Business Case Analysis of the National Wildlife Health Center - Madison Campus and Alternative Sites

CTA Architects Engineers completed an update to the National Wildlife Health Center (NWHC) Consolidation and Modernization plan in June of 2016. The preferred option identified as a result of the consolidation and modernization plan was to build all new facilities on the NWHC campus. The cost estimates and building case analysis identified significant costs associated with the construction of all new facilities and the planning team recommended exploring other avenues in order to realize the construction of new facilities for the NWHC. These new avenues included seeking partnerships with institutions of higher education to share resources for research and housing of NWHC labs and offices. Three alternatives sites were explored as a part of analyzing solutions for the NWHC facility needs including: 1) Relocation to the University of Wisconsin campus at the Veterinary School's new animal hospital; 2) Relocation to the University of Wisconsin Research Park; and 3) Relocation to Colorado State University- Foothills Campus, located in Fort Collins Colorado. The planning team toured and met with each campus' facility and Veterinary/Animal Research Departments in order to outline common needs and interests that may benefit by building and relocating the NWHC labs and offices to one of the three alternate locations. Each alternative location is compared to building the NWHC facilities on their current campus.

Space programming from the NWHC facilities was not altered from the final square footage totals identified in the 2016 Modernization Plan. Final cost analyses were prepared for each alternative based on a 20 year lease term and O&M costs.

Issue Identification

The National Wildlife Health Center (NWHC) was founded in 1975 to consolidate wildlife health and disease expertise into a single program designed to provide the technical assistance necessary to identify, control, and prevent wildlife losses from diseases as well as conduct research to understand the impact of diseases on wildlife populations, and devise methods to more effectively manage these disease threats. The issue currently before the U.S. Geological Survey (USGS) is the lack of funding available to modernize the NWHC science campus located in Madison Wisconsin. This issue is jeopardizing the science mission of the NWHC and consequently a mission essential component of USGS

Existing conditions at the campus are indicative of a campus that is struggling to maintain an outdated and over-utilized scientific facility in need of modernization. For example; the Facility's Animal Isolation Wing (AIW) has been closed since 2014 as a result of ongoing maintenance projects including the replacement of its underground piping and effluent treatment system, and other critical safety and mechanical systems.

This is only one of at least a half dozen projects that are in need of completion just to keep the AIW and other aspects of the campus up and running[i]. It should be noted that NWHC Leadership, maintenance/engineering and science staff have done a remarkable job of maintaining a safe, secure and functioning work environment.

Recommendations from the 2016 modernization plan identified upgrades that were needed on the campus in order for the facility to operate efficiently and continue to meet current, and anticipated new local, state and federal biosafety, biosecurity and science requirements for a modern biomedical containment facility. These upgrades include:

- Provide access to Biological Safety Level 3 Agriculture laboratory and animal space.
- Replace energy intensive and outdated mechanical systems with modern energy efficient configurations that incorporate recommended redundant biological safety equipment including back up emergency power, effluent treatment and a central redundant High Efficiency Particulate Air (HEPA) filtered exhaust air.
- Improve ability to isolate, contain and decontaminate laboratory and animal containment rooms in the event of a biological spill/release.

- Replace outdated effluent waste treatment systems

- Rehabilitate Animal Isolation Wing (AIW) to add dedicated clinical/treatment space, modify the climate control system (HVAC) to maintain room settings that conform to animal husbandry guidelines and accommodate a broader range of species.

- Rehabilitate biological containment areas so that effluent piping and decontamination equipment can easily be visually inspected and repaired.

- Increase electrical standby generation equipment to serve all mission-critical equipment (ventilation for biocontainment animal cages, ultralow freezers, power for critical biosafety equipment and HVAC systems).

- Maintain Select Agent registration and better conform to animal care and use best practices.

In addition to the safety, security and building concerns that substandard facilities pose for the NWHC, the lack of modernized laboratories and office space also jeopardizes the facility's ability to meet staffing, management and program goals including:

- Renovate office and increase laboratory space to improve functionality and incorporate flexible, open laboratory design features that can easily accommodate technology advances, such as molecular/genetic based laboratory assays, and adjust to changing partner and Agency program requirements and priorities.

- Increase functionality of office and work areas by incorporating more natural lighting and creating more efficient common use, collaboration and conferencing space that conform to Department space guidance, while facilitating the recruitment and retention of a highly qualified and motivated work force.

- Maintain a rigorous, documented facility maintenance, management and monitoring program that is consistent and compliant with all facility dependent biological safety systems, and laboratory quality assurance and animal care and use programs, regardless of facility ownership.

- Maintain and continue to enhance opportunities for research partnerships

- Continue to maintain a high level of service to NWHC local, state, federal and international partners/customers.

- Continue to increase NWHC scientific standing within National/International conservation and biomedical communities

- Minimize financial risks impacting annual operating budget and reducing Deferred Maintenance and Capitol Improvement (DMCI) costs and backlog.

The preferred option of the 2016 modernization plan proposes all new construction of office and labs for the campus in order to fully address the necessary upgrades. The recommended plan provided both a schedule and cost breakdown in order to meet the preferred construction option. However, due to monetary constraints, the proposed new construction for the NWHC is unachievable under the current USGS funding structure. As a result both NWHC and the planning team were tasked with considering alternative locations and partnerships that can assist in achieving the modernization of NWHC's needed facilities.

Purpose of Initiative -

Prior to1996, the USGS primarily operated out of General Services Administration (GSA) leased facilities. As a result of being a tenant rather than a landlord Agency, there was little need for USGS to include a budget line item for construction. Thus the USGS does not have a ready mechanism or funding large capital improvement projects. During 1996 Department of Interior reorganization, the USGS inherited a number of large government owned research campuses consisting of office, laboratory, animal holding facilities from the U.S. Fish and Wildlife Service (FWS).Many of these facilities were dated and have required significant upkeep over the years in order to keep them operable. The facilities that currently house the NWHC Campus are no exception. Approximately $11 million dollars have been expended since 2012 to keep the current facilities up and operational. Projected deferred maintenance expenditures through 2022 indicate an additional $47 million will be expended to maintain the status quo of the existing facilities. While these improvements have kept pace with the minimal necessary operation levels, they have not been able to address the many new standards and best practices, for maintaining scientific registrations, certifications, animal care and use guidelines and safety and security requirements for a modern biomedical research facility.

In total some $31 million will be expended over the next 10 years in order to maintain the current campus situation while not providing any upgrades to the facilities to meet current lab practices or building code requirements. The necessary $31 million to be expended is nearly 1/3 of the cost of constructing the recommended new facilities proposed in the current campus modernization plan.

The latest modernization plan (2016) addresses the necessary upgrades required for the NWHC to maintain their standing in the science community. The plan confirmed that the best solution for the National Wildlife Health Center was to construct entirely new facilities on their existing campus. Four options to accomplish the recommendation are given in the modernization plan including:

- Colocation of all area DOI agencies into new facilities on the existing National Wildlife Health Center campus thus creating a cost share scenario; determined to be unrealistic as the timing of other DOI agencies need to relocate given lease contracts did not coincide with available funding for the NWHC project.
- Development of new buildings and facilities on the NWHC campus for only the National Wildlife Health Center – construction to occur under one contract.
- Development of new buildings and facilities on the NWHC campus for only the National Wildlife Health Center – construction to be completed through a phased – multiple contract process. Lastly,
- NWHC should seek out alternative development partners and construct the new facilities using a public/private partnership. This was identified as an option to solving the facility need / funding shortfall issue for the facility modernization.

Two of the four options; all new development for NWHC under one construction contract, and phased construction for NWHC only were further vetted through the Business Case Analysis. Results of which can be found as a part of the 2016 Modernization Plan.

The purpose of the new construction on the NWHC campus whether accomplished through direct funding to the USGS for the NWHC improvements, or through a third party, public/private partnership (P3) assists the NWHC in meeting their goals previously stated.

Under the alternative sites study, consideration of the fourth option; seeking out a public/private partnership for the construction of NWHC's facilities would address the funding shortfall in an expedited manner and allow the NWHC to construct new facilities. By integrating a third party developer into the design and construction process, the National Wildlife Health Center is able to focus on their primary mission and research goals; rather than being distracted with the design

and construction process. NWHC leadership and the planning team conducted exploratory talks with the University of Wisconsin, University of Wisconsin Research Park and with Colorado State University as possible partners for addressing the facility needs of the NWHC. There are some notable drawbacks to the public/private partnership in the form of:

- Legal/contractual risks: Leasing arrangement versus owned facility
- Political risks
- Regulatory/permitting risks
- Organizational Risks
- Financial Risks

Description of Alternatives

The preference would be to maintain the NWHC in Madison Wisconsin on their current campus. However there are alternatives to consider that can expedite the construction process, reduce the initial funding requirements, and allow the NWHC to meet their facility needs. Partnerships with higher education institutions are the primary focus of the alternative sites study. Three separate partnerships are a part of the alternative sites study including:

- Partnering with the University of Wisconsin Veterinary Medicine Department, as a tenant in the proposed new Veterinary Hospital building on the UW campus
- Partnering with the UW Research Park and utilizing a P3 developer to build new facilities within the research park. USGS would lease the building(s) from the UW research park
- Partnering with Colorado State University- Foothills campus utilizing a third party developer in CSU's current P3 to build the new facilities on CSU's Foothills Campus. Relocate NWHC to Ft. Collins, CO.

The following is description of each alternative is provided in order to understand the risks/benefits and overall value that each alternative brings to the USGS and the science mission of the National Wildlife Health Center.

University of Wisconsin Veterinary Science School: This option would require the USGS to again fund their own project. The university has no public / private partnership arrangement. At this time the program for the Veterinary Hospital allows for only the needs of the Veterinary Medicine Department. The USGS will need to bring the National Wildlife Health Center's program and own funding if the NWHC wanted to be located in the new campus building. The timeline for the new design and construction of the UW Veterinary Science School building does not coincide with the design or funding schedule for the NWHC facilities.

The lack of congruence in schedules is a major hurdle for the NWHC to move onto the University of Wisconsin campus. We have included the UW project schedule here to illustrate the key milestones that the NWHC would need to meet in order for the University of Wisconsin partnership to be viable.

Key University of Wisconsin Milestones:

- New school building will be under design 2017-2019.
- A/E services will begin 1st quarter 2017
- Funding for project is estimated to be 3rd quarter 2018
- Construction will begin 2019
- Facility to open late 2021
- All lease options will need to be negotiated with the Board of Regents

The outcome of the exploratory meeting left the NWHC with the understanding that the greatest flexibilities on the lease vs. own options that they seek will be with other federal agencies on the UW campus. This outcome signaled several areas of concern including:

- USGS would still need to finance the project.
- It was unclear how USGS would retain ownership of parts of a facility paid for with USGS funding.
- It was unclear how lease arrangements would cover the facility operating and maintenance costs for a jointly owned UW-USGS facility.
- There appear to be few opportunities for sharing laboratory and animal space
- Timeline and duration of project does not coincide with NWHC's ability to fund their portion of project

University of Wisconsin Research Park[ii]: University Research Park, Inc. ("URP"), a non-profit corporation affiliated with the University of Wisconsin – Madison, is one entity within the University system that is the second option for addressing the NWHC's long-term facility needs. We have summarized the funding mechanisms that the Research Park has available to them. For purposes of the NWHC study, two of the five options presented by the research park are more relevant to the alternative sites study. The two options are:

- *Move from existing site within Dane County*
  Concept: USGS would issue a Request-for-Proposals to developers (or follow the appropriate federal process) to construct a facility built to suit USGS's needs within Dane County. USGS would enter into a long-term lease (likely 12-15 years or more). Proposals

would likely identify a particular site, a concept for the building, and quote a "rent constant". USGS will have the option to re-use or sell the current NWHC campus once the NWHC has been relocated into their new facility.

- *Lease a build-to-suit facility from URP*
  Concept: URP could identify a site at URP or URP 2 for the USGS facility. URP would act as the developer, build a facility to suit, and lease it back to USGS. If desired, URP would entertain (and may prefer) to negotiate an even longer-term lease (20-30 years) that resulted in USGS owning the facility (or having a cost-effective right to buy it) at the end of the lease.

The other three options that the Research Park can offer are:

- *Sell current NWHC campus to developer for $1*
  Concept: USGS could sell their current parcel to a developer for $1 with the requirement that the savings in land costs would be passed through to USGS as "free" land in the Total Project Budget. Further, if the developer is allowed to use a portion of the site for a private use (perhaps apartments), the land value would be paid into USGS's project.
  The biggest advantage of this option is that you already own a great and suitable site and don't have to pay for new land or take risk about approvals or neighborhood reception.

- *Sell current parcel to developer for market value*
  Concept: USGS could sell the current parcel to a developer at its appraised market value and require the developer to construct a new facility for USGS and demolish the old facility once vacant. The developer could develop the balance of the site for private uses. USGS should expect to see the developer's purchase price included in the Total Project Costs subject to the rent constant. Land sale proceed would ideally be controlled by USGS and used to pay capital improvements or equipment costs to complete the new building.

- *Purchase/Ground Lease land with URP; Federal or developer owned building Concept:* URP could identify a site at URP or URP 2 for the USGS facility. URP would either:
  a) ground-lease a site at URP to the federal government or to your developer

b) ground-lease or sell a site at URP 2 to the federal government or to your developer
c) The federal government or your developer would construct the USGS facility on a site.

Colorado State University – Foothills Campus: Colorado State is currently reviewing proposals for a public / private partner to work with the university on development projects on their campus. The NWHC project has potential to be included as a part of that P3 partnership. The P3 partner will be on board by end of February allowing time to work with USGS and the USGS architectural team to develop plans. The NWHC alternate sites plan will be finalized the end of March which coincides with the timing of the P3 partnership that CSU is seeking. As such NWHC is seeking a stand-alone facility for their use. There are several drawbacks to the CSU/ NWHC partnership including:

- Potential loss of personnel – due to relocation from Wisconsin.
- Relocation costs for staff changing duty station
- Potential loss of key expertise
- Potential loss of current research partners
- Potential for extended downtime, associated with the move, hiring new staff, establishing new partnerships and/or construction delays, impacting partners and customers Potential delays related to establishing new regulatory and permit reviews and approvals. Increased costs including annual rental payments and potentially additional operation costs associated with being located on the CSU campus
- parameters

There are also several potential opportunities if the NWHC relocated to the CSU – Foothills Campus including:

- Proximity to the CDC, USDA, NPS and other federal agencies
- Proximity to existing CSU biocontainment research center and other specialized facilities occur at this particular campus.
- P3 partner will construct the building for CSU; allowing CSU to lease the space to the NWHC– further detailed lease arrangements to be defined.

Alternatives Site Scope: The scope of the alternative sites study is based on the program and needs outlined in the current 2016 NWHC Modernization Plan. In summary the plan calls for approximately 120,000 s.f. of office and lab space assigned as:

- Approx. 28,000 s.f. of office/administration space

- Approx. 32,000 s.f. of BSL3 lab space
- Approx. 15,000 s.f. of ABSL animal space
- Approx. 20,000 s.f. of BSL 3 ag animal and lab space
- Approx. 11,000 s.f. of BSL 3 necropsy
- Approx. 6,000 s.f. of BSL2 biological support space
- Approx. 7,500 s.f. of BSL2 animal care support space

Two of the three partnerships explored in the alternative sites study appear to be viable in their willingness to bring a P3/third party developer to the project to construct the necessary facilities and lease the facilities back to the USGS. The drawback to the P3 partnership is that the USGS will not own the facilities. The USGS will pay lease payments for the lifetime of their occupancy of the new facilities. Additional drawbacks to a lease option include:

- Inability to control lease rates including the potential that lease rates will increase over time.
- Mission risk associated with the need to supplement lease costs by increasing overhead rates and impacting funds available for meet mission requirements.
- Lack of facility ownership and the potential loss of direct oversight, monitoring and maintenance for critical mechanical systems associated with biosafety and security systems, areas housing research animals, and the impact this could have on compliance with scientific permits, NWHC select agent registration, ACUC approvals and quality assurance programs directly tied to demonstrating the performance of NWHC mechanical systems

Schedule:

The construction process over the three alternatives remains the same. The total design and construction process will occur over a four (4) year period and can be broken out as follows:

- Negotiations with a third party developer will occur early in the design process. Negotiations are anticipated to include land acquisition, and lease contract negotiations. Estimated to occur over a 3 month period
- USGS would like to participate in the selection of an A/E design team. Selection process is estimated to occur over a 3 month period.
- A/E team working with USGS – NWHC leadership and staff to fully develop project program. To occur over a 6 month period.

- A/E team will design and produce construction documents with standard review stages of 35, 65, and 95%. To occur over a 15 month period.
- Developer will bid the project to selected subcontractors in the region. Early bidding may occur at the 65 and 95% drawing stage in order to expedite construction. Final bidding and contract negotiations will occur with the 100% construction drawings.
- Construction will occur over a 24 month time frame with A/E firm and government oversight.
- A third party commissioning agent will be a part of the design team. Commissioning will occur during design and over a five month period after construction is complete and prior to final acceptance by the owner.
- The owner will take ownership and move into the building over a one month period.

Risk Assessment

As a part of the risk analysis for each of the "Development Alternatives" (listed below), the design team, in conjunction with NWHC leadership, identified 16 "Facility Risk Factors" (listed below) likely to have an impact on NWHC mission critical functions. Each risk factor was categorized by "Risk Type" (listed below) and given an impact rating between 0 and 10 (0 = no impact and 10 = high impact). Each of the Development Alternatives was then scored against the Facility Risk Factors according to the <u>likelihood</u> that the risk would actually materialize. As part of the BCA, a Risk Matrix was developed by weighting the impact and likelihood values. Refer to the BCA template.

<u>Development Alternatives:</u>

- Alternate No. 1 Maintaining status quo – existing campus continued maintenance.
- Alternate No. 2 University of Wisconsin Research Park.
- Alternate No. 3 Colorado State University – Foothills Campus.
- Alternate No. 4 USGS Madison Campus, only NWHC – single phase of construction
- Alternate No. 5 USGS Madison Campus, only NWHC – multi-phased construction

<u>Risk Categories</u>

- Administrative risks

- Financial risks
- Legal/contractual risks
- Organizational risks.

Facility Risk Factors by Category

Administrative risks:. Without adequate space and high quality facilities and equipment the NWHC is unable to perform its mission quickly, safely or efficiently. As a result significant risks are realized by the NWHC should they continue to operate in their current status quo state. The following risks define the administrative risks for the NWHC. We have included along with each risk factor considerations and mitigating circumstances as described by the NWHC leadership for each of the identified risks.

1. ***Loss of scientific reputation and ability to perform mission due to facility related issues.*** Facility related issues may impact the NWHC's ability to:

    - sustain a high quality customer relevant science program
    - prevent the release of an infectious agent or threatening toxin
    - comply with significant animal care and use requirements comply with permit/registration and code requirements and avoid significant suspensions or violations

2. **Loss of science capabilities including:**

    - prolonged diagnostic laboratory closure (>6 months)
    - prolonged research laboratory closure (>1 year)
    - prolonged closure of animal facility (> 1 year)facility related permit restrictions could severely limit work with and/or transport and receive biological materials (USDA import/export permits, CDC registrations and state and local environmental permits..)

3. **Loss of partnerships:** current partnerships with the NWHC may be lost with either a relocation of facilities, reduction of the science or complete closure of the science related work being completed. Ongoing partnerships that may be impacted include:

    - University of Wisconsin partnerships
    - Midwest partnerships, Wisconsin partnerships local and state partnerships involving safety, security, fire and environmental approvals, permits and agreement

4. **Lost ability to deliver (long delays) services to customers:**

   - Laboratory closure/start up delays, especially diagnostic services (>6 month delay)
   - Facility related permit restrictions severely limiting work with and/or transport of biological material/toxins
   - Risk of delays due to staff attrition, recruitment time, and other interruptions resulting from the relocation (CSU)
   - New construction has the inherent risk of construction delays, cost overruns, failure to meet design specifications and other issues associated with final inspections and acceptance of the new construction

5. **Dependence on another entity for science support programs may impact**

   - Adequate/timely animal care support.
   - Communications and infrastructure support (IT, internet/broadband access, security, phones, etc.)
   - Dependence on university or P3 lease agreements for timely and adequate resolution of required facility maintenance and repair of mechanical systems and infrastructure.
   - Dependent on university/lease for compliance with facility permits, select agent registrations

6. **Risk of redundancy and conflicting rules, requirements and procedures that may result from working in 2 administrative systems (campus/state/P3 and USGS).**

   - Somewhat higher negative impact on the science when dependent on another entity for these services
   - Safety, security and other university, local and state requirements will apply if located on state/campus/private lands.
   - Managing and funding access to campus support systems (libraries, shared instrumentation, parking, storage, etc.)
   - Requirements to negotiate or seek approval for facility modifications/upgrades to building/grounds.

Financial Risks: Information provided by the NWHC leadership indicates that the annual up-front costs associated with operating the campus and existing facilities in 2017 total approximately $1.3 million. Nearly half of the 2017 budget is expended in operation and maintenance of the facilities and the campus; some

$650,000.00. Above and beyond the annual operation and maintenance budget the NWHC has deferred maintenance projects; i.e. projects that exceed yearly maintenance and are large scale upgrades, remodels, or replacement of facilities or equipment. The NWHC's deferred maintenance needs over the next three years, is estimated to be $10.8 million dollars.
The extensive amount of renovation to the existing facilities in order to bring them up to meet the requirements of the biosafety 3 designation creates a cost prohibitive scenario for the NWHC. It is anticipated that the operation and maintenance budget line item will continue to increase as the facilities age.
Additional considerations and mitigating circumstances related to the financial risks include:

7. Annual Facility Operating Costs:

- USGS Headquarters facility rental cost would increase greatly (up to $12M/year) depending on how science and facility lease and maintenance costs are parsed out?
- More SF (space) in a new owned facility would result in some increase in facility costs
- University would likely have usage fees that are not included in facility lease agreement

8. Upfront costs, design and construction staff and equipment relocation.

- There will likely be upfront costs with campus or privately funded options
- Phased option would have less upfront costs, but there is a greater risk that all phases would not be funded or completed.
- New construction has the inherent risk of construction delays, cost overruns, failure to meet design specifications and other issues associated with final inspections and acceptance of the new construction.
- Third party management of design, specifications and construction has greater risk of not meeting USGS requirements.

9. DMCI Costs:

- Status quo would have greatest need for DMCI funding but TIB and Main buildings have had significant infrastructure investments/upgrades.
- New construction may not be completely DMCI free over time
- Phased approach would still require some DMCI funding for buildings designated for later phases

Legal / Contractual: In addition to the leasing and contractual issues, NWHC could face permit, registration and certification restrictions resulting from substandard facilities or failure of the leasing entity to adequately monitor and maintain the facility within mandatory compliance parameters.

10. Lease Terms:

- Increased cost of a 20 year lease inherent risk of lease related to financing, building ownership changes, renegotiating terms, new facility modifications/requirements, as well as the quality of support/maintenance/custodial services. Assumption that USGS will continue to fund lease agreements off the top of the facility budget.

11. Regulatory /Permitting Risk:

- Select agent registration is to a large extent dependent on the adequate monitoring and maintenance of facility mechanical systems and safety and security features
- Third party construction design and management will have some inherent, increased risk.
- Environmental permitting of a new facility, especially in a different state, will have some inherent risk.

Organizational Risks: The NWHC is a strong proponent of a business model based on four pillars. These pillars are:

- Exceptional science,
- Partner engagement
- Employee engagement, and
- Cost efficiencies.

In addition, it is their belief that their mission remains vital, and it is essential that the NWHC science continues forward. As described, the NWHC is facing significant funding issues that impact their workforce. In order for the NWHC to remain relevant, thrive and be a vibrant attractive employer, the significant

infrastructure and building issues that they face must be addressed. Without state of the art science research facilities, the NWHC will continue to struggle with staff attrition/retention, and recruitment. Organizational risks can best be described as follows:

12. Political:

- NWHC has an established relationship with local, state and federal leaders and political representatives.
- Relocating to a new state would increase near term risk or at least the time required establishing new relationships and familiarity.

13 Limiting or enhancing growth potential:

Extent to which each development alternative impacts growth potential

14. Staff attrition/retention/recruitment:

- Substantial staff attrition related to relocation (staff will begin searching for new positions once a move is likely)
- Difficulty recruiting and retaining staff in years/months prior to a move
- Recruitment time within the context of USGS staffing procedures would have high impact on staffing for near term (>1 year minimum to complete recruitment and hiring the anticipated number of vacancies)

15. Continuity of Operations:

- Anticipate substantial time delay for move to new facilities in another state and be up and running (>2 months?)
- There is some inherent risk of discontinuity with new construction regardless of location

16. Staff Morale:

- Status quo is having an adverse effect on staff
- Change of duty station to another state will likely have an overall adverse effect on staff morale.

By moving forward with one of the five building options proposed as a part of the modernization plan, the NWHC will be able to streamline and improve their technical services, foster employee engagement and opportunities for career advancement; encourage collaborative interactions among scientists, and create an environment under which all employees work collectively for the success of the NWHC and USGS.

Benefits: Benefits for each of the project alternatives is listed in detail in the Business Case Analysis. There are additional benefits that were identified by the NWHC leadership for four of the five alternatives. These benefits include:

- Private/University construction contracting may be more efficient (positive)
- There is always some risk with new construction regardless of location, more risk with 3rd party construction
- Madison partnerships are important
- Fort Collins has good opportunities for new partnerships, especially with other federal agencies
- Assumption is that NWHC would continue to receive DMCI and rehab funds under status quo and phased options
- University services may be less expensive and reduce staffing and overhead costs (positive)
- Third party contracting may be more streamlined, nimble and efficient than going through USGS contracting.
- Advantage of not having to come up with very large construction cost
- Advantage of having university or contractor manage and maintain the facility
- Advantage is that university could take on cost, overhead and liabilities of permits and registrations (positive)
- CSU may present opportunities for expanding political support

Comparison of Alternatives:

The National Wildlife Health Centers' modernization plan identified five alternatives as a method for constructing their needed facilities. What follows is a side by side quantitative and qualitative comparison of the development options for the project.