

**District 5580 World Community Service (WCS)  
Matching Grant Application**

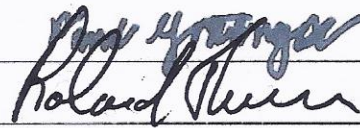
**FOR DISTRICT 5580 USE ONLY (once Grant is approved)**

**District Grant No. WCS -13.1.06**

**Date Approved:** [Click here to enter a date.](#)

**District Grant Subcommittee Chair Signature:**

**District Rotary Foundation Chair Signature:**



**Explanation:** Matching grants support the humanitarian service projects of Rotary Clubs and Districts. In this section, describe in detail the humanitarian need your project will address, the intent of the project, how the project will be implemented, and how Rotarians will be directly involved in the project (involvement is required by both the Host Club and International Partnering Club).

In 2011, the North Shore and Duluth Harbortown Rotary Clubs completed a very successful pure water project in Lougou, Haiti using a District 5580 WCS matching grant to install 100 Sawyer household water filter systems. The Project #11.4.18 stopped a cholera outbreak in the village and provided the villagers with their first ever pure water for drinking, cooking and personal hygiene. The Lougou Water Committee immediately requested an additional 80 filter systems so that neighboring families did not have to share a system and to cover the Lougou Academy students and teachers who live outside of Lougou, and the COFHED workers from Camp Perrin and their families. Since the Woodland Hills Church in St. Paul had raised funds to support the Phase 2 water project, COFHED and the two Rotary Clubs agreed to split the \$6000 cost of these systems so that they could be purchased and installed quickly that same summer.

When this project was evaluated and proposed to the Lougou Water Committee (LWC) and the Lougou Development Committee (LDC) it was to be the Phase 1 effort to be followed by a Phase 2 to design and install a pressurized pure water system to support the Academy and the planned Day Care Center and Health Clinic, and to provide some village water distribution stations. Since the electric service in Haiti is quite unreliable, particularly in remote areas like the Village of Lougou a diesel generator and upgraded electric service were also proposed as part of Phase 2.

The primary purpose of this WCS grant application is to provide matching funds for this Phase 2 pure water and power project for Lougou. During a recent planning session for this Phase 2 project it was learned that several thousand dollars could be saved by the staging the early completion of the final 6th grade classroom for the LaPetite Academy of Lougou along with the 5th grade classroom already under construction followed by the Phase 2 water cistern and mechanical building to house the water pumps, water filters, diesel generator, batteries, etc. This cost saving is realized by improved workforce and equipment rental and supplies efficiencies, future avoided delivery costs associated with the rental materials and equipment, etc.

Since the two Rotary clubs fund raising had exceeded its goal there will be sufficient funds to complete this last classroom if the District will match \$21,000 that the Clubs and COFHED have raised funds for this project.

**Please provide the name of the project site, the city or village, state or province, and country. Provide a detailed map of the area or provide GPS (Global Positioning Site) coordinates.**

List multiple locations, if applicable.

Project Site: La Petite Academie de Lougou

City/Village: Village of Lougou

State/Province: Les Cayes Arrondissement, in the Sud Department

Country: Haiti

GPS coordinates (if no map is provided): 18°21'12" N and 73°51'73" W

**The link below takes you to an interactive map that lets you zoom in and out on Haiti, Camp Perrin and the Village of Lougou to the point that the hydro dam and school roof are visible.**

<http://www.bing.com/maps/?v=2&cp=m1vh4k8vbtpg&lvl=17&dir=0&sty=b&where1=Camp-Perrin%2C%20Haiti&q=camp%20perrin%2C%20haiti>

**Provide name of ownership of property that structure on which structure is to be built.**

La Petite Académie de Lougou is a primary school owned and operated by the Village of Lougou, southern Haiti. Much of the Phase 2 equipment will be located in the mechanical building attached to the academy. The land for the village owned day care center and health clinic has been donated by village families and deeded over to the village.

**Provide a blueprint/detailed drawing of the proposed structure as an attachment.**

No architectural drawings are available at this time. See Pictures 1 and 2 of the existing Academy buildings. The 5 and 6th grades will be built by removing the old, leaky roof in Picture 3 and adding a new level and new galvanized steel roof and rain water capture gutters and downspouts. There are drawings of the water cistern design and the mechanical building in Attachment 1 Excel spreadsheets of the Phase 2 water system design under the Drawings tab.

**Describe the project and the need it will address, including the intended beneficiaries and how the project will benefit the community in need.**

This project has components that meet five of the six Rotary Areas of Focus as follows

**BASIC EDUCATION & LITERACY** – The first priority that the Village of Lougou established through the COFHED community engagement/development process back in 2004 was to get as many of the children as possible into local area schools and to establish their own age appropriate school in the village itself. A family goat rearing program was initiated with donations through COFHED to help families cover tuition, uniforms, and school supply costs. The La Petite Académie de Lougou school allows the village to keep its young children near home, they won't have to walk long distances to go to other schools far away from their community. The children and their families draw many benefits when the children attend the community school. These benefits go from safety and security to important financial savings and better academic performance from the students.

The Academy was started with a single classroom for kindergarteners. Each year since, a classroom has been added and this year the plan is to add the 5th grade classroom with the 6th and final classroom planned for construction in summer 2013. To add these classrooms an old, leaky (used metal) roof must be removed and replaced. This leaky roof has often caused the disruption of classes during the rainy season. With the \$11500 donated to COFHED for the 5th grade classroom addition, the plan was to split the existing roof and reuse the old roof this year and then try to raise sufficient funds next year to install an entirely new roof with the 6th grade additions so the current disruption of classes for severe rain

storms would continue. This project fixes this problem this summer. Completion of the 6th grade classroom early will also allow for a secure ground level classroom and storage area to be utilized to store the school kitchen equipment and supplies and other construction tools & equipment temporarily during this coming year of major projects construction. The YouTube video at

<http://www.youtube.com/watch?v=a8463801eaY>

The Academy has been without electricity since last fall's hurricane season (over 9 months now). Even when service was available from the government utility it is very unreliable and poor quality (low voltage) service. The proposed power system will ensure electricity for the Academy, as well as other community facilities, which will improve lighting and allow for extended hours of use of the Academy for classes, community meetings, etc.

**WATER & SANITATION** – A primary use of the new power system will be to provide reliable electric service for the Phase 2 pressurized pure water system that is already funded by Woodland Hills Church and which will be completed this fall/winter as well. This Phase 2 water system (design and cost estimate documents attached as Attachments 1 and 2 are the agreed to follow-on effort to the Phase 1 Lougou Water Project # 11.4.18 accomplished in 2011. The Phase 2 project will serve the cluster of new community facilities, some village water distribution stations, and new personal hygiene wash stations. **MATERIAL & CHILD HEALTH and DISEASE PREVENTION & TREATMENT**– Phase 2 pure water project will further aid the prevention of waterborne diseases. The positive impact of pure water for drinking, cooking, and personal hygiene is clearly demonstrated from the Phase 1 implementation of the 180 Sawyer household water filter systems stopping the cholera outbreak and improvements in villager health seen by the February 2012 medical mission team. Each year this week long medical mission to Lougou of MN/WI doctors and nurses bemoans the fact that they have to shut down because of darkness (lack of electricity) before all patients can be seen, many of whom have walked for miles. The new power system will alleviate this issue and concern.

Phase 2 will provide both pure running water and electricity to the community health clinic already under construction which will be used by the community nurse and occasional visiting doctors and/or nurses for examining and treating patients. Currently the nurse shares the principal's office and has no place to treat and (monitor its students and/or villagers. The clinic will also provide a clean and proper location for child birthing.

**ECONOMIC & COMMUNITY DEVELOPMENT** – The Lougou Development Committee and its subcommittee have established their development goals and made the decisions about the design and implementation of all these major development projects. The completion of the Academy will accomplish the villages' first priority and the Phase 2 water/power Project will be the realization of their second priority. The Daycare Center, Health Clinic, and suspended walking bridge across the river that separates portions of the village will complete their near-term priorities.

A good portion of the manual labor associated with the projects is being provided by the villagers themselves through community workdays (see YouTube video at <http://www.youtube.com/watch?v=7AS479EQzjU>). There are some monies in the various project budgets to pay for food and some small compensation for certain labor activities. The local builders (craftsmen) are being paid and the materials will mostly be purchased from Haitian businesses and local vendors.

Since the project will be implemented by the villagers themselves with the supervision of COFHED, it will provide the opportunity for cash infusion in the village and surrounding area, thus helping the local economy in the short-term. But the long-term impact will be felt for years and even decades to come with thousands of children receiving a good primary education as a basis and preparation for a strong and responsible citizenry and thriving middle class in the commune of Camp-Perrin and beyond. The children of today will be the workers and leaders of tomorrow.

### **Provide the estimated length of time needed to complete the project.**

The classroom portion of the project is expected to reach completion by the first week of October 2012, at which time the next school year (2012-13) begins for most schools in Haiti. The water cistern and

mechanical building will follow immediately after and be complete by December 2012. The Phase 2 water and power equipment will be completed between December and March 2013.

**Describe how the benefiting community will maintain this structure or project (financing of maintenance, etc.) after grant funding has been fully expended and who will be responsible for sustainability of the structure.**

The Lougou community has been taking care of their school. The caretakers are from Lougou. They keep the school and its ground neat and clean. Parents pay a fee for their children to attend the school and they also volunteer their time to help run the school. With the fees and tuition parents pay, community workers are hired and responsible for keeping the school in good condition and administer it. The village and COFHED have supported the young adults in their efforts to become teachers, electricians and mechanics and these young adults now either work in the village or return to support the needs of the village. The LWC members will be trained in the basics of maintaining the water & power systems and the plan is to train the electrician and mechanic to handle the more technical maintenance and troubleshooting. COFHED has responsibility for bringing in outside experts as necessary to deal with serious problems and repairs. Much of the major pieces of equipment will have some period of manufacturer's warranty coverage.

**Describe specific activities of the Host and International Partners in implementing the project.**

Ron Moore, owner of Forest Lake based water treatment company, Hydricare, and a COFHED Board member will be responsible for the design, specification, purchase and installation oversight for the Phase 2 water systems working closely with the COFHED staff. Steve Sherner, former utility executive, Professional Electrical Engineer and Harbortown Rotarian will be responsible for the design, specification, purchase and installation oversight for the Phase 2 power systems working closely with the COFHED staff. COFHED staff will continue its responsible for these same activities for the classrooms, mechanical building, and cistern construction. North Shore Rotary Club will be responsible for the disbursement of the \$42,000 of Rotary funds associated with the project under the direction of Steve Sherner who will also serve as project coordinator between Rotary, COFHED and Ron Moore. Both Ron and Steve expect to be on the ground in Lougou with volunteers and villagers to install the Phase 2 water and power systems. A number of Rotarians with necessary technical and construction skills have expressed a desire to participate in this Phase 2 effort.

**What will the Rotarians who are members of the partner clubs do during the project? Please note that financial support is not considered active involvement.** (Refer to *Matching Grant Application Instructions* for suggestions.) **See answer above.**

**Explanation:** The **Host Partner** is the **Club or District in the project country**. A committee of at least **three (3) Rotarians** must be established to oversee the project. The primary project contact must be a member of the primary Club identified below. The **Project Committee** must be composed of members of the sponsoring Rotary Club or NGO for Club-sponsored projects or District for District-sponsored projects. The committee members must be committed for the duration of the grant process. Please provide the primary address for all committee members, as all D5580 information will be sent to this address. It is **required** that the primary contact (who receives all information from D5580) have an email address to expedite communication.

**Primary Rotary Club/District or NGO:**



Club: Name and Number and/or NGO: COFHED

Christian Operation for Health, Education, and Development (COFHED) is a Minnesota-based, 501(c)(3) non-profit organization under the IRS. Haitian-born field directors, Nicaise and Madeleine Avignon, along with several close friends in Minnesota founded COFHED in 2001. Our relationship with Lougou villagers started in 2003, when we began to engage the community in a long-term partnership that boosts their ability to plan and implement development activities designed to lead to self-sufficiency. Community needs and potential solutions have been prioritized by the community as a result of a village assessment tool called Participatory Rural Appraisal and Planning (PRAP), used in the summer of 2004. PRAP is an assessment method that helps communities identify their problems and seek out solutions that are locally relevant.

A Minnesota-based board, consisting currently of 11 members, supports and provides oversight for COFHED in many areas including administrative governance, operational guidance, financial capacity, fundraising activities, and communication. All current board members contribute to COFHED on a monthly or yearly basis, and many of them have visited Haiti or Lougou one or more times.

#### Mission and Spiritual Values

COFHED's mission has not changed. It is to engage in long-term community-led development in southern Haiti, one village at a time. Our vision is to help build a Haiti:

1. Where children can expect to live into adulthood to serve God and their neighbors.
2. Where families have the tools they need to build and sustain a better life leading to self-sufficiency.

As a Christian organization, we believe passionately in the value of every child — girl or boy — who lives in extreme poverty. For example, we show this core belief by committing ourselves to working in partnership with the residents of the village of Lougou and to addressing their physical, educational, and spiritual needs. This active demonstration of Christ's love is a powerful witness we use as we welcome opportunities for long-term community development in southern Haiti. Our goals are:

1. To develop meaningful and lasting relationships with rural communities and their leaders.
2. To assist community-led planning groups in assessing and prioritizing their needs for collective action.
3. To promote sustainable development through active community participation.
4. To humbly serve the needs of the poor according to the extent of God's provisions, hoping and trusting that the goodness of God will lead many to repentance and faith in Jesus-Christ.

District: [Click here to enter text.](#)

Country: COFHED Mission House is in Camp Perrin, Haiti

#### **Primary Contact:**

Name: Nicaise (Nick) Avignon

Member ID (if known): [Click here to enter text.](#)

Club Name: COFHED

Position: Field Director

Street Address: PO Box 4094 or 21 RUE Jonc Champlois

City/State or Province/Postal Code: St. Paul, MN 55104 or Camp Perrin, Haiti

Phone: (651) 431-8014 mobile (509)34084328 Mission House

Email Address (**Required**): [nicaiseavignon@msn.com](mailto:nicaiseavignon@msn.com)

Website: [www.cofhed.org](http://www.cofhed.org)

#### **Project Contact #2:**

Name: Nancy Kin

Member ID (if known): [Click here to enter text.](#)

Club Name: COFHED

Position: Treasurer

Street Address: 15894 Hyland Pointe Court  
City/State or Province/Postal Code: Apple Valley, MN 55124-7083  
Phone: 315-212-9626  
Email Address (**Required**): nancy92091@yahoo.com

**Project Contact #3:**

Name: Ron Moore  
Member ID (if known): [Click here to enter text.](#)  
Club Name: COFHED  
Position: BOD member/owner Hidrocare  
Street Address: 6150 202nd St. N  
City/State or Province/Postal Code: Forest Lake, MN 55025  
Phone: 651-464-9060 business 612-655-1275 mobile  
Email Address (**Required**): hidroron@gmail.com or rlvmoore@aol.com

**Explanation:** The **International Partner** is the Club or District outside the project country. In this case, **the International Partner would be a Club in District 5580.** A committee of at least three (3) Rotarians must be established to oversee the project. The primary contact must be a member of the primary Club identified below. The project committee must be composed of members of the sponsoring Rotary Club(s) for Club-sponsored projects or District-sponsored projects. The committee members must be committed for the duration of the grant process. Please provide the primary address for all committee members, as all D5580 information will be sent to this address. It is **required** that the primary contact (who receives all information from D5580) have an email address to expedite communication.

**Primary Club/District:**

Club or District Name: Duluth Harbortown/ North Shore  
Club ID Number: 21611/ 29444  
District #: 5580  
Country: ☒USA ☐CAN

**Primary Contact:**

Name: Stephen Sherner  
Member ID (if known): [Click here to enter text.](#)  
Club Name: Duluth Harbortown  
Position: Member/ Lougou Project Coordinator  
Street Address: 6890 S Fitch Ave.  
City/State or Province/Postal Code: Lake Nebagamon, WI 54849  
Phone: 218-343-9159  
Email Address (**Required**): ssherner@centurytel.net

**Project Contact #2:**

Name: Sarah Cron  
Member ID (if known): [Click here to enter text.](#)  
Club Name: North Shore  
Position: Member???  
Street Address: 3055 Clark Road  
City/State or Province/Postal Code: Two Harbors, MN 55616  
Phone: 218-834-6586 home 218-834-2226 work  
Email Address (**Required**): sjwcron@clpower.com or sjwcron@gmail.com

**Project Contact #3:**

Name: Karl Everett

Member ID (if known): [Click here to enter text.](#)

Club Name: Duluth Harbortown

Position: Chair International Services Committee

Street Address: 1613 Fern Ave.

City/State or Province/Postal Code: Duluth, MN 55811

Phone: 218-724-3134 or 218-491-3422

Email Address (**Required**): keverett@golder.com

**Explanation:** Official Exchange Rates can be found at:

[www.rotary.org/newsroom/downloadcenter/support/rates.html](http://www.rotary.org/newsroom/downloadcenter/support/rates.html). Please use the most recent rate.

**ITEMIZED BUDGET TO BE COMPLETED BELOW:**

Budget Item	#	A	Su
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	s	Ea	
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Phase 2 Power

8500 kW diesel generator,	
24 volt station storage batteries, and inverter	\$ 9000
600ft. of 2/0 triplex URD cable	\$ 1500
1500ft. of 1/0 triplex URD cable	\$ 3250
3 – 100 amp circuit breaker boxes, meter	\$ 750
Pedestal, connectors, misc. supplies	\$ 500
Professional support & expenses	<u>\$1300</u>
<b>Power Subtotal</b>	<b>\$16300</b>

See Attachment 2 for the detailed \$19349 Phase 2 water system estimate that according to Ron Moore the designer/developer includes the below costs to be covered through this matching grant:

Mechanical building	\$ 2000	
Water Cistern	\$ 3000	
Rainwater capture	<u>\$ 1000</u>	
	\$ 6000	
		\$19350
Plus Professional support & expenses		<u>\$1300</u>
<b>Water Subtotal</b>		<b>\$20650</b>

See Attachment 3 for the detailed \$30,046 estimate for completion of the 5<sup>th</sup> and 6<sup>th</sup> grade Academy classrooms staged this year. \$1000 was added to this

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estimate to cover the cost of painting not included.	<u>\$31050</u>
<b>PROJECT TOTAL</b>	<b>\$68000</b>

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**Subtotal all items in country currency:** [Click here to enter text.](#)

**Exchange rate used US \$1 =** [Click here to enter text.](#)

**Explanation:** Clearly list all financing in US dollars in the section below, noting which funds will be contributed in cash and which will be contributed from D5580 WCS funds. Use of WCS must be approved by the Grants Subcommittee and authorized by the District Rotary Foundation Chair. **The Host Club or District must provide at least \$100 in cash**, and it is highly recommended that they match as much as possible with “in kind” donations of sweat equity whenever possible.

**Note:** *A project bank account must be established in District 5580 or Host Country before WCS Grant Funds will be distributed. When established and total club/cash contributions have been deposited into the account, the WCS Grant matching funds will be sent directly to the project bank account.*

**Host Club (Project Country) cash donation: \$6000 (a portion of the WHC water funds)**  
**D5580 Rotary Club(s) or District outside the Project Country: North Shore/Duluth Harbortown**  
**Cash (US\$): \$15000**  
**Subtotals, Cash: \$21000**  
**Total Cosponsor Contributions: \$\$21000**  
**Total Funds requested from D5580 WCS Fund: \$\$21000**

**Additional outside funding not matched by WCS fund: \$\$26000 (5th grade classroom funds being expended currently and balance of WHC water funds for Phase 2 water equipment)**  
**Total Project Financing (Must equal budget): \$\$68000**



**Explanation:** Before an application is submitted to D5580, project partners should discuss various planning details. The questions and statements below are a guide to aid project planning. Note that a Rotary Club/District or Rotarian may not own anything purchased with grant funds.

- **Identify who will own equipment and maintain, operate and secure items purchased with grant funds.**

The Village of Lougou will own the academy and the Phase 2 water & power equipment. COFHED and the Lougou Development Committee(LDC) and its subcommittees will be responsible for securing the construction materials and equipment purchased for this project as well as the day care center, bridge, and health clinic. Once complete COFHED will work with the LDC to establish the additional operating budget needs and raise the necessary revenues through grants or assessments to the villagers that benefit from the various services such as water, power, day care, school, etc. COFHED has numerous generous donors including its BOD that have supported the academy construction and operation and with the completion of these priority projects some of this annual giving can be used to support O&M.

- **Will training in use and maintenance of technical equipment be provided? If so, who will provide such training?**

The Lougou community has been taking care of their school. The caretakers are from Lougou. They keep the school and its ground neat and clean. Parents pay a fee for their children to attend the school and they also volunteer their time to help run the school. With the fees and tuition parents pay, community workers are hired and responsible for keeping the school in good condition and administer it. The village and COFHED have supported the young adults in their efforts to become teachers, electricians and mechanics and these young adults now either work in the village or return to support the needs of the village. The LWC members will be trained in the basics of maintaining the water & power systems and the plan is to train the electrician and mechanic to handle the more technical maintenance and troubleshooting. COFHED has responsibility for bringing in outside experts as necessary to deal with serious problems and repairs. Much of the major pieces of equipment will have some period of manufacturer's warranty coverage.

- **Is software necessary to operate any items? If so, has software been provided? No**
- **Indicate what arrangements have been made for customs clearance if items will be purchased and shipped from outside the project country.**

At this point all the equipment and supplies are available in-country and the estimates reflect purchasing there. There is some potential to get some of the water & power equipment and supplies donated or at a discount in the US and this option will then have to be evaluated to see if real savings would occur after container & customs costs.

- **Provision of plumbing and electrification to structures where people live or work may be funded with WCS funds. Have plumbing or electrification for equipment and appliances in existing buildings (hospitals, schools, libraries, orphanages, etc.) been considered and funded?**

Yes, this is a major component of this project.

**Explanation:** Authorizations ensure that both partners are aware of, and interested in, pursuing the described project. By signing below, the current Club Presidents for Club-sponsored projects, and current

District Grants Subcommittee Chair for District-sponsored projects, as well as the committee members, agree to the criteria listed and affirm their support of the projects.

All Rotary Clubs, Districts and Rotarians involved in this project are responsible to D5580 for the conduct of the project and its subsequent reporting. The signatures of all involved parties confirm that they understand and accept responsibility for the project. Parties may either sign this page or submit a separate letter of commitment.

**By signing below, we agree to the following:**

- All information contained in this Application is, to the best of our knowledge, true and accurate, and we intend to implement the project as presented in this Application.
- The Club/District agrees to undertake this project as an activity of the Club/District.
- We ensure all cash contributions (as detailed in Project Financing) will be forwarded to the proper bank account after approval of the grant.
- District 5580 may use information contained in this Application to promote the project by various means, such as the D5580 Website, the District Newsletter and other publications of the District.
- The partners agree to share information on the best practices when asked, and D5580 may provide partners' contact information to other Rotarians who may wish advice on implementing similar projects.
- To the best of my knowledge and believe, except as disclosed herewith, neither I nor any person with whom I have or have had a personal or business relationship, is engaged or intends to engage in benefiting from D5580 grant funds, or has any interest that may represent a potential competing or conflicting interest.
- A conflict of interest is defined as a situation in which a Rotarian, in relationship to an outside organization, is in a position to influence the spending of D5580 grant funds, or influence decisions in ways that could lead directly or indirectly to financial gain for the Rotarian, a business colleague, or his or her family, or give improper advantage to others to the detriment of D5580. (**NOTE**: Any and all exceptions must be explained in an attached statement.)

**Host Partner**

President (Club-sponsored)

District Grants Subcommittee Chair (District-sponsored)

Name (print): Dr. Gwendolyn Simon

Title: BOD President

Rotary Club Name or

NGO: COFHED

District #: [Click here to enter text.](#)

Signature: 

Date: [Click here to enter a date.](#)

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**International Partner**

Club President (Club-sponsored)

District Grants Subcommittee Chair (District-sponsored)

Name (print): Pat Finney/

Title: Presidents

Rotary Club: Duluth Harbortown/ North Shore  
District 5580

Signatures:

Date: 7/30/2012

**Explanation:**

A *cooperating organization* (for example, an NGO) is an organization that is directly involved in the implementation of the project, offering technical expertise and project coordination.

A *benefiting entity* is the recipient of goods or services and is not considered a cooperation organization. If this project involves a cooperating organization (neither a Rotary Club nor the beneficiary of the project), provide the following:

**Name of Organization:** Click here to enter text.

**Street Address:** Click here to enter text.

**City, State/Province, Postal Code, Country:** Click here to enter text.

**Office Phone:** Click here to enter text.

**Email Address:** Click here to enter text.

**Web Address:** Click here to enter text.

**Also, have the project contact provide the Project Contact information as listed above.**

**In addition to the above, the following must be attached:**

- Letter of participation from *cooperating organization* that specifically states:
  - ✓ Its responsibilities and how it will interact with Rotarians.
  - ✓ The organization's agreement to cooperate in any financial review of the project.

**Explanation:** Although both partners are responsible for completing the Interim and Final reports, *D5580 requires that one (1) partner take primary responsibility for submitting the Final Report to D5580. It is recommended that the primary project Club in D5580 takes this responsibility.*

**By signing below, our Club accepts Primary Reporting responsibility.**

Print Name: Stephen D Sherner

Signature:

Rotary Club Name: Duluth Harbortown  
District 5580

***Before submitting your Matching Grant Application, please take a moment to review this checklist.***

- ✓ Does the project meet all grant policies and guidelines?
- ✓ Does the project description clearly state how the project will assist those in need?
- ✓ Are the activities of the host and international partners clearly explained?
- ✓ How will Rotarians be actively involved in the project?

- ✓ Have both the host and international partners created committees to oversee the project?
- ✓ Are these individuals correctly listed on the Application with their complete contact information?
- ✓ Is a detailed, itemized budget included in the Application?
- ✓ Is ownership of the property on which the structure will be located clearly stated?
- ✓ Is a blueprint/detailed drawing of the structure included?
- ✓ Are all partner contributions listed in the application, noting which are from the WCS fund?
- ✓ Have the Club Presidents from the host and international partners provided their authorizing signatures?

**If a cooperating organization is involved, please make sure the following letters are included with the Application:**

- ✓ Letter from the organization specifically stating its responsibilities, how it will interact with Rotarians, and agreeing to cooperate in any financial review of the project.
- ✓ Has the District Grants Subcommittee Chair of D5580 certified that the Application is complete and eligible?

**\*\*\* Have the partners made copies of all documents for their files prior to submitting them to D5580?**

**\*\*\* Completed Applications should be sent to:**

- ✓ District 5580 Office: [bigfish@uslink.net](mailto:bigfish@uslink.net)
- ✓ Grants Subcommittee Chair (See Member Roster on Grants Website)

If you have any questions or concerns, please contact the Grants Subcommittee Chair.

## **LOUGOU, HAITI WATER SUPPLY SYSTEM PROPOSAL**

The week of July 19-26 at the request of the Water Committee of the Lougou Development Committee (LDC), Steve Sherner and I visited Lougou to study the existing water resources and evaluate several solutions to bring safe water to the community. The community of Lougou is a collection of approximately 130 houses and 1600 people spread out over a several square mile area. It is not a typical "town or village" in the sense that there is not a central concentrated location of homes, and buildings. The fact that the homes are dispersed over such a large area, make the design of a single all inclusive water supply system very difficult. There may be some parts of the community that may be impossible to reach. These logistics are what lead Steve and the Rotary Team to recommend the individual household Sawyer filter systems as the best "quick fix" solution to provide the villagers with pure water to help avoid cholera and other water borne diseases. The downside is that the villagers still have to haul their water from the local springs and river to their homes and the school.

Because of the presence of several large springs that flow throughout the year it was thought that these sources could be utilized. Advantages of using these springs is that the design would be simple, easy to maintain, and limited pumping equipment would be necessary. Elevation differences would need to be great enough to provide adequate pressure to many locations within the community. It is possible to utilize these springs, but the large distances involved and the rugged topography would make these alternatives prohibitively costly, and involve a great amount of labor to bury and install the pipeline. See the attached listing of each spring, it's distance from Lougou and elevations. It should be pointed out that bacteriological tests were conducted on the water from each of the springs and ALL of them tested positive for coliform bacteria. In other words they were contaminated and not fit to drink. Even though costs could be high, I have prepared a preliminary cost estimate of utilizing one of the springs to give you an idea of what is involved.

It seems feasible to install a separate small system in the Mopo area utilizing the spring there and some of the already constructed infrastructure to supply several of the houses in the area. However further study and measurement of distances will be necessary to finalize a design and arrive at preliminary costs. The existing belt type pumping system although functioning is in need of repair.

It should be pointed out that a water distribution system was installed in 2009 taking water from the Marcelline source, but was a failure and is not currently used. The distribution system utilized pipe too small and flow rates were inadequate. Additionally, non galvanized pipe was used, and water was continually plagued with high levels of iron, and was unacceptable to the community. It may be possible to replace the existing pipe with a larger diameter PVC, or Black Poly pipe and utilize the existing cisterns and dispensing points if the LDC feels it is desirable.

One solution would be to build several separate independent systems with different designs to supply selected sections of the community according to hydraulic resources,



costs, and community priorities. The LDC should determine which locations and designs best meet their needs and prioritize them. All of the individual systems would not have to be completed at one time, and could be done in stages.

This proposal is a preliminary one. In a visit of only a few days it is nearly impossible to comprehend the layout and extent of Lougou and understand completely the needs of the community. It is expected that the LDC will evaluate each part of the proposal, correct us where we are wrong, and make any suggestions and changes to arrive at the final designs. There is no "perfect" design or system, and a variety of equipment and designs would be adequate, but with your knowledge and input I am confident we can supply safe water to many areas of Lougou.

## **COMMUNITY RESPONSIBILITY**

Operation and maintenance of the water system carries responsibilities, commitments, and some minor ongoing operating costs, which the community may not be accustomed to. To ensure that these and other "sociological" issues do not jeopardize the sustainability of the system, a plan must be developed and implemented to address them.

A plan to operate and maintain the water system, including management, oversight of system operation and water distribution, must be developed, which may include developing a fee structure where appropriate to cover long term operating and maintenance costs. The water system will probably not be maintained and operated to provide a reliable daily source of safe water unless the inhabitants of the community understand the value of clean, safe water for drinking and cooking, and the connection between contaminated water and waterborne diseases.

Here is a preliminary idea of the various stages or steps to be taken. I have tried to plan the system(s) in stages to allow the availability of water as soon as possible even if the complete system is not finished. With the storage tank and roof run off catchment system installed, water will be immediately available at the school without any pumping, or electrical equipment. As equipment is added additional locations can be supplied. The whole system is slightly "overdesigned" to allow for future growth of the school and community. Experience shows that once water is readily available a lot more will be used.

## **POSSIBLE ORDER OF CONSTRUCTION**

1. Build large masonry storage tank at the school.
2. Install roof rainwater collection system.
  - 2a. Chlorinator installation
3. Install submersible pump in lagoon and bring water to school storage tank, and
  - 3a. A possible second storage tank for roof run off water.
4. Install booster pump, pressure tank and filter tanks.
5. Run lines to Clinic and or Day Care.
  - 5a. Determine if and where to put dispensing points along lines.

## **STORAGE TANK - SCHOOL**

**Ideally, this tank would be finished prior to the installation of the lagoon pump, and subsequent re-pressurization pump and pressure tank.**

I am depending on your expertise and experience to design and build the large storage tank near the school. I will give you drawings of where various supply and discharge pipes need to be installed in the tank and a rough estimate of size of tank and amount of construction materials (blocks and cement) that will be needed. Perhaps a local engineer can be employed to make the final design. Initial information indicates that this tank should have a capacity of about 3500 gallons or 15,000 liters. A separate small pre filter tank to catch the run off water from the roof of the school will need to be constructed on top of either or both of the tanks. Actual location of of inlet and outlet piping is not critical and can be moved a few inches either way-- up down, right or left to accommodate construction. Neither are the exact dimensions of the tank critical--they can be smaller or larger (larger is better). Basically, water has to come in at the top and go out at the bottom. I've included drains and valves to permit emptying and cleaning of the tank periodically, as well as some suggestions for tank construction. A covered access door should be on the top of the tanks to prevent contamination and entrance of 'critters'.

One item that is used in this tank, is a "baffle" or divider in the tank. This is to allow raw water entering the first section of the tank behind the baffle, time to settle out solids, and suspended materials. This baffle is a divider in the tank and comes nearly to the top of the tank. Clearer water then flows through special overflow "Tees" in the baffle and fills the 2nd section of the tank , to supply clean water to the pressure or booster pump.

## **ROOF - RAINWATER COLLECTION SYSTEM**

Rainwater from the roof will be directed to the main tank for lagoon water or a second optional tank just for roof run off. In both cases water will run through a small pre-filter tank of 840 gallon capacity on top of the main tank to screen out leaves, large trash and some of the dirt and dust that accumulate on the roof. The first 30-50 gallons of roof water will be automatically discarded before the pre filter since this water will contain the most dirt and trash. After this initial flow, water will flow through the chlorinator into the settling part of the pre filter tank, and then into the main storage tank(s). A drawing of the tank and pre-filter is attached.

## **CHLORINATION**

The chlorinator will be installed in the pre-filter on the top of the large storage tank and allow either the roof run off water or the lagoon water to be disinfected. This is a simple non electric unit, and will take some adjustment depending on flow rates to provide adequate treatment of the water. This is a continuous dosing system and purifies all the water entering the tank. Several small chlorine test kits will be included. It is critical that the chlorinator be monitored and the chlorine tablets (Calcium Hypochlorite) be kept at proper levels **ALL OF THE TIME**. If there are no tablets present, the water will contain

harmful bacteria and pathogens. Chlorine levels DO NOT need to be high. If the water has a strong chlorine taste it is probably too high. The test kits will allow you to measure accurately how much chlorine is in the water. Typical Cl levels are 1-4 ppm depending on contact times.

The main storage tank, or any other tanks can be disinfected with bleach, but keep in mind this only disinfects the water that is in the tank at the current time. As new water is added the chlorine levels will be reduced to such a point that no more disinfection occurs. Attached is a table that tells exactly how much bleach is needed to disinfect various sized tanks. Remember the bleach does not act immediately, and requires 20 - 30 minutes of contact time.

### **SCHOOL, CLINIC, DAY CARE CENTER WATER SYSTEM**

The water system design we feel is best will supply: (1) School, (2) Clinic, and (3) Day Care center, and possibly 2-3 dispensing points along pressurized lines to Clinic and Day Care. A system to do this is more complicated and more maintenance intensive because of the use of electric pumps, and pressure tanks. However, since electricity is fairly reliable it should be feasible. It should be understood that when there is no electricity, there will be no water at the clinic, or day care center unless separate non-pressurized storage tanks similar to those at the school are constructed at each location. Water will still be available from faucets located on the storage tank at the school, until it is empty (approximately 3500 gallons). Smaller 200 or 300 gallon storage tanks could be installed at these other locations for water when there is no power.

### **PRELIMINARY DESIGN**

A submersible well pump installed in the lagoon will supply. 20 gpm and will pump water to the 3500 gal storage tank near the school approximately 450 ft from the lagoon. The pump will be controlled by float switch located in the tank. When the tank is full electric power to the pump will be turned off. The pump will be installed at the lagoon inside a 5" PVC casing with 4-6 feet of screen on the intake end. A control box for pump should be located at the storage tanks for proper operation of the float switch. Pipeline from pump to storage tanks will be 1-1/2" black polypropylene tubing.

Water from the lagoon will be stored in the, 3500 gallon masonry storage tank. The LDC can decide if a larger tank is desirable. If more storage capacity is needed in the future a second tank can easily be constructed. The tank can be filled by the submersible pump in the lagoon, or from run off from the school roof during the rainy season when lagoon turbidity is high. Tank(s) will be plumbed to allow filling from either or both sources. A pre filter or trash filter will be needed on the roof run off lines prior to entering the storage tank.

A re-pressurization pump will take water from the large storage tank to supply water to (1) several location in the school (30-50 ft away), (2) to a Day Care center (1000 ft. away in direction of the lagoon), and (3) to a Clinic approximately 500 ft away on the other side of the river at the location of the old goat house. Dispensing faucets along the pipe lines to the clinic and daycare center can be installed if desired. The number, design and

locations of such dispensing points should be decided by the LDC. A concrete pad with drain, and a dispensing faucet similar to those installed in other areas can be utilized. A suspended or buried pipe line will be needed to cross the river to the Clinic. LDC should decide which method is best. All poly 1-1/2" pipelines should be buried for protection and will need to be placed on a bed of fine to medium sand to protect against punctures from sharp stones.. Bury depth doesn't need to be more than 6" to 12" -- just enough to protect it from pedestrian, and animal traffic. Where or if it crosses the road depths should be greater.

I am not certain what the water supply requirements will be needed at either the Day Care Center or the Clinic. To finalize design and size pumping equipment accurately, I will need to know exactly how many sinks, toilets, and other fixtures will be installed at each location in the future. I have estimated 9-10 gpm for each location.

Final filtration of the water will be accomplished by a back-washable multi-media sediment filter to remove suspended solids and turbidity, and possibly followed by a carbon filter to remove tastes, odors, and color from the water.

It may also be desirable to install additional storage tanks (2000 - 3000 gal) in the areas of concentration of houses near the Clinic and/or Day Care Center. These tanks could be filled during non peak demand times, and if elevated would supply pressurized water to dispensing points or other areas of the community even when electricity off. A mechanical float valve could turn off water when tanks are full. As previously stated, in periods of no electricity, the re-pressurizing pump will not operate and no water will be available at these locations. Alternatively, a 200 or 250 gallon roof top storage tank similar to that purchased for the school would supply a limited amount of water when electricity was not available. Again, neither of these options need to be completed immediately, and can be added as demands increase, and resources are available.

## **OPERATION AND MAINTENANCE**

This water treatment system is designed to run unattended but will require daily monitoring especially if electrical supply is intermittent. In addition to monitoring, replenishment disinfection chemicals, routine maintenance and occasional repairs will be needed.. The community should elect or appoint a committee to oversee this and hire some one to be responsible for the system. This probably should be a paid position. Chlorine tablets will need to be replenished regularly, to insure that the water is bacteriologically safe. Intake screens will need to be inspected and cleaned, and storage tanks will need to be drained, cleaned and disinfected periodically. Until the system is in operation for awhile, it is difficult to determine how much and how frequently maintenance will need to be done.

## FINAL SUGGESTIONS

Masonry work on the concrete storage tank is extremely important. Nearly 36,000 Lbs of water will be held in this tank and will result in high pressures on all surfaces. In addition to this, it is located in an earthquake zone. **Cement and mortar mixtures must be followed exactly.** Only complete, non broken blocks should be used and all joints must be solid and consistent in thickness-- 1/2" to 5/8" and be tooled before mortar sets up. All footings and floors should be tamped or vibrated to insure they are solid with no voids. ALL steel reinforcing joints needs to be tightly tied with wire and properly located. **Quality of concrete and mortar and the mixing for the tanks is critical.** Hand mixing on the ground results in poor quality weak concrete. A cement mixer as well as block molds for making our own blocks for this and future construction is highly recommended. Costs for these items are included in the proposed Tool List.

### Chlorine dosing calculation

Bleach is 5% Cl	or	50000	ppm
Tank Cl level			
desired:		5	ppm
Tank Volume		2000	gal
Stock Cl solution ppm	/	desired ppm =	dilution rate.
i.e. 50000	divide by	5	= 10000 Dilution rate
Divide Volume of tank	2000	By Dilution rate	10000 = Amt Bleach needed
<b>AMOUNT OF BLEACH NEEDED:</b>		<b>0.2</b>	<b>Gallons Bleach</b>

Note: Bleach loses its HClO levels rapidly if exposed to sunlight or high temperatures for long periods of time, or if it is very old. Store out of the sun and keep fresh supplies on hand.

## SPRING ELEVATIONS AND DISTANCES

	Elevation	Difference in Elevations/Pressure	
		Feet	PSI
Lagoon	1046		
School	1039 Feet	7	3 PSI
Sous #1	1093 Feet	47	20 PSI
Sous #2	1110 Feet	64	27
Sous #3	1120 Feet	74	32
Sous #4	1344 Feet (Furthest away)	298	130
Sous Mopo	1263 Feet	217	94
Clinic	1068 Feet	22	10 PSI
Day Care	1058 Feet	12	5 PSI



## TOTAL & CUMULATIVE DISTANCES SCHOOL TO SPRINGS

		Cumulative Distance
School to Sous #1	2,145 Feet	2,145
Sous #1 to Sous #2	3,135 Feet	5,280
Sous #2 to Sous #3	3,675 Feet	8,955
Sous #3 to Sous #4	4,025 Feet	12,980
School to Sous Mopo	2,000 Feet (This distance is estimated)	

Several Google maps of different scales of the Lougou area are included with this report. Since I do not know the area well, I need members of the water committee to mark on some of these maps exactly where each of the springs is located and the spring in Mopo that is currently being used. I also need to know where the main supply or spring that supplies the non functional water system is. (Near Marcelline I believe). I *think* I know approximately where they are but I'm sure my understanding is not correct. Yes, these maps are on quality paper but don't be afraid to write on them or mark them up.

If someone could draw on the maps where the existing non functional pipeline is run, and the location of each faucet dispensing point it will allow a better understanding of alternative and future designs.

Even though distances to these springs are great, and it appears difficult to use them as a source of water to supply the school area, they might be able to be utilized in the future for localized systems. Please return these marked up maps to me and any other information or insights the LDC might have.

Originally the Mopo spring was not considered, but after studying and reviewing all information it now appears to have some merit and is will be studied in more detail if the above map information is received..



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July 30, 2012

To District 5580 Grants Subcommittee Chair:

This letter serves to indicate COFHED's endorsement of the grant application submitted by Steve Sherner of Duluth Harbortown Rotary Club towards completion of the 5<sup>th</sup> and 6<sup>th</sup> grade classrooms of La Petite Academie de Lougou as well as completion of Phase 2 water project to bring potable water to the classrooms. COFHED is prepared to provide \$26,000 towards these projects, thanks to donations received from Woodland Hills Church of Maplewood, MN, as well as other individual donors.

Sincerely,

Gwendolyn Simon  
COFHED Board President

CHRISTIAN OPERATION FOR HEALTH, EDUCATION, & DEVELOPMENT (COFHED)					
Today's date: June 18, 2012					
Expense budget for contruction of 2 classrooms for the Lougou school (Petite Académie de Lougou) with concrete flooring					
Item description	Qty	Unit price in HD	Total in HD	Total in USD	
<b>Hand tools and support</b>					
Wheel barrels	3	\$1,200.00	\$3,600.00	\$450.00	
Shovels	4	\$70.00	\$280.00	\$35.00	
Picks	2	\$130.00	\$260.00	\$32.50	
Sledge hammers (50 lbs)	1	\$200.00	\$200.00	\$25.00	
Machete	1	\$50.00	\$50.00	\$6.25	
5-gal buckets	15	\$15.00	\$225.00	\$28.13	
Food support for 13 weeks of community work	13	\$1,000.00	\$13,000.00	\$1,625.00	
Misc expenses	1	\$800.00	\$800.00	\$100.00	
<b>Total for hand tools and food support</b>			<b>\$18,415.00</b>	<b>\$2,301.88</b>	
<b>Materials &amp; services for iron work and concrete pouring of 2nd floor</b>					
1/2" iron bars (in tons)	6.5	\$8,000.00	\$52,000.00	\$6,500.00	
1/4" iron bars (in tons)	0.5	\$8,000.00	\$4,000.00	\$500.00	
1 roll of tye wire	1	\$700.00	\$700.00	\$87.50	
Cement (in bags)	300	\$67.00	\$20,100.00	\$2,512.50	
Truckloads of sand and gravel	8	\$1,100.00	\$8,800.00	\$1,100.00	
Location of 2X4 woods (per dz)	15	\$130.00	\$1,950.00	\$243.75	
Location of plywood (per sheet0	42	\$40.00	\$1,680.00	\$210.00	
Location of plywood shingles	30	\$20.00	\$600.00	\$75.00	
Pine boards purchase	24	\$120.00	\$2,880.00	\$360.00	
Location of metallic supports	200	\$15.00	\$3,000.00	\$375.00	
2 1/2" nails (1/2 case)	0.5	\$500.00	\$250.00	\$31.25	
3" nails (1 case)	1	\$500.00	\$500.00	\$62.50	
4" nails (1/2 case)	0.5	\$500.00	\$250.00	\$31.25	
Transportation (per trip)	4	\$1,100.00	\$4,400.00	\$550.00	
<b>Sub-total</b>			<b>\$101,110.00</b>	<b>\$12,638.75</b>	
<b>Materials &amp; services for floor plastering, cinder block walls and roof supports</b>					
Truckloads of sand and gravel for making 1,500 cinder blocks	4	\$1,100.00	\$4,400.00	\$550.00	
Bags of ciment for making 1,500 cinder blocks	50	\$67.00	\$3,350.00	\$418.75	
Labor for making 1,500 cinder blocks	1500	\$1.00	\$1,500.00	\$187.50	
Truckloads of sand for laying 1,500 cinder blocks and plastering	4	\$1,100.00	\$4,400.00	\$550.00	
Bags of ciement for laying 1,500 cinder blocks and plastering	250	\$67.00	\$16,750.00	\$2,093.75	
Iron bars for beams and supports (ton)	1	\$8,000.00	\$8,000.00	\$1,000.00	
<b>Sub-total</b>			<b>\$38,400.00</b>	<b>\$4,800.00</b>	
Labor for iron work and masonry			\$28,977.50	\$3,622.19	

<b>Total for iron work and masonry</b>			<b>\$168,487.50</b>	<b>\$21,060.94</b>	
<b>Roofing</b>					
Tin sheets for the roof	250	\$41.00	\$10,250.00	\$1,281.25	
5-gallon buckets of antirust	2	\$1,500.00	\$3,000.00	\$375.00	
2 X 4 boards	88	\$120.00	\$10,560.00	\$1,320.00	
8 X 14 boards from St Germain (local)	34	\$120.00	\$4,080.00	\$510.00	
8 X 16 boards from Levelt (imported)	12	\$220.00	\$2,640.00	\$330.00	
1 case of tin nails	1	\$350.00	\$350.00	\$43.75	
1/2 case of 4" nails	0.5	\$350.00	\$175.00	\$21.88	
1/2 case of 3" nails	0.5	\$350.00	\$175.00	\$21.88	
2 rolls of window screens	2	\$650.00	\$1,300.00	\$162.50	
Skilled labor contractor	1	\$8,132.50	\$8,132.50	\$1,016.56	
Materials transportation (3 trips)	3	\$1,100.00	\$3,300.00	\$412.50	
<b>Total for roofing</b>			<b>\$43,962.50</b>	<b>\$5,495.31</b>	
<b>Gate, doors and locks</b>					
Doors	5	\$600.00	\$3,000.00	\$375.00	
Locks	5	\$120.00	\$600.00	\$75.00	
Labor for doors and locks	1	\$900.00	\$900.00	\$112.50	
Iron gate (materials and labor)	1	\$5,000.00	\$5,000.00	\$625.00	
<b>Total for gate, doors, and locks</b>			<b>\$9,500.00</b>	<b>\$1,187.50</b>	
<b>Grand total for the project</b>			<b>\$240,365.00</b>	<b>\$30,045.63</b>	

**Project 13.1.06 North Shore and Duluth Harbortown Lougou, Haiti Water Project/WCS**



Lougou Academy – Building 1

Lougou Academy – Building 2



Old Roof