PART 1A: COVER PAGE

Project Name: **GREENHOUSE: GROWING MINDS, SKILLS, AND COMMUNITY**
Amount Requested: **$73,320**

Project Director: Laurie Altringer		
District, School or ESD: Joseph Charter School		
Address: PO Box 787		
City: Joseph	State: Oregon	Zip: 97846
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Grant Fiscal Agent Contact: Judith Robb, Wallowa ESD Business Manager		
District, School or ESD: Wallowa ESD		
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Superintendent: Rhonda Shirley		
District, School or ESD: Joseph Charter School		
Address: PO Box 787		
City: Joseph	State: Oregon	Zip: 97846
Phone: 541-432-7311	Email: rhonda.shirley@staff.josephcharter.org	

Participating High School or Middle School Name (add additional rows as needed)	Lead Contact Name	Grade Levels	Student Enrollment
Joseph Charter School	Rhonda Shirley	7-12	99

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: 29

_x_ This project has a clear connection to STEM
Please note page of proposal that describes this relationship. Page: 33

PART 1B: BUSINESS, INDUSTRY, LABOR AND POSTSECONDARY EDUCATION PARTNERS

The following individuals and/or organizations have reviewed, discussed, and agreed to their part in implementing the project proposed in this grant application:

Name	Title	Organization
Pam and Randy Slinker	Owners	Alder Slope Nursery
Dave Yost	Board Member	Grande Ronde Model Watershed
Terry and Irene Bates	Owners	Wallowa County Nursery
Robin Martin	Director	Magic Garden
Cheryl Coughlan	Director	Josephy Center for the Arts

PROJECT OVERVIEW- *Greenhouse: Growing Minds, Skills, and Community*

2A. ABSTRACT

Joseph Charter School is a rural school in picturesque Wallowa County. Currently, upon entering the school grounds, visitors see weeds and a fenced tennis court in disrepair. The question arises: *What is a better use of the 20,000 square feet on our campus, and how can students benefit in the process?*

The answer lies in replacing the old tennis court with a multi-use educational greenhouse while expanding our school's Career and Technical Education (CTE) programs. The CTE Agricultural Sciences program will benefit from year-round experiences working with a greater diversity of plant-life. The CTE Family and Consumer Sciences (FACS) program will benefit from campus-grown produce to use in food preservation education. The CTE Business/IT program will gain experiences in marketing, 3-D design, and sales. Existing partnerships will provide grassroots support for greenhouse development, CTE expansion, and meaningful work-based educational experiences. We are requesting funding through the CTE Revitalization Grant for infrastructure, professional development, and curricular resources.

The Curriculum for Agricultural Science Education (CASE) will be implemented for instruction in plant science and agribusiness. Project Lead the Way's *Green Architecture* software will provide students with authentic IT/engineering experiences. The greenhouse will provide experiential opportunities for students throughout the academic year. In partnership with plant nurseries, a community arts center, a watershed organization, and a non-profit community garden, students will gain knowledge in entrepreneurship, marketing, planting, harvesting, and communication.

2B: PROJECT OVERVIEW

I. INNOVATION

This proposal is unique in that all three of our CTE programs (Agricultural Sciences, FACS, and Business/IT) will be involved in the greenhouse project. Our campus greenhouse, garden, and landscaping will be reminders to students of what can be done within a community with motivated organizations, successful partnerships, and committed individuals. Evidence of students' achievements will shine at community events related to this project as well as in future projects that will be available to our students as a result of having a school greenhouse.

Another unique component to this proposal is the focus on professional development for teachers working with students throughout our school (K-12) to target enthusiasm in both CTE and pre-CTE programs. The George Lucas Educational Foundation states: “Research shows that an inspiring and informed teacher is the most important school-related factor influencing student achievement.” Professional development plays an important role in the revitalization of CTE at our school. The CTE Agricultural Sciences teacher/FFA adviser will attend an intensive 80-hour Curriculum for Agricultural Science Education (CASE) Institute where he will be trained in rigorous, problem-based, experiential curriculum designed to integrate traditional agricultural education with FFA and Supervised Agricultural Experiences (SAE), the CTE Business/IT teacher will be trained to deliver Project Lead the Way's Green Architecture STEM-based computer software program to all freshman students, and the K-8 environmental educator will complete a Master Gardener Program to gain knowledge in the art and science of gardening to work with pre-CTE K-8 students in natural science.

II. INTEGRATION

This project far surpasses simply purchasing and installing a greenhouse; the greenhouse is the impetus for broader school and community growth. In 2012, Oregon's number one agricultural commodity was products related to greenhouses and nurseries, and totaled over $745,162,000 (U.S. Census Bureau, 2013). All three CTE programs will help prepare students to prosper in Oregon's agricultural economy with skills and experiences gained in the greenhouse during their high-school years. Agriculture students will grow a variety of plants to learn about production, harvesting, and management, Business/IT students will create 3-D green architectural designs and Microsoft Office documents that promote the project, and FACS students will can and prepare recipes with produce grown or started within the greenhouse.

Integrating with community businesses, organizations, and individuals will provide real-life experiences (job-shadowing, SAE, and summer employment) for students to apply science, math, technology, and language arts content knowledge, and gain essential skills to prepare them for college and their future careers. The school will benefit from the support of local professionals in the construction and maintenance of the greenhouse, in produce donations to our school's lunch program, and in having the rich educational resource- a greenhouse- as a context to meet our academic standards.

The school and greater Joseph communities will clearly understand the breadth of this program through student-created promotional materials: brochures, a Farmer’s Market information booth, a greenhouse web-page, a greenhouse opening ceremony, and Green Architecture student presentations at the Josephy Center for the Arts.

III. EXPANSION AND GROWTH

Joseph Charter School's CTE programs are in transition: we have a new CTE Agricultural Sciences teacher and a newly reinstated CTE Business/IT program. We are viewing this transitional time as an opportunity to examine the CTE programs' learning objectives and to think of creative, effective, memorable, and experiential approaches to meet those objectives; the timing of this CTE Revitalization Grant could not be better. This project proposal is our vision to meet the demands of college and career preparation, while cementing community partnerships with businesses and organizations that we rely on for success in CTE.

Experiential learning opportunities through new, hands-on, research-based curriculum are a major feature of our proposal. Students will participate in project-based learning in Project Lead the Way's Green Architecture computer software and in the Curriculum for Agricultural Science Education (CASE) modules. We envision a school greenhouse that will serve as a long-lasting multiple unit learning lab and as a context for developing deeper, richer understandings in science, math, business, and language arts. Staff is committed to prioritizing our campus's CTE programs through professional development to offer the aforementioned programs, and to expand the courses (such as PLTW's *Green Architecture*) offered in our CTE programs.

As previously mentioned, our CTE Business program is being revitalized. The Future Business Leaders of America (FBLA) club is becoming reinstated at Joseph Charter School. We are excited about the potential agribusiness opportunities a campus greenhouse would provide, and the role both FBLA and our CTE Business students will play in successful greenhouse production.

IV. EXPERIENTIAL LEARNING OPPORTUNITIES

Confucius said, “I hear and I forget, I see and I remember, I do and I understand.” Joseph Charter School’s administration and teachers are committed to exploring and utilizing new and exciting possibilities for “doing.” We strive to get students out of the traditional classroom setting and into real-life settings where they can hone workplace skills and excel in content knowledge. The implementation of our proposed project will offer students many opportunities to experience the complexity of different careers such as greenhouse/nursery production, landscape design, botany, conservation biology, sales, marketing, and community events coordination. This grant will provide us with PLTW's Green Architecture curriculum and CASE's plant science and agribusiness modules; both are rigorous, project- and problem-based programs that make learning relevant to real-life. Structured partnerships will ensure that CTE Agricultural Sciences students have ample opportunities to gain at minimum 3 hours of Supervised Agricultural Experiences (SAE) per term. Job shadowing/volunteering opportunities will not be limited only to CTE Agricultural Science students; one of our school’s main objectives is to develop and maintain partnerships/resources to facilitate career education and apprenticeships within the community. The design, construction, and promotion of the new school greenhouse and landscaping are project-based learning opportunities where all students can have direct connections with professionals from a range of industries (landscapers, gardeners, artisans, contractors). All students will have the opportunity to apply for summer employment positions at our school's on-campus garden, the Magic Garden, the school's new greenhouse, and the Magic Garden's Farmer's Market stand.

PART 3: GRANT NARRATIVE

3A. PROJECT DESCRIPTION

Project Outcomes	Progress Markers
Improved student access to CTE programs	• CTE Agriculture: Year-round use of greenhouse • Expand CTE agriculture program to middle-school through increased enrollment in FFA and related programs • Reinstate CTE Business Program • Reinstate FBLA chapter
Increased rigor in industry-recognized technical standards	• Implementation of CASE plant and soil science curriculum • All freshman students will complete a Project Lead the Way unit of study on Green Architecture • Offer new CTE Agricultural Sciences courses: Agricultural Mechanics/Shop and Natural Resources
Increased career opportunities for students	• All FFA students will complete at least 3 hours per quarter in supervised agricultural experiences (experiential learning at approved community agriculture locations) • At least 1 high-school student will be hired by the school to assist in the summer maintenance of the Magic Garden and on-campus garden
Improved ability to meet workforce needs in the region	• Improved Region 13 NOCTI Assessment plant science scores • Improved workforce skills related to the 16 precepts in the FFA Life Knowledge Curriculum • Business and Technology students will improve skills using Microsoft Word, Excel, and Publisher; at least 80% of freshman students will earn their Microsoft Office Specialist Certification
Improved and sustainable partnerships with business, industry, labor, and educational providers	• All freshman students will present their green architecture landscape and greenhouse designs at the Josephy Center for the Arts • Magic Garden will use the greenhouse annually for plant starts
Improved teacher knowledge and practice	• At least one teacher will complete classes from Oregon State University's Master Gardener training • Computer Technology teacher will complete Project Lead the Way's Green Architecture Software Training • Agriculture teacher will complete a module from the

	Curriculum for Agricultural Science Education (CASE) Institute

3B. CAREER AND TECHNICAL EDUCATION PROGRAM OF STUDY DESIGN

This project focuses on improving the quality of Joseph Charter School's CTE programs, and making students, parents, and the greater community aware of the CTE opportunities available. Currently our school's webpage is outdated with inadequate information about the CTE programs due mostly to the transitional status of two of our CTE programs: Agricultural Sciences and Business/IT. A major emphasis of this project is to solidify these two CTE programs with clear learning objectives, engaging curriculum, authentic learning experiences, and community-based partnerships. Upon critical reflection, professional development, and consultation with local businesses, the revitalized CTE programs will be described in detail on our school's webpage, in brochures available to students and parents, and in the community in the form of project exhibitions and volunteer experiences.

CTE Business/IT Program Expansion

The CTE Business/IT program of study currently offers the following courses to high-school students: Entrepreneurship, Computer Applications, and five Computer Information Systems college-credit courses in cooperation with Treasure Valley Community College (TVCC). Expansion of the CTE Business/IT program will include offering a new course: Green Architecture. Project Lead the Way's Green Architecture class will teach students about 3-D design and how to work with the challenges of limited resources and environmental challenges, and will expose them to industry software, Autodesk Revit. This new course will help prepare our students to pursue

post-secondary education and careers in STEM-related fields.

All CTE Business/IT students will use Microsoft Office software to create professional documents throughout the greenhouse project. Specific documents that students will create include:

Microsoft Excel	• Spreadsheets that track the budget for greenhouse and landscaping expenses
Microsoft Publisher	• Flyers to advertise events open to the community • Greenhouse website design
Microsoft Word	• Thank-you letters to partners • Resume for summer job application
Microsoft Power Point	• Presentation to share project's history and scope with community at Josephy Center for the Arts

Creation of professional documents throughout the year will expose students to the rich possibilities that Microsoft Office provides, and will give them the knowledge to become certified as Microsoft Office Specialists (MOS). All students will get to take the MOS Certification test. Those students with 80% mastery will become MOS Certified; an accomplishment in technical skills that would differentiate them in today's competitive job market.

Future Business Leaders of America, FBLA, has been reinstated on our campus this year, with membership available to middle and high-school students. The reinstated chapter plans to attend this year's Oregon State FBLA Conference, an experience we would like to offer annually. With the diverse learning opportunities students will get using Microsoft Office programs, and the marketing and sales opportunities embedded in the greenhouse project, students will be prepared to successfully compete in the state

competitions at the Oregon State FBLA Conference; but more importantly, will be prepared with the knowledge and skills to enter the workforce or to continue with advanced learning.

CTE Agricultural Sciences Program Expansion

The current CTE Agricultural Sciences teacher inherited a program that was run successfully for decades; however, the program did not take advantage of CASE's structured, research-based curriculum. With new leadership and a renewed commitment to the program, we have specific strategies for change and growth.

The first strategy towards modernizing our program is to implement Curriculum for Agricultural Science Education (CASE). The CASE model provides teacher support through structured curriculum, professional development, assessment, and certification. CASE aims to elevate the rigor and relevance of agricultural education, and was developed in collaboration with the successful experiential-education company, Project Lead the Way. Students will explore concepts in plant science, soil science and agribusiness using CASE materials.

The second strategy in improving Joseph Charter School's CTE Agricultural Sciences program is building a multi-use greenhouse to use as a working laboratory throughout the year. Joseph Charter School currently has a very small greenhouse that has been used primarily to provide starts for our elementary school garden in association with the Magic Garden. We hope to construct a greenhouse with space for an entire class. Wallowa County's growing season is relatively short compared to most locations in Oregon, so a greenhouse would extend the growing season and, in turn, the opportunities that students have for experiential learning related to researching and

growing plants. Students will be able to propagate plants to observe the complete life cycles of a range of plants and will partake in management opportunities.

The third strategy for enriching the CTE Agricultural Science program is to articulate new college-course offerings through Treasure Valley Community College (TVCC). Currently students in the CTE Agricultural Sciences program take four classes that are eligible for TVCC college credit: Introduction to Agriculture, Plant Science, Animal Science, and Agribusiness/Advanced Agriculture. Expansion will include adding two more courses we hope to align and articulate with TVCC: Agriculture Mechanics/Shop and Natural Resources. Agriculture Mechanics/Shop will be a class that will benefit from the landscaping and greenhouse portion of this proposal. Students in the class will use a plasma CNC machine to create signage for our school grounds that displays information about the classes involved in the *Greenhouse: Building Minds, Skills, and Community* project. Future uses of the printer will extend off campus to meet signage needs throughout the Joseph community. Joseph Charter School has never coordinated college credit through TVCC's Natural Resources Department, but with access to a larger greenhouse and our partnership with Grande Ronde Model Watershed, students will gain the skills and knowledge to work in natural resource management careers. Protected natural environments are plentiful in our region with Eagle Cap Wilderness Area, Wallowa-Whitman National Forest, Nature Conservancy's Zumwalt Prairie, and numerous State Parks just minutes away; resulting in a need for professionals in the field of natural resource management.

Lastly, building student awareness of agricultural careers and our school's CTE Agricultural Sciences program will be emphasized in middle school. FFA membership

will be extended to middle-school students. The middle school FFA students will choose a production product that they will market to the public ("Farm to Plate" concept). Additionally, we will be restructuring the 7th and 8th grade science classes. Currently in both 7th and 8th grades, students focus on earth science; we plan to expand the curriculum to include life science units that utilize the greenhouse for valuable project-based learning.

3C. UNDERSERVED STUDENTS

At Joseph Charter School, there is a large population of students who are marginalized: 22% live below the poverty line and 56% are economically disadvantaged. Diversity is enhanced in this project through community involvement on the school's campus and student involvement in the community at large. Promotion of this project in middle school, high school and in the community will help underserved students and families learn about the CTE programs our school offers, and the value of CTE programs. Expansion of pre-CTE programming in middle school will aid in the recruitment of underserved students.

3D. DIPLOMA CONNECTIONS

Greenhouse: Building Minds, Skills, and Communities is a complex academic project that creatively meets the requirements of the Oregon Diploma by providing experiential learning opportunities to build knowledge and skills across many subject areas. The Common Core College and Career Readiness Anchor Standards for Language target speaking and listening as areas where students must meet basic standards to succeed beyond high-school. Students will have many opportunities in their CTE programs, and specifically in this project, to present their ideas clearly and

effectively in speech to each other, the school community, and the greater Joseph community (one opportunity being at the Josephy Center for the Arts exhibition event). Through guest, teacher, and student presentations, students will gain skills to analyze and evaluate information presented verbally.

Specific industry-based standards and Oregon State Board of Education standards that will help students meet the requirements of the Oregon Diploma in this project are outlined below.

Region 13 Plant Science Standards and Performance Indicators that will be covered in CTE Agriculture and FFA:

- AGPB01.02: Address taxonomic or other classifications to explain basic plant anatomy and physiology.
- AGPB01.03: Apply fundamentals of production and harvesting to produce plants.
- AGPB01.01: Apply principles of anatomy and physiology to produce and manage plants in both a domesticated and a natural environment.
- AGPB01.04: Exercise elements of design to enhance an environment (landscape)
- AGPG01.01: Employ leadership skills to accomplish goals and objectives in an Agriculture, Food, and Natural Resources (AFNR) business environmental
- AGPG01.03: Apply generally accepted accounting principles and skills to manage budget, credit, and optimal application of AFNR business assets

International Society of Technology in Education (ISTE) Digital Age Learning Standards and Performance Indicators that will be covered in CTE Business/IT:

- Creativity and Innovation: Students demonstrate creative thinking, construct

knowledge, and develop innovative products and processes using technology.

- Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively to support individual learning and contribute to the learning of others.
- Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
- Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
- Technology Operations and Concepts: students demonstrate a sound understanding of technology concepts, systems, and operations.

Oregon State Board of Education Science Standards that will be addressed in middle-school and high-school while promoting critical thinking, making connections, and communication:

- Structure and Function: 7.1L2, 8.1L1, H.1L3
- Interaction and Change: 6.2L2, 6.2E1, 7.2L2, 7.2E1, 7.2E3, H.2L2, H.2L3, H.2E4
- Scientific Inquiry: 6.3S1, 6.3S2, 6.3S3, 7.3S1, 7.3S2, 7.3S3, 8.3S1, 8.3S2, 8.3S3, H.3S1-3, H.3S5
- Engineering Design: 6.4D1, 7.4D2, 8.4D1, H.4D1-5

Objectives covered in middle school natural science club and elementary programming:

- Understand plant life cycles and how to grow at healthy and productive plant

- Identify plant anatomy
- Identify the elements of what constitutes healthy soil
- Demonstrate introductory gardening skills and safe tool use
- Demonstrate how to care for and maintain the healthy growth of plants

3E. SUSTAINABILITY AND COMMUNICATION

We understand that sustainability is crucial in any grant-funded program, and are confident that this project is long-lasting. The funds requested from the CTE Revitilization Grant for curriculum, professional development, and infrastructure will meet our budgetary needs to get the program running. Joseph Charter School's FFA program is in its 59th year, with vocational programs in place even earlier. The large initial costs of the proposed project could not be realized with our school's annual budget; however, the Joseph School District is committed to continuing this program by covering on-going costs such as transportation, soil, seeds, maintenance, and labor.

Specific actions that we are taking to publicize our programs include:

- Creating a web-page on our school's website about the greenhouse's history, design, annual events, photographs of student involvement/projects, and press releases
- Creating updates on our school's Facebook page
- Having an information booth about the project, *Greenhouse: Growing Minds, Skills, and Community*, at the local farmer's market several times throughout the summer
- Advertising our greenhouse and landscaping design exhibit at Josephy Center for the Arts with flyers around the community and with media releases

- Hosting a greenhouse grand opening where students from the elementary, middle, and high schools are involved, and all family and community members are invited

3F. ACTIVITIES AND TIMELINE

Date	Activities
January 2014	• CTE Business/IT teacher attends Project Lead the Way's Green Architecture professional development training • Master Gardener professional development begins
April 2014	• After-school middle school natural science club begins
May and June 2014	• Middle School science classes study *Plant Growth and Development* and *Soils and Water* • Hire two high-school students for summer employment: one at campus garden and one at Imnaha Magic Garden • Students sign-up to run Magic Garden Farmer's Market stand to earn 25% of profits • Complete syllabi for new CTE Agricultural Sciences courses: Agriculture Mechanics/Shop and Natural Resources
Summer 2014	• Agriculture teacher attends CASE professional development training • Advertise grant project at 4 Farmer's Markets • Host 2 community days at Imnaha Magic Garden • Prepare area for greenhouse construction • Build greenhouse
September 2014-June 2015 Ongoing throughout the Year	• Implement CASE plant science curriculum • Implement Green Architecture design- focus on aesthetics and landscape design of space (fall semester) • Middle-school and high-school students will create professional documents in Microsoft Office • Students will complete 12 hours in structured agricultural experiences • Offer new CTE Agricultural Science courses: Agriculture Mechanics/Shop and Natural Resources
September 2014	• High school Field trip to Imnaha Magic Garden for harvesting • FACS students can Magic Garden produce • Field trip to Grande Ronde Model Watershed project • Middle-school natural science club meets after-school until through the end of October

	• CTE field-trip to Willamette Valley nurseries and farms
November 2014	• Freshman students present Green Architecture designs at Josephy Center for the Arts
Winter & Spring 2015	• Grow plants in greenhouse for landscaping, native habitat restoration, and Magic Garden
April 2015-June 2015	• Students will take Nocti Exam • Students will take Microsoft Office Certification Exams • Natural Science Club resumes • Dave Yost from GRMW will present to middle-school and high-school students. • High-school students/contractors will complete landscaping at school entrance

3G. EVALUATION

Evaluation of the project will mostly be completed using continuous assessment of checklist time-lines. Specific means of evaluations are listed below for each project outcome.

Project Outcomes	Progress Markers	Evaluation
Improved student access to CTE programs	• CTE Agriculture: Year-round use of greenhouse • Expand CTE agriculture program to middle-school through increased enrollment in FFA and related programs • Reinstate CTE Business Program • Host FBLA chapter on campus	• Number of students enrolled in CTE programs • Numbers of plants and documented use of greenhouse by CTE students • Number of students enrolled in FFA and FBLA • Student surveys
Increased rigor in industry-recognized technical standards	• Implementation of CASE plant and soil science curriculum • All freshman students will complete a unit of	• CASE program assessment data • PLTW assessment data • Pre and post-tests • Rubrics on student designs/presentations

	study on Green Architecture • Offer new CTE Agricultural Sciences courses: Agricultural Mechanics/Shop and Natural Resources	• Number of students enrolled in new courses
Increased career opportunities for students	• All FFA students will complete at least 3 hours per quarter in supervised agricultural experiences (experiential learning at approved community agriculture locations) • At least 1 high-school student will be hired by the school to assist in the summer maintenance of the Magic Garden • All high-school students will create a professional resume	• Number of SAE hours and locations • Employment days and hours • Student documents
Improved ability to meet workforce needs in the region	• Improved Region 13 NOCTI Assessment plant science scores • Improved workforce skills related to the 16 precepts in the FFA Life Knowledge Curriculum • Business and Technology students will improve skills using Microsoft Word, Excel, and Publisher; at least 80% of freshman students will earn their Microsoft Office Specialist Certification	• Pre and post-tests • Student surveys • MOS Certification test data
Improved and	• All freshman students	• Number of attendees at community

sustainable partnerships with business, industry, labor, and educational providers	will present their green architecture landscape and greenhouse designs at the Josephy Center for the Arts • Magic Garden will use the greenhouse annually for plant starts	event • Number of plants • Surveys
Improved teacher knowledge and practice	• At least one teacher will complete classes from Oregon State University's Master Gardener training • Computer Technology teacher will complete Project Lead the Way's Green Architecture Software Training • Agriculture teacher will complete a module from the Curriculum for Agricultural Science Education (CASE) Institute	• Pre and post-tests • Observations/reflections

3H. PARTNERSHIPS

Partnership with Alder Slope Nursery

Alder Slope Nursery is a local nursery and garden center that sells trees, shrubs, annual plants, perennial plants, and berries. The owners, Pam and Randy Slinker, have run the nursery since 1968, and are excited about students gaining the knowledge and skills to be future leaders in our region's Nursery/Greenhouse industry. We will be relying heavily on their expertise in the realization of this project: they will help identify learning opportunities in the curriculum that relate to nursery and greenhouse production, assist with the building and design of the greenhouse, help identify

production possibilities and facilitate access to suppliers and vendors to reduce overhead and incidental costs, and will serve as financial and marketing consultants.

Partnership with Wallowa County Nursery

Wallowa County Nursery is a local full-service nursery that offers annuals and perennials, vines, grasses, and water plants, vegetables and herbs, evergreen and deciduous shrubs and trees, fruit trees, native plant varieties, hanging baskets, and landscape supplies. The nursery is owned by a former agricultural sciences teacher, Terry Bates, and his wife. Bates' qualifications as an experienced agricultural sciences teacher and successful entrepreneur will enrich our CTE Agricultural Sciences program tremendously. Bates will assist our new agricultural sciences teacher in developing units using a greenhouse, with topics ranging from forestry, conservation, home beautification, to nursery production. Beyond curriculum development, Bates will offer students Structured Agricultural Experiences (SAE) in the field of property management, landscape maintenance, and landscape construction, and will present his business model to students in the CTE Agricultural Sciences program.

Wallowa County Nursery is also committed to assisting our school in our vision of building a greenhouse and landscaping the surrounding areas. They have agreed to donate materials and serve as site development consultants.

Partnership with Magic Garden:

The Magic Garden is a garden started by a retired teacher and community member, Robin Martin. Martin helped create the Magic Garden with Joseph United Methodist Church with the goal of feeding those in need in Wallowa County. Originally, she partnered with Joseph School District to use part of the on-campus school garden

the FFA students built, but the project has grown in scope and her organization now has a 200' x 100' garden in the neighboring town of Imnaha. Martin has coordinated the planting, watering, and harvest of produce from the Magic Garden. The produce that is harvested from the “Magic Garden” is donated to a number of organizations including: Joseph Charter School's kitchen staff to be used in school lunches, other local public schools, the food bank, and Farmer's Markets. It is estimated that these gardens produced over two tons of food for the community this past year. In recent years, the garden has faced two challenges: 1. Inadequate greenhouse space for produce starts and 2. A shortage of consistent, committed summer gardeners.

We plan to continue our partnership with the Magic Garden by creating a summer position for two of our high-school students: one will assist in the Magic garden three times per week in the summer, one will assist at the school-grounds garden (used more by elementary students in the school year). Additionally, students will get the opportunity to run Magic Garden's weekly Farmer's Market stand where produce and canned products are sold. The students who market and sell the Magic Garden products will be able to keep 25% of the profits. The students will gain agricultural and sales experiences through meaningful, hands-on summer work that will increase their skills for future employment.

The grant will provide us the initial funds to get our aforementioned vision realized. This partnership will be sustainable because the infrastructure will already be in place, while the wages for a high-school employee will be covered by the money that is saved in our school lunch program due to donated Magic Garden produce.

Partnership with Grande Ronde Model Watershed

Grande Ronde Model Watershed (GRMW) is dedicated to restoring natural habitats on both public and private lands within the Grande Ronde Basin (where Joseph is located). Through partnering with GRMW, students will learn about ecosystem restoration, native plants, and watersheds. Dave Yost, who serves on the GRMW Board of Directors, will teach our students about watershed management and landscape transformation through presentations on-campus and in the field. In his presentations to our middle-school science classes and freshman plant science class, he will describe GRMW and its role in land and water management, as well as the complexity of watershed restoration due to diverse interests. Plant science students will go on a field-trip to Lostine, a neighboring community in Wallowa County, to learn about GRMW's Lostine River Restoration Project. With our Introduction to Agriculture and Plant Science classes, Yost will work with students to transform the school grounds with landscaping using native plants.

GRMW will play an important role in our CTE Agricultural Sciences expansion of adding a Natural Resources class. Students in the Natural Resources class will collaborate with GRMW to help grow native plants in our school greenhouse to use in future watershed restoration projects. Through this valuable partnership, students will directly contribute to improvements in our natural habitats, while gaining the knowledge and skills to pursue careers in natural resource management.

Partnership with Josephy Center for the Arts

The Josephy Center for the Arts is a community center located in the town of Joseph whose mission is to "promote appreciation for and exploration of the region's stunning natural beauty, its traditional working landscapes and its rich human history-

and celebrates the role of these treasured resources in local, regional, and national contexts." Joseph Charter School has started to build a partnership with Josephy Center for the Arts where the center serves as a location for students to present school projects to the greater Joseph community. Last year, students performed "American Voices of Change," a theatrical and musical performance open to the public where students reenacted famous historical people. In this proposed project, students will display their Project Lead the Way's *Green Architecture* designs at the Josephy Center for the Arts while celebrating and promoting the CTE Revitalization Grant project, *Greenhouse: Growing Minds, Skills, and Community*. We hope to continue to forge a strong partnership where Joseph Charter School promotes the Josephy Center for the Arts though advertising and events, and students get authentic experiences sharing their work in the community.

PART 5 - BONUS NARRATIVE (OPTIONAL)

5A. CAREER AND TECHNICAL STUDENT ORGANIZATIONS

Joseph Charter School hosts three Career and Technical Student Organizations (CTSOs): FFA, FBLA, and FCCLA. The FFA program at Joseph School District is in its 59th consecutive year of existence. The Family and Consumer Studies (FACS) program and Future Career and Community Leaders of America (FCCLA) club has been in operation for well over 31 years. After over a ten year hiatus, the Future Business Leaders of America (FBLA) club is beginning to make a comeback at Joseph. These clubs and programs are vital to our school and community. They provide students with the opportunity to not only learn about agriculture, business, and home/community skills, they more importantly allow the students to learn about themselves. Students are able to discover skills they never knew they had, distinguish between their strengths and weaknesses, polish their speaking and writing skills, and work effectively with others. With this grant, students will not only grow and cultivate crops, they will cultivate career skills that will last a lifetime; this is exactly what CTE programs and CTSOs are all about. As the plants in our new greenhouse grow and flourish, so too will our students that are part of the Career and Technical Student Organizations (FFA, FBLA, and FCCLA). It is imperative that we are able to supply our students with these continued opportunities, and this grant will help to do just that by providing them with real, meaningful learning opportunities.

5B. MIDDLE SCHOOL COMPONENT

Joseph Charter School is fortunate to have a campus with elementary, middle, and high-school students which enables us to build enthusiasm for programs early on in our students' formal education. Plant science education begins in the early years at our school with activities include planting and harvesting food crops, vermiculture, composting, and the roles of pollinators. Several years ago, the FFA program created a fenced garden area on our campus that has been an asset to our science classes and FFA program. Up to now, the garden has focused more on elementary and high-school students. With motivated middle-school teachers and a renewed focus on CTE and pre-CTE programs, we will offer middle-school students the following opportunities in hopes to build their enthusiasm and interest to persist in CTE throughout high-school:

- Incorporating Junior Master Gardener's *Plant Growth and Development* and *Soils and Water* topic studies into our 6^{th}, 7^{th} and 8^{th} grade science classes. This curriculum is modeled after the adult Master Gardener Program.
- Providing an after-school Natural Science Club that meets one time per week throughout the school year, as well as a few times in the summer for special summer events. The club would help maintain our on-campus garden, create and regularly update the greenhouse webpage, create additional promotional materials, volunteer at local agricultural and environmental events, host two summer workdays at the Imnaha Magic Garden for upper elementary and middle-school students, make canned products with the Magic Garden Organization.

5C. OUT OF SCHOOL TIME PROGRAMMING

The success of this overall project proposal depends heavily on students and staff committing to the project outside of regular school hours. Out of school time programming includes:

- Professional development for two faculty members will take place during summer vacation, allowing both teachers to start the 2014-2015 school year equipped with the knowledge and resources to implement new programs at the start of the year
- FFA students will complete 12 hours of Supervised Agricultural Experiences (SAE) after school or on the weekends throughout the school year
- One student will be employed over the summer at the Imnaha Magic Garden
- One student will be employed over the summer to maintain the on-campus garden
- Students will be able to sign up to run the Magic Garden produce/canned products Farmer's Market stand while earning 25% of the profits
- There will be two summer workdays where grades 3-12 students and their families will be encouraged to volunteer at the Imnaha and on-campus gardens
- Ninth grade students will showcase their Green Architecture designs at Josephy Center for the Arts in an evening event open to their friends, family, and community members.

5D. FOCUS ON REGIONAL, STATEWIDE OR SYSTEM CHANGES

Oregon has a wide range of agricultural commodities as a whole; however, Wallowa County is not representative of the state's diversity in agricultural commodities. The local commodities are currently quite homogenous, with the main features being timber, hay, legumes, and livestock operations. Bringing in an educational greenhouse and taking the CTE students on a field trip to Willamette Valley to see large-scale nurseries and greenhouses will provide students with greater agricultural learning opportunities beyond our local snapshot, which will both prepare them to lead and expand our region's agricultural commodities here in the county, and throughout Oregon.

5E. SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS (STEM)

Focusing on science, technology, engineering, and mathematics (STEM) education is critical for teaching our students to access, analyze and utilize information. STEM and CTE both prepare students to be the leaders of tomorrow by creating opportunities for critical-thinking and problem-solving. The significant STEM component in this project is using Project Lead the Way's (PLTW) *Green Architecture* curriculum to provide rigorous and innovative STEM education to all of our CTE Business/IT students. *Green Architecture* is a PLTW unit where students are introduced to architectural plans, construction styles, alternative materials and processes, dimensioning, measuring and architectural sustainability. Students will use new technology skills and tools for planning, inquiry, and communication to create greenhouse and landscaping designs for our school-grounds. Students' designs will directly influence the school-grounds transformation that CTE Agricultural Science students will construct in partnership with local nurseries and landscaping companies. All students will showcase their designs at an evening event celebrating this grant project, *Greenhouse: Growing Minds, Skills, and Community*, at the Josephy Center for the Arts. The exhibit and student presentations of their designs will allow the Joseph community a chance to see our school's STEM programming in action, while providing students a chance to communicate their designs to the public at-large.