BY ORDER OF THE CHIEF,
NATIONAL GUARD BUREAU

ANGPAM 32-1002
6 OCTOBER 2000
Certified Current 19 November 2012
Civil Engineering

SELF-HELP GUIDE

This pamphlet implements AFPD 32-10, *Installations and Facilities*. It provides guidelines and procedures for operation of the Air National Guard (ANG) Civil Engineer self-help program. Bases may develop local operating instructions specific to their needs. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the ANG.

SUMMARY OF REVISIONS:

This instruction aligns with AFPD 32-10. It updates, clarifies, and streamlines previous guidance on the operation of a self-help program.

Chapter 1

CIVIL ENGINEER SELF-HELP PROGRAM

1.1. General. Self-help is a very significant force multiplier in today's shrinking budget environment. Self-help offers an effective alternative means for providing labor in accomplishing minor repair, maintenance and construction. The result of a successful self-help program is improved facilities and a greater feeling of pride and ownership.

1.2. This Pamphlet and You. This publication is dedicated to providing the basic information needed to support your program. This pamphlet is written as a procedural guide and not intended as an instruction or as a mandatory procedure. It is a guide only to be used by ANG Civil Engineers for local self-help programs. It is not all-inclusive and some of the suggestions and checklists may or may not apply to your self-help program. As with any program it requires the support of all functional managers within civil engineering and the base populace.

1.3. The Concept. The concept of the self-help program is allowing the customer to plan and complete minor maintenance, repair, and/or construction, which the customer is technically capable of completing. Civil Engineering may provide material support and may provide planning assistance, training as necessary, and shop support when required.
1.3.1. For minor repair or maintenance projects (i.e. replacing electrical receptacle covers, touch up painting of a wall blemish, or re-gluing rubber cove base), the building manager may be allowed to request material support from base civil engineering supply system without submitting AF Form 332, **Base Civil Engineer Work Request**, or appropriate base level electronic work request. ***NOTE:*** Electrical work must be completed only by a certified electri

1.3.2. Any request for chemical based products, must be accompanied with Material Safety Data Sheets (MSDS). Again, we cannot place enough emphasis on *Safety*. ***NOTE:*** Electrical work is to be completed only by certified electricians. Mechanical systems also require some assistance from civil engineering, especially where Freon needs to be recycled. Any fire alarm or sprinkler work needs to be accomplished by personnel.
1.3.3. For more involved projects, the customer must submit AF Form 332 for review andapproval. The desired project should be coordinated with the building manager and the deputy/squadron commander prior to submittal by the customer. This is to ensure that the appropriate individuals are aware of the proposed project and planned commitment of self-help (customer) labor. Another consideration should be the estimated time frame that the project would require to complete. This time frame should be adhered to, so projects are not allowed to drag on.
1.3.4. Work shall commence only when the work request has been approved at the appropriate level and all funding for the work has been secured. Depending on the size of the work request the work request may require approval by the Facility Utilization Board (FUB). Civil Engineering staff is responsible for ensuring that the work is necessary and that the work does not conflict with other work ongoing or programmed for the same area.

1.4. Base Participation. The Base Civil Engineer with support of the Commander, should publicize the program, expedite customer requests, and provide "one-stop service." Ensure that all base organizations are aware of the purpose of the self-help program, hours of operation, and the various types of work that can be done by self-help by using the bulletin boards, base newspaper, and building manager training.

1.5. Self-Help Training. Proper training of personnel is essential to quality work. The following training resources may be made available to the customer.
1.5.1. How-To Pamphlets. Have available step-by-step instructions for completing various projects (see Attachment 1). Your literature rack should also include information on energy conservation, safety, fire prevention, and work place security.
1.5.2. Video instruction is an excellent teaching method. There is a wide range of how-to videos that are commercially available, and Air Force Civil Engineer Support Agency (AFCESA), also produces a wide range of videos and these are maintained in the CE library. If you can't find any commercial tapes you like, consider working with your audiovisual staff and shop craftsmen to make your own.
1.5.3. As numerous how-to books are readily available, make a small selection for reference. Many commercial publishers such as Time-Life publish excellent series of home repair and construction manuals. These books may also be available through local bookstores and home improvement centers.

1.6. Self-Help Tools.
16.1. When Civil Engineering provides loaner tools and other items needed to do support self-help work, CE shall:
1.6.1.1. Ensure that the tools and equipment are in a safe working condition.
1.6.1.2. Ensure that the requestor is trained on the proper safe operation of that tool.
1.6.1.3. Ensure that the member is aware of tool accountability and return policies.
NOTE: Some high pressure or explosive tools, along with other shop tools, require special training and require a certification card. Only authorized personnel may use these types of tools or equipment.
1.6.2. Base Safety Officer/NCO will ensure that the member has received training on the use of personnel protective equipment and that this equipment is available.

Chapter 2

SELF-HELP WORK ORDER PROCESSING

2.1. Overview. The procedures listed below will provide the basic concept of processing self-help work requests. Development of local procedures is authorized and encouraged. When considering a self-help project from a tenant organization, an evaluation should be made to determine if the requestor has the necessary qualifications to perform the work to standards. Example: Electrical work requires a licensed electrician to make final inspection and connections. HVAC is also a specialty.

2.2. Work Request Approval:
2.2.1. It is recommended that customers use AF Form 332 for all self-help requests. Customers are required to provide a detailed description of work to be done; i.e., justification, applicable sketches, site plans, list of materials, etc. Consider having self-help customers complete a questionnaire (Attachment 2), and submit with AF Form 332. The customer must coordinate with the building manager and obtain the signature of requesting organization deputy/squadron commander.
2.2.2. Upon receipt of AF Form 332, Operations Management (formally Production Control) shall review and if necessary assist the customer in determining additional requirements. It is recommended that Operations Management be delegated the authority to approve and authorize work requested up to a specified dollar amount.
2.2.3. Customers are required to coordinate work requests with Base Fire, Safety, Bioenvironmental, Environmental, and Communications, as deemed necessary. Operations Management will ensure that the coordination is complete.
2.2.4. Operations Management will also coordinate with Facility Manager and Real Property Tech, to ensure that the work does not conflict with any future scheduled/authorized projects for this location and that the work is being performed on authorized real property.
2.2.5. Operations Management will also ensure that any work request received does not interfere with any warranty items. Any work request that involves real property, which is under warranty, should be disapproved, as this may void the warranty on the item.
2.2.6. Operations Management will ensure that all self-help work must abide by any adopted base standards and also be consistent with any established basewide systems.

2.3 Material Support:
2.3.1. Operations Management should maintain a good audit trail of materials issued by facility by using the proper documentation for accountability.
2.3.2. For accounting purposes, charge items to the individual work order authorizing the work or use the appropriate work order for self-help not requiring an AF Form 327, **Base Civil Engineer Work Order**, or an electronic version of a AF Form 327 or facsimile.
2.3.3. Retain material issue documentation and cost transfer data for at least 2 years for audit purposes.
2.3.4. Establish turn-in procedures for unused material.
2.3.5. Ensure that hazardous materials are properly tracked and handled in accordance with local or current Hazmat Pharmacy requirements.

2.4. Tool Control. It is essential to maintain positive, auditable control over tools utilized by self-help customers.
2.4.1. Authorized Items. An authorized/approved list of tools is needed as the basis of any tool control program. Large items such as carpet cleaners, shop-vacs, etc. could be included as part of your tool program.

2.4.2. Inventory Control. The requesting individual must sign for all tools issued. Use of the AF Form 1297, **Temporary Issue Receipt**, or similar locally developed hand receipt can be used. Establishment of a firm returns date is essential to having tools available for other customers. Follow-up on delinquent returns should be the first day after agreed upon return date.
2.4.3. Quarterly Inventory. A complete inventory should be accomplished quarterly to determine location of tools.

2.5. Project Start. As materials become available, work force management should call the customer for the required briefings with the work order point of contact (POC) who will monitor the work. Issues of materials are accomplished based on the scope of work and the ability of the customer to utilize and store the materials. In some circumstances all materials are issued at the time of receipt and in other agreed upon instances materials are issued in phases. The following should be accomplished at project start:
2.5.1. Tool Safety Briefing. See Attachment 3 for possible format.
2.5.2. Self-Help Project Briefing. See Attachment 4 for possible format.
2.5.3. Periodic Inspection. In-progress and final inspections of self-help work are vital steps in avoiding delays. Inspection ensures quality workmanship and timely problem identification. The requestor or building manager is responsible to request spot or in-progress inspections and all inspections will be coordinated with fire, safety, communications, environmental and bioenvironmental as applicable. A reasonable time frame should be worked out before work starts as to the lead-time required for inspections and other requests. See Attachment 5 for possible format. Identification and coordination of in-progress inspections is encouraged prior to project start. At anytime during a spot inspection or scheduled inspection, any safety violation or other violations found during the inspection, the Base Civil Engineer or designated representative has the authority to issue a stop work notice until the deficiencies are corrected.
2.5.4. If this is a large project, or a project that is going to generate demolition/construction debris, requestor should request through CE, a dumpster or other method to dispose of debris. Requestor should also be aware of generating any controlled waste, which may require special handling.

2.6. Project Completion:
2.6.1. When work is complete, the requestor or building manager should schedule a final inspection. Any punch list items should be agreed upon and corrected as soon as possible.
2.6.2. Project close out should include return of unused material, as built drawings, and turn-in of tools and equipment. See Attachment 5.
2.6.3. If projects are capitalized, total project cost (both funded and unfunded) is to be considered (see AFI 32-9005).
2.6.4. At the close of the project the requestor or building manager shall provide to CE the labor hours spent on the project. The labor hours shall be recorded at the standard shop rate and applied to the cost of the project.

2.7. Program Management. Periodically review your self-help program to ensure that you are following procedures and to find better ways to serve your customers. See Attachments 6 and 7 for examples of self-inspection and critique formats.

PAUL A. WEAVER, JR.
Major General, USAF
Director, Air National Guard

OFFICIAL

DEBORAH GILMORE
Chief
Support Services

7 Attachments:
1. **Self-Help Training Resources**
2. **Self-Help Questionnaire**
3. **Tool Safety Briefing**
4. **Self-Help Project Briefing**
5. **Self-Help Inspections**
6. **Civil Engineer Self-Help Self Inspection**
7. **Self-Help Critique**

Attachment 1

SELF-HELP TRAINING RESOURCES

Each Unit is responsible for building and maintaining their own individual library consisting of maintenance and construction books. Composing this library, be creative, and use your sources of references (any combination of self-help books and videos can be useful). Several sources for self-help publications are available. Some sources are your local bookstores or building supply companies, the USAF (AFPAMs); government agencies web sites (how-to projects); and AFCESA (videos, AFPAMs, videos on CD-ROMs).

Attachment 2

SELF-HELP QUESTIONNAIRE

(To be completed by self-help customer and submitted with AF Form 332)

A2.1. How is the proposed work area being heated?
a. Heat pump_____ d. Radiator _____
b. Forced air_____ e. Other_____
c. Radiant heat _____

A2.2. How is the proposed work area being cooled?
a. Heat pump_____ d. Forced air_____
b. Evaporative cooling_____ e. Other_____
c. Window unit_____

A2.3. If the area has forced air, how is air returned?
a. In the hall_____ c. In the ceiling_____
b. In the wall_____ d. In the door_____

A2.4. If forced air, does planner need to plan to put a louver in to permit return of cold air? Yes_____ No_____
If yes, where?_____
a. Door _____ c. Wall_____
b. Ceiling_____ d. Other_____

A2.5. Are you installing a suspended ceiling? Yes_____ No_____
If yes, are there:
a. Lights to be relocated? Yes_____ No_____
b. Air ducts to be lowered? Yes_____ No_____
c. Sprinkler system to be lowered? Yes_____ No_____
d. Fire protectors / heat smoke detectors being installed? Yes_____ No_____
e. Unit heater to be lowered Yes_____ No_____

A2.6. Specialized Work?
a. Does this request require any electrical/fire alarm work? (if yes, Civil Engineering will provide support) Yes_____ No_____
b. Does this request require any mechanical work? (If yes, Civil Engineering will provide support) Yes_____ No_____

A2.7. Is there any existing thermostat located in the self-help work area? Yes_____ No_____
a. Does this work require the relocation of an existing thermostat? Yes_____ No_____
b. Does this work require the installation of a new thermostat? Yes_____ No_____
c. Is an existing fire alarm being relocated? Yes_____ No_____
d. Are any lighting control switches being relocated? Yes_____ No_____
If you answered yes to any of the above, contact the Self-Help Center (SHC) Manager to verify this requirement.

A2.8. Does your self-help work include painting or carpeting? Yes_____ No_____ Both_____

A2.9. Does this work involve painting different surfaces such as metal and sheet rock? Yes_____ No_____ Both_____

A2.10. Does this work involve wainscoting or another specialty? Yes_____ No_____

A2.11. Does this job involve work on exterior walls? Yes_____ No_____

A2.12. Will this work involve modifying the exterior structure of the building? Yes_____ No_____

A2.13. Will this work involve removing or altering a load-bearing wall? (Examples of load-bearing walls are exterior walls and some interior walls.) Yes_____ No_____

A2.14. Does this work involve installing or relocating telephones, computer equipment or intrusion alarms? Yes_____ No_____

A2.15. Does this work require an AF Form 103, **Base Civil Engineering Work Clearance Request**, e.g. landscaping and fence installation? Yes_____ No_____

A2.16. Do you know or suspect that you will encounter asbestos in the area where this project will take place? Yes_____ No_____

A2.17. Does this work require moving or relocating any gas lines? Yes_____ No_____

NOTE: In accordance with AFI 32-1023, *Design and Construction Standards and Execution of Facility Construction Projects*, the ANG must use non-combustible materials for permanent construction. Self-help projects must comply with this instruction; for further guidance on specialty subjects, i.e., cabinets, etc., refer to this instruction.

Name: _____ Date: _____

Attachment 3

TOOL SAFETY BRIEFING

A3.1. Power tools being issued:

_____ _____

_____ _____

A3.2. Initial each item:

A3.2.1. _____ *Know your power tool*. If you have not operated a certain power tool before, be fair to yourself and people working with you by reading the owner's manual carefully. Learn its application and limitations and the specific potential hazards peculiar to this tool.

A3.2.2. _____ *Ground all tools (unless double insulated).* If tool is equipped with an approved 3-prong grounding type plug to fit the proper grounding type receptacle, do not attempt to bypass this safety feature. The green conductor in the cord is the grounding wire. Never connect the green wire to a live terminal.

A3.3. _____ *Keep guards in place*. Keep them in working order and in proper adjustment and alignment.

A3.4. _____ *Use recommended accessories*. Consult the owner's manual for recommended accessories and follow the instructions that accompany the accessories. The improper use of accessories may cause hazards.

A3.5. _____ *Never use tools to stand on or in any manner that it is not designed for*. Serious injury could occur if a tool is tipped or if a cutting tool is accidentally contacted.

A3.6. _____ *Direction of feed.* Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

A3.7. _____ *Never leave tool running unattended*. Turn power off and don't leave tool until it comes to complete stop.

A3.8. _____ *Keep hands away from cutting area*.

A3.9. _____ *Keep work area clean*. Cluttered areas and benches invite injuries.

A3.10. _____ *Consider work area environment.* Don't expose power tools to rain, nor use power tools in damp or wet locations; and keep work areas well lit.

A3.11. _____ *Guard against electrical shock.* Prevent body contact with grounded surfaces; for example: pipes, radiators, ranges, refrigerator enclosures.

A3.12. _____ *Keep children away*. All visitors should be kept away from work area and do not let visitor's contact tools or extensions cords.

A3.13. _____ *Store idle tools.* When not in use, tools should be stored in dry, high, or locked-up place, out of reach of children.

A3.14. _____ *Don't force tools*. It will do the job better and safer at its speed rate.

A3.15. _____ *Use the correct tool*. The right tool will do the job better and safer.

A3.16. _____ *Dress properly*. Do not wear loose clothing or jewelry, as these can be caught in moving parts; rubber gloves and nonskid footwear are recommended when working outdoors, and wear protective hair covering to contain long hair.

A3.17. _____ *Use required personnel protective equipment*. Ensure that this equipment is clean and worn properly. If you are not sure what's required, contact your installation safety office. Do not wear face shields as a substitute for required safety glasses/goggles. Also use face or dust mask if cutting operation is dusty. ***NOTE:*** Facemask must be fit-tested by BioEnvironmental prior to use. Some dust masks are obsolete, check with safety or bioenvironmental office for the most current information.

A3.18. _____ *Don't abuse cord*. Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.

A3.19. _____ *Secure work*. Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.

A3.20. _____ *Don't overreach*. Keep proper footing and balance at all times.

A3.21. _____ *Maintain tools with care.* Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged report to self-help personnel before using the tool! Inspect extension cords periodically and report any changes to self-help personnel. Keep handles dry, clean and free from oil and grease.

A3.22. _____ *Disconnect tools.* When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.

A3.23. _____ *Remove adjusting keys and wrenches*. Form a habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

A3.24. _____ *Avoid unintentional starting*. Don't carry plugged in tool with finger on switch and be sure switch is off when plugging in.

A3.25. _____ *Stay alert.* Watch what you are doing; use common sense; and do not operate tool when you are tired.

A3.26. _____ *Check damaged parts*. Before further use of the tool, a guard, or other part that is damaged should be carefully checked to determine that it would operate properly and perform its intended function. Check for alignment of moving parts, binding of moving pairs, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be reported to self-help personnel. Do not use tool if switch does not turn it on and off.

A3.27. _____ *Do not operate portable electric tools near flammable liquids or in gaseous or explosive atmospheres*. Motors in these tools normally spark, and the sparks might ignite fumes.

Name: _____ Date: _____

Training provided by: _____

Attachment 4

SELF-HELP PROJECT BRIEFING

A4.1. I have been briefed by operations management personnel on the items listed below and fully understand my duties and responsibilities in doing self-help work.

A4.2. Initial each item below as applicable:

A4.2.1. _____ Nature and scope of civil engineer support.

A4.2.2. _____ All safety precautions relating to tasks associated with the project. This will include a demonstrated Proficiency in the proper use of the power tools and wearing of the required personnel protective equipment (PPE). Civil Engineering may issue some PPE, such as gloves, eye and hearing protection, but specialty items, such as filter masks, individual must be fit tested and issued a filter mask.

A4.2.3. _____ Civil engineer material support.

A4.2.4. _____ Start and stop dates of work.

A4.2.5. _____ Coordination of anticipated date of completion.

A4.2.6. _____ In-progress and final inspections.

A4.2.7. _____ Warranty and guarantee responsibilities.

A4.2.8. _____ Return of unused materials and borrowed tools, if any.

A4.2.9. _____ Digging permits and emergency procedures.

A4.2.10. _____ Organizations must provide all employees specialized job safety, fire prevention, and health training for specific self-help job/task to be performed.

A4.2.11. _____ Organizational supervisors will have in each employee's file an AF Form 55, **Employee Safety and Health Record**, or facsimile (per AFI 91-301*)*, covering all the 24 mandatory items listed in Section I.

Name_____ Bldg No. _____ Rank_____
Work Order No. _____ Organization_____

Attachment 5

SELF-HELP INSPECTIONS

A5.1. W/0 #_____ BLDG #_____

A5.2. In-Progress:

Date	Name	Remarks
_____	_____	_____
_____	_____	_____
_____	_____	_____

A5.3. Punchlist Items (Items that still need to completed)

_____
_____
_____
_____

A5.4. Final:

Date	Name	Remarks
_____	_____	_____
Approved/Disapproved	_____	_____
	Inspector's Signature	Customer's Signature

A5.5. Project Closeout:

A5.5.1. Tools and equipment turned in? Yes_____ No_____

A5.5.2. Drawings available? Yes_____ No_____

A5.5.3. As-built drawings complete? Yes_____ No_____

A5.5.4. Unused material turned in? Yes_____ No_____

Approved/Disapproved	_____	_____
	Inspector's Signature	Customer's Signature
	_____	_____
	Building Manager	Unit Commander (if necessary)

Attachment 6

CIVIL ENGINEER- SELF-HELP SELF INSPECTION

No.	Item	Yes	No
1.	Is technical guidance available for store customers? ***NOTE:*** If not, do not issue equipment until guidance is received, unless a qualified member provides the necessary training to qualify that member. If training is conducted, ensure that the member understands the training and that ths action is fully documented.		
2.	Have procedures been established to identify authorized users to draw material, tools and equipment from the civil engineer?		
3.	Is CE Supply receiving current listings of building custodians and alternates from the BCE Real Estate Branch?		
4.	Are issued tools checked out on AF Form 1297, and follow-up action taken to retrieve overdue tools?		
5.	Is the self-help briefing checklist being utilized to brief self-help requester's prior to work commencement?		
6.	Are in-progress and final-project inspections being made as required?		
7.	Are fire, safety and bioenviromental sections notified of any identified problems or situations?		
8.	Is minor construction type work being performed on facilities scheduled for demolition?		
9.	Are tools periodically inspected for safe operation and inventoried?		
10.	Are change orders accomplished in a timely manner? Are the rationale and justification for change orders obtained, approved, and stored in the work order folders?		
11.	Are work orders screened to ensure that all materials issued against the work order are properly charged before the work order is closed?		
12.	Are planning estimates reviewed to ensure that they are realistic? Are low estimates resulting in unnecessary change orders?		
13.	Are all issue documents secured inside the work order folder prior to closing the work order?		
14.	Are issue documents compared to the final bill of materials, and the differences resolved, prior to closing the work order?		
15.	Are all customers who are issued power tools, receiving the required power tool safety briefing? This briefing will be documented.		
16.	Is self-help minor construction work and donated materials requiring capitalization reported to Real Property?		
17.	Does the work requested duplicate work already included in another in-house or contract program?		
18.	Does the work need a final inspection by CE personnel?		

Attachment 7

SELF-HELP CRITIQUE

MEMORANDUM FOR BCE
FROM: _____

Work Order Numbers:_____ Building No:_____

A7.1. Were the Self-Help Center Personnel courteous?

A7.2. Was your request processed in a timely manner?

A7.3. Did your project require BCE support? Which craft-structures, plumbing, electrical, etc.?

A7.4. Was BCE support available at the time needed?

A7.5. Do you feel that materials on hand were adequate for you to do your project?

A7.6. Do you feel how-to instructions given by the work force management helped you perform your task?

A7.7. Would you attempt more self-help projects under this concept?

A.7.8. How do you feel we could improve self-help support?

A.7.9. Did you have any interaction and/or support relating to your project from the following sections?

	Yes	No
A. Base Safety	_____	_____
B. Base Fire	_____	_____
C. Base Bio-environmental	_____	_____
D. Base Environmental	_____	_____
E. Base Communications	_____	_____

Comments: