House District(s) _____

Senate District(s) _____

THE TWENTY-NINTH LEGISLATURE
APPLICATION FOR GRANTS
CHAPTER 42F, HAWAII REVISED STATUTES

Log No:

For Legislature's Use Only

Type of Grant Request:

☒ GRANT REQUEST – OPERATING ☐ GRANT REQUEST – CAPITAL

"Grant" means an award of state funds by the legislature, by an appropriation to a specified recipient, to support the activities of the recipient and permit the community to benefit from those activities.

"Recipient" means any organization or person receiving a grant.

STATE DEPARTMENT OR AGENCY RELATED TO THIS REQUEST (LEAVE BLANK IF UNKNOWN): _____

STATE PROGRAM I.D. NO. (LEAVE BLANK IF UNKNOWN): _____

1. APPLICANT INFORMATION:

Legal Name of Requesting Organization or Individual:
Maui Economic Development Board, Inc.

Dba:

Street Address:
1305 N. Holopono St., Ste 1
Kihei, HI 96753

Mailing Address: SAME

2. CONTACT PERSON FOR MATTERS INVOLVING THIS APPLICATION:

Name LESLIE WILKINS

Title President and CEO

Phone # 808-875-2337

Fax # 808-879-0011

E-mail leslie@medb.org

3. TYPE OF BUSINESS ENTITY:

☒ NON PROFIT CORPORATION INCORPORATED IN HAWAII
☐ FOR PROFIT CORPORATION INCORPORATED IN HAWAII
☐ LIMITED LIABILITY COMPANY
☐ SOLE PROPRIETORSHIP/INDIVIDUAL
☐ OTHER

6. DESCRIPTIVE TITLE OF APPLICANT'S REQUEST:

STEMWORKS™

MULTIFACETED STEM EDUCATION PROGRAM FOR K12 STUDENTS AND TEACHERS – INCLUDING CURRICULUM, PROFESSIONAL DEVELOPMENT, CAREER AWARENESS, AND WORK-BASED LEARNING.

4. FEDERAL TAX ID #: [redacted]

5. STATE TAX ID #: [redacted]

7. AMOUNT OF STATE FUNDS REQUESTED:

FISCAL YEAR 2019:
$ 498,251

8. STATUS OF SERVICE DESCRIBED IN THIS REQUEST:

☐ NEW SERVICE (PRESENTLY DOES NOT EXIST)
☒ EXISTING SERVICE (PRESENTLY IN OPERATION)

SPECIFY THE AMOUNT BY SOURCES OF FUNDS AVAILABLE AT THE TIME OF THIS REQUEST:

STATE $ N/A
FEDERAL $ 856,000
COUNTY $ 150,000
PRIVATE/OTHER $ 150,000

[redacted]

LESLIE WILKINS, PRESIDENT AND CEO
NAME & TITLE

01/18/2018
DATE SIGNED

Rev 11/21/17

JAN 19 2018 1:01 PM

Application for Grants

Please check the box when items/section has been completed. If any item is not applicable to the request, the applicant should enter "not applicable".

I. Background and Summary

1. ☒ A brief description of the applicant's background;

Since its inception in 1999, the Maui Economic Development Board's (MEDB) Women in Technology Project (WIT) has been at the forefront of developing and launching progressive, work-based K-12 educational initiatives to build and strengthen the science, technology, engineering, and math (STEM) capacity of the workforce pipeline. Funded in part by the U.S. Departments of Labor, Education, Office of Naval Research, Industry, Private donors, and the County of Maui, MEDB is led by a Board of Directors, whose board members are representative of a cross section of the state's workforce sectors, including emerging STEM sectors, including leaders from academia and government, then made the strategic commitment to dedicate half of the organization's annual $5 million budget each year to strengthening the STEM education pipeline.

Starting as a Maui pilot, the Women in Technology Project currently serves over 40,000 participants in its 32 various programs, spanning every island in the state. Women in Technology's mission is to provide students and teachers resources, inspiration, and tools that empower them to improve their community and world. WIT has developed an equity centered education model that reflects Hawaii's rich demographic diversity (i.e., ethnicity, race, gender, culture, socioeconomic status, and student learning styles). The hallmark of WIT's successful engagement has been the alignment of culture and science and the facilitation of industry/education relationships. The use of project-based service-learning, career exploration, and workforce learning have been the foundation for training teachers and engaging Hawaii's diverse student population.

WIT's signature program, STEMworks™, ensures that teachers are equipped to develop students' industry aligned technical and professional career skills to locally grow the next generation of community leadership on the islands of Oahu, Kauai, Maui, Lanai, Molokai, and Hawaii Island. The diversity of teachers across disciplines engages students in the engineering design through use of industry standard software to develop career ready skills in areas such as digital media and graphic design, drone technologies, circuitry and hardware, coding & programming, geographic information systems (GIS), robotics, computer-aided design (CAD), 3D Printing, virtual reality, clean energies and agriculture.

STEMworks™, a certified Hawaii DOE Professional Development (PD) course, allows teachers the opportunity to earn three professional development credits for successful participation in the program. From kindergarten to 12th grade, STEMworks™ is fully aligned to address the Next Generation Science Standards (NGSS) in engineering design, Common Core State Standards (CCSS) in literacy and math, Career and Technical Education Standards (CTE) and is further grounded in Hawaii DOE's Nā Hopena A'o (HĀ) framework and ISTE technology standards.

Just last year, the statewide STEMworks™ program trained 58 teachers, spanning 29 schools across the state, serving 4,100 students, providing a ready-made infrastructure for future successful expansion to more schools in subsequent years.

2. ☒ The goals and objectives related to the request;

The key goal of STEMworks™ is contribution to education to workforce pipelines that will supply workers with the engineering and technical capacity to lead the next generation in developing solutions for Hawaii. STEMworks™ addresses this multifaceted challenge (preparing a well-equipped local workforce that can apply technology to design solutions) through the teacher accredited STEMworks™ professional development course and ongoing STEMworks™ program structure where:

Objective 1: Teachers engage students in the engineering design process in their classrooms to support students in developing career ready skills and building collaborative team responsibility in their classrooms.

A. Teacher's utilize engineering design process through project-based applications to:
   1. Expose and spark an interest for students in STEM
   2. Develop student critical thinking and problem-solving abilities
   3. Promote student collaboration, communication, and leadership skills
   4. Create real products, inculcating a sense of stewardship for local community, Hawaii, and the world

Objective 2: Teachers employ industry aligned STEMworks™ practices and tools with students, including: a class environment of equity - including gender equity in STEM roles and projects, application of industry aligned technology, and industry connections and/or experiences

A. Teacher increase capacity in equitable and progressive teaching methods that transcend multiple subjects while exploring and integrating industry standard/career ready technology in their classroom.

B. WIT provides ongoing training and support for teachers to engage students in learning industry-grade hardware, software, and tools & technologies, in addition to in-person and online training; essential to building critical thinking and designing solutions in a dynamic 21st century technology landscape.

C. WIT connects industry members with STEMworks™ students and educators to facilitate mentoring and create real world experiences, including industry exposure and immersion experiences for students through opportunities such as job-shadowing, industry networking activities, mentorship, and internships.

The STEMworks™ curriculum is a vehicle for teachers across the state to facilitate students' STEM concepts while enabling students to create real products and evaluate highly relevant information about data, project design, and impact of solutions in their island communities. It maintains a place-based foundation, with relevance to Hawaii's culture, geography, future STEM career growth, and unique island challenges. STEMworks™ encourages students to use critical thinking skills to solve problems, to ask relevant questions about the subject matter they are learning, to practice collaboration and responsibility to their team, and to successfully develop and test their solutions to real-world challenges through hands-on, project-based learning.

Through industry mentorship, students create actual products and deliverables addressing community needs, challenges and issues.

3. ☒ **The public purpose and need to be served;**

In order to meet the need for a talented, technical workforce in Hawaii, local students must pursue educational and career pathways in science, technology, engineering, and math (STEM) which is a high-growth, high-paying sector. Occupational Outlook Quarterly from the U.S. Bureau of Labor Statistics projects overall STEM employment to grow about 13% between 2012 and 2022, faster than the 11% projected rate for all other occupations over the decade. By May 2015, STEM positions already accounted for more than half of the employment in five industries. To be STEM career ready, the article advises that students look for STEM-related internships, volunteering, and research opportunities as early as possible: while students are still in school, not waiting until afterward (STEM101: Intro to Tomorrow's Jobs (Spring 2014) Occupational Outlook Quarterly, The U.S. Bureau of Labor Statistics. https://www.bls.gov/careeroutlook/2014/spring/art01.pdf).

Career positions requiring STEM expertise have been growing in Hawaii, and national predictions for the need of STEM workers continue to grow. According to the US Bureau of Labor, Hawaii had a 9.8% increase in STEM positions from May 2009 to May 2015. Nationally from 2014 to 2024, the architectural, engineering, and related services industry is projected to grow by 8% and employment in computer occupations is projected to increase by 12.5%.. (STEM Occupations: Past, Present, And Future Stella Fayer, Alan Lacey, and Audrey Watson (January 2017) US Bureau of Labor Statistics. (https://www.bls.gov/spotlight/2017/science-technology-engineering-and-mathematics-stem-occupations-past-present-and-future/pdf/science-technology-engineering-and-mathematics-stem-occupations-past-present-and-future.pdf).

According to a 2017 report, the Economics & Statistics Administration United States Department of Commerce found STEM workers command higher wages, earning 29% more than their non-STEM counterparts in 2015. Additionally, nearly three-quarters of STEM workers have at least a college degree, compared to just over one-third of non-STEM workers. (STEM Jobs: 2017 update. Economics & Statistics Administration United States Department of Commerce (http://www.esa.doc.gov/reports/stem-jobs-2017-update). Despite the high demand for STEM workers and the incentive of a well-paying career in the field, the United States still struggles to sufficiently and equitably inspire students to pursue STEM. In Hawaii's 2017 graduating class, 45.7% of males compared to only 16.5% of females identified that they were interested in pursuing a STEM career (Hawaii's 2016 STEM Report Card (2016) The Alliance for Science & Technology Research in America (https://www.usinnovation.org/state/pdf_cvd/ASTRA-STEM-on-Hill-Hawaii2016.pdf).

In 2011, Hawaii's Workforce Development Council (WDC) published Hawaii's Software Development Industry Skills Panels Report. Over 100 local IT stakeholders illuminated barriers to a successful IT pipeline in Hawaii and proposed solutions. MEDB, in collaboration with EDAH, convened more than 800 stakeholders across the state to produce Hawaii's 2016-2021 Comprehensive Economic Development Strategy (CEDS) findings, identifying the following barriers: struggles of software companies to fill vacancies with local talent, lack of adequate pipelines for developing such talent; supply of local tech graduates inadequate for current

demand/projected growth. Need for more employer-driven workforce development is reflected in Hawaii's draft WIOA Unified State Plan, which pegs the innovation/tech sector as best promise for high-quality living wage jobs while also being well-suited to Hawaii's people, institutions and culture (http://labor.hawaii.gov/wdc/wioa-plan-draft-public-comment).

WIT's extensive industry network, representing a diverse cross-section of occupations and professions, is a critical resource in assessing Hawaii's technical workforce needs including hiring and skill set demands. By staying on the pulse of industry, WIT is able to strengthen the education to workforce pipeline, developing curriculum and supporting educators and students with the relevant tools and training applicable to Hawaii's dynamic and ever-evolving tech sector.

MEDB's work is consistently informed by research to predict workforce needs. We are versed in the long-term employment projections of the State of Hawaii's Department of Labor and Industrial Relations, and the U.S. Department of Labor, and regularly conduct our own research into workforce demands. We are aware that, in Hawaii, tech employers are mostly small businesses that cannot afford to train and supervise interns without external support. We also understand the need for the development of "work-ready" skills including clear written communication, professional demeanor, independent learning, collaboration, decision-making, and the ability to communicate technical details to a nontechnical audience. Through the STEMworks™ program, students interface with industry mentors on service-learning projects gaining work-based exposure throughout the school year. During the summer, students experience six-weeks of full immersion in work-based learning during paid internships.

4. ☒ Describe the target population to be served;

5,000 K-12 Hawaii students and 100 K-12 Hawaii teachers in public DOE schools/public charter schools across the state will be served through this proposed project.

5. ☒ Describe the geographic coverage:

Existing coverage serves 29 schools statewide. The proposed funding will serve the islands of Oahu, Kauai, Maui, Molokai, Lanai, and the Island of Hawaii, representing a continued reach on every island in the state. (See Attachment 1 - Geographic Distribution of Existing STEMworks™ Programs Across the State)

II. Service Summary and Outcomes

1. ☒ Describe the scope of work, tasks and responsibilities;

The STEMworks™ program will provide the following educational tools, resources and professional development to 100 K-12 Hawaii public school and public charter school teachers: (See Attachment 2: Timeline Program At A Glance)

STEMworks™ success is based on a year-long, multipronged professional development and teacher support plan enabling teachers to become facilitators to guide students in the application of the engineering design process and STEM career exploration during classroom projects.

Teachers have access to intensive professional development in STEM Pedagogy through an array of STEMworks™ Teacher Professional Development (PD) pathways. Participants in the STEMworks™ program customize their PD pathways in various areas of STEM by selecting from a portfolio of STEMworks™ PD opportunities and educational tools suited to each educator's unique needs. Because each school in Hawaii may have specific needs in regards to the programs they offer, the resources they have, the geographic challenges they face, etc., the flexibility of STEMworks™ trainings and resources allow more teachers and schools to integrate the program into their classrooms.

Once trained, teachers have access to toolkits with laid out methods to guide teachers in student development of career & professional skills during classroom practice. Furthermore, STEMworks™ provides teachers with the classroom resources and tech tools to support student STEM career exploration during class. STEMworks™ provides technological support via professional trainings for teachers to immerse their students in industry standard software trainings and practices. Ultimately, students can apply for six-week professional internship for immersive on-the-job career experience. (See Attachment 2: Timeline Program at a Glance)

A multipronged professional development and programmatic plan for teachers to support students includes ongoing technical support from MEDB trainers and industry mentors in the following areas (See Attachment 2: Timeline Program at a Glance):

A. **STEM Pedagogy: Teacher Professional Development & Curriculum**
B. **Methods to Guide Teacher in Student Development of Career & Professional Skills**
C. **Tools to Support Teachers in Student STEM Career Exploration**
D. **Industry Connections, Career Explorations and Technical Support for Teachers to Immerse Students in Industry Standard Software and Practices**
E. **Professional Career Experience**

A. STEM Pedagogy: Teacher Professional Development

STEMworks™ staff leads a two-day teacher intensive workshop focused on developing student's critical thinking, collaboration and responsibility to a team through application of the engineering design process to solve problems. STEMworks™ is registered within Hawaii's Department of Education (DOE) system, PDE3, as a 3-credit PD course for qualifying teachers. To earn full credit, teachers must:

- Attend full two-day workshop, completing all homework assignments.
- Within the semester: attend a STEMworks™ or other approved software training.
- Participate in two, 90-minute online video teleconference webinar sessions with peers and STEMworks™ instructors sharing the engineering design processes that were implemented in the classroom.
- Attend professional development at the Hawaii STEM Conference, gaining both cutting edge methodology and technology implementation for their classrooms.
- Finally, prepare a 30-50 page Learning Results Portfolio with write-ups for steps of the engineering design process along with sample student work and teacher pedagogy reflections. The learning result portfolio final reflection focuses on the long term changes the teacher has implemented in his/her instructional methods and teaching practice.

WIT reviews all teacher portfolios, and works directly with teachers to enhance their work, until it is complete and satisfactory. At that point, DOE professionals audit sample portfolios for compliance, granting approval to the entire class if the samples qualify. This streamlined process saves resources at the DOE screening level and attests to the close working relationship between the STEMworks™ project and the teachers it serves.

Once trained, teachers will not only employ the specific curricula provided by the project, but will understand the importance of engaging students with hands-on, engineering design practices to teaching STEM, and how to incorporate the use of cutting-edge technology into their teaching. Teachers will be able to employ strategies to improve student's college, career ready and professional skills including: leadership, perseverance, creativity, researching, confidence, communication skills (presenting, writing, listening) and responsibility to a team (participation, compromise, complete tasks and goals, explain ideas and opinions, work cooperatively, focus, positive attitude). Thus, the educator training will increase the cadre of education leaders in our County and our State who will become peer leaders on the project goals and who will share their knowledge with colleagues, parents and students.

Teachers have access to an array of curriculum modules that may include:

1. **STEMworks™ Service-Learning Curriculum** - The STEMworks™ curriculum assists STEMworks™ facilitators in providing learning activities that develop knowledge, understanding, and skill sets using industry-standard tools and software for students to use in service-learning projects. Students develop real-world learning and communication skills while collaborating with business, non-profit and community leaders to create actual deliverables and solutions to community challenges, needs and issues.

2. **STEMworks™ Module – Drone CAD Unmanned Aerial Vehicle (UAV) Curriculum** - The first original drone computer-aided design UAV Curriculum in the State of Hawaii and among the first in the nation to be aligned with New Generation Science Standards (NGSS) and ISTE standards. The curriculum guides the student through a hands-on design process, exploring the interaction between hardware, software and circuitry. Students use computer-aided design software and 3D print components of their designs.

3. **STEMworks™ Module – Geographic Information System (GIS) Curriculum** - Promotes place-based, experiential learning using GIS mapping and data analysis Global Positioning System (GPS) tools. This STEMworks™ module includes place-based activities exploring the Hokule'a, topographic mapping, False Killer Whales, and geospatial careers.

4. **STEMworks™ Energy (formerly known as Island Energy Inquiry™)** - A certified three credit PDE3 professional development course designed for Hawaii teachers that combines scientific content, methodology, and engineering design processes that is aligned with NGSS and Common Core Standards. Hands-on K-12 student labs grow core math and science principles with skills to understand and solve the state's energy issues.

Companion apps include: the STEMworks™ Energy virtual reality app and website as an industry focused tool and the Clean Energy Hawaii STEM scientific inquiry iPad app.

5. **STEMworks™ Exploring Hawaii's Watersheds Through STEM Curriculum** - K-12 curriculum developed to educate students on Hawaii's watersheds. The place-based curriculum module includes five areas that introduce students to geographic information systems (GIS): Native Species, Invasive Species, Native Forest Management Strategies, Watershed Partnerships, and Field Day Story Mapping. Students use Esri's ArcGIS Online to explore layers, analyze data, and create Esri Story Maps informing their local communities about the importance of protecting our island's unique ecosystems.

6. **STEMworks™ PD Credit** - A certified PDE3 professional development course for teachers participating in our STEMworks™ professional development. Teachers learn methods to task students with identifying a problem/issue, designing a project, identifying community resources, and designing a possible solution. Teachers create an action plan to implement the service-learning curriculum into their STEMworks™ classrooms. To qualify for the three PDE3 credits, teachers are required to present classroom projects during follow-on webinars, participate in further trainings, share advice and tips with peers, and submit a Learning Results Portfolio.

B. Methods to Guide Teacher in Student Development of Career & Professional Skills

Teachers receive training and support for how to utilize student toolkits, resources and guides:

1. **STEMworks™ Engineering Design Process Toolkit** guides students through each step of the service-learning engineering design process as applied to finding collaborative solutions to a community need.

2. **STEMworks™ College Toolkit** helps guide students towards successful higher education and career planning starting in middle school through high school.

3. **STEMworks™ Oration Toolkit** helps students build communication and professional skills while encouraging successful teamwork, collaboration, and industry networking.

4. **STEMworks™ Team Roles Toolkit** to facilitate planning and organization of team roles and responsibilities throughout an engineering design project.

5. **STEMworks™ THINKit Resources & Curriculum** to guide students in STEM exploration and application of the engineering design process in array of STEM fields including:

- **Prototype** – Tools encouraging design, model and testing of innovations;
- **Coding** – Tools encouraging the reading and writing of programming languages;
- **Virtual Reality** – Tools to explore and interact with the world;
- **Digital Media** – Tools to visually design messages;
- **Circuits & Hardware** – Tools to explore electronic connections and inventions;
- **GIS & Drone** - Tools to explore geospatial technology and drones.

6. **Community Resource Guide** provides students a resource database of community groups and non-profits on each island to connect with to discover potential community service-learning projects.

7. **STEMworks™ Technology Tools** - Students have access to the **Technology Tools at a Glance** resource guide, listing industry standard technology tools and software programs available to students to develop service-learning projects. STEMworks™ equips STEM labs across the state with state-of-the-art equipment, tools, software as well as access to free K-12 software through partnerships with Trimble (SketchUp Pro Software) and Esri (ArcGIS Software).

C. Tools to Support Teachers in Student STEM Career Exploration

1. **STEMworks™ Student Competitions** - Judged and awarded at the Annual Hawaii STEM Conference in the areas of GIS, cybersecurity, coding, videography, graphic design, and more.

2. **STEMworks™ THINKit™ – K-12 Educational Tools and Resources for Classroom Students** - Complements the STEMworks™ program offering to strengthen the continuum of STEM and creative learning along the K-12 pipeline. THINKit™ includes a kit of classroom educational STEM tools designed to encourage creative play and innovation.

3. **STEM Lending Library (Grades K-12)** - Besides providing teacher THINKit™ kits, and equipping STEM Labs with tools, STEMworks™ maintains over $500,000 in Lending Library technology equipment, including hardware and software to equip classrooms for project integration. Software and hardware technology tools available, includes, but is not limited to: coding, circuitry, prototyping, CAD, 3D printing, virtual reality, geospatial and drone technologies, and digital media.

4. **STEM Jobs**- Annual subscription to STEM Jobs providing age appropriate insight, articles and lessons plans about STEM professionals in current STEM careers, aligned to colleges degree programs and hiring companies.

D. Industry Connections, Career Exploration and Technical Support for Teachers to Immerse Students in Industry Standard Software and Practices

1. **STEMworks™ Software Training** - STEMworks™ facilitates software training camps for students to experience workplace learning by using industry tools and software in emerging industries such as GIS, Cybersecurity, UAVs/Drones, and Virtual Reality for instance. Industry professionals skilled at engaging middle and high school students provide expert guidance in technology instruction. Select students participate in software trainings then return to classroom to lead student peer-to-peer training reinforcing learning while sharing knowledge and skills. Lynda.com provides opportunity to develop personalized technical & soft skills training in over 6000 industry standard software and career skills online tutorials.

2. **STEMworks™ Industry Connections** - STEMworks™ students explore workplace learning through visiting STEM professionals in the workplace. This enables students to meet and learn about and explore possible STEM career pathways.

3. **Hawaii STEM Conference: Statewide Technology Conference** - The STEMworks™ culminating annual event is the two-day **Hawaii STEM Conference** held at the Hawaii Convention Center. Over 1,000 students, educators, industry professionals and community leaders from across the state and nation participate in two days of hands-on activities using cutting edge STEM technologies. Industry professionals further excite students to existing local STEM career opportunities and the different educational pathways that lead to rewarding careers. Besides participating in STEM competitions and showcasing service-learning projects, students engage with local and national industry professionals, from Microsoft to Goma Games, learning how to use technology tools to better their communities. Educators participate in two days of STEM professional development and discover new and exciting ways to engage students in the engineering design process and the latest STEM technologies.

E. Professional Career Experience

1. **Industry Mentorship** - Workplace learning through industry mentorship during classroom STEMworks™ student projects support defining community needs, with relevant solution design, testing and revision of solutions using the engineering design process.

2. **Workplace Learning During Six-Week Summer High School and College Internships** - During the STEMworks™ Internship program, Women In Technology (WIT) helps students to be workforce ready by placing high school and college interns with host companies across the islands for six-weeks during the summer. Interns work with mentors to create a company project or deliverable while being immersed in a professional environment. STEMworks™ Internships have placed over 300 students across all Hawaii islands in professional STEM settings. For over a decade, interns have worked alongside professionals in fields that include astronomy, agriculture, energy, healthcare, advertising and marketing, environmental science, architecture and engineering.

2. ☒ Provide a projected annual timeline for accomplishing the results or outcomes of the service;

See Attachment 2: Timeline Program At A Glance

3. ☒ Describe its quality assurance and evaluation plans for the request. Specify how the applicant plans to monitor, evaluate, and improve their results; and

STEMworks™ evaluates its educational impact on its participants through front end and summative survey instruments. The surveys will be delivered via pre-and post-assessments collected before and after each workshop or post assessments collected after each event. The

information collected will be a mix of qualitative and quantitative data. By using specialized program software, survey results will be compiled and compared to determine program impact. Assessments are designed to measure educators' demographic information; assess baseline knowledge of STEM technology awareness, STEM career awareness, implementation of teaching methodologies to support collaborative teams, service learning, the engineering design process and inquiry learning, attitudes towards supporting gender and cultural equity. STEMworks™ workshop post-assessments focus on how participants' capacities improve in teaching methodology to support collaborative teams, knowledge of the engineering design process, and understanding gender equity and cultural alignment in classroom education, especially in science.

4. ☒ **List the measure(s) of effectiveness that will be reported to the State agency through which grant funds are appropriated (the expending agency).**

For the proposed 100 teachers who are trained in implementing the STEMworks™ Program, a data management tool is used to track longitudinal impact through key program outcomes and measures via pre and post surveys throughout the multipronged STEMworks™ approach, including data from professional development workshops, trainings, and programmatic activities throughout the year. Longitudinal data collection includes garnering feedback for improvement opportunities in the program. Compiled data includes visualization of a dashboard sharing programmatic outcomes.

Objective 1: Teachers engage students in the engineering design process in their classrooms to support students in developing career ready skills and building collaborative team responsibility in their classrooms.

STEMworks™ will monitor and report the number of teachers:

Outcome #1: Engaging students in the engineering design process in their classrooms.
Measure #1: 85% of trained teachers will implement the engineering design process in their classrooms.

Outcome #2: Supporting students in developing career ready skills and building collaborative team responsibility in their classrooms.
Measure #2: 85% of trained teachers will employ STEMworks™ strategies to practice career ready skills and building collaborative team responsibility in their classrooms.

Objective 2: Teachers employ industry aligned STEMworks™ practices and tools with students, including: a class environment of equity, including gender equity in STEM roles and projects, application of industry aligned technology, and industry connections and/or experiences.

STEMworks™ will monitor and report the number of teachers:

Outcome #3: Implementing STEMworks™ practices with students (which may include completing their PDE3 portfolios to obtain credit).

Measure #3: 90% of trained teachers will implement STEMworks™ practices in their classrooms.

Outcome #4: Purposefully employ strategies to support a class environment of equity, including gender equity in STEM roles and projects.
Measure #4: 90% of trained teachers will support a class environment of equity, including gender equity in STEM roles and projects.

III. Financial

Typical costs for a DOE student per year are over $8,000, whereas, using leveraged funding for STEMworks™, the cost is $98 per student for this grant, reaching 5,000 students and 100 teachers; STEMworks™ teachers *each* reach 50 students on average. Teachers report that STEMworks™ students are motivated and self-directed, and teachers themselves regain enthusiasm for their profession. Additionally, students gain project-based career ready skills and confidence in their ability to create a real contribution to solving challenges facing their local communities. This leads to self-empowerment and civic engagement in taking an active role in becoming a leader in their local community in Hawaii.

Budget

1. ☒ **The applicant shall submit a budget utilizing the enclosed budget forms as applicable, to detail the cost of the request. (SEE REQUIRED FORMS)**
    a. Budget request by source of funds
    b. Personnel salaries and wages
    c. Equipment and motor vehicles
    d. capital project details
    e. government contracts, grants, and grants in aid

BUDGET REQUEST BY SOURCE OF FUNDS

Period: July 1, 2018 to June 30, 2019

Applicant: Maui Economic Development Board, Inc.

BUDGET CATEGORIES	Total State Funds Requested (a)	Total Federal Funds Requested (b)	Total County Funds Requested (c)	Total Private/Other Funds Requested (d)
A. PERSONNEL COST				
1. Salaries	62,300	280,000	52,000	31,000
2. Payroll Taxes & Assessments	6,634	29,815	5,538	3,300
3. Fringe Benefits	18,517	83,221	15,455	9,214
TOTAL PERSONNEL COST	**87,451**	**393,036**	**72,993**	**43,514**
B. OTHER CURRENT EXPENSES				
1. Airfare, Inter-Island	12,000	13,524	2,249	3,111
2. Insurance	0	0	0	0
3. Lease/Rental of Equipment	0	0	0	0
4. Lease/Rental of Space	0	0	0	0
5. Staff Training	0	0	0	0
6. Supplies	8,000	9,016	1,500	2,074
7. Telecommunication	0	0	0	0
8. Utilities	0	0	0	0
9. Student Workplace Learning	133,000	149,889	24,932	34,476
10. Teacher Training	63,000	71,000	11,810	16,331
11. Classroom Supplies	136,000	153,269	25,494	35,253
12. Web Site	18,000	20,286	3,374	4,666
13. Web Conference	800	902	150	207
14. Consultants	20,000	22,540	3,749	5,184
15. Database Management Tool	20,000	22,540	3,749	5,184
16				
17				
18				
19				
20				
TOTAL OTHER CURRENT EXPENSES	**410,800**	**462,964**	**77,007**	**106,486**
C. EQUIPMENT PURCHASES				
D. MOTOR VEHICLE PURCHASES				
E. CAPITAL				
TOTAL (A+B+C+D+E)	**498,251**	**856,000**	**150,000**	**150,000**

SOURCES OF FUNDING	
(a) Total State Funds Requested	498,251
(b) Total Federal Funds Requested	856,000
(c) Total County Funds Requested	150,000
(d) Total Private/Other Funds Requested	150,000
TOTAL BUDGET	**1,654,251**

Budget Prepared By:

Michelle Cocca 808-875-2388

Phone

[redacted]

1/8/2018

Date

Leslie Wilkins, President and CEO

Name and Title (Please type or print)

Applicant: Maui Economic Development Board, Inc.

BUDGET JUSTIFICATION - PERSONNEL SALARIES AND WAGES

Period: July 1, 2018 to June 30, 2019

Applicant: Maui Economic Development Board, Inc.

POSITION TITLE	FULL TIME EQUIVALENT	ANNUAL SALARY A	% OF TIME ALLOCATED TO GRANT REQUEST B	TOTAL STATE FUNDS REQUESTED (A x B)
Program Director	1	$90,000.00	16.00%	$ 14,400.00
Program Manager	1	$76,000.00	25.00%	$ 19,000.00
Program Assistant	1	$50,000.00	20.00%	$ 10,000.00
Program Assistant	1	$50,000.00	20.00%	$ 10,000.00
Program Assistant	1	$44,500.00	20.00%	$ 8,900.00
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
TOTAL:				62,300.00

JUSTIFICATION/COMMENTS:

BUDGET JUSTIFICATION - EQUIPMENT AND MOTOR VEHICLES

Period: July 1, 2018 to June 30, 2019

Applicant: Maui Economic Development Board,

DESCRIPTION EQUIPMENT	NO. OF ITEMS	COST PER ITEM	TOTAL COST	TOTAL BUDGETED
			$ -	
			$ -	
			$ -	
			$ -	
			$ -	
TOTAL:				

JUSTIFICATION/COMMENTS: N/A

DESCRIPTION OF MOTOR VEHICLE	NO. OF VEHICLES	COST PER VEHICLE	TOTAL COST	TOTAL BUDGETED
			$ -	
			$ -	
			$ -	
			$ -	
			$ -	
TOTAL:				

JUSTIFICATION/COMMENTS: N/A

BUDGET JUSTIFICATION - CAPITAL PROJECT DETAILS

Period: July 1, 2018 to June 30, 2019

Applicant: Maui Economic Development Board,

FUNDING AMOUNT REQUESTED						
TOTAL PROJECT COST	ALL SOURCES OF FUNDS RECEIVED IN PRIOR YEARS		STATE FUNDS REQUESTED	OTHER SOURCES OF FUNDS REQUESTED	FUNDING REQUIRED IN SUCCEEDING YEARS	
	FY: 2016-2017	FY: 2017-2018	FY:2018-2019	FY:2018-2019	FY:2019-2020	FY:2020-2021
PLANS						
LAND ACQUISITION						
DESIGN						
CONSTRUCTION						
EQUIPMENT						
TOTAL:						
JUSTIFICATION/COMMENTS: N/A						

GOVERNMENT CONTRACTS, GRANTS, AND / OR GRANTS IN AID

Applicant: Maui Economic Development Board, Inc.

Contracts Total: 7,111,114

	CONTRACT DESCRIPTION	EFFECTIVE DATES	AGENCY	GOVERNMENT ENTITY (U.S. / State / Haw / Hon / Kau / Mau)	CONTRACT VALUE
1	2015 CEDS Report	5/8/15-12/31/16	(sub) EDAH	U.S.	38,637
2	STEMworks AFTERschool, FY16	7/1/15-6/30/16	(sub) HIDOE	U.S.	200,000
3	STEMworks AFTERschool, FY16 supplement	7/1/15-12/31/16	(sub) HIDOE	U.S.	326,000
4	STEMworks AFTERschool, FY17	7/1/16-6/30/17	(sub) HIDOE	U.S.	200,000
5	STEMworks AFTERschool, FY18	7/1/16-6/30/18	(sub) HIDOE	U.S.	200,000
6	STEMworks AFTERschool, FY18 supplement	9/25/17-9/30/17	(sub) HIDOE	U.S.	56,477
7	AFRL STEM Initiatives	7/1/15-6/30/17	(sub) New Mexico Tech	U.S.	367,000
8	Healthy Watersheds	8/1/15-7/31/17	NOAA	U.S.	93,000
9	STEM Cirricuculum and Technology Tools	5/1/14-10/31/17	ONR	U.S.	950,000
10	STEM Cirricuculum and Technology Tools	9/1/15-02/28/18	ONR	U.S.	600,000
11	STEM Cirricuculum and Technology Tools	8/1/16-07/30/18	ONR	U.S.	500,000
12	Studio Concept	10/1/16-9/30/17	EDA	U.S.	75,000
15	Excite Camp, IGED	6/1/15-8/31/16	(sub) UH-CTE	State	65,000
16	Excite Camp, IGED	11/1/16-8/31/17	(sub) UH-CTE	State	60,000
17	Excite Camp, IGED, IGAD	11/1/17-8/30/18	(sub) UH-CTE	State	60,000
18	Maui Film Festival FY16	1/1/16-8/31/16	HTA	State	105,000
19	Maui Film Festival FY17	2/23/17-9/30/17	HTA	State	75,000
20	BIO Conference	2/14/17-9/30/17	DBEDT	State	70,000
21	Island Energy Inquiry	6/29/15-6/30/17	DLIR	State	495,000
22	Maui Film Festival FY16	1/1/16-12/31/16	County of Maui	Mau	25,000
23	Maui Film Festival FY17	1/1/17-12/31/17	County of Maui	Mau	25,000
24	Ka Ipu Kukui FY16	7/1/15-6/30/16	County of Maui	Mau	25,000
25	Ka Ipu Kukui FY17	7/1/16-6/30/17	County of Maui	Mau	25,000
26	Ka Ipu Kukui FY18	7/1/17-6/30/18	County of Maui	Mau	25,000
27	MHS Automotive Program FY16	2/1/16-1/31/17	County of Maui	Mau	45,000
28	MHS Automotive Program FY17	2/1/17-1/31/18	County of Maui	Mau	45,000
29	Economic Diversification	10/1/15-9/30/16	County of Maui	Mau	730,000
30	Economic Diversification	7/1/16-9/30/17	County of Maui	Mau	830,000
31	Economic Diversification	10/1/17-9/30/18	County of Maui	Mau	800,000

2. ☒ **The applicant shall provide its anticipated quarterly funding requests for the fiscal year 2019.**

Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total Grant
$124,563	$124,563	$124,563	$124,562	$498,251

3. ☒ **The applicant shall provide a listing of all other sources of funding that they are seeking for fiscal year 2019.**

Federal	$1,000,000
21st CLCC supB (sub-HIDOE)	$509,000
21st Century (sub-HIDOE)	$200,000
AFRL (sub-NM Tech)	$100,000
NOAA	$150,000
ONR	$550,000

County	$970,000
County of Maui - OED19	$800,000
County of Maui - Conf Scvs	$75,000
County of Maui - MHS19	$45,000
County of Maui - MFF19	$25,000
County of Maui - KIK19	$25,000

Private	$2,287,000
Maui County Farm Bureau	$12,000
Castle Foundation	$100,000
KSBE	$335,000
AMOS Conference	$600,000
Maui Energy Conference	$260,000
HI STEM Conference	$500,000
Ke Alahele	$320,000
Pulama Lanai	$60,000
Memberships	$100,000

State	$150,000
HTA - MFF19	$150,000

4. ☒ **The applicant shall provide a listing of all state and federal tax credits it has been granted within the prior three years. Additionally, the applicant shall provide a listing of all state and federal tax credits they have applied for or anticipate applying for pertaining to any capital project, if applicable.**
N/A

5. ☒ **The applicant shall provide a listing of all federal, state, and county government contracts, grants, and grants in aid it has been granted within the prior three years and will be receiving for fiscal year 2019 for program funding.**

Federal	$	3,606,114
State	$	930,000
County	$	2,575,000

6. ☒ **The applicant shall provide the balance of its unrestricted current assets as of December 31, 2017.** $2,581,733

IV. Experience and Capability

1. ☒ Necessary Skills and Experience

The Women in Technology (WIT) Project, a workforce development program under the umbrella of Maui Economic Development Board, has been building education programs in STEM for K-12 schools statewide for over 18 years. In particular, WIT builds STEMworks™ programs for reaching equity of underrepresented populations in STEM fields, including girls, women, and indigenous populations. Recognizing the need for developing a career STEM pipeline, STEMworks™ curriculum and training focuses in critical thinking through engineering design practices that are applied to a multitude of STEM areas, including digital media, geospatial technology, computer-aided design and 3D printing, virtual reality, coding and programming, energy, environmental sciences and agriculture. MEDB retains independent A-133 audits annually and due to its years of unconditional opinions, clean audits, with no material weaknesses, MEDB is classified as a low risk auditee.

2. ☒ Facilities

The applicant shall provide a description of its facilities and demonstrate its adequacy in relation to the request. If facilities are not presently available, describe plans to secure facilities.

MEDB operates and manages its own training facility, with state-of-the art technology and distance learning equipment, meeting all ADA compliance. Much of the training will be on site at the participating schools.

V. Personnel: Project Organization and Staffing

1. ☒ Proposed Staffing, Staff Qualifications, Supervision and Training

MEDB is a non-profit, 501(c)3 organization has 33 years of experience in program development and implementation to diversify Hawaii's economy and build the requisite resident trained workforce. It is led by a 32-member Board of Directors from the state's most recognized leaders in industry, government, academia, and community organizations. Its skilled 24-member staff manages a complex project portfolio in economic and workforce development, with a funding base from federal, state, county, and private industry and community investments.

MEDB will utilize its existing trained staff that has a proven track record for its successful implementation, whose salaries are leveraged by other funding sources to implement the proposed program.

Senior Management team for the STEMworks™ program includes:

Leslie Wilkins - Maui Economic Development Board, Inc., President & CEO

Professional Experience:

In October 1999, Ms. Wilkins was hired to create, launch, and lead implementation of the Women in Technology Project (WIT), a pilot and demonstration program, designed to engage more girls, women and minorities into the Science, Technology, Engineering and Math (STEM) pipeline. Today, the program is recognized as a "national best practices model" and annually serves 40,000 participants across the state. In her 17-year role as MEDB's Vice President, she oversaw a $22 million funding portfolio, including principal investigator of grants from eight federal agencies. In February 2017, the MEDB Board of Directors elected her president-elect and she assumed the organization's top post July 1, 2017. She will support the proposed project with no charge to the state GIA budget.

Collaborations & Affiliations:

Ms. Wilkins is an experienced advocate for women and workplace equity issues. She is currently serving her second term appointment as chair of the Hawaii State Commission on the Status of Women. She previously served as the Commission chair from 1996 - 2003. She further serves as chair of the Hawaii Workforce Development Council and the Maui County Workforce Board. She has held state and national leadership roles with the Business & Professional Women's Organization (BPW/USA) for more than two decades. After completing her term as BPW/Hawaii State President in 1992, she was recruited for national service as Legislation/Issues Management chair and in 1994 she was elected to BPW/USA's Executive Committee culminating in her election as BPW/USA's National President and BPW Foundation Chair through 2002. She continues as a national trustee of the BPW Foundation.

Honors include the 2014 Hawaii SBA Veteran Business Advocate Award; the 2001 Federal Region IX SBA Women's Business Advocate; the 2005 International Economic Development Council (IEDC) Performance Award for a Multi-Year Local Economic Development Initiative.

Isla Young is the Director of STEM Education and Workforce Development programs for MEDB's Women In Technology. Isla provides the leadership to develop statewide project and place based, interdisciplinary learning programs reaching over 40,000 students and teachers in K-12 STEM education. Isla builds partnerships and collaborates with local and national leaders in technology and industry, institutions of higher education, and STEM-centered professional organizations. In addition, she serves on the Board of the Hawaii Geographic Information Coordinating Council (HIGICC), Board member of Pacific Center for Advanced Technical Training (PCATT), Board member of the Hawaii Science Teachers Association (HaSTA), CyberHawaii Education and Workforce Development Committee, and serves on the Board of the Patsy T. Mink Center for Business & Leadership (MCBL).

Melinda White has eight years of experience as a certified Math/Science/Special Education Teacher and is an ambassador for Michigan State University's Masters in Education program. She earned a Masters in Teaching and Curriculum and holds a BS in Zoology. She is a curriculum writer, professional development trainer, and is a program manager for STEMworks AFTERschool™ programs at five school sites in Maui County.

Mapu Quitazol has been a Project Manager for the Women in Technology Project since 2009, providing leadership and coordination for place-based, interdisciplinary learning programs that serves students and teachers in K-12 STEM education statewide. She currently serves as a board member for the Hawaii Society for Technology in Education (HSTE).

2. ☒ **Organization Chart**

See Attachment 3: MEDB Organizational Chart

3. ☒ **Compensation**

The applicant shall provide the annual salaries paid by the applicant to the three highest paid officers, directors, or employees of the organization by position.

Name	Title	Annual Salary
Leslie Wilkins	President and CEO	$ 138,000
Isla Young	Director of STEM Education and Workforce Development	$ 90,000
Gerry Smith	Director of Business Development	$ 85,000

VI. Other

1. ☒ **Litigation**

The applicant shall disclose any pending litigation to which they are a party, including the disclosure of any outstanding judgement. If applicable, please explain. N/A

2. ☒ **Licensure or Accreditation**

The applicant shall specify any special qualifications, including but not limited to licensure or accreditation that applicant possesses relevant to this request.

Lead STEMworks™ instructor is a licensed teacher in the State of Hawaii and holds a Master's Degree in Teaching and Curriculum.

3. ☒ **Private Educational Institutions**

The applicant shall specify whether the grant will be used to support or benefit a sectarian or non-sectarian private educational institution. Please see Article X, Section 1, of the State Constitution for the relevance of this question.
No. Funding from the grant will not be used to support or benefit any teachers, students or schools from non-sectarian private educational institutions. It will be used exclusively to support public institution teachers and build capacity for Hawaii's enrolled public education students.

4. ☒ **Future Sustainability Plan**

The applicant shall provide a plan for sustaining after fiscal year 2018-19 the activity funded by the grant if the grant of this application is:

(a) Received by the applicant for fiscal year 2018-19, but
(b) Not received by the applicant thereafter.

The STEMworks™ proposed program is highly leveraged and not solely dependent on the requested state funding. This GIA request will help the program ramp up to serve unmet current teacher demand and continue to expand the reach of the program. Teachers trained within the DOE will continue to serve students beyond the students counted in this one-year implementation. Teacher capacity in engineering design practices and team collaborative project-based service learning activity management will remain within the DOE, as will the relationships developed with industry mentors. Each classroom will have access to a shared investment in lending libraries of STEM technology tools, and investment which will equip classrooms for future years.

5. ☒ **Certificate of Good Standing** (If the Applicant is an Organization) If the applicant is an organization, the applicant shall submit one (1) copy of a certificate of good standing from the Director of Commerce and Consumer Affairs that is dated no earlier than December 1, 2017.

6. ☒ **Declaration Statement** The applicant shall submit a declaration statement affirming its compliance with Section 42F103, Hawaii Revised Statutes. (Link)

Department of Commerce and Consumer Affairs

CERTIFICATE OF GOOD STANDING

I, the undersigned Director of Commerce and Consumer Affairs of the State of Hawaii, do hereby certify that

MAUI ECONOMIC DEVELOPMENT BOARD, INC.

was incorporated under the laws of Hawaii on 04/26/1982 ; that it is an existing nonprofit corporation; and that, as far as the records of this Department reveal, has complied with all of the provisions of the Hawaii Nonprofit Corporations Act, regulating domestic nonprofit corporations.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Department of Commerce and Consumer Affairs, at Honolulu, Hawaii.

Dated: January 12, 2018

Director of Commerce and Consumer Affairs

To check the authenticity of this certificate, please visit: http://hbe.ehawaii.gov/documents/authenticate.html
Authentication Code: 294829-COGS_PDF-51096D2

DECLARATION STATEMENT OF APPLICANTS FOR GRANTS PURSUANT TO CHAPTER 42F, HAWAI'I REVISED STATUTES

The undersigned authorized representative of the applicant certifies the following:

1) The applicant meets and will comply with all of the following standards for the award of grants pursuant to Section 42F-103, Hawai'i Revised Statutes:

   a) Is licensed or accredited, in accordance with federal, state, or county statutes, rules, or ordinances, to conduct the activities or provide the services for which a grant is awarded;

   b) Complies with all applicable federal and state laws prohibiting discrimination against any person on the basis of race, color, national origin, religion, creed, sex, age, sexual orientation, or disability;

   c) Agrees not to use state funds for entertainment or lobbying activities; and

   d) Allows the state agency to which funds for the grant were appropriated for expenditure, legislative committees and their staff, and the auditor full access to their records, reports, files, and other related documents and information for purposes of monitoring, measuring the effectiveness, and ensuring the proper expenditure of the grant.

2) If the applicant is an organization, the applicant meets the following requirements pursuant to Section 42F-103, Hawai'i Revised Statutes:

   a) Is incorporated under the laws of the State; and

   b) Has bylaws or policies that describe the manner in which the activities or services for which a grant is awarded shall be conducted or provided.

3) If the applicant is a non-profit organization, it meets the following requirements pursuant to Section 42F-103, Hawai'i Revised Statutes:

   a) Is determined and designated to be a non-profit organization by the Internal Revenue Service; and

   b) Has a governing board whose members have no material conflict of interest and serve without compensation.

Pursuant to Section 42F-103, Hawai'i Revised Statutes, for grants used for the acquisition of land, when the organization discontinues the activities or services on the land acquired for which the grant was awarded and disposes of the land in fee simple or by lease, the organization shall negotiate with the expending agency for a lump sum or installment repayment to the State of the amount of the grant used for the acquisition of the land. Further, the undersigned authorized representative certifies that this statement is true and correct to the best of the applicant's knowledge.

Maui Economic Development Board, Inc.

[redacted]

1/19/2018
(Date)

Leslie Wilkins — President and CEO
(Typed Name) (Title)

7. ☒ **Public Purpose** The applicant shall specify whether the grant will be used for a public purpose pursuant to Section 42F-102, Hawaii Revised Statutes. (Link)

(1)The name of the requesting organization or individual;

Maui Economic Development Board, Inc.

(2) The public purpose for the grant;

Building Hawaii's future workforce by developing students' critical thinking and problem solving skills to be career ready through a multifaceted, year-long educator and student professional development, career awareness and work-based learning programmatic plan featuring:

A. STEM Pedagogy: Teacher Professional Development & Curriculum
B. Methods to Guide Teacher in Student Development of Career & Professional Skills
C. Tools to Support Teachers in Student STEM Career Exploration
D. Industry Connections, Career Explorations and Technical Support for Teachers to Immerse Students in Industry Standard Software and Practices
E. Professional Career Experience

(3) The services to be supported by the grant;

A. STEM Pedagogy: Teacher Professional Development	Two-Day STEMworks™ Engineering Design Professional Development
	STEMworks™ THINKit™ Professional Development
	STEMworks™ Software/STEM Workshops
	Collegiate Webinar #1 for STEMworks™ Teachers
	Collegiate Webinar #2 for STEMworks™ Teachers
	STEMworks™ Portfolios Due and three PDE3 Credits Awarded
	Two-day Hawaii STEM Conference Teacher Professional Development
B. Methods to Guide Teacher in Student Development of Career & Professional Skills	STEMworks™ Engineering Design Toolkit Curriculum to guide student projects in engineering design to solve community needs
	STEMworks™ THINKit™ Resources & Curriculum to guide students in STEM exploration & application of the engineering design process in array of STEM fields
	STEMworks™ Oration Toolkit to facilitate group communication, compromise and collaboration
	STEMworks™ Team Roles Toolkit to facilitate planning and organization of team roles and responsibilities throughout an engineering design project

	STEMworks™ Community Resources Guide to facilitate local community connected relationships that make relevant connections for projects
C. Tools to Support Teachers in Student STEM Career Exploration	Comprehensive access to STEMworks™ THINKit™ and the STEMworks™ Lending Library technology tools, including hardware and software to equip classrooms for project integration. Software and hardware tech tools available, includes, but is not limited to: coding, circuitry, prototyping, CAD, 3D printing virtual reality, geospatial and drone technologies, and digital media
	Annual subscription to STEM Jobs providing age appropriate insight, articles and lessons plans about STEM professionals in current STEM careers, aligned to colleges degree programs and hiring companies.
	STEMworks™ Student Competitions, judged & awarded at the Hawaii STEM Conference
D. Industry Connections, Career Explorations & Technical Support for Teachers to Immerse Students in Industry Standard Software and Practices	Workplace learning through student access to STEMworks™ Software Workshops in STEM areas, such as, but not limited to computer-aided Design, Adobe Creative Suite, and/or Geospatial Technologies. Workplace learning includes annual subscription to Lynda.com which provides personalized technical & soft skills training in over 6000 industry standard software and career skills online courses.
	Workplace learning through the statewide Hawaii STEM Conference: Industry led breakout sessions building STEM Career & technology skills, presentation of school program impact to community and industry partners, 5x5 network with professionals
	Workplace learning through STEMworks™ Industry Connections enables students to meet STEM professionals in the workplace to learn about and explore possible STEM career pathways
E. Professional Career Experience	Workplace learning through industry mentorship during classroom STEMworks™ student projects support defining community needs, with relevant solution design, testing and revision of solutions using the engineering design process
	Workplace learning in six-week professional STEMworks™ Internships, based across the state of Hawaii

(see Attachment 2: Timeline Program At A Glance)

(4) The target group;

100 K-12 DOE public/public-charter teachers and 5,000 K-12 DOE public/public-charter students from the islands of Lanai, Maui, Molokai, Kauai, Hawaii Island and Oahu.

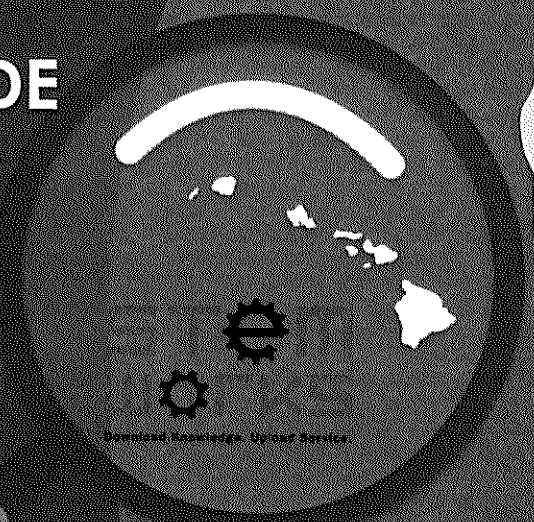
(5) The cost of the grant and the budget.

Grant: $498, 251 Total Budget: $1,654,251

Geographic Distribution of Existing STEMworks Program Across the State - Attachment 1

STEMWORKS SCHOOLS

29 STATEWIDE



HAWAI'I ISLAND
Honoka'a High & Intermediate School
Kanu O Ka 'aina Public Charter School
Kea'au High School
Kealakehe High School

KAUA'I
Kaua'i High School

LANA'I
Lana'i High & Elementary School

MOLOKA'I
Moloka'i Middle - `O Hina I Ka Malama
Moloka'i Middle School
Moloka'i High - `O Hina I Ka Malama
Moloka'i High School

MAUI
Baldwin High School
Kamali'i Elementary School
King Kekaulike High School
Lahainaluna High School
Lahaina Intermediate School
Lokelani Intermediate School
Maui High School
Maui Waena Intermediate School
Pukalani Elementary School
St. Anthony School
Wailuku Elementary School

OAHU
Castle High School Farrington
Farrington High School
Hawaii Tech Academy
McKinley High School
Mililani High School
Moanalua High School
Roosevelt High School
Waipahu High School

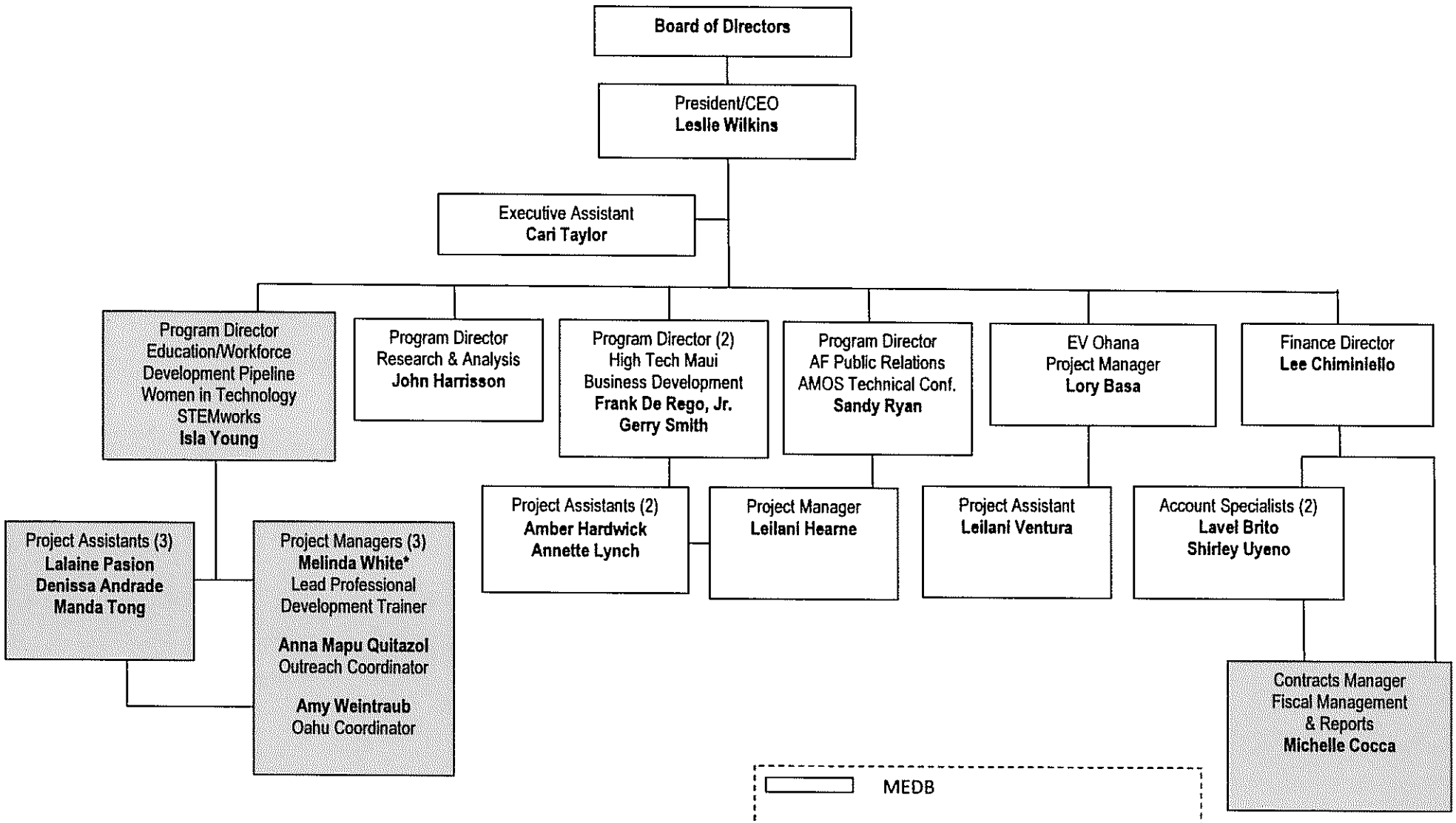
TIMELINE PROGRAM AT A GLANCE

ATTACHMENT 2

Multipronged Professional Development Plan for Teachers to Support Students:	Ongoing technical support from MEDB trainers and industry mentors includes:	2018		2019	
		JULY - SEPT	OCT - DEC	JAN - MAR	APR - JUNE
		Q 1	Q 2	Q 3	Q 4
A. STEM Pedagogy: Teacher Professional Development	Two-Day STEMworks™ Engineering Design Professional Development	X			
	STEMworks™ THINKit™ Professional Development		X		
	STEMworks™ Software/STEM Workshops		X	X	
	Collegiate Webinar #1 for STEMworks™ Teachers			X	
	Collegiate Webinar #2 for STEMworks™ Teachers			X	
	STEMworks™ Portfolios Due and three PDE3 Credits Awarded				X
	Two-day Hawaii STEM Conference Teacher Professional Development				X
B. Methods to Guide Teacher in Student Development of Career & Professional Skills	STEMworks™ Engineering Design Toolkit Curriculum to guide student projects in engineering design to solve community needs	X	X	X	X
	STEMworks™ THINKit™ Resources & Curriculum to guide students in STEM exploration & application of the engineering design process in array of STEM fields	X	X	X	X
	STEMworks™ Oration Toolkit to facilitate group communication, compromise and collaboration	X	X	X	X
	STEMworks™ Team Roles Toolkit to facilitate planning and organization of team roles and responsibilities throughout an engineering design project	X	X	X	X
	STEMworks™ Community Resources Guide to facilitate local community connected relationships that make relevant connections for projects	X	X	X	X
C. Tools to Support Teachers in Student STEM Career Exploration	Comprehensive access to STEMworks™ THINKit™ and the STEMworks™ Lending Library technology tools, including hardware and software to equip classrooms for project integration. Software and hardware tech tools available, includes, but is not limited to: coding, circuitry, prototyping, CAD, 3D printing virtual reality, geospatial and drone technologies, and digital media	X	X	X	X
	Annual subscription to STEM Jobs providing age appropriate insight, articles and lessons plans about STEM professionals in current STEM careers, aligned to colleges degree programs and hiring companies.	X	X	X	X
	STEMworks™ Student Competitions, judged & awarded at the Hawaii STEM Conference		X	X	X
D. Industry Connections, Career Explorations & Technical Support for Teachers to Immerse Students in Industry Standard Software and Practices	Workplace learning through student access to STEMworks™ Software Workshops in STEM areas, such as, but not limited to computer-aided Design, Adobe Creative Suite, and/or Geospatial Technologies. Workplace learning includes annual subscription to Lynda.com which provides personalized technical & soft skills training in over 6000 industry standard software and career skills online courses.	X	X	X	X
	Workplace learning through the statewide Hawaii STEM Conference: Industry led breakout sessions building STEM Career & technology skills, presentation of school program impact to community and industry partners, 5x5 network with professionals				X
	Workplace learning through STEMworks™ Industry Connections enables students to meet STEM professionals in the workplace to learn about and explore possible STEM career pathways		X		
E. Professional Career Experience	Workplace learning through industry mentorship during classroom STEMworks™ student projects support defining community needs, with relevant solution design, testing and revision of solutions using the engineering design process		X	X	X
	Workplace learning in six-week professional STEMworks™ Internships, based across the state of Hawaii				X

Maui Economic Development Board, Inc. (MEDB)
Organizational Chart

Attachment 3



STEM / Women in Technology Project staffing - highlighted in yellow

**These projects staff members paid with leveraged funds*