Wake County DHHS Consolidated Data Center Information 7/1/2012

1) **Main Data Center and NOC Operations Space Environment**

- 12,500 sq. ft. for currently defined space – Request 15,000 to 17,500 sq. ft. to accommodate cages, CRAC units, PDU's and UPS units. Request room for expansion to 25,000 to 30,000 sq. ft. for future consolidation. Possible temporary wall to isolate expansion space until needed.

- Approximately 125 server racks/cabinets, 75 network/communications racks currently in use with possibility of expansion in the future.

- 5,000 – 10,000 sq. ft. of shared storage space.

- 2,000 sq. ft. of equipment build space.

- 1,500 sq. ft. of operations space (NOC monitoring).

- Fire suppression system(s) with detection and alarm systems (light and sound).

- Smoke detection and alarming systems.

- Emergency lighting for data center, NOC, operations areas/offices, restrooms, stairwells/elevators and all internal and external power and cooling systems.

- Minimum of 24" raised floor with power cabling trays below floor. (hot/cold aisle configuration).

- Minimum 14' ceilings with A/C returns (hot cold aisle configuration).

- Network copper and fiber optic cabling trays above server cabinets/network racks.

- Multiple (2 minimum) ingress/egress points with ramps for wheelchair and equipment delivery access.

- Data center should not have any windows that are connected to the perimeter of the building.

- Estimated 300 to 500 tons of cooling capacity (2x for redundancy) based on information currently available. Should take expansion space into account as part of this estimate. Actual requirements may vary.

- CRAC units should include humidity control and have moisture alarms below each CRAC unit that can be tied into central environmental monitoring.

- Two fully independent cooling sources, both sources supported by emergency power and designed to maintain the operating temperature range that we specify.

- Dual power ingress/egress points on campus – preferably to two difference power stations/sub-stations for redundancy.

- Priority power restoration in the event of a local, city, county or state power outage.

- Fully redundant power systems (dual generators, transfer switches, UPS clusters, PDU and power strips in A-side/B-side configuration)

- Ability to support multiple voltages, amperages and wattages for a variety of equipment requirements. Estimated 5000 to 7000amps of total service, with 250-400 individual circuits.

- Ability to split out electrical panels for dedicated access to any location on data center floor.

- Generator capacity should be 4 days at 100% load with priority standby fuel delivery.

- Estimated .5 to 1 megawatt generators x 2 for data center power redundancy. Will need to do a more detailed study to determine specific requirements.

- UPS Battery capacity should be 2 hours at full load based on total power requirement. Will need to do a more detailed study to determine specific requirements.

- All components of the cooling systems must be tied into generators for 100% uptime. Suggest separate redundant generators for redundant cooling systems. Depending on cooling system size and power requirements, these generators will have to be sized accordingly. Will need to do a more detailed study to determine specific requirements.

- Multiple camera security system with DVR and minimum 1 month video retention.

- Badge/card access with ingress/egress logging retained for minimum of 12 months.

- Emergency lighting for entire data center room, NOC and supporting office/restroom spaces.

- Dual ingress/egress points on campus – preferably to different telco network access points.

- Ability to support multiple MAN, Metro Ethernet and T-1 data circuits ranging from 1.544MB to 100 MB as well as multiple analog phone lines for fax/modem/misc. use. Services must extend to any building on campus and through either or both ingress/egress points.

- 6000 local telephone numbers to be utilized by multiple DHHS divisions through multiple phone systems or one central phone system.

2) DHHS Print Shop Environment

- Estimated space of between 12,000 and 18,000 sq. ft. would be ideal. The facility would have special needs such as loading docks (would need to be on ground floor) , room for moving stock with electric pallet jacks and a secure environment as well given the nature of the work performed there. Ideal location would have loading docks in front of building as well in the back (raw materials would come in front of building and finished product sent out the back making for a seamless flow thru production environment.

- All power, HVAC, security, WAN/telco requirements would be similar to the main data center, but on a smaller scale in most cases. The print shop can run 24x7 and should be treated as a critical part of the DHHS environment. This space should have its own redundant cooling and power systems, including its own generators and should be able to utilize the same redundant power and data communications paths as the rest of the campus.

3) DR/Business Continuity Environment

- Estimated space of 1,200 to 1,500 sq. ft. located in the campus building farthest away from the main data center building. This space would be a secondary ingress/egress point for data and telephone communications to/from the campus and would serve as an emergency path for communications for the entire campus in the event of a disaster affecting the main data center.

- Minimum of 24" raised floor with power cabling trays below floor. (hot/cold aisle configuration).

- Minimum 14' ceilings with A/C returns (hot cold aisle configuration).

- Network copper and fiber optic cabling trays above server cabinets/network racks.

- Multiple (2 minimum) ingress/egress points with ramps for wheelchair and equipment delivery access.

- This space should not have any windows that are connected to the perimeter of the building.

- All power, HVAC, security, WAN/telco requirements would be similar to the main data center, but on a smaller scale in most cases. This space should have its own redundant cooling and power systems, including its own generators and should be able to utilize the same redundant power and data communications paths as the rest of the campus.

Additional Notes:

- **The information provided in this document is based on responses by the DHHS divisions involved in this consolidation project, to a basic survey provided by Grubb & Ellis. Due to the short timeframe provided for gathering this information and providing the required specification in time for the RFP to be created and distributed, DIRM was not able to visit each location, clarify answers, ask follow-up questions or verify the accuracy of the answers given. Additional time would be needed to conduct proper interviews and to provide more accurate information regarding power, cooling, space and business needs.**

- **Some of the survey responses show that some DHHS divisions have specific business requirements, regulations and policies that they must adhere to with regard to moving their environments or isolating them from other systems. These survey responses have been attached to this document for review. Some of these requirements are specific to the data center spaces and others apply to the staff spaces, spaces accessed by the public and special requirements spaces for systems or services that fall outside the data center/print shop/network operations environments.**