in-CTE concepts ● align academics and the skill set of technical application

Increased Career Options and Access to Student Organizations Access to industry through partnerships and student organizations provided through EORCH is expected to increase student awareness of career options. Experiential learning places students in direct contact with industry professionals.

EORCH will serve as a conduit to SkillsUSA to provide student leadership for component districts by scheduling and facilitating collegial activities including regionally sponsored leadership programs, skills contests, specialized workshops and opportunities for career exploration and awareness. Through a partnership with SkillsUSA Oregon the four component schools will have the support needed to aid CTE

teachers in the foundation of SkillsUSA Chapters. SkillsUSA members develop into well-rounded people with technical, academic and employability skills that will help them get a job and have a successful career. Through chapter meetings, contests, leadership conferences and activities, students will be building these skills.

Each component school will develop career-related pathways with course options starting in the 7th grade and continuing on to postsecondary courses through articulation agreements and industry certifications.

OUTCOMES	PROGRESS MARKERS
4.1 Career awareness and exploration opportunities through Experiential Learning Activities	● each component school will develop experiential learning activities ● develop mentorships and pre-apprenticeship opportunities with industrial partners ● component schools' participation in Non-Traditional Trades Project
4.2 Develop SkillsUSA Chapters in the four component schools.	● component schools will obtain their charter from the National SkillsUSA ● EORCH will plan and host a regional SkillsUSA career development event ● EORCH component schools will attend SkillsUSA State Leadership and Skills Conference
4.3 Develop construction trades pathways relevant to each component school and partnering community colleges.	● each component school will post their construction trades pathway on the EORCH web-site ● students from the component schools will meet the construction pathway requirements

Improved ability to meet workforce needs in Oregon As recent as January, 2013, the Research Division of the Oregon Employment Department reports the number of online advertisements posted for construction increased by 44 percent over the year. Demand appears to be strong for qualified construction workers throughout the state, including Eastern Oregon. To address the growing need of skilled employees EORCH will provide

teacher training. Students are expected to benefit from professional development options provided to CTE teachers by partnerships with industry professionals. Initial options will include: industry terminology, work ethic, safe practices, and specific trade skills. Another option might include the application of core academic learning to industrial problem solving for tradesmen providing experiential examples from industry.

The NCCER curriculum provides industry aligned standards in which students can receive certifications in construction trades which can be articulated for dual credit. EORCH component CTE teachers will become Trained Craft Instructors through the Accredited Training Sponsorship of Trico Construction Inc. Trico Construction Inc. will also provide training and accreditation of the component schools as NCCER Certified Testing Centers.

OUTCOMES	PROGRESS MARKERS
5.1 Improve teacher training and experiences to provide a competent and skilled work force.	• partnership agreements with local construction firms designed to provide professional development options for instructional staff • training in the trade skills including industry terminology, work ethic, and safe practices
5.2 Increase the number of students receiving industry certifications from 360 to 900 throughout the region.	• component schools' CTE teachers will become Certified Craft Instructors • component schools will become certified NCCER Testing Centers

B. CAREER AND TECHNICAL PROGRAM OF STUDY EORCH will develop and support a strong Construction POS that prepares students for apprenticeships, post-secondary trainings, and the workforce in the fields of building trades, engineering, and architecture. Three of the four component schools are currently part of an approved Statewide Construction POS. Last year Vale HS began using the NCCER Core

Curriculum and became the first Accredited Testing Center in Eastern Oregon. As part of our project, Vale will take the lead on providing support and professional development to our other three teachers. Pine Eagle will begin the process of moving to a state approved program. EORCH is designed to assist schools with meeting the five required elements of a Construction POS.

Standards and Content: EORCH will use the NCCER curriculum. The basic core provides academic learning, pre-apprenticeships, work-based experiences, and entrepreneurial opportunities for students. NCCER identifies these skills as introductory craft skills and maintains a credentialing and certification system through its National Registry. This online database will track both training and/or assessments for our students. Students and teachers from all regional schools can access instructional units through the Hub. As lessons aligned to the CCSS for Science, Technology, Engineering, and Math (STEM) and the NCCER curriculum are developed and used, student achievement will improve. According to Jonathan Rothwell in *The Hidden STEM Economy*, "High skilled jobs in manufacturing and construction make up an increasingly large share of total employment...." The region's construction industry leads all others in its forecasted rate of growth over 10 years (+21%). Northeast Oregon's construction contractors will add 160 workers, according to WorkSource Oregon. We are committed to having our students ready to fill those positions.

Using the Math-in-CTE model, students will be able to make the connection between theory and practice, thus making math instruction more relevant. The Math-in-CTE model will allow teachers to work with math teachers to develop and Algebra I and

above math-embedded content lessons. Students are able to apply problem-solving and critical thinking skills to actual workplace situations. For the engineering and architecture components, teachers and students will have access to CAD and Revit Software which will build upon identified STEM skill sets.

Articulation and Alignment: NW College of Construction (NWCOC) will articulate with EORCH to integrate prerequisites for apprenticeship programs. Successful students will have "direct application" to the programs which otherwise would require a 50-hour Pre-Career Training Course for entry and have the opportunity to earn industry-recognized credentials. The Statewide Construction POS recently partnered with Portland Community College (PCC) which will provide articulation to our programs. In addition, articulation agreements with community college partners will be developed throughout the implementation of the EORCH. By ensuring that our students have dual credit opportunities and industry credentials, EORCH closely supports the 40-40-20 goals of the state by assisting schools in meeting the Achievement Compact goal that students graduate from high school with nine or more college credits. Students will have access to multiple construction, engineering, and architecture pathways. The pathways will help prepare students for apprenticeships in the high wage, high demand construction trades and advanced training through community college partners.

Assessment and Accountability: Upon completing a NCCER unit of instruction, students will be able administered a knowledge verified assessment proctored by NCCER trained and certified teachers. Students passing scores are entered into the National Registry. Students will receive transcripts, certificates and ID wallet cards.

These industry credentials will allow our students to provide easy verification of training for current or potential employers, as well as meet the state requirement that all CTE Completers within a POS must be assessed by a valid and reliable assessment.

Student Support Services: For the first time, CTE students in Eastern Oregon will have the opportunity to participate in SkillsUSA which is a student leadership organization that partners students, teachers and industry together to ensure America has a skilled workforce. SkillsUSA helps each student excel by providing coordinated activities and events showcasing student performance in the construction trades, engineering, and/or architecture career areas. By developing and implementing SkillsUSA Chapters in our four participating EORCH schools, students will build leadership qualities and interpersonal relationships that are important for student success beyond high school.

Students will have access to supported career awareness and exploration experiences though an array of activities that includes, but not limited to: 1) Career Day on the TVCC Campus, 2) Regional Construction Trades Career Day, 3) Campus and Business Tours/Field Trips, 4) Mentorships/Internships with business partners, 5) Pre-apprenticeships through Oregon Tradeswomen, and 6) authentic work experiences. Students will also have access to the NCCER "Build Your Future" video which includes "real" builders talking about projects students will relate to, such as the Dallas Cowboys' Stadium. Females in EORCH can apply for admission to the Regional Females in the Building Trades Project. The project which is in its 5th year is a joint partnership between Region 13 & 14 CTE and TVCC and is funded through a competitive grant from Oregon Dept. of Education (ODE). Girls from around the region participate in the

following activities: 1) Voc-Tech Day at TVCC; 2) Math Orientation Day at TVCC (this is a one-day workshop a TVCC math instructor teaching high level math connected to industry); 3) Women in Trades Fair in Portland; and 5) Week-long camp at TVCC working with industry partners in the building trades.

C. UNDERSERVED STUDENTS EORCH component schools have a high rate of economically disadvantaged students with an average rate of 49.6% of high school students qualifying for free or reduced lunch. Unemployment within the region is some of the highest in the state with a rate of 9.5% according to the Department of Employment. Students who obtain industry-recognized credentials through NCCER have a better opportunity to enter the workplace at a higher wage. In 2012, the average annual covered wage in the construction industry was $50,606 - $6,333 more than the average annual covered wage for all industries in Oregon (covered wages are wages paid for jobs covered under unemployment insurance, which covers over 90 percent of employment in Oregon) according to WorkSource Oregon. NCCER curriculum is designed to meet the needs of districts with diverse populations and enrollment. Instruction, experiential learning, and activities are designed to accommodate classroom instruction or individualized instruction for students where class size might be restricted to one or two student.

To better serve our non-traditional students, a partnership with Oregon Tradeswomen (OTI) was developed. They agreed to provide the following to our female construction students: 1) Dedicate slots for Women in Trades Career Fair, plus partial bus scholarship for up to 70 middle school and high school students; 2) Work with Grant

ESD and their partners to develop a strategic plan for females in the construction trades; 3) Travel to Eastern Oregon three times to work directly with students; 4) Fund four scholarships for high school grads to attend OTI's pre-apprenticeship program. OTI will also provide "train the trainer" activities for counselors and teachers to learn about recruiting, screening and placing women in apprenticeships.

D. DIPLOMA CONNECTIONS "When instruction is academically rigorous, students actively explore, research, and solve complex problems so as to develop a deep understanding of core academic concepts," according to the Oregon Small Schools Initiative. The practical application of academic concepts through relevant activities, projects and experiences will extend rigor and support the integration of academics to career-focused learning. Students will be able to meet four CTE-related diploma requirements: 1) Developing a Career Plan, 2) Participating in Career-related Learning Experiences, 3) Applying learning through extended applications, and 4) Mastering Essential Skills.

Developing a Career Plan: Students will have access to career planning tools, roadmaps developed through the Statewide Construction POS, and "Exploring Careers in Construction" NCCER unit. All students will be encouraged to include Construction Trades Pathway information in their locally developed Education Plan and Profile.

Participating in Career-Related Learning Experiences: Each participating program is implementing at least one construction project relevant to the needs of its community. Pine Eagle is building a home; Vale is concentrating on specific modules of construction with students constructing portable buildings; Elgin initially, will focus on carpentry skills

and cabinet-making; and Baker is remodeling a home. Students will also participate in mentorships as they are developed. Pre-apprenticeships will be available. With our partner base, students will have direct access to industry, not only through projects, career exploration, and mentoring, but also through employment opportunities.

Applying Learning Through Extended Application: Extended application is taking what you learned in school and applying it to something outside of that learning. For example, you learn the theory and principles behind hanging drywall. Then you apply that learning to actually hanging and finishing drywall. EORCH students will have a true understanding of what an extended application is. It will happen each and every time they master a technical skill and then apply it to an authentic workplace environment.

Mastering Essential Skills: NCCER curriculum, along with project and work-based learning opportunities, will provide students with an opportunity to master the nine essential skills. The primary focus will be on mathematics, thinking critically, using technology, demonstrating personal management and teamwork. Reading and writing is emphasized through reading manuals, NCCER text, and journal writing. The Math-in-CTE project will provide students with higher level mathematics and critical thinking skills through contextual lessons. Three of the four participating schools will be able to provide students with Applied Math credits upon completing the program. Developing classroom settings and projects that mimics “the workplace” will provide students with the opportunity to learn and apply personal management skills. Having state-of-the-art equipment and software available to students will allow them to obtain the skills necessary for entry-level employment and/or post-secondary training. According to the

Office of College, Career & Technical Education, "...career academies (EORCH) offer personalized learning environments proven to increase attendance, test scores, graduation rates, and college acceptance."

E. SUSTAINABILITY AND COMMUNICATION The Hub is established as a center to connect multiple sites, instructors, and projects to make instruction and practical experience available. Additional POS's will join to the Hub as programs, protocols, and operations are defined and expanded. EORCH has developed multiple strategies for sustaining the project beyond the grant. These strategies include sustaining relationships between CTE and local communities, maintaining financial sustainability, developing partnerships, and supporting an on-going regional communication plan.

Maintaining Relationships Between CTE and the Community It is anticipated that the Hub will serve to support, facilitate, coordinate and supply the regional needs of CTE well into the future. CTE programs at the local level have disappeared over the past few decades. As a result, the number of qualified teaching staff available is insufficient to support the number of potential programs that are expected in the future. The affordability of programs and the scarcity of qualified local instruction is the most significant argument in supporting the establishment and sustainability of EORCH.

- Web site communication, shared instruction, certification, and student leadership exists as an extension of an approved POS, with minimal cost to sustain.
- Some instruction is shared between schools through distance learning reducing the instructional burden for all schools, but significantly for smaller schools.
- EORCH will coordinate student certifications through the Regional CTE Consortium.

- NCCER credentials will be maintained through the National Registry at no cost.

Financial Sustainability EORCH is expected to be an economical means of accessing CTE curriculum, instruction, and leadership. Sustainability is expected to be tied to local demand and the correlation between cost and the quality of the programming.

- Grant and Malheur ESD through the Multi-Regional CTE Consortium will dedicate their resources to the continued development of the Hub, professional development, development and preservation of partnerships, facilitation of career awareness and exploration activities, and sustaining infrastructure.
- Continued Program of Study development and upgrading will be assumed by local component districts and the Regional CTE Consortia.
- Approved Construction POS will be eligible to receive Perkins.
- Industry partners are committed to funding supplies, materials and equipment.
- Sale of construction projects will support the sustainability at the local level.

Sustaining Partnerships EORCH's strongest component is the connection to industry. The partnerships built through the project are invaluable to student learning. Providing connections for our students through authentic application is imperative to preparing them for next steps. EORCH partners are committed to developing a sustainable program that will continue to produce students ready for the workplace. EORCH's overall sustainability relies heavily upon its industry and educational partnerships. With the commitment of industry and educational partners, EORCH will continue to:

- Maintain regional leadership and management through a team comprised of representatives from the component school districts, industry and post-secondary.
- Identify additional community partners by recruiting through the local POS.

- Provide on-going professional development for teachers, student career awareness and exploration activities and opportunities through industry partnerships.
- Recognize partner contributions by: 1) providing "Certificates of Participation" for display in their places of business, 2) recognition at Credentialing Awards Ceremonies for students, and 3) school board presentations.

Supporting an On-Going Communication Plan EORCH will utilize Edmodo for the virtual hub. Edmodo is a social learning platform for teachers, students, and parents. There is no cost to use Edmodo and it is already being used extensively in many regional schools. Through Edmodo, parents will not only receive information about regional construction projects, but will also have a forum to ask questions or share information. Industry partners can also use the site to post planned student opportunities.

- Edmodo will be maintained by Grant ESD and the Regional CTE Consortium.
- Communication will be continued through local newspaper articles, school open houses, EORCH Newsletter, partner recognition events, SkillsUSA activities, local Chamber of Commerce presentations, and school board presentations.

F. ACTIVITIES AND TIMELINES

Outcome	Activity	Timeline
2.1	Establish the management team and local advisory committees and determine meeting schedules	Jan - Feb
5.2	Teacher training to become NCCER Certified Craft Instructors	Spring
3.2	Math-in-CTE Training: Aligning Math CCSS with Construction Skill Sets	Spring & Fall
2.2	Edmodo Website Created: Virtual Hub Connection	Spring
4.2	SkillsUSA Professional Development for Teachers	Late Spring
4.1	Begin planning with Oregon Tradeswomen for fall and spring activities	Spring
2.2	Purchase NCCER Curriculum, equipment, and supplies – Review and share regional projects	Spring & Summer
1.1	Professional development provided by industry partners specific to industry skills and equipment use	Summer
2.2	Begin School with NCCER Curriculum and EORCH in place	August
3.1	Meet with TVCC, BMCC, PCC, and NWCOC to alignment and articulate	Fall
4.2	Pathway development begins.	Fall

4.1	Develop and implement experiential learning opportunities with partners	On-going
1.1	Developing criteria and procedures for mentorship/pre-apprenticeships	Fall
5.2	Process for becoming Certified NCCER Testing Centers begins	Fall
4.2	SkillsUSA Chapters developed and students registered	Fall
4.1	Initial Oregon Tradeswomen Presentation to Students	On-going
2.2	Curriculum, lessons, and resources available on Edmodo	Dec.
2.2	EORCH Newsletter created and distributed to schools, parents, and partners	Quarterly
2.2	NCCER certificates awarded to students.	On-going
4.1	Schools' participate in Non-Trad. Females in the Building Trades Project	Jan '14 & '15
5.2	Pine Eagle completed and submitted Statewide Construction POS	April
5.1	OACTE Conference: Teacher Professional Development	April '14 & '15
4.2	Regional SkillsUSA activities: Student Leadership	Spring
4.3	Pathways are posted on school websites and EORCH	April
4.1	Women in Trades Fair in Portland: Non-Trad Activity	May '14 & '15
2.1	Project evaluation and data collected, compiled and distributed to partners	May
2.1	EORCH Management Team Meeting. Final Report	June

G. EVALUATION Sustainable Partnerships Outcome: Develop at least 10 sustainable partnerships with businesses in the construction trades to provide student pre-apprenticeships/mentorships, teacher internships, and professional development.

PROGRESS MARKERS	MEASUREMENT	METHOD
● develop standards and evaluation criteria ● two industrial partners will serve on the school's Advisory Committee ● develop criteria for pre-apprenticeship programs ● Professional Development conducted by Industrial Partners	● Documentation of standards and evaluation rubric ● Meeting minutes and Advisory Committee member logs ● Document the number of students participating in Pre-Apprenticeship ● Professional Development log	● matrix standard for POS ● meeting minutes and attendance logs on file ● pre-apprenticeship tracking form ● professional development plan with itinerary attached on file

Improve Student Access Outcomes: EORCH will provide leadership and oversight for the program. Provide Increased access to construction education for students.

PROGRESS MARKERS	MEASUREMENTS	METHODS
● establish the management team ● establish advisory committees ● quarterly meetings	● document the members of the management team ● document the members of each advisory committee ● meet minutes	● management team membership list ● advisory committee membership list ● minutes on file
● develop a web-based resource center accessible to teachers, students, and	● number of teachers, students and parents accessing the hub	● tracked through EDMODO

parents ● component schools' Craft Instructors will post 2 presentations, 2 lesson plans, and 2 video demonstrations on the EORCH website	● an interactive web-site is available and working properly with lesson resources	● EDMODO is up and running and at least four lessons have been posted

Increase Academic Rigor Outcomes: Increase number of dual credits awarded for building trades articulated courses by 50%. Increase math achievement by 10% as measured by state assessment.

PROGRESS MARKERS	MEASUREMENT	METHOD
● develop articulation agreements with partnering community colleges	● student transcripts reflecting dual credits awarded data collected annually	● dual credit enrollment data collected from component schools
● connect the educational programs to the industry with experiential options ● CTE teachers will work collaboratively with math teachers to develop Math-in-CTE concepts ● align academics and the skill set of technical application	● Math achievement data from statewide assessments	● Smarter Balanced results administered Spring 2015

Increased Career Options Outcomes: Career awareness and exploration opportunities through Experiential Learning Activities. Develop SkillsUSA Chapters. Develop construction trades pathways relevant to schools and partnering community colleges.

PROGRESS MARKERS	MEASUREMENT	METHODS
● each component school will develop experiential learning activities ● develop mentorships and pre-apprenticeship opportunities with industrial partners ● component schools' participation in Non-Traditional Trades Project	● experiential activities clearly defined and identified ● number of students participating in mentorships and pre-apprenticeships ● proof of school participation	● component school will submit a list of experiential activities ● student rosters and completed applications on file ● student applications on file
● each component school will obtain their charter from the National SkillsUSA Office ● EORCH will plan and host a regional SkillsUSA career development event ● EORCH component schools will attend SkillsUSA State Leadership and Skills Conference	● SkillsUSA charters documented ● student participation from all four component schools ● number of students attending the state Leadership Conference	● chapters recognized by SkillsUSA OR ● SkillsUSA roster reflects student participation from all four schools ● attendance documents will indicate that at least 20 students attended

● each component school will post their construction trades pathway on the EORCH web-site ● students from the component schools will meet the construction pathway requirements	● all four component schools' pathways are clearly stated and located on the web-site ● assessed by the number of students completing pathway requirements	● pathways visible and posted on school and EORCH website ● component schools will submit a list of student who have meet the pathway requirements

Improved Ability to Meet Workforce Needs Outcomes:Improve teacher training and experiences to provide a competent and skilled work force. Increase the number of students receiving industry certifications from 360 to 900 throughout the region.

PROGRESS MARKERS	MEASUREMENTS	METHOD
● partnership agreements with local construction firms designed to provide professional development options for instructional staff ● training in the trade skills including industry terminology, work ethic, and safe practices	● assessed by the number and quality of professional development opportunities available to CTE teachers	● professional development plan with itinerary attached on file
● schools' CTE teachers will become Certified Craft Instructors ● schools will become certified NCCER Testing Centers	● assessed by the increase in certifications awarded throughout the region	● NCCER National Registry indicates 900 certifications ● component school testing centers are being utilized

H. PARTNERSHIPS A key component of the EORCH program is building and sustaining partnerships. The participating partners are representatives of the high wage, high demand construction industry. The four component schools have formed a partnership to share instruction and resources. Collaboration with regional ESD's and community colleges has been successful in obtaining their commitment to partner with EORCH. The ESD's will dedicate their resources to the development of the web-site, professional development, development and of partnerships, facilitation experiential learning, and sustaining the infrastructure of the program beyond project completion.

Community college partners recognize the benefit of the project. They have committed to provide NCCER professional development, collaboration and support of the Non-Trad. Females in the Building Trades project which is designed to deliver experiences to young women in Regions 13 & 14. TVCC has also committed to hosting an annual CTE Open House and Career Fair. All three colleges have committed to the development of articulation agreements for dual credit in corresponding building trades courses and computer aided drafting (CAD). The practical application and alignment to industry is the validating element. Sustainable partnerships with building trades professionals will facilitate a streamlined program that prepares students for the workforce. Trico Construction Inc. is the accredited training sponsor for EORCH. They will provide craft instructor training and certify component school testing centers.

Oregon Tradeswomen are committing to providing valuable pre-apprenticeship opportunities to our female students. OTI will provide “train the trainer” opportunities to counselors and teachers around recruiting, screening and placing women in apprenticeships. Funding is also going to be provided to ensure that at least 70 middle school and high schools students attend the Women in Trades Fair in Portland.

Each component school has acquired at least two industry partnerships. This relationship has been an integral part of the project scope and direction throughout the development of the proposal. During the course of the grant project and beyond, industry partners have committed to various supportive activities such as: providing teaching aids, supplies, equipment, teacher mentor ships, pre-apprenticeships, on-site field trips, and work placement experience for students. Professional development and

mentorships provided by the industry partners is invaluable. The industry partners have also committed to serving on the EROCH advisory committees.

The design of EORCH relies heavily on partnerships. In the planning and development of the grant, the preliminary advisory committees at each component school met to determine local needs, partnerships and projects. The results of those meetings were reported at a preliminary management team meeting to set the tone of the Hub and defined its responsibilities. If the grant is funded, the management team will organize and work with the local advisory committees to develop instruction, experiential and leadership components. These local partnerships are vital to sustainability.

Implementation of EORCH is the role of the management team, and most importantly the local advisory committee. Their role is to identify instruction, experiences, and activities that support student achievement and employability. The committee will provide guidance and input by reviewing and evaluating curriculum, assessing technical skill development, marketing the program, and recruiting additional partners to provide student career opportunities. Those roles will extend beyond the grant to modify instruction to meet industry change and challenges. Most significantly their role is to connect education with industry.

Bonus Section

A. Career and Technical Student Organizations (CTSO)

The Integration of learning between disciplines in education has been the trend for education in rural Oregon in the recent past. Programs such as Agriculture, Industrial arts, and welding have combined to serve as a trainer for several industries. As a result the student organizations that connect student training to the industry have also shifted to blur the distinction between the CTSO and industries.

As noted in the project description, construction student organizations are an integral part of the development of EORCH. While FFA and other organizations also provide leadership opportunities in construction skill development, they are not directly connected with the industry. Like FFA, Student organizations of the construction industry must have that close connection and relationship to industry that allows students to view the industry as career option and to receive benefits of belonging.

"SkillsUSA is a partnership of students, teachers, and industry working together to ensure America has a skilled workforce." The common goals and collegiality builds a sense of belonging that fosters quality and pride in students with common interests. Component schools of EORCH are required to develop programs and participate in the activities of SkillsUSA programs. EORCH will support, promote, and actively solicited industry partnerships to sponsor activities of SkillsUSA. EORCH will also work to support and promote other school based leadership activities such as the FFA as a means of integrating the skill development of the construction workforce with those that cross disciplines where appropriate.

B. Middle School Component

The component districts and schools of EORCH function independently from each other. The existence of middle school career programs differs in scope and purpose in each of the schools. However, all participating schools have at least one 7th and 8th grade "woods" class. By utilizing the NCCER curriculum in the middle school construction programs a common core of technical skill learning across four school districts will be provided. The schools will move from the traditional "wood shop" to a Construction Program of Study and pathway.

Incorporating NCCER curriculum at the middle school will provide the option of participating in Career and Technical Student Organizations (CTSO) activities, such as student leadership, skill development, and career exploration options through the regional Hub. A part of the leadership provided by EORCH consists of recruitment to the program.

The introductory craft skills curriculum will be used at the middle school level. This curriculum includes modules of basic safety, introduction of construction math, introduction to hand tools, introduction to power tools, introduction to construction drawings, basic communication, basic employable skills and introduction to material handling. Additionally the curriculum will include the STEM curriculum at the middle school. The middle school program is part of the overall articulation plan that potentially provides students with construction career pathway information from grade seven through high school, and on to postsecondary training or work placement in a seamless fashion.

C. Out of School Time Programming

Of critical importance to the functional design of EORCH is the autonomy by which component schools have in designing the CTE programs to fit their individual communities yet function within the focus of EORCH. Without such autonomy, programs design to a standardized model serves little purpose for schools whose communities do not fit that standard. The broad disparity of resources and skills of Eastern Oregon is a perfect example. Out of school experiential based learning is encouraged and strongly supported through EORCH in a design that fits each program. Additionally, there is strong support for release time from secondary school to support post-secondary enrollment in college classes.

The main focus is the relationship with industry for specific skill development or "mini" workshops and career awareness. The purpose is to pull together students form differing locations in the region with industry specialists for specific trade craft skill development. They may be over a weekend, school breaks, or summer programs. They may take the form of career exploration or skill building. They may also take the form of mentorships, pre-apprenticeships, internships or a variety of other forms. No matter the form, regional leadership activities are designed to build skills, knowledge, or industry familiarity and collegiality in such a manner to build confidence in students.

Regional programs in rural areas are designed with flexibility to meet the needs of students in a rural environment. As industry evolves so does the educational components that serve those industries. Out of school learning becomes more practical and beneficial than redesigning schools.

D. Focus on Regional, Statewide, or System Change

EORCH is very much a program with regional focus for Eastern Oregon. The concept fits perfectly into the statewide priorities for system change. The regional emphasis not only provides the opportunity to build skills in an area of diversity where individual craft skill may not exist locally, but it also extends the collegial relationships for industry to career awareness and familiarity to the site specific skills and work relationships. Much of learning is doing or skill application. Regional emphasis does extend the opportunities for learning.

The focus on construction is most practical because of the extension of the craft skills of carpentry to a large number of career pathways that simply require much the same or complementary skill base in a different setting and for different reasons. Equipment operator skills apply equally to agriculture as they do to construction and industrial automation has a similar skill set whether applied to construction or aviation. The ramification of regional skill development is the diversity of application derived from a venue of limited diversity. EORCH's focus is on the construction pathway skills that have universal application. The future of EORCH lies in its diversity of purpose.

The function and purpose of the Regional Hub will equally apply to additional career pathways through development. EORCH is designed to transition is such a way to provide a regional focus to students in a variety of venues including health services, industrial automation, business, and agriculture equally, Its existence provides opportunity beyond traditional roles for students of rural Eastern Oregon and rural communities throughout Oregon to apply the STEM component of learning to industry.