



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
INSTALLATIONS, ENERGY AND ENVIRONMENT
110 ARMY PENTAGON
WASHINGTON DC 20310-0110

JUL 18 2011

SAIE-IH&P

MEMORANDUM FOR

ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT (DAIM-Z), 600
ARMY PENTAGON, WASHINGTON DC 20310
INSTALLATION MANAGEMENT COMMAND (IMDC) 2511 JEFFERSON DAVIS
HIGHWAY, ARLINGTON, VA 22201-3926
CHIEF OF ENGINEERS (DAEN), 2600 ARMY PENTAGON, WASHINGTON DC 20310

SUBJECT: Construction, Renovation and Condition Standards for Residential
Communities Initiative (RCI) Family Housing Program – Update # 4.

1. Reference: Policy dated March 4, 2010: Construction/Renovation and Condition Standards for Residential Communities Initiative (RCI) Family Housing Program – Update # 3.
2. This memorandum replaces the previous version of the standards referenced above. The new construction, renovation and condition standards detailed in the enclosure apply to all homes on RCI installations as of the date of this memorandum.
3. These standards will be referenced in future documents that establish or modify the RCI partnerships. These standards meet or exceed all Army Installation Status Report (ISR) standards.
4. This policy will be reviewed, updated and re-published as required.

A handwritten signature in blue ink, appearing to read "J. Calcara", is positioned above the typed name of the signatory.

Joseph F. Calcara
Deputy Assistant Secretary of the Army
Installations, Housing & Partnerships

Encl



STANDARDS FOR HOUSING AT RCI PROJECTS UPDATE # 4 (July 2011)

1. Army RCI construction, renovation and condition standards apply to all RCI projects as of the date of this memorandum unless the work is at 100% design or construction has already begun. Compliance is mandatory unless a specific waiver is approved by the Deputy Assistant Secretary of the Army, Installations, Housing and Partnerships (IH&P). These standards are not intended to limit projects from exceeding minimum levels with the exception of executive homes, which are limited by maximum size and amenities.
2. The attached standards are detailed in matrix format to make it simple to determine if each standard applies to new construction, renovation and/or conditions. Update #4 includes changes shown by yellow highlights - for use in the following situations:
 - a. Apply the RCI Construction Standards when a new home is built.
 - b. Apply the RCI Renovation Standards to homes that will receive significant renovation and/or expansion. Renovations must meet as many of the standards as possible. Exceptions to these renovation standards must be approved by the ASA-IE&E (IH&P).
 - c. Apply the RCI Condition Standards at all times.
 - d. Historic homes will meet renovation standards; however, they must also meet the tenants of the programmatic agreements with the respective State Historic Preservation Offices. In case of conflict, the programmatic agreement is the governing document for each project.
3. The following standards and definitions apply to all RCI projects:
 - a. Complete all new construction or major alterations/renovations in accordance with local building codes and standards. If multiple codes apply, such as with two adjacent cities, an adjacent city and a county, or even two adjacent states, then the RCI project team will determine the applicable code(s) in case of conflicts. RCI projects will comply with:

STANDARDS FOR HOUSING AT RCI PROJECTS UPDATE # 4

(Continued)

- U.S. Green Building Council, Leadership in Energy and Environmental Design (LEED-H) (Homes) capable of achieving a minimum “SILVER” rating system (excluding prerequisite credit EA1.1) and (LEED-NC) (New Construction) Neighborhood Community Center designs capable of achieving a minimum “SILVER” rating.
- Energy Star Certified (USEPA Energy Star Program) standards for residential appliances.

b. In the absence of clear local requirements, codes (Note 1), or standards, the RCI project team will determine the applicable code(s). The following is a list of codes to be used if this occurs:

- National Electric Code (NEC)
- National Fire Protection Association (NFPA) Code
- Fire Administration Authorization Act
- Uniform Federal Accessibility Standards (UFAS)
- Architectural Barriers Act
- Americans with Disabilities Act Accessibility Guidelines (ADAAG)
- Applicable Unified Facilities Criteria Design
- General Building Requirements
- Department of Defense Anti-Terrorism Standards for Buildings (Unified Facilities Code (UCF), UFC 4-010-01, under Mil-Std-3007) The minimum standards should be applied to high-occupancy building types and to community centers (primary gathering buildings) and neighborhood centers where occupancy routinely exceeds 50 or more Department of Defense (DoD) personnel.
- ASTM International, formerly known as the American Society for Testing and Materials (ASTM)
- American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

Note 1. Supplement and modify these codes and standards by local codes as interpreted by the RCI project team and by local best practices. RCI projects must procure materials that contribute to a healthy environment for residents.

STANDARDS FOR HOUSING AT RCI PROJECTS UPDATE # 4 (Continued)

c. Many installations have published guidelines and construction standards (Installation Design Guides) that may exceed or differ substantially from local codes and standards. It is the Army's intent that installation practices and policies apply to RCI projects unless waived by appropriate installation authorities. If an installation guideline or standard appears unreasonable for an RCI project, and a consensus solution cannot be reached at the installation level, representatives from the Headquarters, Department of the Army may be consulted to help resolve the issue of conflicting standards.

d. Gross floor area (also gross square feet or GSF) is defined as the total area measured within the exterior faces of exterior walls or the center line of party walls between dwelling units. GSF includes both finished and unfinished spaces including stairways, but excluding: garages, carports, openings to the floor below, crawl spaces, unconditioned basements, floored attic areas below five feet of ceiling height, exterior bulk storage, trash enclosures, open or insect-screened porches, terraces, patios, decks, balconies and entrance stoops.

e. Usable floor area (also usable square feet or USF) is defined as the total area of a room measured within the interior face of perimeter walls, or the intended dividing line between distinct space uses such as the living room and the dining room and excluding closets. All interior space calculations should be in terms of USF.

f. A bathroom is defined as having a water closet, sink and a shower; however, all homes will have at least one bathroom with a bathtub and shower fixture (bathtub and shower may be combined). A half-bathroom or powder room is defined as having a water closet and sink.

g. Manufactured houses must never have had an axle. Manufactured homes are allowed subject to compliance with minimum construction standards and all applicable codes.

4. Projects not meeting one or more of the standards included in this document must request an exception to the standards from the ASA-IE&E (IH&P) in advance of the execution of the work. Forward requests from the RCI managing partner to the appropriate Army Installation/Headquarters manager and include as a minimum: the standard to be waived, the Garrison Commander's concurrence with the proposed waiver, cost analysis associated with meeting the standard and any mitigating circumstances. Waivers must be approved before changes can be made. Requests that state that the reason for the waiver is that materials have already been ordered or that the building is almost complete will not be looked upon favorably.

5. These new standards apply to all RCI projects as of the date of this memorandum unless the work is at 100% design or construction has already begun.

Army Standards for RCI Projects	New Construction	Renovation	Condition
Sites and Grounds			
Parking for each home			
minimum 10' wide and minimum 20' long (construction standard)	Yes	None	None
One- or two-car garage w/storage area - garage door to have automatic opener w/remote (construction standard). Two-car garage is the maximum - includes General Officer housing.	Yes	None	None
two off-street paved spaces - 2nd space not block 1st space (construction & renovation standard)	Yes - includes garage	Yes - includes garage or carport when practical.	None
free from potholes and minimal cracking which does not affect functionality (condition standard)	None	None	Yes
Guest Parking			
minimum 1 space per home of low density (construction standard)	Yes	None	None
minimum 0.5 space per home of mid density (construction standard)	Yes	None	None
minimum .25 space per home of high density and renovation (construction & renovation standard)	Yes	Yes	None
Sidewalks			
on street side w/ housing (construction & renovation standard)	Yes	Yes - when practical during renovations.	None
walkways to amenities (playground, community activities, etc) (construction & renovation standard)	Yes	Yes	None
hard surface in good condition (construction, renovation & condition standard)	Yes	Yes	Yes
Curbs & Street Gutters			
both sides of roads (construction standard)	Yes	None	None
depressed curb opening at driveway entrances (construction & renovation standard)	Yes	Yes	None
comply with local codes and UFAS (construction & renovation standard)	Yes	Yes	None
curbs in good condition (condition standard)	None	None	Yes
Lights - Street, Parking & Playground			
located at each street intersection (construction standard)	Yes	None	None
residential style (construction & renovation standard)	Yes	Yes	None
energy efficient (construction & renovation standard)	Yes	Yes	None
photoelectric sensors (construction & renovation standard)	Yes	Yes	None
reasonable intervals (construction & renovation standard)	Yes	Yes	None
in good condition (condition standard)	None	None	Yes

Army Standards for RCI Projects	New Construction	Renovation	Condition
Utilities			
conform to appropriate codes with all local requirements (construction standard)	Yes	None	None
buried cables and underground services in new housing areas (construction standard)	Yes	None	None
200 AMP electric service minimum (construction standard)	Yes	None	None
150 AMP electric service minimum (renovation standard)	None	Yes	None
exterior or remote reading electric and gas (if used) meters (construction & renovation standard)	Yes	Yes	None
fire hydrants meet installation fire department standards (construction & renovation standard)	Yes	Yes	None
water pressure adequate (condition standard)	None	None	Yes
building service lines (electric, telephone, TV) underground in good condition (renovation & condition standard)	None	Yes	Yes
drainage systems operate without leak or blockage (condition standard)	None	None	Yes
Landscaping			
native plantings, trees, grass (construction standard)	Yes	Yes	None
drought tolerant, xeriscape or other as appropriate to climate (construction standard)	Yes	Yes	None
water-efficient practices as appropriate to climate (construction & renovation standard)	Yes	Yes	None
low maintenance (construction & renovation standard)	Yes	Yes	None
invasive species review before selection (construction & renovation standard)	Yes	Yes	None
minimize adverse effects to natural habitat (construction & renovation standard)	Yes	Yes	None
retain existing trees as much as possible (construction & renovation standard)	Yes	Yes	None
retain existing natural vegetation as much as possible (construction & renovation standard)	Yes	Yes	None
avoid construction in wetlands - state, local fed requirements (construction standard)	Yes	None	None
prepare and execute fully developed landscaping plan (construction & renovation standard)	Yes	Yes	None
landscaping to be in good condition and maintained per plan (condition standard)	None	None	Yes
Amenities - Playgrounds, Tot Lots & Parks			
amenities in housing area: ex: basketball courts, tennis courts, jogging/bike trails (construction & renovation standard)	Yes	Yes	None
accessible w/o crossing major streets (construction & renovation standard)	Yes	Yes	None
fence area if located w/in 100' of major street (construction & renovation standard)	Yes	Yes	None
equipment comply with ADAAG and consumer safety performances specs (construction & renovation standard)	Yes	Yes	None
maintained in good condition (condition standard)	None	None	Yes
Housing Density Guidelines (unit/acre, not including roads & parks)			

Army Standards for RCI Projects				New Construction	Renovation	Condition
units/acres:	low density	medium density	high density			
SSG & below	4-7	8-10	11-15	Yes	None	None
SFG-SGM	3-5	6-9	10-12	Yes	None	None
LT-CPT	3-5	6-9	10-12	Yes	None	None
MAJ-LTC	2.5-3	4-5	6-9	Yes	None	None
COL	2	3	4-6	Yes	None	None
BG & above	1	2	3-4	Yes	None	None
Other						
paving, including driveways, comply with local codes (construction standard)				Yes	None	None
street setbacks comply with local codes (construction standard)				Yes	None	None
exterior colors, signs, streetscapes fit neighborhood theme -- in accordance with installation design guide (construction & renovation standard)				Yes	Yes	None
employ termite/wood-destroying insect-resistant design/materials in accordance with local codes and practices (construction & renovation standard)				Yes	Yes	None
paving and amenities maintained in good condition (condition standard)				None	None	Yes
Building Exterior & Foundation						
Provide vapor barrier/diffusion retarder as appropriate.				Yes	None	None
energy efficient front entrance door 3 ft. min, peepholes required unless door has window (construction standard)				Yes	None	None
door bell provided at front door (construction standard)				Yes	None	None
energy efficient exterior doors to be steel or fiberglass (construction standard)				Yes	None	None
high quality siding resistant to rot (construction standard)				Yes	None	None
fungus resistant roof (construction standard)				Yes	None	None
easily accessible hose bibs and exterior electrical outlets on the front and rear of house (construction standard)				Yes	None	None
garage door btw garage and dwelling unit to be 3 ft minimum and fire rated (construction standard)				Yes	None	None
operable windows have removable screens and are cleanable from the inside (construction standard)				Yes	None	None
double pane windows as appropriate for climate and in good condition (construction, renovation & condition standard)				Yes	Yes - when practical during renovations.	Yes
GFCI outlet and switched light at each outside door of house (construction & renovation standard)				Yes	Yes	None
GFCI outlet in or near outside door of garage (construction standard)				Yes	None	None
25-year min life expectancy for roofs (construction & renovation standard)				Yes	Yes	None
gutters, downspouts and splash blocks in place and operable (construction, renovation & condition standard)				Yes	Yes	Yes
basements and/or crawl spaces are dry and ventilated (construction, renovation & condition standard)				Yes	Yes	Yes

yellow highlights denote changes from Update #3

Army Standards for RCI Projects	New Construction	Renovation	Condition
finish grading to slope away from structure (construction, renovation & condition standard)	Yes	Yes - when practical during renovations.	Yes - when practical
roof in good condition with no visible sign of leakage (condition standard)	None	None	Yes
exterior finish has no significant sign of distress (condition standard)	None	None	Yes
Patios, Bulk Storage & Trash Storage Areas			
dwelling has secure, well lit and dry bulk storage (minimum 500 cu ft) inside garage or accessible from outside of garage (construction standard)	Yes	Yes	None
trash storage inside garage if space permits otherwise outside visually screened (construction standard)	Yes	None	None
visually screened trash container with adequate capacity and within reasonable distance from entrance of residence (construction & renovation standard)	Yes	Yes	None
72 sq ft min balcony for apartments min 6 ft deep (construction standard)	Yes	Yes	None
150 sq ft min deck or patio on all single family or town homes (construction standard)	Yes	Yes	None
privacy screening between decks or patios (construction & renovation standard)	Yes	Yes	None
patios, storage and trash areas maintained in good condition (condition standard)	None	None	Yes
Interior Finishes			
doors and trim shall be finished either natural or with a semi-gloss paint (construction standard)	Yes	Yes	None
avoid conflicting door swings (construction & renovation standard)	Yes	Yes	None
all doors open and close freely while maintaining seal and avoid conflicting door swings (condition standard)	None	None	Yes
doors, trim wall and ceiling finishes are free of holes and stains (condition standard)	None	None	Yes
floor coverings are free of holes and stains (condition standard)	None	None	Yes
no lead based paint is exposed (condition standard)	None	None	Yes
Bathrooms			
minimum of 1 master bathroom (larger than others) and another full bathroom in all houses (construction standard)	Yes	None	None
tub and shower combination and double sink in master bath (construction standard)	Yes	None	None
flooring of sheet vinyl or non-skid tile	Yes	Yes	None
three, or more, bedroom units have at least two full bathrooms (construction & renovation standard)	Yes	Yes	None
a half bathroom minimum on each floor of a house (construction & renovation standard)	Yes	Yes - when practical during renovations.	None
exhaust fan to the outside (construction & renovation standard)	Yes	Yes	None
GFCI electrical outlet (construction & renovation standard)	Yes	Yes	None
minimum one mirror with light above each sink and one medicine cabinet or closet per bathroom (construction & renovation standard)	Yes	Yes	None
all fixtures functional (condition standard)	None	None	Yes
Kitchen			

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Army Standards for RCI Projects	New Construction	Renovation	Condition
design considers efficient work triangle (construction standard)	Yes	Yes - when practical during renovations.	None
refrigerator with ice maker, dishwasher, range and garbage disposal (construction standard)	Yes	None	None
double compartment sink minimum 7 inches deep (construction standard)	Yes	None	None
range hood with light and two-speed, low-noise fan (construction standard)	Yes	None	None
no carpet as flooring (construction & renovation standard)	Yes	Yes	None
eating space in breakfast bar or dining room adjoining kitchen (construction & renovation standard)	Yes	Yes - when practical during renovations.	None
laundry facilities not located in the kitchen, bedroom or bathroom (construction & renovation standard)	Yes	Yes	None
appliances meet energy star standard (construction & renovation standard)	Yes	Yes	None
GFCI electrical outlet for small appliances (construction & renovation standard)	Yes	Yes	None
cabinets and countertops are without damage or large scratches (condition standard)	None	None	Yes
appliances in good condition (condition standard)	None	None	Yes
Bedrooms			
minimum of three bedrooms (construction standard)	Yes	None	None
master bedroom minimum 150 NSF other bedrooms minimum 120 NSF (construction standard)	Yes	None	None
walk-in closet for master bedroom (construction standard)	Yes	None	None
closet space is adequate for each bedroom (construction & renovation standard)	Yes	Yes	None
bedrooms are of adequate size (90 NSF minimum with larger master bedroom) (renovation standard)	None	Yes	None
Laundry Room & Closets			
within unit, in a separate room or closet, with connections for washer and dryer; with adequate space for washing machine, dryer and laundry basket and shelving provided (construction standard & renovation standard)	Yes	Yes	None
dryer vented to the outside of home (construction & renovation standard)	Yes	Yes	None
laundry facilities not located in the kitchen, bedroom or bathroom (construction & renovation standard)	Yes	Yes	None
LEED			
New home designs shall be capable of achieving a minimum "Silver" rating, excluding prerequisite credit EA1.1, under the U.S. Green Building Council (USGBC), Leadership in Energy and Environmental Design Homes (LEED-H) rating system. NOTE: Formal certification of homes by the USGBC for LEED for Homes and/or the USEPA for Energy Star is optional and any associated costs (i.e. registrations, certifications, third party inspections, & testing) will be at the expense of the Partner not the Project. Likewise, any added costs needed to achieve LEED ratings above the minimum required "Silver" level, shall be at the expense of the Partner.	Yes	None	None
Neighborhood Community Center designs shall be capable of achieving a minimum "Silver" rating under the U.S. Green Building Council (USGBC), Leadership in Energy and Environmental Design for New Construction (LEED-NC) rating system. NOTE: Formal certification by the USGBC is optional and any associated costs will be at the expense of the Partner, not the Project. Likewise, any added costs needed to achieve LEED ratings above the minimum required "Silver" level shall be at the expense of the Partner.	Yes	None	None
maintain documentation of LEED score/rating for future review and validation by HQDA	Yes	Yes	
changes from Update #3			

Army Standards for RCI Projects	New Construction	Renovation	Condition
General			
all construction materials must comply with applicable building codes and standards as shown in the Standards for Housing at RCI Projects Update #4	Yes	Yes	
individual circuits, interconnected w/battery backup for smoke/carbon monoxide detectors (construction standard)	Yes	Yes	None
switched light fixtures in each room and hallways (construction standard)	Yes	Yes - when practical during renovations.	None
energy efficient lighting fixtures	Yes	Yes	None
ceiling mounted light boxes capable of fans in bedrooms, family and dining rooms (construction standard)	Yes	None	None
energy efficient HVAC system, water heater and appliances.	Yes	Yes - when practical during renovations.	None
programmable (set-back) thermostats in new construction, and major revitalizations.	Yes	Yes - when practical during renovations.	None
two story homes designed with separate air distribution for first and second floors (construction standard)	Yes	None	None
supply air vents for HVAC have adjustable dampers (construction standard)	Yes	Yes	None
air filters for HVAC easy to change by residents.	Yes	Yes	Yes
minimum 40 gallon hot water heater for 3 bedroom and 50 gallon hot water heater for 4-5 bedroom (construction standard)	Yes	None	None
drains for air-conditioning condensation, humidifier overflow, occupant-supplied washing machines, and water heater drain and relief valve that should discharge to exterior or to waste water drain.	Yes	Yes	None
three-feet minimum coat closet near entrance and two-feet minimum linen closet provided near bedroom (construction standard)	Yes	None	None
mechanical room accessible from outside unit (when practical) (construction standard)	Yes	None	None
provide an interior shut-off valve on water supply line entering each residence (construction standard)	Yes	None	None
telephone and television outlets in family room, living room, kitchen and all bedrooms (construction standard)	Yes	Yes	None
hardwired for internet service (construction standard)	Yes	None	None
radon control if required (construction & renovation standard)	Yes	Yes	None
street address displayed on each unit (construction & renovation standard)	Yes	Yes	None
shut-off valve angle stops at all hot and cold water connections to fixtures (construction & renovation standard)	Yes	Yes	None
water piping in exterior walls, attics or crawl spaces is insulated in freezing conditions (construction & renovation standard)	Yes	Yes	None
no glued-down carpets (except ADA units) (construction, renovation & condition standard)	Yes	Yes	None
HVAC maintains indoor temperature within acceptable range in each room (condition standard)	None	None	Yes
sound attenuation between town homes or apartments (construction & renovation standard)	Yes	Yes	None
lighted entrance foyer with closet located adjacent to living room with access to other areas without passing thru living room.	Yes	None	None
hallways and stairways accommodate moving a queen-size box spring mattress	Yes	None	None
Housing Square Footage Requirements			

yellow highlights denote changes from Update #3

Army Standards for RCI Projects	New Construction	Renovation	Condition
minimum of 3 bedrooms in all homes (construction standard)	Yes	Yes - when practical during renovations.	None
3 bedroom: 1,630 GSF* minimum	Yes	None	None
4 bedroom: 1,940 GSF* minimum		None	None
5 bedroom: 2,300 GSF* minimum		None	None
GFOQ Standards			
Executive Home (O7 & 8) : 3300 max GSF*	Yes	Yes	None
Executive Home (O9 & 10): 4,000 max GSF*	Yes	Yes	None
*GSF - defined as total square footage minus mechanical room, exterior storage, and garage (s)			
Kitchen Appliances* and Amenities			
1 refrigerator w/ freezer and ice maker, 1 additional refrigerator / freezer (when practical)	Yes	Yes	None
1 cooktop / cooking range (6-burner), 1 dishwasher, 1 oven (double), 1 microwave oven, 1 garbage disposal	Yes	Yes	None
Countertops and flooring will be comparable to the local standard for a similar home			
* Kitchen Appliances for Special Command Positions (as designated in AR 420) include the following when practical:			
Commercial refrigerator, commercial dishwasher, commercial oven and a 6-burner cooktop / cooking range,	Yes	Yes	None

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