

Ridge Hatchery New Construction

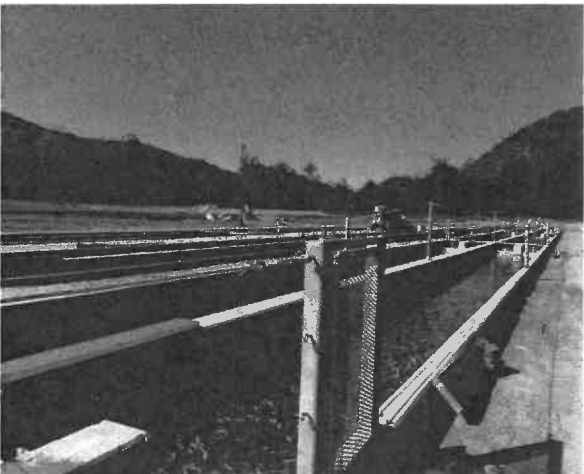
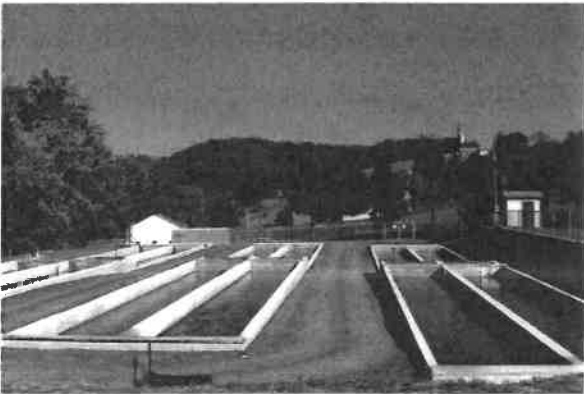
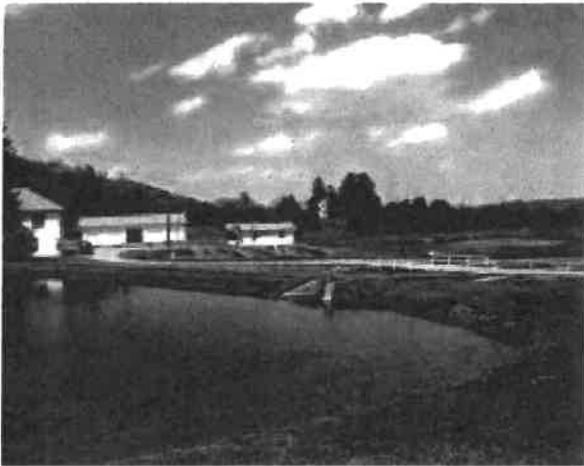
Expression of Interest to Provide Professional
Architectural/Engineering Services

WV Division of Natural Resources
Solicitation No. CEOI 0310 DNR2200000008



**Chapman
Technical
Group**

a division of
GRW



03/16/22 15:01:43
WV Purchasing Division



**Chapman
Technical
Group**
a division of
GRW

March 17, 2022

Division of Natural Resources
Property and Procurement Office
324 4th Avenue
South Charleston, West Virginia 25303-1228

**Re: A/E Services for Ridge
Hatchery New Construction**

Dear Selection Committee:

Chapman Technical Group (CTG) is most interested in providing the architectural and engineering services for the repairs of the Ridge Hatchery. Our project team includes HDR who has a wealth of experience in the science and design of fish and aquatic resources, and recently completed a comprehensive study of the West Virginia Division of Natural Resources' hatcheries. Our team has previously worked together in the design of the Bowden Hatchery Renovation and Expansion, the Apple Grove hatchery, and the wastewater treatment system for Spring Run.

We will address the project goals as follows:

2.1 We will visit the hatchery and document existing conditions with photographs and sketches, review previous evaluations and recommendations, and formulate solutions that achieve the goals for operational improvements and production expansion.

2.2 Designs will be executed to comply with applicable codes and standards, consistent with the hatchery requirements and objectives, and within the DNR budget.

2.3 We will provide construction administration services using the design professionals who designed the project.

We have always provided a high level of service to the WV DNR, paying particular attention to:

3.1.a. Communication: In Chapman Technical Group's project management system, the Project Manager will be the point of contact for the DNR for all communications related to the project. It will be the Project Manager's responsibility to ensure that all project team members receive design directives and are involved in resolving project issues. Having a single point of contact helps minimize confusion and is the most efficient communications method. The Project Manager will also coordinate all progress meetings and site visits during construction and will ensure that all communications are forwarded to the appropriate

200 Sixth Avenue
Saint Albans, WV 25177

304.727.5501
304.727.5580 Fax

Buckhannon, WV
Lexington, KY

www.chaptech.com



DNR personnel. For this project, Joseph Bird will serve as the Project Manager.

3.1.b. Project Budget: Most of our WVDNR projects have been completed within budget, including the Spray Park and Golf Course Pro Shop project at Twin Falls Resort State Park.

Our method of cost control includes developing accurate opinions of cost in the early stages of design, so that decisions regarding the scope of the project can be addressed early when adjustments to the design are easier to achieve. As the project progresses, we will consider alternate systems that can provide the required result in a way that is cost-effective, both short-term and long-term. We will also develop alternate bid items to ensure that the project stays within the budget. During construction, we will work with the contractors to establish a team relationship so that as issues arise, we can work together to find the most cost-effective solution. We are often able to find alternative means of construction that help to control costs associated with unforeseen conditions.

3.1.c. Project Schedule: We have completed many projects for the WV State Parks within the allotted schedule. The Pipestem project had a very aggressive design and construction schedule and was completed on time to open this summer.

During construction, we will strive to maintain a true team relationship so that issues are resolved quickly with input from all parties, including your field representative. As you know, work in West Virginia can be subject to extreme weather conditions, which must be taken into consideration when scheduling construction activities. As always, it takes a coordinated effort from the Architect and the Owner apply the appropriate pressure to keep the project moving expeditiously, while maintaining a positive relationship with the Contractor. We feel we have demonstrated that balance in past projects.

3.1.d. Experience: The Chapman Technical Group team will include Joseph Bird (CTG), who will serve as Project Manager. Matt Cochran (HDR) and Troy Talsma (HDR) will assist in the planning and design of the hatchery facilities. Tom Cloer (CTG) will lead the architectural design team. Greg Belcher (CTG) will coordinate the design water and wastewater systems, assisted as required by staff of CTG and HDR. Mechanical, electrical, and structural engineering will be provided by CTG.



Selection Committee
March 17, 2022
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You will find all the requested information regarding our team and our ability to execute the requirements of this project within this submittal. We would very much appreciate the opportunity to present our project team and further discuss your project. In the meantime, if you have any questions or need additional information, please contact me.

Sincerely,

CHAPMAN TECHNICAL GROUP

Joseph E. Bird, ASLA
Senior Vice President



Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Centralized Expression of Interest
 Architect/Engr

Proc Folder: 1008063
Proc Description: A&E - Ridge Hatchery New Construction
Proc Type: Central Contract - Fixed Amt
Reason for Modification:

Proc Issued	Solicitation Closes	Solicitation No	Version
22-02-24	2022-03-17 13:30	CEOI 0310 DNR2200000008	1

RECEIVING LOCATION

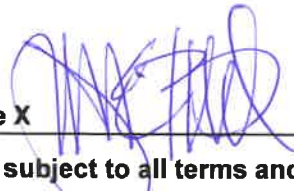
CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305

ENDOR

Endor Customer Code:
Endor Name : Chapman Technical Group
Address : 200
Street : Sixth Avenue
City : Saint Albans
State : West Virginia **Country :** USA **Zip :** 25177
Municipal Contact : Joseph E. Bird
Endor Contact Phone: (304) 727-5501 **Extension:** 154

BUYER INFORMATION CONTACT THE BUYER

Joseph E Hager III
 (304) 558-2306
 joseph.e.hageriii@wv.gov

Endor Signature X  **FEIN#** 550704766 **DATE** 3-17-2022

Offers subject to all terms and conditions contained in this solicitation

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

Joseph E. Bird, V.P.

(Name, Title)
Joseph E. Bird, Senior Vice President

(Printed Name and Title)
200 Sixth Avenue, Saint Albans, West Virginia 25177

(Address)
(304) 727-5501/(304) 727-5580

(Phone Number) / (Fax Number)
jbird@chapttech.com

(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor’s behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law.

Chapman Technical Group

(Company)

Joseph E. Bird, V.P.

(Authorized Signature) (Representative Name, Title)

Joseph E. Bird, Senior Vice President

(Printed Name and Title of Authorized Representative)

3-17-2022

(Date)

(304) 727-5501/(304) 7275580

(Phone Number) (Fax Number)

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Chapman Technical Group

Authorized Signature: _____ Date: 3-16-2022

State of West Virginia

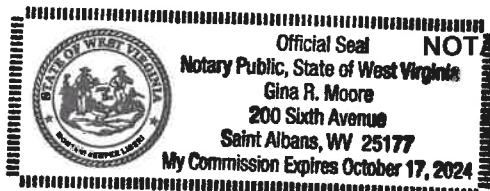
County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 16th day of March, 2022

My Commission expires October 17, 2024

Gina R. Moore

AFFIX SEAL HERE



NOTARY PUBLIC

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|---|--|
| <input type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Chapman Technical Group

Company

Authorized Signature

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

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Section 1.0 - Overview of Chapman Technical Group and HDR

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COMPANY OVERVIEW & AWARDS



Established in 1984, Chapman Technical Group has steadily grown into a diverse firm of professionals, many of whom were educated in West Virginia colleges and universities. We have achieved an outstanding reputation for developing high-quality projects, while meeting schedules and budgets.

In 2013, Chapman Technical Group was acquired by the Lexington, Kentucky based A/E firm of GRW, allowing us to provide a wider range of services while expanding our resources. Now, in addition to our offices in St. Albans, Buckhannon, and Martinsburg, West Virginia, as part of the GRW family, we also work in Kentucky, Ohio, Tennessee, and Indiana.

Our architectural group not only designs new buildings from the ground up, but also specializes in renovations and historic restoration projects. Our award-winning landscape architects provide master planning, as well as detailed site design for parks and public spaces projects.

In addition to our building studio, our engineering support staff gives us the ability to meet almost any challenge a project may present. All of our mechanical, electrical, plumbing engineering is provided in-house, and our civil engineers work with our landscape architects to provide site designs that are functional while achieving a high level of aesthetics.

Water and sewer system design is accomplished by our environmental engineers, and when on-site wastewater treatment is required, we can do it.

Working with our airport group, we can provide full airport design services, from runway and lighting design, to hangars and terminal buildings.

COMPANY OVERVIEW & AWARDS



SRC Building Renovation
WV AIA Merit Award, 2016
Historic Preservation



I-79 Rest Area
AIA Merit Award, 2010

COMPANY OVERVIEW & AWARDS



Upshur County Courthouse Renovations
WV AIA Honor Award, 2008
Historic Preservation



COMPANY OVERVIEW & AWARDS



Upper Big Branch Miners Memorial
WV ASLA Honor Award, 2012

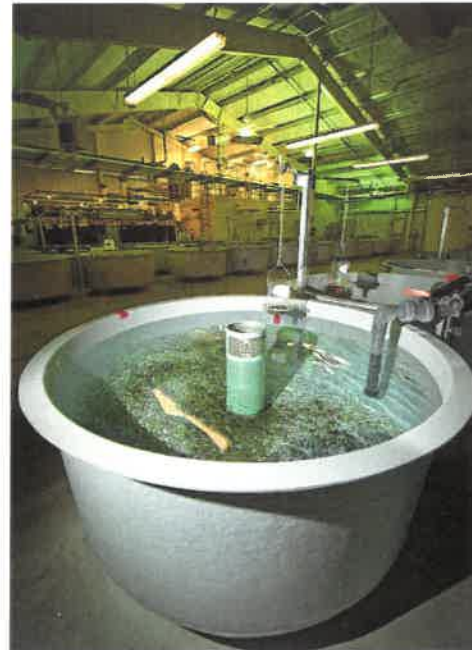


Nuttallburg Historic Mining Complex
WV ASLA Merit Award, 2012

HDR Quick Facts



For over a
100 years,
we've partnered with our
clients to push boundaries
and shape communities.



With **10,000 professionals**
in more than **225 offices**
around the world **we think**
global and act local.



We've completed projects
in all **50 states** and more
than **60 countries**, always
following through for
our clients and holding
ourselves accountable.

We're consistently **ranked as an**
industry leader by Engineering
News-Record. Here are our
2016-2017 rankings:



#8
Top 500 Design
Firms



#6
Top 20 in
Water Supply



#6
Top 20 in Water



#2
Top 10 in
Environmental
Science



#11
Top 15 Site
Assessment/
Compliance

Our Story

Together. anything is possible

At HDR, we specialize in engineering, architecture, environmental and construction services. While we are most well-known for adding beauty and structure to communities through smart high performance infrastructure, we provide much more than that. We create an unshakable foundation for progress because our multidisciplinary teams include scientists, economists, builders, analysts, and artists.

As a global leader in consulting, we have the resources, international reach, and depth of experience and know-how to help our clients achieve success. With offices around the globe, we can handle an ever-reaching span of fisheries resources and aquatic organisms/habitat needs from site studies and selection to public outreach, facility design and infrastructure development, from startup and operations through project closeout

We combine local knowledge and delivery capabilities—understanding local regulations, rules, operating environment and geography—with the resources and reliability of a global firm. We can integrate with our client's team throughout the fisheries facility development to increase project performance, manage costs and increase efficiencies to deliver optimized operations and greater outcome predictability.

Our employees, working in 225 locations around the world, push open the doors to what's possible each and every day.

Solutions for Fisheries in a Changing Environment

Fish and aquatic resources provide important ecological, economic, and social benefits. Today's environmental trends stress our aquatic habitats, diversity, and survivability requiring an increased action to preserve these natural resources.

We offer distinctive fisheries science and design services backed by the strength of a full-service consulting firm. From modernization of aging facilities to designing state-of-the-art hatcheries and managing fish passage issues, we offer award-winning services in fisheries and aquatic resource engineering.

Our services include habitat assessments, production and research facilities, ecosystem restoration, and design of fish passage structures, and screen diversions and intakes. We work to balance community and economic needs with conservation and sustainability of natural resources, including incorporating advanced water conservation strategies into our design services.

Our comprehensive fisheries program is represented in the following categories:

- **Fisheries Design Center**
- **Fisheries Ecohydraulics**
- **Fisheries Science**



Fisheries Design Center

Led by industry experts, our Fisheries Design Center (FDC) is home to a focused group of professionals who operate as a single source to provide a range of services, from project planning to tailored best management practices, quality assurance programs, sustainability, energy conservation, water reuse, and CAD services.

Fisheries biology and engineering come together as we enhance natural resources by designing facilities to blend with the local landscape. We incorporate sustainable design features as appropriate, such as maximizing energy conservation, recirculation aquaculture systems (RAS), and updated fish culture techniques, to enhance stocks of fish and shellfish, including freshwater and marine species, crustaceans, amphibians, reptiles and freshwater mussels, in the natural environment.

We offer experience with restoration, conservation and production facilities, threatened and endangered (T&E) species refugia, wet labs and research

facilities, and captive broodstock facilities. Biosecurity control, water treatment, recirculation systems, and effluent treatment systems are integrated into our projects.

AUGMENTATION, RESTORATION AND CONSERVATION FACILITIES

We provide the specialized services required for planning, analysis, design, construction and operation of modern fish hatcheries, fisheries resource enhancement facilities, refugia for T&E species, and production for augmentation and/or supplementation of wild stocks, aquatic animal laboratories, visitor centers and public aquaria facilities.

We have seen certain commonalities with our facility designs becoming more prevalent in the industry. These commonalities include:

- Biosecurity and sustainability
- Use of RAS
- Increased quality of water discharge
- Use of information technology in recording and monitoring
- Controls for water quality conditions
- Efficient use of site and interior space

- Reducing operation and maintenance costs
- Facilitating stakeholder groups

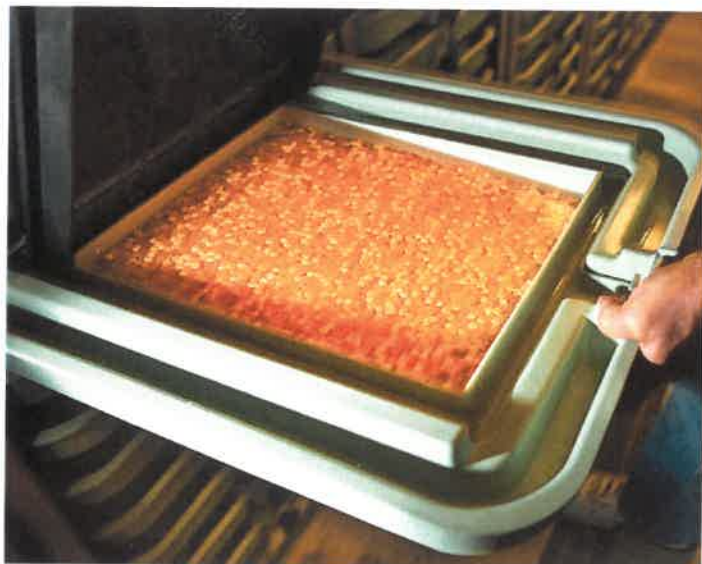
Our staff are familiar with the latest extensive and intensive culture technology for warm, cool and cold-water fish production and can provide comprehensive detailed solutions to aquaculture facility design problems.

THREATENED AND ENDANGERED SPECIES REFUGIA

We are the nation's leading design firm of refugia habitats for threatened and endangered species. Our experience focuses on the uniqueness of each species of concern and the required design elements that will make a successful rearing/holding environment. Our projects include specialized refugia for spawning, incubation, grow-out and maturation and holding of fish, shellfish, amphibians, insects and aquatic plants.

These facilities may incorporate unique operational features to re-create environmental conditions that are found in their natural environment.

Features can include diurnal temperature fluctuations, flows and depths matching the natural hydrograph, special water quality conditions, substrate, and other habitat features necessary to maintain environmental and genetic integrity.



WET LABORATORIES AND RESEARCH FACILITIES

We design fisheries laboratory and research facilities to meet a wide variety of biological and wet chemistry applications. Our designs take into account biosecurity, multiple rearing units, environmental controls for air temperature, light, vibration, airborne contaminants, and a secure and treated, if necessary, high-quality rearing water supply. Emergency backup provisions are essential for these life support systems.

Because we understand the biological needs of aquatic species, we provide facility design specifically capable of meeting the temperature and water quality life-stage requirements of aquatic species anticipated to be cultured in the facility. We have direct applied experience in aquatic animal metabolic by-product modeling, treatment of facility effluent streams, therapeutic chemical treatment, and control of biosecurity and pathogen escapement from facilities, and will be able to address effluent treatment needs. Research facilities may incorporate

components such as incubators, sinks, fume hoods, treated water supplies, instrumentation, and data acquisition systems. Other specialized instrumentation systems, such as atomic absorption and bacteriological laminar flow hoods, can also be incorporated.

CAPTIVE BROODSTOCK

The capture, holding, sorting and/or production of broodstock requires design elements that safeguard the genetic integrity of the program and health of the targeted species.

Facilities can vary in design based upon water elevation, flows and river conditions. These facilities include temporary and permanent barriers, lift facilities and fish ladders. Short- and long-term holding facilities can include water-to-water transfers, anesthesia systems, and prophylactic treatments, as well as sorting for species, sex, and maturation development.

Spawning often involves a facility design that allows for efficient manipulation of elements such as photo-period, temperature and even the use of hormone injection. Additionally, the design includes flexibility to allow areas for anesthetizing and transport.

Broodstock units are sized to allow the program to maintain operations without sacrificing the fish quality. Stocking densities are analyzed by species to provide the appropriate spatial and aquatic environment. This includes number of fish per volume of tank, water flow, treatment and biosecurity measures.

WATER REUSE AND RECIRCULATION SYSTEMS

Water reuse and recirculation systems describe a scenario where a percentage of water from rearing operations is pumped back to those rearing operations after certain treatments are applied to the used water supply. Two aspects of recirculation aquaculture system (RAS) design include the engineering or process components and the biological or species requirements.

Successful projects must address both aspects. RAS strategies utilize engineered technology to allow for greater control over the rearing environment, provide biosecurity, and enhance waste management. When incorporated correctly, this can have a reduced impact on the environment by requiring less first use water and a more advanced waste control. Our experience with RAS spans projects in multiple climate types where controlled indoor environments are critical to the success of the facility.





William Jack Hernandez, Warf Fish Hatchery, Alaska

MASTER PLANS, SITE AND FEASIBILITY STUDIES

Utilizing existing fish production data and projected future fish production needs, we complete a quantitative biological/engineering (bioprogramming) analysis to detail current capability and potential future production for existing facilities and determine the design requirements for improvements or new facilities.

Studies of existing facilities include analysis of water supplies, fish rearing units and systems, buildings, support systems, utilities, effluent treatment systems, staffing, fish stocking and operational costs. The document provides a prioritized list of needed facility improvements and cost estimates for the recommended

improvements to meet current and future propagation goals.

The evaluation of a potential new facility typically includes water requirements, land acreage needs, statewide location, design, construction and operational cost range. We are able to provide the required specialized services, including field investigations, data collection, and analysis, to recommend how to meet your goals and requirements.

SCREENED DIVERSIONS AND INTAKES

Our expertise spans engineering, river mechanics, fish biology, agency coordination, and construction. We have a broad perspective as well as an in-depth knowledge of potential risks that can affect diversion and

intake design, construction implementation, and subsequent operation.

Design considerations include reviewing:

- Behavioral response to hydraulic conditions (sweeping flows and approach velocity)
- Weather conditions (wind, flooding); river stage/
- flow relationships
- Seasonal operation variability; potential for sediment, debris and frazil ice problems
- Safe and effective downstream bypass of juvenile salmonids
- Resident fish populations; potential for creating predation opportunity
- Remote monitoring

Project Approach

The design of the improvements and upgrades to the Ridge Fish Hatchery will involve varying design disciplines including civil engineering, environmental engineering, mechanical engineering, electrical engineering, structural engineering and architecture, all guided by the science and biology associated with fish hatchery and aquaculture. It will be collaborative and interactive process involving the West Virginia Division of Natural Resources (WV DNR), scientists and biologists, and design professionals, with the objective of providing improvements and upgrades that are practical, cost-effective, and have long-term value.

The following is a general outline of the process that would be followed in the development of the project.

Understanding Existing Conditions

A thorough understanding of the conditions of the fish hatchery and how those conditions affect the operations of the hatchery are imperative to developing a plan for improvements. We will review the study completed by HDR with WV DNR personnel and reassess the recommendations made at the time, incorporating modifications as required due to changing physical conditions of the hatchery, as well as operational requirements (see list at right).

First Thoughts

Following the facility reassessment, we'll work with you and begin to develop a plan of action to meet the goals and objectives of WV DNR. We'll also start to update opinions of construction costs so that we can begin to prioritize your needs and identify any special issues that may affect the project. In short, we'll work with you to determine what aspects of the hatchery are most important to its continued operation, and what needs to be done to ensure that the hatchery can operate effectively and efficiently for years to come.

Technical Design

Once specific needs and priorities are determined, we'll start to move forward with the detailed design. We'll start to look at the specifics of everything from water supply, fish facilities, buildings, and infrastructure systems. At this stage of the project, most of the major decisions will be made and we'll begin working on how it all goes together. Our opinions of construction cost will be refined and we'll likely begin to think about alternate bid items to ensure your project remains within budget. This is one of the more critical phases of the project and we will work with you to evaluate all of your options. By the time this phase is complete, you will have made 95 percent of the decisions that need to be made.

Aspects of the hatchery that will be reviewed include:

- Aquaculture Water Supply
- Water Collection and Distribution
- Water Quality
- Water Treatment
- Indoor Rearing Units
- Egg Incubation
- Indoor Nursery Rearing Units
- Outdoor Raceways
- Ponds
- Predation Control
- Hatchery and Office Building
- Feed Storage and Nursery Building
- Shop and Vehicle Storage Building
- Storage Buildings
- Visitor Facility
- Residences
- Domestic Water/Wastewater Systems
- Roads and Parking
- Fencing and Security Lighting
- Site Drainage and Flooding
- Aquaculture Wastewater
- Electrical Power
- Telephone and Internet Service
- Fuel Systems
- Instrumentation and Alarm Systems
- Emergency Power
- Public Visitation Information and Education Services

Construction Documents

At this phase of the project we're working out the smallest details and writing specifications for the contractor to use in construction. Most of the decisions you will need to make at this point will be minor. We'll fine-tune the opinion of construction costs and wouldn't expect any surprises. We will finalize the bidding strategy and make any adjustments in alternate bid items that we feel might be prudent. Once the project is reviewed by the appropriate entities, we'll be ready for bidding.

Bidding and Construction

When we get approval to bid, we'll assist you in plan distribution, conduct a pre-bid conference, answer bidder questions and issue addenda, assist you in the receipt of bids, evaluate the bids, and make a recommendation regarding the award of the contract. When a responsible bidder is determined, we will assist in contract preparation and conduct a pre-construction conference.

Through construction we will endeavor to ensure that the project is constructed in conformance with the plans and specifications. It is common on renovation projects that unknown conditions are discovered during construction. It should also be expected that WV DNR personnel involved in the operation of the hatchery will begin to understand in more detail the improvements being constructed and may have additional thoughts about the project. We will work with you and the contractors to minimize the impact of these field changes as they occur.

Our construction phase services will include conducting progress meetings, reviewing submittals, observing work constructed, processing pay applications, responding to contractor questions, processing change orders, and assisting with project closeout documentation. We will provide periodic construction observation to coincide with project progress meetings, and can offer resident construction observation services if so desired. We can also assist with start-up of systems, commissioning, and training if so desired.

And as you know from our performance on past projects, we are committed to helping you develop a successful project from beginning to end. As one of the trusted partners of WV DNR, we will be there when you need us.



Division of Natural Resources Bowden Fish Hatchery Improvements

324 4th Avenue
South Charleston, WV 25303

The Bowden Hatchery was constructed in the 1960s and renovated in the 1990s, but the West Virginia Division of Natural Resources wanted to increase production by 50%, as well as address deferred maintenance issues. In order to increase production with a limited supply of spring water that feeds the hatchery, a system was designed to recycle 80% of the hatchery water. The design included drum filters, UV disinfection, wastewater treatment, and a supplemental oxygen supply and degassing units. The project also included four new 500-foot raceways, building renovations, and other improvements to the hatchery.





Division of Natural Resources
Spring Run Fish Hatchery
Wastewater System Improvements
324 4th Avenue
South Charleston, WV 25303

Chapman Technical Group provided design and construction observation services for the Spring Run Fish Hatchery Project that was completed in 2007. The project consisted of one 25-foot diameter batch clarifier; one 20-foot diameter sludge holding tank; a sludge transfer pump station with two 350 GPM self priming, centrifugal solids handling pumps; a new effluent composite sampling and flow measurement system; a new outfall structure; 860 linear feet of 12", 15" and 18" HDPE/DIP gravity sewer pipe; 1,000 linear feet of 8", 10", 12" and 16" DIP waterlines; (27) 8", 10" 12" and 16" gate valves; 13 pre-cast concrete manholes; structural crack repairs to existing raceways; piping modifications to existing raceways; removal of two existing concrete rearing ponds and associated electrical work; three new 2-pass concrete raceways and associated piping; and site work and access road improvements.



ARCHITECTURE



WV Division of Natural Resources

Mason County Fish Hatchery

324 Fourth Avenue

South Charleston, West Virginia



Above: The Mason County Fish Hatchery building houses fish rearing facilities as part of WVDNR's hatchery operations at the Robert C. Byrd Locks and Dam. Right: Piping manifolds will distribute both well water and reservoir water to a variety of fish tanks.



Located at the Robert C. Byrd Locks and Dam at Apple Grove, West Virginia, the Mason County fish hatchery building is the final component to the hatchery complex that also includes a series of fish rearing ponds and a reservoir to supply the ponds. The project also included the design and construction of two residences to be used by hatchery personnel.

The 9,200 square-foot fish hatchery building is a masonry and steel structure housing the actual hatching components, as well as offices and other support facilities. More than half of the building is open space to accommodate the fish hatching egg rack and a variety of rearing tanks that hold the fish until they are mature enough to be transferred to ponds. The tanks are fed from either reservoir water or directly from well water which first passes through a degassing head tank. As water flows continuously through the tanks from an overhead distribution system, it is collected in a series of trench drains in the hatchery floor and eventually makes its way back to the Ohio River.

The hatchery also includes an office, a bunk room and kitchen for seasonal employees, a brine/shrimp room, and storage and maintenance garages. A mezzanine above the office area provides for additional storage.

WASTEWATER ENGINEERING



New 0.370 MGD WWTP



Lift Station Improvements



I/I Rehabilitation



Storm Water Separation on US Route 250

City of Belington
Wastewater System Improvements
Post Office Box 926
Belington, West Virginia

Chapman Technical Group provided design and construction observation services for the above project which was completed in 2013. The project consisted of I/I reduction with the rehabilitation of approximately 3.5 miles of the existing wastewater collection system; stormwater separation from sanitary sewers; upgrading capacity of existing lift stations; and the construction of a new 370,000 GPD WWTP (70% increase in capacity). This work was performed in order to reduce/eliminate CSO discharges for compliance with the Town's Long Term Control Plan requirements.



Corporation of Shepherdstown Wastewater Treatment Plant

Post Office Box 248
Shepherdstown, West Virginia

Chapman Technical Group provided design and construction observation services for Wastewater System Improvements project consisting of the renovation and upgrade of the existing wastewater treatment plant in order to meet growth and nutrient removal initiated by the Chesapeake Bay Program. The treatment capacity will increase from 0.40 MGD to 0.80 MGD. The upgrade/renovation consists of a new headworks facility featuring one (1) 3 mm coarse screen, two (2) 2 mm fine screens, screening wash compactor, 2.5 MGD grit removal system, all housed in a 1,120 SF metal building; 800,000 GPD Membrane Bioreactor (MBR) treatment system consisting of converting the existing aeration basins to bioreactor treatment basins, construction of new membrane treatment tanks and MBR equipment housed in a 5,100 SF pre-engineered metal building; new aerobic digester; new UV disinfection unit; non-potable water system; chemical feed equipment; renovate existing plant lift station; relocate existing rotary fan press; new sludge conveying equipment; improvements to the existing Control Building and demolition of existing aerobic digester, break room building, sludge drying beds, existing secondary clarifiers, existing sludge pump building and chlorine contact tank.



WASTEWATER ENGINEERING



WV DNR Camp Creek State Park Wastewater System Improvements

The West Virginia Division of Natural Resources, Park and Recreation Department, retained Chapman Technical Group to provide design and construction phase services for a wastewater collection and treatment system at Camp Creek State Park in Mercer County, West Virginia. The existing facilities were served with septic tanks and leach fields which were failing due to shallow rock, a high groundwater table, and overloading during seasonal peak flows. The initial phase of the project was completed in July of 2010 and included a 6,400 GPD re-circulating sand filter wastewater treatment plant with UV disinfection and a grinder pump station which serves the superintendent's residence as well as the park's RV dump station. The treatment plant was constructed on engineered fill to elevate it above the historical high water level. Both the treatment plant and pump station were designed to facilitate future expansions of the wastewater system to pick up other park facilities when funding becomes available.



Blackwater Falls State Park Wastewater System Improvements

1584 Blackwater Lodge Road
Davis, West Virginia

As part of its project to develop 13 new cabins at Blackwater Falls State Park, Chapman Technical Group designed a sanitary sewer collection and treatment system to serve the cabins. The park has an existing 6,100 gpd wastewater treatment plant; however, due to topographical and geographical constraints, it was determined the most economical method of providing service to the cabins was by the construction of a new wastewater collection and treatment system.

The collection system is a conventional gravity system with a single duplex grinder pump station to transport the flow to the treatment plant. The wastewater treatment plant is a 4,000 gpd recirculating sand filter treatment system with ultraviolet disinfection.





**City of Beckley Sanitary Board
Wastewater Treatment Plant**
301 South Heber Street
Beckley, West Virginia



The Wastewater System Improvements Project consisted of 1) Wastewater Treatment Plant Expansion and Improvements, 2) Whitestick Pump Station Improvements, and 3) Pinecrest Interceptor Replacement. The total project cost was approximately \$11,400,000. Chapman Technical Group provided all design and construction phase services for all three projects. The WWTP Expansion and Improvements, along with the Whitestick Pump Station Improvements, were completed in July 1999. The Pinecrest Interceptor Replacement was completed in October 1996.

WASTEWATER ENGINEERING



Bluefield Sanitary Board Wastewater System Improvements

100 Rogers Street #2
Bluefield, West Virginia 24701

Chapman Technical Group provided surveying, permitting, funding procurement assistance, design and construction phase services, and construction observation services to replace worn, failure prone, and outdated equipment at the Sanitary Board of Bluefield's existing 8.1 MGD Westside Sewage Treatment Plant and upstream 3.4 MG Bluestone Wet Weather Flow Holding Facility. Construction began in September 2020 and is ongoing.

The project includes removal and replacement of mechanical bar screens and new screw conveyors for influent screening; new screenings dumpster storage building; new suction lift influent pumps with associated electrical components; upgrades to influent pump station HVAC components; removal of existing fine mechanical screen and auger conveyor; removal and replacement of existing grit removal equipment; replacement and recoating of primary clarifier components; replacement of existing diffusers in the aeration basins; installation of a baffle at the entrance to the secondary clarifier diversion structure; replacement and recoating of secondary clarifier components and installation of new baffles and launder covers in the



secondary clarifiers; removal of existing traveling bridge sand filters and associated equipment, and replacement with new disc filters for tertiary treatment; removal and replacement of existing sludge pumps; installation of new screw presses; new operations building generator; and asphalt paving within the facility. The project also includes construction of a new submersible duplex wet weather pump station, and replacement of the existing actuated diversion gates at the Bluestone Holding Facility with a new diversion structure including an inline deflection screen.



City of Chesapeake
Wastewater System Improvements
12404 MacCorkle Avenue
Chesapeake, West Virginia 25315

Provided Phase I and II Sanitary Sewer Evaluation Surveys (SSES), including smoke testing, dye testing, flow monitoring, internal video inspection and design and construction observation services for recommended rehabilitation within the existing wastewater collection system. Also included the renovation of five existing wastewater pumping stations, installation of storm sewer lines to separate combined sewers, and re-mapping of the entire existing sanitary sewer system. Entire project was funded by a HUD Small Cities Block Grant from the West Virginia Development Office. As the project cost came in well below the construction budget, Chapman Technical Group was authorized to prepare construction documents for the subsequent renovation of City Hall to provide a handicap accessible restroom for ADA compliance.

West Virginia Division of Natural Resources

Renovations at Various State Fish Hatcheries

Various, West Virginia

PROJECT DETAILS

Key Features:

- energy and resource conservation
- reuse water supply
- civil / site design
- structural design
- mechanical design
- electrical design
- fisheries biology
- design development
- construction documents
- construction administration

Species: Rainbow, Brook, Brown and Golden Trout, Walleye, Muskey, Largemouth and Smallmouth Bass, Sauger, Hybrid Striped Bass, Channel and Blue Catfish, Paddlesfish, and Shovelnose Sturgeon

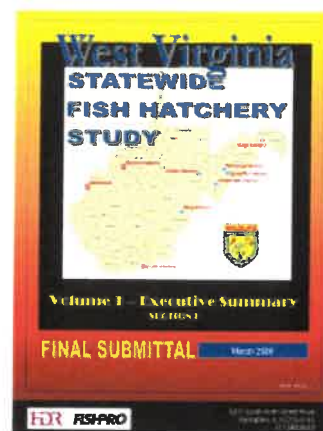
HDR has been assisting the West Virginia Division of Natural Resources (WVDNR) in planning for improvements to its hatchery system for many years.

Spring Run State Fish Hatchery Renovation

HDR provided a facility sampling study to evaluate the water quality of the discharge at each major rearing component at Spring Run State Fish Hatchery (SFH). The recommendations outlined in the water quality study were incorporated into the design of a complete facility renovation project which included twelve new concrete rearing raceways, site piping replacement, effluent treatment and general facility upgrades. For the effluent treatment, a new clarifier, effluent sampling equipment and a sludge storage tank was installed to treat the discharge from the entire facility. HDR provided technical assistance and quality control in the design of the Spring Run SFH renovation project. This project construction was completed in 2007.

Statewide Study

Beginning in 2008, HDR completed The West Virginia Statewide Fish Hatchery Study. The Study provided a detailed evaluation of all nine of the hatcheries located throughout the state and recommended infrastructure improvements related to renovating water supply, fish production units, general site and buildings, effluent treatment and overall electrical issues. Each facility was evaluated with respect to meeting both the current and proposed increased fish production levels outlined in the report. Each recommendation was described, conceptually illustrated and assigned a cost for each hatchery. The Study was used to appropriate funding and to develop project scopes to allow the highest priority improvements to be constructed at facilities throughout the state and was completed in 2009.



Preliminary Engineering Report

HDR was asked to re-evaluate and update the costs associated with the following WVDNR-selected scope items at certain hatcheries:

HDR prepared a Preliminary Engineering Report (PER) in 2016 to refine the recommendations from the original Statewide Study and review potential alternatives in further depth to determine the most feasible solution when several were originally outlined. In addition, the projected costs were updated to ensure that enough funding had been allocated to complete all the projects.

- Effluent Flow Measurement and Flow Sampling at Bowden, Edray, Petersburg, Reeds Creek, and Ridge SFH.
- Water Supply Rehabilitation at Edray, Petersburg, Ridge, and Spring Run SFH.
- Spring Collection Renovations at Edray, Petersburg, Ridge, Spring Run, and Tate Lohr SFH.
- Wastewater Treatment Enhancements at Bowden, Edray, Petersburg, and Reeds Creek SFH.
- Electrical Improvements at Reeds Creek SFH.



West Virginia Division of Natural Resources - Projects

Part of the study included spring investigations at facilities that have encountered inflow losses over time. HDR performed structural field studies of selected existing spring collection structures. From these studies assessments were made to determine the estimated longevity of the structures as well as the effectiveness of the collection structures to collect water. Recommendations were made to improve collection capacity to the existing structures by either modifying the existing structures or through complete removal and replacement.

Palestine State Fish Hatchery

HDR designed and assisted in the construction administration of a new river intake with a static v-profile bar screen in a precast box behind graded stone. The box includes a perforated steel pipe through which air can be sparged to push debris away. The project has a 1200 gpm submersible pump station with a force-main that can be back-flushed. HDR also upgraded the electrical service to an existing pump station and designed controls for the new pump station. The \$540,000 project is on track for completed construction by the end of 2017.



Tate Lohr Hatchery

HDR designed and assisted in the construction administration of a new spring water intake structure. It is a 42' x 45' x 5' tall cast-in-place concrete structure with beam supported concrete planks, railing and water control gates. The new structure will serve to collect spring water that was bypassing the existing structure. The project is on track for completed construction near the end of 2017 and had a capital cost of \$390,000.



Apple Grove Hatchery

HDR designed and assisted in the construction administration of the replacement of liners in over 30 aquaculture production ponds ranging in size from one-half to two acres and a four-acre storage reservoir with 15 foot high levees. The project construction will be completed in the spring of 2018 at a cost of \$2.9 million.



Remaining Projects from the PER

The remaining projects that were part of the PER are slated for design and construction during 2018. Three new bid packages will be developed. Specifically, new water supply mains and distribution piping to existing rearing units will be replaced at Ridge SFH. The inlet piping for the upper units at the Edray SFH will also be replaced. New composite samplers and flow measurement will be added at Bowden, Edray, Petersburg, Reeds Creek, and Ridge SFHs to enhance effluent measurement for discharge permit documentation at each of these facilities.



PROJECT DETAILS

Completed: 2011

Project Cost: \$7 million

Key Features:

- New Water Supply System
- New Raceway Covers & Aeration System
- New Production Building
- New Electrical Power & Emergency Power Systems Instrumentation, Control, alarm & Communication Systems

Fish Species: Rainbow and Steelhead Trout

Castalia State Fish Hatchery

Ohio Department of Natural Resources

Eric County, Ohio

HDR provided aquaculture engineering services for the rehabilitation of the Castalia State Fish Hatchery including new water delivery system, site electrical, hatchery building and all interior components necessary for production, and raceways.

The new hatchery building is a pre-engineered building (114 FT x 100 FT) with fiberglass rearing troughs, incubation stacks, egg disinfection facilities and both visitor and office facilities. The new building includes electrical plumbing and HVAC. It provides for biosecure egg propagation, a vertical flow egg incubation system, 28 new biosecure indoor raceways with start trough inserts, and a refrigerated feed room. The water supply is a 5,000 gpm VFO-controlled pumped spring water supply with modern aeration/degassing system. The hatchery building water is recovered for reuse in the concrete raceways. A pole barn style structure was constructed over the existing concrete raceways. This structure varies in width from 52 FT to 29 FT and is approximately 900 FT in length. The raceway structure required electrical and plumbing and houses four 20 HP pumps and a number

of air diffusers. Both the new building and the raceway structure now have generator backup power. A head tank was constructed outside of the hatchery building and is fed with a 16-diameter pipe from the raceway building. A new pumping system to transfer water from the on-site spring to the existing hatchery building, the new hatchery building, and the existing concrete raceways was installed, as was new underground electrical service throughout the site.

HDR provided comprehensive construction administration services including construction observation and documentation, shop drawing reviews and responses, RFI reviews and responses, pay requests, monthly progress meetings, weekly teleconferences, O&M reviews and responses, and miscellaneous construction management. HDR's project manager coordinated work activities with three separate HDR-subcontractors for daily construction observation, photographic documentation, and special structural inspections. HDR also coordinated activities with third-party testing firm for soil compaction, concrete, and asphalt testing.



OH DNR Fish Hatcheries Renovations (Castalia, Kincaid, London SFH)

Ohio Department of Natural Resources

Various Locations, Ohio, USA

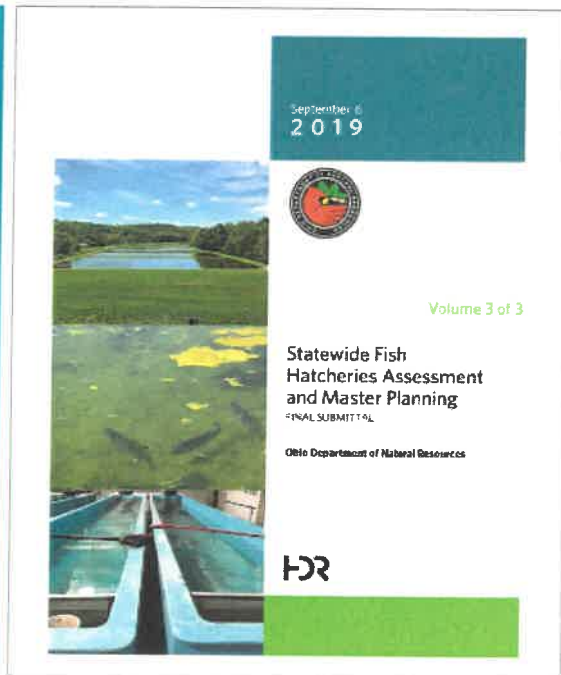
HDR provided aquaculture engineering services for the complete rehabilitation of existing facilities at three separate locations.

Castalia SFH, Erie County: HDR completed the total hatchery renovation, including new water delivery system, site electrical, hatchery building and all interior components necessary for production, and raceways. This project consisted of installing a pre-engineering building (114 FT x 100 FT) with fiberglass rearing troughs, incubation stacks, egg disinfection facilities and both visitor and office facilities. The new building includes electrical plumbing and HVAC. A pole barn style structure was constructed over the existing concrete raceway. The structure varies in width from 52 FT to 29 FT and is 900 FT in length. The raceway structure required electrical and plumbing and house four 20 HP pumps and a number of air diffusers. Both the building and the raceway structure have generator backup power. A head tank was constructed outside of the hatchery building and is fed with a 16"

diameter pipe from the raceway building.

Kincaid SFH: Phase I raceway coating was complete in 2009 at a cost of \$850,000. Phase II included the construction of a new 100 FT x 80 FT climate controlled rearing structure over existing raceways, demolition of the existing structure, and new drainage systems and roadways at a cost of \$1.5 million.

London SFH: Demolition and replacement of the entire electrical system. The \$1 million electrical upgrade project is 90% design complete but is on hold awaiting further funding.



Ohio DNR Statewide Fish Hatchery Improvements

Ohio Department of Natural Resources

Statewide, Ohio

CLIENT REFERENCE

Kevin Kayle, Fish Hatchery
Program Administrator
ODNR Division of Wildlife
2045 Morse Rd., Bldg. G
Columbus, OH 43229
Phone: 614.265.6347
Email: kevin.kayle@dnr.state.
oh.us

YEAR COMPLETED

2019

NUMBER OF FACILITIES

6

SPECIES

brown, rainbow and steelhead trout; mukellunge, saugeye, walleye, yellow perch, blue and channel catfish; hybrid striped bass, bluegill sunfish, common carp, fathead minnow, and goldfish

HDR completed a report that provided a summary of the information gathered as part of the statewide hatchery assessment. The report summarized the overall recommendations for the coldwater and warmwater/coolwater programs in addition to providing an overview for each facility. All Ohio Department of Natural Resources (ODNR) facilities reviewed in the report had components that require updating, repair, or expansion. The level of updating, repair, or expansion recommended at each facility varied. The recommendations provided were the opinions of HDR and were based on the conditions at the time of the site visits, interviews with staff members, comparison to other states' production programs and professional opinion.

This project began with ODNR completing a series of questionnaires about each facility. The questionnaires documented infrastructure and current conditions, and provided a vehicle for listing needed improvements. In addition, recent annual fish production records were provided and analyzed.

Following the completion of the questionnaires by ODNR staff, the HDR team toured all six facilities. During the site tours, conditions were observed first-hand, interviews were conducted to discuss items with staff, and the facility items were photo-documented. Facility drawings were reviewed when provided and were used to develop the inventory of each site.

Following the site tours, HDR completed the written inventory, developed

OHIO (CONTINUED)

improvement drawings, discussed engineering concepts, and outlined cost opinions for discussion with ODNR staff. After an initial submittal of draft improvement items and costs to ODNR, the HDR team conducted review meetings about each facility to discuss the proposed improvements, outline concerns, and capture any items missed. The culmination of all these efforts is the production of this document.





PROJECT DETAILS

Project Cost: \$27.1 million

Completed: 2011

Fish Species: Chinook salmon, brown trout, as well as northern pike, muskellunge, walleye, suckers, and lake sturgeon

Awards: 2012 - National Recognition Award for Phase II- American Council of Engineering Companies

2012 - Honor Award for Phase II- American Council of Engineering Companies - Illinois

2010 - National Finalist for Phase I- American Council of Engineering Companies

2010 - Honor Award for Phase I- American Council of Engineering Companies - Illinois

2009 - Award of Excellence - Association of Conservation Engineer

2009 Build Wisconsin Award - The Associated General Contractors of Wisconsin

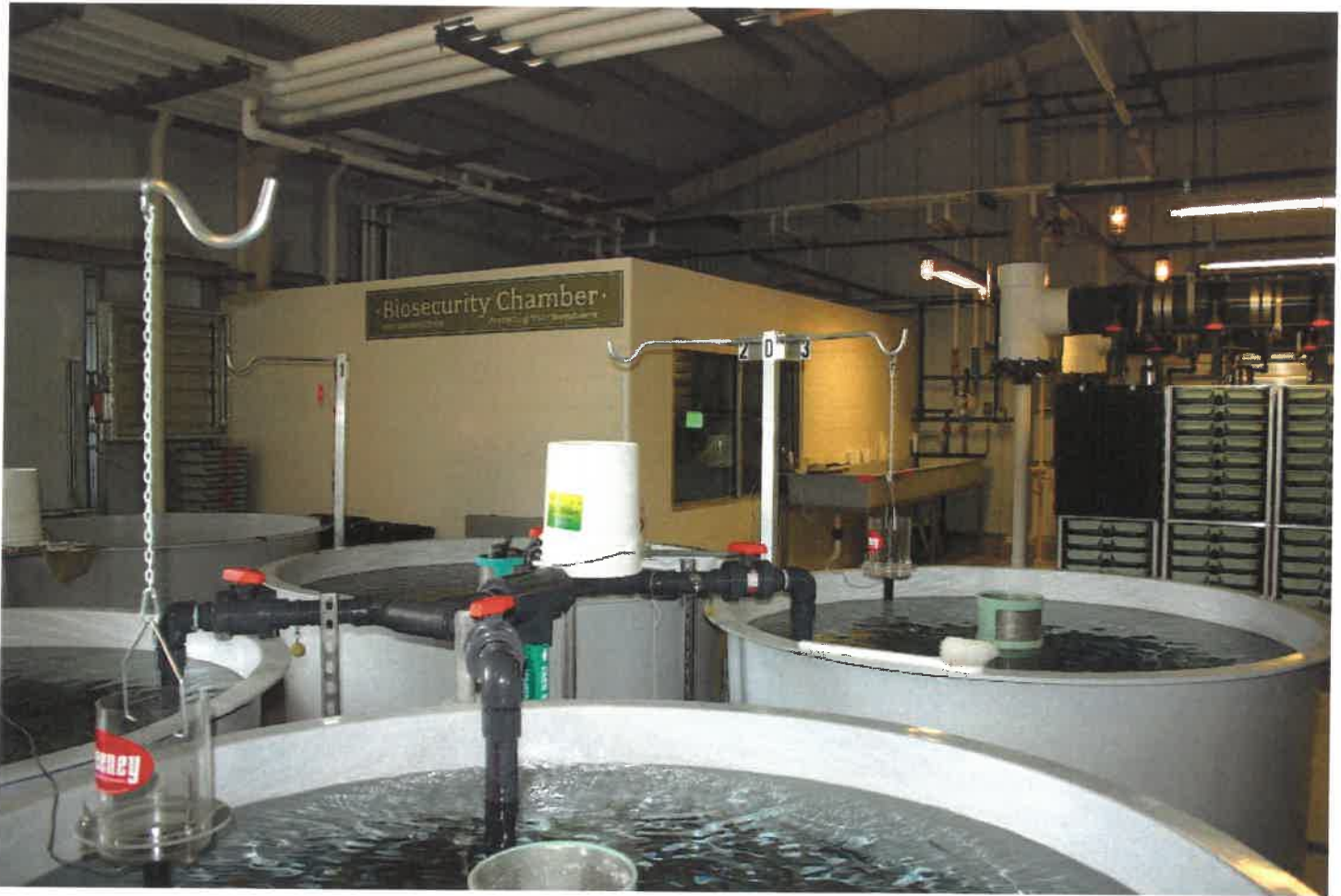
Wild Rose State Fish Hatchery

Wisconsin Department of Natural Resources

Wisconsin

HDR was retained for the expansion and renovation of the Wild Rose State Fish Hatchery. Coldwater facility construction included new covered intensive rearing systems, a 14,000 SF hatchery building, four 5,000 SF covered raceway buildings, an 8,000 SF broodstock building, modern effluent treatment system, and a visitor center. The coolwater / warmwater facility construction included a modern lined pond complex and a 30,000 SF intensive recirculation (RAS-based) indoor rearing building. This project also includes 14 lined production ponds and effluent treatment system.





The facility uses independent fully enclosed biosecure fish production buildings that are hydraulically configured on the site to allow one-time water pumping from four automatically operated high-capacity wells pumping water to a central aeration/degassing head tank. Water is pumped to meet exact fish culture program requirements to maximize energy use and to conserve groundwater resources. From the main aeration/degassing liquid oxygen operated headtank, water flows by gravity to the main coldwater production building, trout broodstock building and stair stepped series of four enclosed high density fish rearing raceway buildings all by gravity flow. Water is treated, conditioned and reused four times in the complex before being microscreened and ultra-violet (UV) disinfected for a fifth use in the coolwater/ warmwater facility located across Highway 12. Flowing by gravity (not with costly pumps), the recovered water is used to operate the production building, fill six ½-acre fish rearing ponds and to provide a water source for a solar pond filling. Eight 1-acre fish rearing ponds can also be supplied either from the well system or from a lower pump station that is tied into the solar reservoir allowing for a mixing of water to various temperatures, eliminating pond water heating requirements within the facility. Water is mixed to meet exact fish culture program requirements that maximizes energy use and conserves groundwater

resources. The facility also uses state-of-the-art fish hatchery effluent treatment technology and a modern fiber optic based programmable logic controller (PLC) instrumentation and alarm system that enables operators to maintain constant observation 24 hours a day. The collected solid waste material is removed from the system and is available for land application returning much needed nutrients to nearby land.





Joseph E. Bird, ASLA

Senior Vice President Project Officer

Years of Experience: 41
Years with Chapman: 35

Education

B.S., Landscape
Architecture, 1978
West Virginia University

Registration

Architect: WV, KY, IN

Affiliations

Council
of Landscape
Architectural
Registration Boards

WV Chapter,
American Society of
Landscape Architects

Experience

Joe has been involved in a wide range of projects in his 40+ years of experience. In addition to his landscape architectural design experience, he has served as Project Manager for many major multi-discipline projects ranging from campus development projects to ski area renovations. His experience includes coordinating the efforts of various local, state, and federal agencies.

Site Development

Site planning and project management for numerous projects throughout West Virginia ranging from small campus sites to large sites for commercial, government, industrial, and institutional development. Projects include military complexes, campuses, public housing developments and other public facilities.

Parks and Recreation

Projects include swimming pools, bathhouses, cabins and support facilities for the West Virginia Division of Natural Resources and similar facilities for county and municipal park systems. Also involved in the design of facilities such as softball fields, fishing access facilities, recreation facilities for prisons, as well as passive recreation areas for public and private clients.

Miscellaneous

Other project experience includes the urban planning and development, streetscape design, roadway and storm drainage projects, as well as the project management of numerous major architectural projects throughout West Virginia. His recent relevant project experience includes the design and/or management of projects including the Elk River and Handley Wildlife Management Storage Buildings; the WV DOH District One SRC Building Renovation; the WV DOH District One Vehicle Maintenance Garage; and the Clay County High School Flood Repair project.



Robert G. Belcher, P.E.

Senior Vice President,
Project Officer

Years of Experience: 38
Years with Chapman: 35

Education

B.S., Civil Engineering, 1983,
West Virginia Institute of
Technology

Registration

Civil Engineer: WV, OH, VA

Affiliations

WV Water Environment
Association

Contractor's Association of
WV

WV American Water Works
Association

WV Society of Professional
Engineers

WV American Council of
Engineering Companies

WVUIT Civil Engineering Ad-
visory Board

WV Qualifications Based
Selection Council

Awards

George Warren Fuller
Award, 2001

Qualifications

Water Systems

Design and project management for numerous water systems for both public and private water companies. Projects include new water treatment plants as large as 6.0 MGD, improvements to existing plants, water mains and distribution systems. Water storage projects include glass-lined steel tanks, welded high-strength steel tanks, elevated pedestal tanks, and pre-stressed concrete tanks.

Wastewater Systems

Design and project management for numerous wastewater systems throughout West Virginia. Projects include new, secondary and tertiary wastewater treatment plants as large as 4.5 MGD, improvements to existing plants, small-flow treatment plants, new and rehabilitation of wastewater collection systems, and facility plan updates.

Miscellaneous

Design and project management for large highway and bridge projects, airport improvements projects, large stormwater management projects including assistance with MS4 compliance, as well as potable water and wastewater system design for site development projects throughout West Virginia.



Michael Stone, P.E.

Civil/Environmental Engineer

Years of Experience: 8
Years with Chapman: 1

Education

ME, Civil and Environmental Engineering Colorado State University; 2012

BS, Civil Engineering WV University Institute of Technology; 2012

Registration

Professional Engineer: WV

Affiliations

Water Environment Federation

Projects with Chapman:

Southern Jackson County PSD Wastewater Treatment Improvements (Fairplain/Kenna, WV)

Projects with other firms included:

Oak Hill Sanitary Board Sewer System Improvements (Oak Hill, WV)

Union Public Service District Rock Fork Sewer Extension Project (Cross Lanes, WV)

Ravencliff-McGras-Saulsville Public Service District New Richmond Water System Rehabilitation (Glen Fork, WV)

Ellenboro-Lamberton Public Service District Union and Victory Ridges Waterline Extension Project (Ellenboro, WV)

Qualifications

Wastewater Systems

Overall experience includes planning, design, permitting, bidding, and construction management of municipal wastewater system projects. Specific project experience includes gravity collection systems, pump and forcemain transmission system, and wastewater treatment facilities.

Water Systems

Overall project experience includes planning, design, permitting, bidding and construction management of potable water systems. Specific project experience includes distribution and storage systems and water treatment facilities.

Storm Water Systems

Overall experience includes stormwater control and management design and permitting in West Virginia. Specific project examples include NPDES construction stormwater permitting, SWPPP preparation, and design of stormwater control and management best management practices.



Matthew T. Tanner, P.E.

Civil/Environmental Engineer

Years of Experience: 15
Years with Chapman: 2

Education

MSE, Civil and Environmental
Engineering, 2021
Marshall University

BS, Engineering Mechanics
2005,
Lipscomb University

Registration

Professional Engineer: WV,
OH, PA, KY, MD, TN

Affiliations

Water Environment Federation
American Water Works
Association

Projects Include:

City of Saint Albans Municipal
Utility Commission WWTP
Improvements
(Saint Albans, WV)

Culloden Public Service District
Virginia Avenue Sewer
Replacement and
Lift Station Relocation
(Culloden, WV)

Town of Davis
Water System Improvements
(Davis, WV)

Sanitary Board of Bluefield
Westside Wastewater Treatment
Plant Improvements
(Bluefield, WV)

Qualifications

Water Systems

Overall project experience includes design, permitting, and construction management of public and private water system projects. Specific project experience includes permitting and design of distribution system extensions and water treatment system modifications for public water system compliance.

Wastewater Systems

Overall experience includes design, permitting, bidding, construction administration and management of various municipal and industrial wastewater systems. Specific project experience includes gravity collection systems, forcemain transmission systems, stream crossings, industrial wastewater treatability studies, onsite wastewater treatment systems, and municipal and industrial wastewater treatment facility improvements.

Storm Water Systems

Overall experience includes stormwater control and management design and permitting in West Virginia, Kentucky, Ohio, and Tennessee. Specific project examples include NPDES construction stormwater permitting, NPDES Multi-Sector Stormwater permitting, SWPPP preparation, and design of stormwater control and management best management practices.



Robert C. Denzie, P.E

Civil Engineer

Years of Experience: 7
Years with Chapman: 7

Education

B.S., Civil Engineering, 2014
Marshall University

Registration

Professional Engineer: WV

Affiliations

Member, American Water
Works Association Member,
Water Environment Federation

Projects Include:

City of Elkins
Water System Improvements
(Elkins, WV)

Clay County Public Service
District
Water System Improvements
(Lizemore, WV)

West Virginia American Water
Company Wastewater System
Improvements
(Fayetteville, WV)

City of Buckhannon
SCADA System
(Buckhannon, WV)

West Virginia DNR
Town of Cass Copper Removal
(Cass, WV)(Ellenboro, WV)

Charleston Sanitary Board
Emerald Heights and Sherwood
Forest Pump Stations Project
(Charleston, WV)

City of Lewisburg
Water System Improvements
(Lewisburg, WV)

Qualifications

Water Systems

Overall experience includes planning and design of various public water system projects throughout West Virginia. Specific project experience includes distribution system design, treatment plant design, existing system analysis, construction management, and observation.

Wastewater Systems

Overall experience includes design of various public wastewater system projects throughout West Virginia. Specific project experience includes design of gravity and force main transmission systems, lift stations, and existing system rehabilitation.

Storm Water Systems

Overall experience includes planning and design of various public and private stormwater system projects throughout West Virginia. Specific project experience includes, stormwater collection system design and stormwater management plan preparation.



W. Thomas Cloer, III

NCARB, AIA
Project Architect

Years of Experience: 20
Years with Chapman: 15

Education

B.S., Architecture, 2001
University of Tennessee

Registration

Architect: WV, VA, KY

Affiliations

National Council
of Architectural
Registration Boards

WV Chapter
American Institute
of Architects

Experience

Tommy has extensive architectural experience, having worked with clients on programming, planning, budget analysis, design, construction documents, bidding, construction phase services, and code compliance. He regularly provides leadership in architectural design and project management for new building design and renovation projects such as K-12, parks and recreation, and government and municipal facilities.

New Bus Garage for Clay County Schools; Clay, WV

Assisted owner with bidding, provided construction phase services and project management for new bus maintenance garage including two maintenance bays, one bus wash bay, parts storage, tire storage, and drivers lounge. Project included inventory of existing equipment and specification of new maintenance equipment.

Philippi Barbour Airport Multi-tenant Building, Philippi, WV

Project Architect for the design of a 7,000 square-foot, one-story, multi-purpose/multi-tenant office and industrial facility. The building was designed as a small Aircraft Maintenance Facility and as such required a sprinkler system that included a 200,000 gallon water tank and a fire pump building. Also included was the development of a 2-acre site, 1.25 miles of DOH roads, parking areas, electrical and power requirements, and storm, sewer and water systems.

Bluefield WWTP - New Screenings Building; Bluefield, WV

Planning, design, and construction administration, for numerous architectural renovations to support upgrades of 8.1 MGD wastewater treatment plant to allow facility to handle peak wet weather flows up to 16 MGD and provide redundancy in treatment systems.

Saint Albans MUC - Various Projects; Saint Albans, WV

Planning, design and construction administration for various architectural renovations and new construction to support water and wastewater facilities in the city. Projects include renovations to the 1.2 MGD (3.0 MGD peak) Water Treatment Plant. Roof Replacement at the MUC Maintenance Garage. A new UV Wastewater Treatment Building and renovations to the Belt Press Building.



David C. Hoy, P.E.

Civil/Structural Engineer

Years of Experience: 15
Years with Chapman: 15

Education

B.S., Civil Engineering, 2006
West Virginia University

Registration

Civil Engineer: WV, KY, VA

Affiliations

Chi Epsilon, National Civil
Engineering Honor Society

ASCE, Member

Experience

Dave is experienced in the design of various building structural systems including timber, concrete, steel, and masonry construction, as well as foundation design, including deep foundation systems. He has provided structural engineering on a variety of structures including schools, office buildings, recreation facilities, and water and wastewater treatment structures.

Lewisburg City Hall; Lewisburg, WV

Responsible for the structural design and construction administration of the Lewisburg City Hall stabilization project caused by nearby sinkhole activity. Ground Penetrating Radar (GPR) was utilized to determine the extent of the foundations impacted by the karst geology. With this information, a deep foundation system consisting of micropiles and grade beams was designed and installed in the required locations to support the over 100 year-old foundations.

Port of Ashland Sculptures; Ashland, KY

Project Manager charged with the structural design and construction administration for the Port of Ashland Sculptures pedestals. The three sculptures (Venus, Vulcan, and Genesis), created by world renowned artist Gines Serran-Pagan, make up the largest collection of mixed media bronze sculptures in the world. Structural design elements for the pedestals included deep foundations, reinforced concrete, structural steel, and design of a rotation mechanism for Genesis.

Moundsville Debris Barrier; Moundsville, WV

Responsible for the structural design of a unique concept for deflecting debris away from the Moundsville boat dock. The design required a structural element capable of withstanding the forces from floating river debris while maintaining its buoyancy above the water level. This design has provided an innovative and low-cost solution to protect the boat dock for the City of Moundsville.

District One Equipment Shop Building; Charleston, WV

Responsible for the structural design of the new \$10 million vehicle equipment shop building for the WV Division of Highways which includes multiple services bays, parts storage, welding shop, and offices. Design included pre-cast concrete wall panels, deep foundations and grade beams, and structural steel framing. An independent crane system was also part of the structural scope of work.

Tube Park Lodge; Canaan Valley, WV

Responsible for the structural design of a new timber frame tube park lodge at Canaan Valley Resort State Park. Design included conventional foundation design, reinforced masonry, and exposed timber framing with metal plate connections.



Monty Maynard, PE

LEED AP BD+C

Vice President

Years of Experience: 44
Years with GRW: 25

Education

B.S., Electrical Engineering,
1978,
University of Kentucky

Registration

Professional Engineer
(Electrical): KY, WV, IN, GA,
TN, TX, NV, NC, MS, MI, AL,
CA

LEED Accredited
Professional, Building
Design + Construction

Affiliations

National Fire Protection
Association

International Society of
Automation

American Council of
Engineering Companies

National Council of
Examiners for Engineering
and Surveying

Experience

Monty's experience with electrical design, process instrumentation and control design, and project management is extensive. He has been involved with the design of building systems for more than 300 projects, ranging from water resources projects to the design-build of federal prisons with total construction values as high as \$984 million. His areas of technical expertise include electrical power distribution, substation design, alarm systems, communications, lighting, lightning protection, instrumentation/controls/telemetry, power quality, energy efficiency and code compliance.

Cumberland Valley Technical College Building One Renovation; Harlan, KY

Electrical Engineer. Renovation design for 31,000 SF building including updated exterior appearance, and modernized teaching spaces. Work included total replacement of building mechanical and electrical systems.

Fort Knox Macdonald Elementary School Renovation; Ft. Knox, KY

Principal-in-Charge. Renovation of a 63,000 SF Army school with year-round schedule. Involved a new standing seam roof installed over 48,000 SF to create an attic for 100% replacement of existing HVAC system equipment with geothermal-based heat pump system, new electrical service system, and fire alarm system upgrade.

Lexington Catholic High School Phase II Addition, Lexington, KY

Engineering Manager. 48,000 SF addition included 1800-seat two level gymnasium and running track, performing arts stage, art wing, and new administration area.

Marshall University Weisberg Family Engineering Laboratory, Huntington, WV

Electrical Engineer. New, 16,000 SF engineering laboratory building. Building security systems included access control and CCTV. HVAC systems feature rooftop VAV systems with variable electric reheat.



Cory Sharrard, PE

LEED AP

Mechanical Engineer

Years of Experience: 22
Years with GRW: 2

Education

B.S., Industrial Technology,
1996, Murray State University

B.S., Mechanical Engineering,
1998, University of Kentucky

Registration

Professional Engineer: KY, IN,
OH, WV, NY, TN

NCEES Member allows
reciprocity with other states

LEED AP

Affiliations

American Society of Heating,
Refrigerating and Air-
Conditioning Engineers

Kentucky Society of
Professional Engineers

Experience

Cory possess more than 20 years' experience with mechanical engineering including design of traditional water source heat pump (WSHP), geothermal WSHP, hybrid geothermal WSHP, variable refrigerant flow (VRV), split system, rooftop units, unit ventilators, variable air volume (VAV), and ice storage systems. Her experience includes numerous K-12, higher education, vocation school, detention center, church, and library projects.

Ashland Water Treatment Plant SCADA System Replacement;
Ashland, KY

Brandenburg Wastewater Treatment Plant (0.5 MGD);
Brandenburg, KY

**Brownsburg East Plant Wastewater Pretreatment & Pumping
Facility Upgrades;** Brownsburg, IN

**Buffalo Trace Distillery Design-Build Process Building at
Wastewater Treatment Plant;** Frankfort, KY

Clay County Schools Bus Garage; Clay, WV

Clay County Schools Flood Repair Project; Clay, WV

Clay County High School Renovation and Addition; Clay, WV

**East Kentucky Power Cooperative Headquarters
Renovations;** Winchester, KY

**Fayette County Public Schools Henry Clay High School HVAC
System Evaluation & Renovation;** Lexington, KY

Franklin County Regional Jail Assessment; Frankfort, KY

Georgetown College Cooke Building Renovation;
Georgetown, KY



Years of Experience: 19
Years with Chapman: 13

Education

A.S., Land Surveying, 2002
Glennville State College, WV

Registration

Professional Surveyor: WV,
KY, VA, PA

Affiliations

WV Society of Professional
Surveyors

Jason Brown, P.S.

Professional Surveyor

Experience

Jason leads the Chapman Technical Group survey team and is experienced in topographical and boundary surveys, as well as flood plain mapping, ALTA surveys, and construction layout. Jason also coordinates aerial mapping and LiDAR services with GRW, the parent company of Chapman Technical Group.

Highways

Established control, site surveying, topographic surveying, courthouse research, drawing production, Right-of-Way Questionnaires, bore hole stake out, and all surveying associated with the initial and final design of WV highways.

Site Development

Experienced in all types of surveying associated with site development, to include control, topographic boundaries, research, and drawing production. Projects include military complexes, public housing, commercial development, industrial and institutional complexes, churches, resorts and public facilities throughout the state.

Schools

Associated surveying for new schools, additions, athletic fields, and sidewalks projects.

Parks and Recreation

Associated surveying for projects including swimming pools, bathhouses, cabins and support facilities for the West Virginia Division of Natural Resources and similar facilities for county and municipal park systems.

Water/Wastewater/Stormwater Systems

Associated surveying for the design of water systems, sanitary sewer systems, and stormwater systems, including treatment facilities for both private and public systems throughout the state. Also, field experience in the inventory and collection of attribute data using GPS equipment for uploading to GIS databases.



Matthew D. Cochran

Fisheries Business Class Director

Matt provides biological and ecological services for fisheries and environmental restoration projects throughout the United States. He has been involved in the design of water supply systems, recirculating aquaculture systems, and fish holding tanks for fisheries projects for the past 22 years. His responsibilities include bioprogramming involving modeling growth rates, flows, oxygen consumption, carrying capacities and wastewater parameters. Matt provides biological and ecological computer modeling for aquatic and environmental design analysis and is knowledgeable in GIS and statistics. He is a project coordinator and principal writer for numerous facility studies, many of which included wetland, fisheries, infrastructure, water quality, and environmental assessments. Matt has experience with water quality testing, and lake restoration studies. In addition, he has experience with hydrographic surveys and sedimentation studies; wetland delineations; surface water, aquatic vegetation and habitat assessments; algae and zooplankton identification; water quality analysis; and environmental assessments on lake restoration projects.

EDUCATION

Master of Science,
Biology, University of
Illinois at Springfield
(UIS)

Bachelor of Science,
Environmental Sciences/
Studies, Eastern Illinois
University

INDUSTRY TENURE

26 years

HDR TENURE

26 years

RELEVANT EXPERIENCE

- West Virginia Dept. of Natural Resources, West Virginia Fish Hatchery Renovations- Various Sites, *Statewide, WV - Biological Criteria*
- West Virginia Dept. of Natural Resources, Bowden SFH Rehabilitation, *Bowden, WV - Biological Criteria*
- Auburn University Center for EW Shell Fisheries Center, *Auburn, AL*
- Colorado Parks and Wildlife, Ph2 Fish Hatcheries Modernization, Infrastructure Evaluation, *Colorado*
- Iowa Dept. of Natural Resources, Spirit Lake Hatchery Dreissenid Mussel Protection Investigation, *Spirit Lake, Dickinson, IA - Fisheries Biologist*
- Iowa Dept. of Natural Resources, Spirit Lake SFH Incubator System Design, *IA - Fisheries Biologist*
- Minnesota Dept of Natural Resources, New London and Spire Valley Hatcheries Feasibility Study, *New London, Kandiyohi, MN - Fisheries Biologist*
- Nebraska Game and Parks Commission, Venture Parks Phase I, *Lincoln, Lancaster, NE - Fisheries Biologist*
- Ohio Department of Natural Resources, Ohio Statewide Fish Hatcheries Assessments and Master Planning, *Statewide, OH - Senior Biologist*
- SchwabEaton, Milford State Fish Hatchery Zebra Mussel Control Plan, *Junction City, Geary, KS - Project Manager and Invasive Species Biologist*
- US Fish & Wildlife Service, Genoa National Fish Hatchery Isolation Building Addition, *Genoa, Vernon, WI - Project QC*



David Watson

Electrical Engineer

David has 20 years of experience as an electrical and control systems engineer involved in the planning, design, and construction administration of power distribution systems, process control, SCADA, telemetry, and instrumentation systems for both new and existing water/wastewater treatment plants, storage facilities, sanitary/flood pump stations, and water booster stations. He has broad experience in selecting process instruments, developing process and instrumentation diagrams (P&IDs), creating custom pump and equipment control systems, forming overall network system architecture drawings, RTU/PLC selection and panel layout design, and writing functional descriptions and I&C specifications. David's electrical experience includes planning, designing, and construction administration services of power distribution systems including low/medium voltage equipment, switching stations, unit substations, motor control centers, variable frequency drives, emergency standby systems, indoor and outdoor lighting, communication, lightning protection systems, grounding, fire alarms systems, electrical specifications, and arc flash studies.

EDUCATION

Bachelor of Science,
Electrical Engineering,
Ohio University

INDUSTRY TENURE

20 years

HDR TENURE

6 years

RELEVANT EXPERIENCE

- Ohio Department of Natural Resources, Fish Hatcheries Renovations (Castalia Kincaid London SFH), OH - *Electrical Engineer*
- Ohio Department of Natural Resources, Senecaville Fish Hatchery, Senecaville, OH - *Electrical Engineer*
- Ohio Department of Natural Resources, Ohio Statewide Fish Hatcheries Assessments and Master Planning, Statewide, OH - *Electrical Engineer*
- Hampton Roads Sanitation District, General Engineering Services (GES) Contract 2010-2015, Multiple Locations - *Electrical Engineer*
- New York State Office of General Services (NYSOGS), NYSG/SRL/OGS ESP Intake Design, NY - *Electrical Engineer*
- City of Williamstown, Williamstown Water Treatment Plant Improvements, Williamstown, KY - *Electrical Engineer*
- City of Akron, Ohio Canal Interceptor Tunnel (OCIT) Airflow Management and Odor Control Project, Akron, OH - *Electrical Engineer*
- Town of Clarksville, Clarksville/Wastewater Treatment Plant and Collection System Upgrade and Expansion (Design Construction Administration and On-Site Inspection), Clarksville, IN - *Electrical Engineer*



Troy A. Talsma, PE

Process/Mechanical Engineer

Troy's expertise includes design of open and closed water supply, reuse and wastewater systems containing pumps, screens, filters and disinfection. He sizes and selects central air handlers, chillers, boilers, blowers, compressors, oxygen generators and fuel storage tanks and provides estimates of operational and construction costs. He has planned numerous water, air, oxygen and fuel distribution systems. His design experience includes the selection of pumps for main fish attraction, water supply, wastewater, sludge mixing, domestic water systems, screening systems, and truck fill, as well as detailed pressure filtration, ultraviolet sterilizers, water meters and automatic valves and strainers. Troy has specified many different types of fiberglass aquaculture tanks and fish egg incubation systems. He also has experience with chemical storage; spill containment, alarms, spill removal, personnel safety equipment and special ventilation.

EDUCATION

Bachelor of Science,
Mechanical Engineering,
South Dakota School of
Mines & Technology

REGISTRATIONS

LEED Accredited
Professional, Illinois, US,

PROFESSIONAL

MEMBERSHIPS

Association of
Conservation Engineers,
Member, Member,
1995—2008

INDUSTRY TENURE

31 years

HDR TENURE

31 years

RELEVANT EXPERIENCE

- West Virginia Dept. of Natural Resources, Bowden SFH Rehabilitation, *Bowden, WV - Process Engineer*
- DuPont Corporate Remediation Group, Front Royal Aquatic Resource Center Preliminary Engineering Report, *Front Royal, VA - Process Engineer*
- Ohio Department of Natural Resources, Ohio Statewide Fish Hatcheries Assessments and Master Planning, *Statewide, OH - Process Engineer*
- Wisconsin Dept. of Administration, Thompson State Fish Hatchery Renovation to Increase Walleye Production, *Spooner, WI - Process Engineer*
- Wisconsin Dept. of Administration, Wild Rose Fish Hatchery UV System Improvements, *Wild Rose, WI - Process Engineer*
- Wisconsin Dept. of Administration, Art Oehmcke State Fish Hatchery Water Supply Enhancement Project, *Woodruff, WI - Process Engineer*
- West Virginia Dept of Natural Resources, West Virginia Fish Hatchery Renovations - Various Sites, *Statewide, WV - Process Engineer*
- Maine Dept Inland Fisheries & Wildlife, Maine Fish Hatchery System Improvements, *ME - Process Engineer*
- Minnesota Dept of Natural Resources, Crystal Springs and Waterville Hatcheries Feasibility Study, *Altura, MN - Process Engineer*
- Minnesota Dept of Natural Resources, Waterville Hatchery Improvements, *Waterville, MN - Process Engineer*

REFERENCES

1. Mr. Brad Leslie, P.E.
WV Division of Natural Resources
324 4th Avenue
South Charleston, WV 25303
(304) 558-2764
2. Mr. Gary Mullins P.E.
WV Department of Transportation
Division of Highways
1340 Smith Street
Charleston, WV 25301
(304) 205-6983
3. Mark A. Crites
Building Project Management Specialist
General Services Division – Engineering Section
Building 4, Fifth Floor
112 California Avenue
Charleston, WV 25305
4. Mr. Joe Paxton, Superintendent
Clay County Schools
P.O. Box 120
Clay, WV 25043
(304) 587-4266
5. Mr. Ben Newhouse, Community Development Specialist
City of Huntington
800 Fifth Avenue, Suite L7, City Hall
Huntington, WV 25714
(304) 696-5540