



**U.S. Army Corps
of Engineers**
Engineering and Support
Center, Huntsville

Ft. Leonard Wood Child Development Center (6-10);

Fort Leonard Wood, MO



**ESTR – Phase 1
Project No 54914**

February, 2011

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CHAPTER 1 - GENERAL

1-1 Purpose

The intent of this document is to present the findings of the Phase I End State Technical Review (ESTR) performed on the large 6-10 School Age Services facility at Ft. Leonard Wood, MO. The ESTR was performed February 17 and 18, 2011.

1-2 Facility Description

This facility is a large 6-10 School Age Services CDC, to accommodate 195-225 children. Construction was finished in late September, 2009. Users moved in March 1, 2010. Currently the facility is under a pilot program and is open 4:30 to 18:30. It is anticipated that the hours will go back to 5:30 to 18:00.

1-3 ESTR Team Members

The following is a list of HNC's team members that participated in the ESTR:

- Jay Clark – Architectural

1-4 Meeting Contacts

The following is a list of individuals that were contacted during the ESTR:

- Nancy Starnes, Chief of Child and Youth Services
- Debbie Porter, Facility Director

CHAPTER 2 - ARCHITECTURAL

2-1 General Discussion

Computer/Homework Lab

Magnetic boards should not be provided in computer room. Cannot use magnets that close to the monitors.

Concern that carpet in the computer lab will build up static charge. However, after further discussions it was determined that the carpet is anti-static.

No follow up to connectivity of where cables were brought in. They didn't have connectivity to the internet for 8 months in the computer lab as the cables were not hooked up. The storage room was to be a server room where the cables came in, but instead they came in at the video monitoring room.

Cannot really use the storage room for storage as there is an electrical panel in that space.

Staff Lounge

Lounge is wonderful!

Staff lounge closet could use shelves.

A computer is provided in the lounge, basically because it is supposed to be in the training room, but there is not enough space.

Director's Office

Office is good sized, but with furniture arrangement, the window into the entry way is not real useful, can only see the backs of their heads. Due to the floor mounted safe under the desk, there is no way to rearrange furniture.

Multi-purpose Room

Question need for mirrors in this room. In addition, the mirrors are very distorted, and look more like funhouse mirrors.

Floor is a floating bamboo floor. Problem is there are areas in the floor that are too spongy and soft.

The doors into the gym have larger vision panels, not the 10" x 10" that is now in the standard.

Cable tray should not be run through this space. Provides a challenge for the kids to see how many balls they can get on the tray.

Kitchen

Quarry tile floor is very difficult to clean.

Counter top is white solid surfacing and shows stains, etc. Would be better to be stainless steel.

Laminate cabinets are an issue. Laminate is delaminating and particle board substrate is swelling due to mopping and water spills (true inside and outside the kitchen)

VCT is coming off of floor where it has gotten wet around the sink in the demonstration kitchen area. Should use other type of flooring where can get wet.

Kitchen help said would like to have the stove and cooking items along the wall and then a large work table in the middle. She is constantly having to walk around the walled area in the middle to go to dishwashing, etc.

The fan over the dishwasher is running 24/7. It has no switch to control the operation. This helps lead to the kitchen being very cold in the mornings.

Reception Desk

They did away with the swinging gate into the desk area.

There is a column at the corner of the reception desk, which is not a problem for the staff, but I remember it being an issue during the design phases.

Atrium

Main atrium is not provided with clerestory windows. Instead there are 10 – 12 solar tube skylights provided. The ceiling is a flat plane over the main atrium.

They love the atriums

Love the solar tube skylights. Said they prefer those over the clerestories. Provides a lot of light, even on cloudy days.

The “waiting” area is really a kids space used for reading and quiet activities. If parents are waiting for a meeting, they will have them wait in the café area.

They love the waiting area with the built in display cases and the built in plant holders.

2-2 Feedback/Lessons Learned/Standard Design Impacts

Homework lab and computer lab should be connected. Could put one or two doors in shared wall. And also put glass vision panels between the rooms.

Homework lab should be larger.

Training Room is too small. Can only fit 5 in this room, and the staff is 13. Cannot have staff meetings in this room.

Training Room did not have enough data drops. This room is supposed to have 4 work stations, and not enough lan drops.

Closet is not large enough, and did not have shelves for resource material. They added shelves, but could use more storage space.

The installation had the contractor add in a dishwasher in the staff lounge which is a great bonus for keeping the break room clean.

A 2-compartment sink would be nice in the staff lounge.

Also had them modify the cabinetry to move the microwave off of the counter and into the upper cabinet area. This provided more counter space and reduced an electrical hazard concern.

There is no visibility between the Reception Desk and the Director. Need to have visual contact so that if there is an issue at the desk, they can motion to the director to come immediately. A change in door location and/or window in the wall between the office and desk should be considered.

There is an assistant director. These facilities are open 12-14 hours a day. There is no office for the Asst. Here, they have put a small desk for his computer in the Director's Office.

This facility needs a warming rack, and it needs to be located next to the stove/cooking area. The installation bought one, and had it located by the dishwashing area. Very inconvenient to carry hot food all the way over there.

Verify if there is a need for a hand washing sink next to the exterior door.

Had to locate the desk in the kitchen next to the walk-in refrigerator because where it was originally planned by the exterior door was taken up by an electrical panel, fire alarm, and hand washing sink. They had to have lan

drop added in the new location. Now desk sticks out into the way.

Could use a larger freezer, and the walk-in refrigerator seems to have been down sized. It did not line up with the face of the dry storage. A larger refrigerator would probably also be desired. There is a large cooking load in the summer, and there is concern that they cannot store enough food.

Cook questioned why there was no "Cleveland" flip skillet and floor drain. This is a very useful piece of equipment. They added it to their 0-5. They recommend it be a standard item in both the 0-5 and 6-10.

Layout of the reception desk causes problems seeing who is coming through doors. I asked if moving the interior set of doors further in to the facility would help, and they felt it would. Some concern expressed about the desk worker not facing the doors. But was discussed hard to orient to see door, see atrium area, and conduct business at the counter.

Acoustics for the reception desk is horrible. The open counter on the atrium side gets all the noise from the facility. The desk person finds it very difficult to carry on conversations. I asked if a glass panel there would help while still maintaining functionality, they said yes.

Not nearly enough data drops. Need one on every part of wall, and at least 4 under the counter. They have a large Government furnished copier that is also a network printer scanner etc., but can't use those functions since there is no data drop. Also have 2 POS computers with credit card machines, 1 regular computer, monitoring system, CCTV lan drops, copier, and printers.

They would like to see a food bar in front of the demonstration kitchen counter. This will accommodate the larger groups when fully operating at 225.

CHAPTER 3 - MECHANICAL/ELECTRICAL

3-1 General Discussions

Lights that went out when no one was in the room was a problem!!! Had to change that.

Have major issues with the HVAC. It appears the heater is on a timer that is based on a normal working day. Building is too cold in the morning. Building opens at 4:30 a.m. Temperature is different from room to room. The Kitchen and office are cold, the gym and construction activity rooms (by the locker area) are hot. They did have frozen pipes this winter.

Nancy felt that the solar tubes would be good in all of the activity rooms except for the performing arts room. Perhaps be able to use a sensor to turn off the room lights if the light level from the solar tubes was sufficient.

3-2 Lessons Learned/ Standard Design Impacts

CHAPTER 4 - SITE

4-1 General Discussions

Play equipment says for ages 5-12, however it seems undersized for some of the kids. Could use some larger play equipment.

Mulch around swings is a maintenance problem.

Used what looks to be the rubber landscaping edging around the mulch and rubberized surfacing. Not sure rubberized surface was laid correctly. There is a low spot that collects water from rain and snow.

The edging is coming apart and coming out of the ground.

Sod did not take.

There is a bike rack permanently installed outside the front door.

It was a battle with the installation to maintain the open green space for the soccer field.

Also, the large rocks in the playground seem to cause concern. A lot of parents thought they were left over construction debris, and were concerned about their safety.

4-2 Lessons Learned/ Standard Design Impacts

CHAPTER 5 - CONSTRUCTION

5-1 Existing Conditions

Joints in the slab were not handled appropriately which is resulting in joints between VCT to widen, cracks to occur in the CT floor in the bathrooms, and presumably causing cracks to form in bulkheads and walls.

Paint should be semi-gloss to make it easier to clean. The flat is hard to clean.

Corner guards on the sheet rock walls need to be the larger, integral color guards that are mechanically attached to the walls. The ones used in this facility were the small, clear plastic that are held in place by double sided tape. They are coming off the wall, and are pulling the paint off with them.

They have been told the building is not sprinklered, but I believe it is, and they used concealed head sprinklers. Based on plans and other research, we have determined the building is fully sprinklered. This is critical to address flexibility and contingency concerns with using the building for 0-5.

Front door buzzer, which notifies the front desk when the door is opened, works intermittently. This has been worked on for a year to no success.

Appears the VCT were laid on a dirty slab, as at least 100 tiles had to be replaced.

The team was great to work with through the majority of the project. This included the COE, Architects, DPW, Construction Contractor. Made for a successful project that allowed the facility to pass the pre-occupancy inspection.

They had the contractor put a line in storage rooms 18" from the ceiling to show maximum storage height.

There are numerous stains on the ceilings from leaks. Based on the roof, I would speculate the leaks are from pipes or HVAC.

They are having a number of issues with the doors. Issues such as the doors splitting, hinges pulling out, and one door pulled completely off the hinges by one of the children. The doors seem to be going out of square. Wondered why finger guards were provided on most of the doors, but not on the doors into the multi-purpose room.

5-2 Lessons Learned/ Standard Design Impacts

Panic hardware was not provided on the exterior doors from the modules. This had to be changed during construction.

CHAPTER 6 - OTHER

6-1 General Discussions

Tall wall cabinets are top heavy and therefore must be anchored to wall. Then, they are no longer movable. Need to ensure they are in the right locations, or use lower cabinets that can be moved.

The building was completed in September, but the furniture was not installed until February. They moved in early March. This meant that the building sat empty for 4 months of the warranty period. Also a big question on the garrison why the building was sitting there unused.

Would be nice to have hand dryers in the large restrooms instead of paper towels.

The facility was designed to meet LEED Silver. However, a year after opening, the installation removed all signs for specialized parking. This is a waste of time and money.

Should look at a different paint finish other than flat. The flat paint is too hard to clean.

Need to ensure everything is covered clearly in the RFP. Issues such as no motion sensors for lights, panic hardware on doors, etc.

Overall they love the facility and it functions well. There is plenty of activity space. Parents have expressed their delight with the facility as well.

Investigate a new type of kick plate that allows you to open the door from the inside (pull) by using your foot. Avoid having to touch the door pull with your hand.

Entrance vestibule is quarry tile floor. There is no recessed floor mat.

The Architect for this project sent information forward and received the Merit Award from the Rocky Mountain Chapter of the Design Build Institute.

Prior to the design of this facility, Nancy contacted Maxine at the Ft. Riley 6-10 CDC, which is also a 195-225 Large facility. Maxine's comments regarding the Ft. Riley facility follow:

- Ft. Riley has an Assistant Director's office
- Would change layout of desk orientation
- Like the overall layout
- Homework and Computer Labs are adjoining
- Intercom system has problems
- Training Room not large enough

Prior to the design of this facility, Nancy also contacted Tina at the Rock Island 6-10 CDC. Tina's comments regarding the Rock Island facility follow:

- Going to add sound baffles in atrium and multi-purpose room.
- Computer lab is sized for only 14
- Extra outlets needed for microwaves, refrigerators, etc.
- Larger glass vision panels needed, but have a glass sliding door between the atrium and 2 different activity rooms
- No intercom system
- No staff lounge
- Rearrange the front desk.

6-2 Lessons Learned/ Standard Design Impacts

SPAWAR – surveillance system needs to have audio. Visual alone is not adequate to catch problems. Must rely on body language to determine if there is an issue. Audio is REALLY necessary!!!

Could use some sort of light and sensor system to alert staff when there is someone in the restrooms. Sometimes children are in there, and they don't realize it.

Building needs to meet standards for 0-5 CDC to allow for mandatory contingency plan for the 0-5. This building must be able to function as a 0-5 as a contingency. Jim Derby has talked to them about what would be required.

A portion of the locker area is a blind spot from the atrium and desk area. They are considering installing a convex mirror to be able to monitor that area. Could this be redesigned to alleviate the blind spot?



**U.S. Army Corps
of Engineers**
Engineering and Support
Center, Huntsville

Bliss School Age Center (6-10);

**Building 2012
Fort Bliss, TX**



**ESTR – Phase 1
Project No 64653**

May 2011

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CHAPTER 1 - GENERAL

1-1 Purpose

The intent of this document is to present the findings of the Phase I End State Technical Review (ESTR) performed on Building 2012 (Bliss School Age Center) at Fort Bliss, Texas. The ESTR was performed by the HNC team on May 16, 2011.

1-2 Facility Description

Building 2012 is a medium sized (150-180 children), School Age Center for ages 6 years to 10 years that was occupied in September, 2010. Hours of operations for the facility vary, but generally are Monday thru Saturday from 5:30 am to 6:00 pm.

The users are overall pleased with the facility.

1-3 ESTR Team Members

The following is a list of HNC's team members that participated in the ESTR:

- Jay Clark – Architectural
- Robert Jackson – Mechanical
- Karen Shockley - Electrical

1-4 Meeting Contacts

The following is a list of individuals that were contacted during the ESTR:

- Adrian Trejo, DPW Design Branch
- Maria Montes, DPW Team Leader
- Emilio Escandon, O&M
- Laila Soltero, Center Director

1-5 Construction

The design-build contractor for this project was Lakeshore. The following is a list of the major contract modifications issued during construction.

- None noted.

CHAPTER 2 - ARCHITECTURAL

2-1 General Discussion

- There is no camera in the Director's Office. Therefore cannot document any incidents.
- This is the fourth building done by Lakeshore.
- Hard to hear PA in multi-purpose room due to the number of children and the acoustics of the space. The multi-purpose room is too loud and has bad echo and reverberation issues.
- They have a separate trainer. The trainer is located in the training room and does 1 on 1 training.
- The building construction of the multi-purpose room was precast panels, so the conduit was surface mounted. However, after comments on Milam 6-10, the contractor did a better job trying to conceal the conduit in the joints between panels.
- Could use even more cabinets at the reception desk, however the real issue is that there is a need for more storage at the reception desk.
- Ensure the electrical room opens into the break room, thereby protecting the training room storage room.
- There is no desire for TV in the activity room(s).
- Assistant director and Maintenance person are using the training room as well as the trainer.
- Like the 4 windows side by side into the computer lab. However, due to accreditation requirements, there needs to be a lot of space for announcements on that wall.



- Like the carpet in the waiting area. In this facility this area is used for parents waiting.



- There has been a lot of settling; they have had to replace VCT at corners, and have had to repair gyp. bd. cracks as well. Now you can see raised area in floor in cafeteria wing. Also led to cracks in the Ceramic Tile floors.



- Grout in restroom has been replaced. The tile is hard to maintain because it is very light in color.
- They do not like the tables and chairs that were provided in the cafeteria wing. The rubber edging has come off table bases, and chairs are scratching the floor.
- Recycling room is used for storage. Recycling provided in front admin area
- This facility has a strong smell when outside, which sometimes even is noticeable inside. The installation is investigating the cause of the smell.
- There is no dishwasher in the break room, and they do not want one.
- Cracks in quarry tile floor in kitchen and in the solid surfacing counter top.
- Question why there is a floor drain in front of the sinks in the eating area.

- The conference table from the training Room is now in the Computer Lab.
- Very little space between the goal lines of the soccer field and the curb.
- There are cameras on the back of the building, however, there are no child areas there.
- Need more trees in the playground. They were wondering if there was a limitation on trees.
- Ice cream maker was not installed because there is no water line available, and a water line is required.
- Door between mechanical room and communications room does not have a window in it in this facility (window is not required, but was provided on other facility at Ft. Bliss).

2-2 Feedback/Lessons Learned/Standard Design Impacts

- It would be better if the window in the Director's Office was on the wall next to the door so they could watch the reception counter.
- Needs to be a cable TV outlet in the break room.
- FFE – need to change to wall mounted flat screen TV in lounge to maximize the space in the room.
- Storage in training room needs to have adjustable shelves.
- Don't need the swinging gate into the counter area.
- Flip the reception counter so that the high area is on the corner by the front door.



- Demo kitchen not working well since instructor has to have back to rest of area. They do a lot of the demo kitchen training on the tables in the eating area.

- Accountability boards not in a good location in the cafeteria. Not easily accessible to parents. Maybe should be on wall under comp lab window across from parent waiting.
- Has 4' wide door from the cafeteria area into the kitchen which is too wide, too heavy, and unnecessary. It does not have self closer, and therefore they get written up for it not being self closing.



- Sinks in counter in cafeteria area need to be for hand washing for the children before they prepare their food. Need to relook at this area to provide a low and high hand washing sink at the left end of the counter, with demo kitchen type sinks towards the right.
- Question the need for refrigerator in the demo kitchen.
- Need hand washing sink as you enter into the kitchen.
- Could use a bigger freezer and dry storage area.
- Could use a steamer in the kitchen.
- There is a line of sight issue with the main restrooms. The wing walls are not long enough to block views into the stalls.



- Built in shelving would be good in the storage area off of the multi-purpose room.
- Need ability to lock multi-purpose room off from rest of building.
- There is a door between the multi-purpose room and the corridor with the restrooms. This would allow people using outdoor fields to have access to restrooms without having the center open.
- Glare from window in exterior door of computer lab affects viewing of computers.
- Would like half wall between computer lab and homework room; then 1 staff person could monitor both.
- Computer lab is too small since for accreditation each area needs to provide a “soft” area.



- There is a door between the computer lab and the homework room.
- Would prefer to do away with mirrors in the performing arts room.
- Would prefer fire proof curtains on the windows as opposed to blinds.

- Need to provide adequate data lines in reception desk area, to include where printer is located.



CHAPTER 3 - MECHANICAL

3-1 General Discussion

The HVAC system in use is chilled water supplied package AHU's in connection with VAV boxes.

The user prefers a multi pump cooling system/redundant system or a system with an easier change out.

The user stated that the computer lab gets too hot even when the computers are dormant. It gets hotter when it gets filled with students etc.

The user stated that the director's office is too cold in the winter time and that the thermostat doesn't seem to work properly.

3-2 Lessons Learned/ Standard Design Impacts

Insure user and designer communicate to identify all equipment and people loads in the computer room/lab.

Identify if a multi pump cooling system is an applicable option for the HVAC system.



**U.S. Army Corps
of Engineers**
Engineering and Support
Center, Huntsville

Milam School Age Center (6-10);

**Building 11898
Fort Bliss, TX**



**ESTR – Phase 1
Project No 64096**

May 2011

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CHAPTER 1 - GENERAL

1-1 Purpose

The intent of this document is to present the findings of the Phase I End State Technical Review (ESTR) performed on Building 11898 (Milam School Age Center) at Fort Bliss, Texas. The ESTR was performed by the HNC team on May 16, 2011.

1-2 Facility Description

Building 11898 is a medium sized (150-180 children), School Age Center for ages 6 years to 10 years that was occupied in June 2010. Hours of operations for the facility vary, but generally are Monday thru Saturday from 5:30 am to 6:00 pm.

The users are overall pleased with the facility.

1-3 ESTR Team Members

The following is a list of HNC's team members that participated in the ESTR:

- Jay Clark – Architectural
- Robert Jackson – Mechanical
- Karen Shockley - Electrical

1-4 Meeting Contacts

The following is a list of individuals that were contacted during the ESTR:

- Adrian Trejo, DPW Design Branch
- Maria Montes, DPW Team Leader
- Emilio Escandon, O&M
- Yvette Camacho, Center Director

1-5 Construction

The design-build contractor for this project was Lakeshore. The following is a list of the major contract modifications issued during construction.

- None noted.

CHAPTER 2 - ARCHITECTURAL

2-1 General Discussion

- Since the building construction of the multi-purpose room was precast panels, all the conduit was surface mounted, which looks bad.



- This facility had a smell when it opened, but they think it was from the p-traps.
- No shading on windows. Needs to be provided where it is very bright and hot. Standard should address shading.
- Relocating school liaison to the training room and moving the IT/Maintenance to better support the parents.
- Using the director's office for small training or computer room if training whole staff. Training Room is being used as offices.



- A redundant air conditioning system would be great. Right now when the system goes down, it takes several weeks to fix, which means no cooling.
- Break room closet is not as important as training room closet.
- There is no dishwasher in the break room, and there really isn't a need for one.
- No furr-down and accent lighting was provided over the reception counter. There are some can lights that actually are located over the chairs behind the counter.



- No issue with sound from atrium to counter.
- Waiting area is not used for parent waiting.
- They are not concerned that there is no sound (audio) in the video surveillance system.
- The kitchen is not required in this facility since it is adjacent to the 0-5 and they will be using that kitchen.

Consider dual use of one kitchen if CYS facilities are collocated.

- The roll-down door on the pass-through window in the kitchen is manual operated.
- Ice cream maker was not installed because there is no water line available, and a water line is required.
- Recycling room is now being used by IT, but will be the maintenance office.
- Front desk person is responsible for monitoring a sick child.
- Heater at door next to kitchen to the outside is not needed.
- Playground area surfacing is supposed to be poured in place instead of loose rubber.
- Ft. Bliss removes the shade structure covering in times of high winds.
- Playground area has irrigation meter, manholes, and various other covers (at least 10 items) that are a hazard and should not be in the playground area.



- Door between mechanical and communication rooms has window, which is not needed.
- They have had a lot of problems with the AC unit for the communications room.
- Fire panels are located in the mechanical room because the electrical room was too small.
- Always have dust issues at the doors due to wind and sand.
- Multi-purpose room has no acoustical treatment and therefore has unacceptable acoustics.
- Storage Room in Multi-purpose room is used for maintenance personnel.
- The TV Stand purchased for the lounge is huge for the TV provided. Rooms are too small to have

oversized furniture.

- The users questioned why there is caged storage in the Multi-purpose Room Storage Room.
- Mirrors in performing arts are difficult. They still have distortions, they scratch easily, and they are hard to clean.
- Performing arts is the least used room.
- Computer Lab gets warm.
- Computer Lab display boards are also peg boards in addition to being magnetic.
- Storage room in the Computer Lab is used for storage in this facility, not for the server. Need to verify the intended use of this room.
- Tables are almost too small for 2 computers

2-2 Feedback/Lessons Learned/Standard Design Impacts

- It would be better if the window in the Director's Office was on the wall next to the door so they could watch the reception counter.
- Shelves are required in the training room storage room.
- Break room is very tight when not in swing shift. Could look at moving lockers to enlarge. Lockers could be on end wall or on wall by the door.
- Needs to be a cable TV outlet in the break room.
- In the break room, raise the microwave off of the counter and provide more counter space. The cabinets are overkill.



- Needs more storage at the control desk.
- Need more data drops at the control desk. Six would be ideal and make sure to have one on the wall where the copier/printer is located.
- Electrical outlets in floor need to be inside waiting area, not outside.



- Cabinetry around waiting area needs to be permanent with outlets in the cabinetry.
- Design the cabinetry around the waiting area with some shelving opening to the inside for games, etc. Also, provide the plant cut-outs at the corners so shelves and display cases can be put in the straight areas of the cabinetry.



- Need a place for a desk in the kitchen. Could move door on dry storage down to provide enough space.
- IDS – highly recommend using the kind with keys at each door.
- Need capability to have intercom go from room to room. Really important for accountability. Right now, call has to go through receptionist, and they are being overtaxed.

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- Surveillance system does not fully cover playground. May need to be a separate system to cover playgrounds and parking lots.
 - As in the 0-5, need to put an intercom in each of the playground areas.
 - Would be nice for staff to have access to a private outdoor area from break room.
 - Concerns about active shooter/terrorist lock down with rooms that can't be locked. Need to address safe locations in case of active shooter. With all the windows and doors that don't lock, this is a concern
 - Consider combining laundry and janitor area for convenience of cleaning crew.
 - Storage room used for VSS server and free standing shelving units. There are no built in shelves. However, this room is really supposed to be the VSS room. But if this room were dedicated to just the VSS, there would be no central storage for the facility.
 - Recommend combining restrooms into one set of restrooms and create a central storage room.
 - Would be good to have a sensor that indicates a child is in a restroom; again for accountability.
 - They have a door between homework and the computer lab. However, this causes staffing problems. On the other hand, one large room for both homework and computer would be ideal. Consider half wall between homework and computer areas with a gate between them.
 - Computer Lab is too small for the number of children and computers.
 - Consider CATV in one activity room to be able to access shows or world news, etc.
 - Consider a delayed panic hardware on doors not into fenced area. Gives staff time to get to child at door before door opens.
 - Isolation area is too small. Look at providing a separate room like in the 0-5 design.

CHAPTER 3 - MECHANICAL

3-1 General Discussion

The HVAC system in use is chilled water supplied package AHU's in connection with VAV boxes.

The user identified only one pump in the coolant system. This kind of system has caused problems for them because when one pump goes down the whole system has to go down to replace the pump. The user prefers a multi pump cooling system/redundant system or a system with an easier change out.

The user stated that the computer rooms get too hot once it gets filled with students etc.

The user stated the issue occurring with the domestic water pressure pumps computer failing and causing the toilets not to be able to function properly because of lack of pressure. The water pressure coming in from the facility is between 35 to 37psi. The pumps boost the pressure to 60psi.

The user expressed a concern of the sprinkler backflow preventer and manholes etc. being located in the playground area.

The user stated they would prefer to remove the heaters from above the exterior doors. They don't think there's a need for them because of their location being the southwestern United States.

3-2 Lessons Learned/ Standard Design Impacts

Identify if a multi pump cooling system is an applicable option for the HVAC system.

Insure user and designer communicate to identify all equipment and people loads in the computer room.



**U.S. Army Corps
of Engineers**
Engineering and Support
Center, Huntsville

Patriot School Age Center (6-10);

**Building 6204
Fort Carson, CO**



**ESTR – Phase 1
Project No 56192**

June 2011

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CHAPTER 1 - GENERAL

1-1 Purpose

The intent of this document is to present the findings of the Phase I End State Technical Review (ESTR) performed on Building 6204 (Patriot School Age Center) at Fort Carson, Colorado. The ESTR was performed by the HNC team on June 28, 2011.

1-2 Facility Description

Building 6204 is a large sized (195-225 children), School Age Center for ages 6 years to 10 years that was occupied in August, 2010. Hours of operations for the facility vary, but generally are Monday thru Friday from 5:45 am to 6:00 pm.

The users are overall pleased with the facility.

1-3 ESTR Team Members

The following is a list of HNC's team members that participated in the ESTR:

- Jay Clark – Architectural
- Patrick Lane – Mechanical
- Karen Shockley - Electrical

1-4 Meeting Contacts

The following is a list of individuals that were contacted during the ESTR:

- Maxine Williams, Center Director
- Lauren Morris, CYS Administration

1-5 Construction

The following is a list of the major contract modifications issued during construction.

- None noted.

CHAPTER 2 - ARCHITECTURAL

2-1 General Discussion

- Doors are not closing all the way. This is a function of the hardware more than an issue with the HVAC. Hardware has been a problem on this facility.
- There is a problem with a smell throughout the building. Can smell it inside and outside the building.
- There was a bad leak in the storage room. They think it might have been up from the ground.
- Computer lab was overheating, but something was wrong with the system, and it has been corrected.
- Has a refrigerator in the Director's office for medication.
- The outside of the facility is a departure from the look of the standard design. However, building is very attractive, and the design included a full length clerestory window above the atrium and above the multi-purpose rooms which provided more natural light. Also provided higher ceiling and natural light in entry corridor at reception desk.



- Accountability is on 1 main board that is broken into individual spaces. The children have 1 card they put on that board to show their location.



- In winter there is a serious draft through the windows in the training room.
- Windows – top sash fully operable; bottom sash can open about 6-8 inches.



- Staff lounge came with dishwasher.
- Staff bathroom water is too hot, but water in lounge does not get hot.
- Closet in lounge is used for hanging coats.
- There is a computer terminal in the lounge – they think its used for training.
- A sick child lies behind desk, not in a separate room or alcove.
- Isolation toilet has 2 doors, one behind the desk and one opening into eating area.
- There is no recycling room next to the kitchen.
- Need gas stove; electric one isn't very good.

- Intercom system does not work, so the desk won't respond. There is no intercom provided in the computer lab.
- Have waterless urinals in boy's restroom.
- Dryers are not on the exterior wall, they are ducted up through the ceiling.
- Drama room has wood floor and no dance bar.



- There had been a glass mirror in the multi-purpose room. A child ran into it and got glass in their head. They replaced the mirror with a plastic mirror.
- Fenced area does not include all activity room doors.
- The waiting area is used for parents and kids. Glass display cases open into the waiting area, which causes a problem with furniture placement.



- Have a roll up door into the large storage room.
- Some areas have damage from where the door has been opened too hard and has punched a hole in the gypsum wall.



2-2 Feedback/Lessons Learned/Standard Design Impacts

- Noise level is high at the desk, plus children come up to the desk. There needs to be some separation for sound and to keep the children away. Children should not be able to access the side of the control desk.
- Transaction counter should be longer.
- Limited space for eating. Administrator is talking about opening up activity areas for eating. The Director does not like that solution.
- Would have put Director's office at other end of admin area, away from desk and lobby, due to chain of command. Her location lets her be the first person that people come to.
- With the Director's office where it is currently located, the window should be on the wall with the door so she can better monitor the reception counter.
- Would like to have a sensor to show if someone is in the youth toilet rooms.
- Need an Assistant Director's office. They are the first line supervisor and have to counsel employees. Right now they have no private place to do that. This facility has a Director, 2 Assistant Directors, and a Trainer. The Assistant Directors are sitting where the trainer should be.
- Closet in training room needs shelving.
- Conference table is too large for the size of the training room.



- Training room TV is mounted on opposite wall from data port and white board. Have to run cords under the table. Should provide data/CATV/receptacles on both walls.
- Training Room furniture needs more filing. Multi-use storage unit not overly useful. They can hang coat in locker in lounge.
- In training room, not enough space for tower for computer in the furniture arrangement; it must sit on the desk. Storage unit won't allow room door to fully open.



- Training kitchen does not really function for training. Really just an area to put the prepared food on at meal time. The director wants to get warmers to put in the training kitchen to allow the children to heat their own meals.



- Surprised there is no walk-in freezer, only a walk-in refrigerator. Needs more food storage in the kitchen, especially since this is a large facility.
- Don't really need a 3-compartment sink except at high end restaurant.
- Only need 1 hand washing sink.
- Ice cream machine cannot be used because it needs water, power, and a drain.
- Due to a lack of space elsewhere, the desk in the kitchen was placed in the dry storage room, and the room was retrofit with data.
- Not enough child lockers for the capacity of the facility.



- Alcove for lockers and exterior door create issues with kids not being seen when they want to “settle their differences”. Plus there is a fire alarm pull there that has been pulled.
- Need cameras for outdoor play areas.
- Bathrooms have line of sight issues due to the wing walls being too short.
- Sewing room needs a table for layouts.
- Would like connection between homework room and computer lab. Door and windows between the 2.

CHAPTER 3 - MECHANICAL

3-1 General Discussion

- Overall the occupants seemed pleased with the mechanical and plumbing systems. The boys' restrooms were equipped with waterless urinals, and there were low flow fixtures throughout the facility.
- Issues:
 - During our visit the building's boiler was not functioning and the boiler's maintenance log indicated regular problems.
 - The staff complained that Room 129 – Arts was too cold. The staff indicated they opened the windows in the summer to regulate the temperature. With the windows open, the thermostat was indicating a temperature of 67 degrees F.
 - Staff indicated the staff restroom's hot water is too hot and that the cold water does not work. The faucet appears to be malfunctioning and the mixing valve below the sink was set to hot.
 - Room 118 – Video Recording, the thermostat was set to 60 degrees F, while the room's temperature was 70 degrees F.
 - Room 139 – Homework Room, there was an audible "beep" coming from the ceiling, apparently from a VAV box.
 - The water meter was connected to the installation's UMCS system, but the installed gas and electric meters were apparently incompatible with Fort Carson's UMCS.
 - The computer room, Room 140, was previously overheating. This was resolved via maintenance calls.
 - Recurring sewer gas smell inside and outside building. Staff indicated that liquid was added to the traps and the issue was resolved. It is possible trap primers were not installed or were not functioning properly if installed.

3-2 Lessons Learned/ Standard Design Impacts

- Ensure trap primers are installed / operable.
- Ensure the meters supplied by the contractor are compatible with the Installations existing systems.