Spring is here again and good weather is upon us. As always, it provides the opportunity for our construction projects to get back into gear. Most, if not all our construction projects, have gone back to full operation. Of course, with the pandemic, safety protocols continue to be followed in the discharge of our duties, even in the construction sites.

Spring and Summer give me the opportunity to go out in the field to visit our construction sites and interact with our field staff. I plan to continue in that direction this year, but with the caveat of COVID safety precautions.

Our design staff continue to work from home. Our Bluebeam program allows for review of the design projects electronically so project staff have the ability to collaborate, as they would normally do if we were all in the office. Bluebeam allows for electronic review and appending of signature and professional seals.

We have imbibed certain processes in our work, like the electronic signature and the likes, as a result of COVID exigencies. I think that even when we get back to our normal ways of doing things, including moving back to the office, some of these processes will be here to stay as some of them have enabled us get better production in our jobs.

Happy Spring,

Alfred
S.B. Elliot State Park installs new drinking water treatment system

S.B. Elliot State Park recently completed a drinking water system rehabilitation project. For years, the Park had been sourcing its drinking water from a spring fed source. Due to park usage and water demand, it was determined the Park needed more water to meet the needs of the public. In 2011, a drinking water well was installed to supplement/replace the spring fed water source. From 2011 to 2020, the park had been operating on both water sources, with plans to eventually abandon the spring, and solely utilize well water for the water supply.

In October 2020, construction started on the well water treatment plant, which will supply water for one restroom, one CXT shower house, five drinking water fountains via a 2” transmission line, and six water hydrants. The construction project was bid as a Job Order Contract (JOC), and the majority of construction was completed by early February 2021.

Construction on the newly installed water treatment system included installing and connecting a submersible well pump, a 7-gpm flow restrictor, two hydropneumatic tanks, sodium hypochlorite chemical feed system, two 120-gallon detention tanks, one neutralizer tank, a greensand plus iron/manganese removal system, three 300-gallon storage tank, and a booster pump station. The greensand filtration plus system was required due to high levels of iron and manganese in the well water source. This filtration system needs to be backwashed and the backwash water is discharged to a shallow absorption bed after it passes an inground septic tank.

The park can now supply consistent quantity and quality water to meet the water usage in the park with the new well water treatment system.

**Project:** Install Water Treatment System
**Project Designer & Coordinator:** Shawn Beeler/Jason Li
**Construction Inspector:** John Kelley
**Contractor:** Clark Contractors, Inc.
**Construction Cost:** $49,338.51

*Construction Crew setting the chlorine, acid neutralizer, and greensand plus tanks.*

*The water system running in normal operation.*
Historic Preservation Efforts Completed at Little Buffalo State Park

James Kalp, LEED AP

Little Buffalo State Park located in Juniata Township; Perry County has a long history. Archival records indicate occupation along the Little Buffalo Creek by many early native American Indians and tribes. In 1754, the land was acquired from the Iroquois League of Six Nations. After the American Revolution, the fertile area was settled by early American farmers. A lifestyle that still dominates the area today.

Throughout the 1800’s, as much of the area expanded, the area saw growth associated with the iron and charcoal industry. In 1811, John Koch opened the Blue Ball Tavern along the Carlisle Pike, the main road between Carlisle and Sunbury, currently called the New Bloomfield Road. For unknown reasons, the tavern closed in 1841. The current farmhouse was built around 1865 on the foundation of the tavern. The structure still stands today. The Perry County Historical Society operates and maintains a museum and library in the farmhouse.

Recently, renovation work was completed on the Blue Ball Tavern, as well as a residence within the park. Both fall within a registered National Historic District within the park. With consultation of the Pennsylvania Historic and Museum Commission, the work was performed under the design and execution of The Secretary of the Interior’s Standards for the Treatment of Historic Properties. DCNR dutifully aims to preserve and protect the historic fabric of historic structures within park and forestry operations. Often challenging due to their age and condition, Facility Design and Construction staff work diligently within preservation recommendations, building code requirements and budgeted allocations to preserve these unique, one of a kind structures.

The work at Little Buffalo included miscellaneous repairs to the Blue Ball Tavern and a residence which falls in the historic district. Work at the Blue Ball Tavern included restoration, repair and replacement of the soffit, fascia and eaves, roofing, chimneys, shutters, flashing and repainting of the tavern. Work at the residence included, window upgrades, entry door replacement, construction of a new main entry stairway, and miscellaneous soffit, fascia and eave repairs.

Materials were selected that satisfy the historic preservation effort, but also that offer high performance and long life expectancy. As the COVID-19 pandemic caused a high demand and low supply of conventional lumber materials, thermally modified poplar was sourced as the primary lumber for exposed construction of the residence stair and porch construction. Thermally modified lumber is a heat treatment process that modifies the cell structure of lumber. Making it highly weather, rot and insect resistant.

These upgrades will help protect and preserve the Blue Ball Tavern and the residence for many years to come.

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**Project:** Rehab Residence Porch and Blue Ball Tavern

**Project Designer & Coordinator:** James Kalp, LEED AP

**Construction Manager:** James Ross, P.E.

**Construction Inspector:** Keith Scalia—TW Consultants, Inc.

**General Contractor:** KLA Roofing & Construction, LLC

**Construction Cost:** $336,338.00

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Blue Ball Tavern
Over the course of the past year and a half, Whipple Dam State Park has been removing sediment deposition from its namesake, Whipple Dam. The lake dredging project removed approximately 40,230 cubic yards of sediment within 16 acres of the lake and restored Whipple Lake to its historical design depths. Sediment deposition occurs naturally over time. If enough sediment settles at the bottom of the lake and enough time goes by, the lake will eventually fill up and no longer have adequate flood storage capacity.

During the 1980’s, a hydro dredging project was attempted at the lake. The project did not go as planned and was halted for many years. In April of 2017, Whipple Dam Park staff along with Central Office Park staff performed a bathymetry study of the lake to determine sediment depths. This study determined there was approximately 38,301 cubic yards of sediment within Whipple Lake.

The lake was drawn down in September of 2019 to begin the dredging project. With the help of the PA Fish & Boat Commission, fish were collected and relocated. Local Boy Scouts also helped to construct multiple turtle-basking platforms that were placed in the lake during the drawdown. Fish habitat structures were also placed in the lake with the assistance of the PA F&B Commission and Park staff. These structures were installed to increase habitat for aquatic species living within Whipple Lake.

After a temporary shut-down due to the pandemic, the project continued until its completion at the end of 2020. The project also included the construction of a reinforced concrete and stone wall connecting the existing spillway wall to the control tower outlet structure spillway wall. Erosion of the dam embankment toe was an issue in this area and is directly connected to the stilling basin. The wall prevents erosion of the downstream dam embankment.

Additionally, an ADA beach access ramp was replaced. The new ADA ramp is a gently sloping walkway which provides access to the water with railings on both sides of the walkway as it enters the water. Additionally, an ADA fishing pier was also installed. The design of the new ADA fishing pier provides access for everyone to be able to fish at Whipple Lake.

The project also included maintenance to the existing control tower to replace the control tower ladder and to replace the stop logs within the control tower. The ladder is used for access within the tower for maintenance purposes and the stop logs control the elevation of the lake water level and can be removed to lower the lake level to perform maintenance operations without a complete drawdown of the lake. There were also repairs to the spillway, upstream dam face and intake structure stone. (Continued on page 5)...

ADA Beach Access (Perfect when the Ice Melts)
Whipple Dam Sediment Removal Improves Access to Fishing

(continued from Page 4)

Stone placed during original construction of the dam was repaired in areas where it was missing or had moved due to settling over the years. Park roads were also resurfaced with bituminous paving in this project.

Overall, the dredging project improves recreational and fishing opportunities for the public. The lake is stocked by the Pennsylvania Fish & Boat Commission and fished by many visitors to the Park. The deeper waters will greatly increase opportunities for public fishing. Prior to dredging, the lake was very shallow, especially at the upstream end, and not easily accessible by boat, kayak or canoe. Removal of the sediment creates a deeper lake and improves fishing access and improves habitat for fish and other aquatic organisms. Additionally, the new ADA fishing pier and beach access ramp were great improvements and will provide access for fishing opportunities and recreational activities for the disabled, elderly, children and the general public.

New ADA Fishing Pier

<table>
<thead>
<tr>
<th>Project: Whipple Dam Sediment Removal</th>
<th>Project Designer: Craig Fetterhoff, P.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Designer: Ed Raptosh, P.E.</td>
<td>Project Coordinator:</td>
</tr>
<tr>
<td>Construction Inspector: Miles Filson</td>
<td>General Contractor: Natase Construction</td>
</tr>
<tr>
<td>Construction Cost $1,646,203.27</td>
<td></td>
</tr>
</tbody>
</table>
Moraine State Park Water System Upgrades
John Jaskolka, P.E.

The Moraine State Park drinking water system was constructed in the late 1960s and has served the park for well over 45 years. In recent years, the water system began showing its age. To meet the current drinking water quality standards and plan for future park attendance, the park’s drinking water system was upgraded to meet the needs of the park and the public.

In 2017, the park transitioned its drinking water source from its surface water intake at Lake Arthur to a newly installed drinking water well, tapping into an aquifer containing glacial derived water. Additionally, the park rehabilitated 9 of its 17 miles of waterlines throughout the park.

The Department accomplished the waterline rehabilitation work using a design/build contract. This work consisted of the design and installation of approximately 48,250 LF of DR-18, 6” diameter Fusible PVC C-900 pressure waterline. The waterlines were installed using Horizontal Directional Drilling (HDD) methods. The HDD crossings included two separate lake crossings, totaling 1,390LF. Additionally the waterline work included approximately sixty new 6” diameter buried gate valves/boxes; new air release valves with non-rising stem gate valves in manholes; new blow off valves; precast concrete vault(s) with hatch; Curb stops, corporations, and tees required to make waterline connections to the existing waterlines, buildings and appurtenances such as hydrants and blow off valves.

A chlorine contact loop was also included adjacent to the control building. Work also included furnishing and installing a precast concrete multi-purpose control/office/lab building enclosed by a 6’ high chain link security fence; new underground 3-phase electric service from West Park Road to a pad mounted transformer adjacent to the building; furnish and install submersible pump capable of 190gpm, and all chemical feed equipment (pumps, tanks, pressure gauge, tank level gauge, etc.), control valves at the tank, and fire hydrants.

The project was hugely successful and was completed at the end of December, 2020.

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Precast WTP Treatment Building

Waterline Installation

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Project: Rehab 9 of 17 Miles of Watermain North and South Shore
Project Designer & Coordinator: Scott L. Schaffer & Shawn D. Beeler, P.E.
DCNR Construction Manager: John Jaskolka, P.E.
DCNR Construction Inspector: Kim Charlier—TW Consultants, Inc.
General Contractor: Horizon Construction Group, Inc.
Construction Cost: $3,875,000.00
Repair Road Slips at Racoon Creek State Park

John Jaskolka, P.E.
Western Pennsylvania is well known for landslides and hill slips throughout the region and along its roadways. Many roadways and steep slopes in this region experience landslides and hill slips due to the underlying soil/rock interface. Heavy rainfall, rising groundwater, and hydrostatic pressure on the slopes lead to dangerous conditions which leads to these road slips. Racoon Creek State Park is no exception and in early 2019 there were four roadway locations within the park that had slipped. The worst slip was located at Beach Road which required a soldier pile wall to stabilize the roadway and hillside. Soldier pile walls are a common retaining wall strategy in which H-shaped steel beams (piles) are drilled deep into the earth at regular intervals. Between each vertical pile, horizontal precast concrete panels (lagging) the gap. The four slip areas in the park have been recently repaired and the roads are back in full service.

Racoon Creek State Park is located in Beaver County along the western edge of Pennsylvania about 30 miles west of Pittsburgh, PA. The park began as a Recreational Demonstration Area operated by the National Park Service in the 1930s during the Civilian Conservation Corps (CCC) era. The park encompasses 7,572 acres and features the beautiful 100-acre Racoon Lake.

Soldier Pile Wall Construction Completed

Hill slip along Beach Road.

Project:
Repair Road Slips
Project Coordinator:
Daniel A. Kauffman, P.E.
Project Designer:
Stahl Shaeffer Engineering, LLC
Construction Manager:
Daniel A. Kauffman, P.E.
Construction Inspector:
Tom Porch —TW Consultants, Inc.
General Contractor:
Penn Mechanical Group, Inc.
Construction Cost
$3,875,000.00
Bureau News and Activities

Planning Exercise for Hurricane Emergency Response Occurs at Nockamixon State Park.
Chuck Lutter, P.E.

On March 4, 2021, representatives from the Pennsylvania Department of Conservation and Natural Resources - Nockamixon State Park and Facility Design and Construction, along with emergency management personnel from Bucks County, PA, and Hunterdon County and Mercer County, NJ, participated in an exercise that involved a hurricane and tropical storm, back to back, that dumped 100 inches of rain over the eastern part of Pennsylvania in 6 days. Emergency personnel included emergency management officials, fire department personnel, state police, and other emergency providers. The exercise was put together by the Pennsylvania Governor’s Office of Homeland Security and was meant to test the Emergency Action Plan for the dam and other emergency procedures within the park. It was a virtual exercise on Zoom and even though there were around 70 participants, the exercise went very smoothly. There were Players and Observers from each of the agencies and departments. The Players were asked to answer questions during the exercise and the Observers were asked to provide feedback on the exercise during an after-exercise review. Park staff, park rangers, FDC engineers, and other emergency personnel were asked questions relating to the extreme event and how they would respond. These questions included monitoring and inspecting the dam for potential problems, evacuating visitors, manning traffic control points, making the required notifications, etc. Everyone was very professional, well-prepared, and thought the exercise was worthwhile and generated good discussion. The Pennsylvania Governor’s Office of Homeland Security will be providing the participants with an After-Action Report by the end of April 2021.
Construction Projects in Progress

*Ricketts Glen State Park: Water Main Connection for Full Service Campsites*

*Rickett's Glen State Park: Electric Utility Line Installation for Full Service Campsites*

*Jennings Environmental Center: Culvert Replacement Project*

*Jennings Environmental Center: Culvert Replacement Project*

*Hyner Run State Park: Pouring the ICF Exterior Walls.*

*Hyner Run State Park: Pouring Woodshop Foundation*
Construction Projects in Progress

Trough Creek 3 Bay Storage Garage

Ryerson Station State Park: Solar Panel Installation at Carport

Ryerson Station State Park: Carport and Solar Panel Construction

Ryerson Station State Park: Water Park Supersplash Construction

Ryerson Station State Park: Water Park Waterslide Construction
# Bidding Summary

## Bidding Summary - November 2020

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Bid Price</th>
<th>Apparent Low Bidder</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDC-014-101869.1 Complanter State Forest Plug and Properly Abandon Orphaned Oil &amp; Gas Wells – Southwest Janison Tract</td>
<td>$198,000.00</td>
<td>Howard Drilling, LLC</td>
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<tr>
<td>FDC-102-100049.1 Black Moshannon State Park General Construction, Cabin 20 Ski Lodge Rehab</td>
<td>$431,180.00</td>
<td>BCS Construction, Inc.</td>
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<tr>
<td>FDC-102-100049.2 Black Moshannon State Park Mechanical Construction, Cabin 20 Ski Lodge Rehab</td>
<td>$138,598.00</td>
<td>W. C. Eshenauer &amp; Sons, Inc.</td>
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<tr>
<td>FDC-102-100049.3 Black Moshannon State Park Plumbing Construction, Cabin 20 Ski Lodge Rehab</td>
<td>$55,446.00</td>
<td>W. C. Eshenauer &amp; Sons, Inc.</td>
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<tr>
<td>FDC-102-100049.4 Black Moshannon State Park Electrical Construction, Cabin 20 Ski Lodge Rehab</td>
<td>$58,918.00</td>
<td>Betwy Electric</td>
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## Bidding Summary - December 2020

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<tr>
<td>FDC-133-102938.2 Bald Eagle State Park Mechanical Construction, Nature Inn Moisture Remediation</td>
<td>$97,000.00</td>
<td>Leibold, Inc.</td>
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<td>FDC-020-100849.1 Loyalsock State Forest Design-Build, 5-Bay Equipment Storage Building – Little Bear Maintenance HQ</td>
<td>$347,244.00</td>
<td>Dutchman Contracting, LLC</td>
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<td>FDC-313-102932.1 Shawnee State Park Superstructure Replacement, Bridge No. 6313-1202 – Camping Area Road Over S.R. 0096</td>
<td>$636,398.00</td>
<td>George S. Hann &amp; Sons, Inc.</td>
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<td>FDC-424-101239.1 Memorial Lake State Park Replace Outlet Structure</td>
<td>$188,900.00</td>
<td>Flyway Excavating</td>
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<tr>
<td>FDC-100-103100.1 Sizerville State Park Replace Underground Storage Diesel Tank at Regional Garage</td>
<td>$69,955.80</td>
<td>Nero Enterprise, LLC</td>
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<tr>
<td>FDC-311-102646.1 Prince Gallitzin State Park General Construction, Full-Service Hook-Ups</td>
<td>$330,000.00</td>
<td>John Nastase Construction</td>
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<tr>
<td>FDC-311-102646.4 Prince Gallitzin State Park General Construction, Full-Service Hook-Ups</td>
<td>$223,000.00</td>
<td>C &amp; R Directional Boring, LLC</td>
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<tr>
<td>FDC-004-100252.1 Forbes State Forest Pave Laurel Mountain Maintenance Yard</td>
<td>$36,750.00</td>
<td>Derry Construction</td>
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<tr>
<td>FDC-010-102484.1 Sprout State Forest Structure Replacements, Bridges 10-0080 and 10-0081</td>
<td>$742,833.00</td>
<td>LTT Trucking, LLC</td>
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## Bidding Summary - January 2021

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<tr>
<td>FDC-102-100160-2R Buchanan State Forest Mechanical Construction, New Maintenance HQ Chaneyville</td>
<td>$227,700.00</td>
<td>Leibold, Inc.</td>
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<tr>
<td>FDC-002-10160.3R Buchanan State Forest Plumbing Construction, New Maintenance HQ Chaneyville</td>
<td>$131,217.00</td>
<td>KLA Roofing &amp; Construction, LLC</td>
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<tr>
<td>FDC-102-10160.4R Buchanan State Forest Electrical Construction, New Maintenance HQ Chaneyville</td>
<td>$219,800.00</td>
<td>KLA Roofing &amp; Construction, LLC</td>
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<tr>
<td>FDC-006-102309.1 Gallitzin State Forest Design-Build, 5 Bay Equipment Storage Building – Babcock Maintenance HQ</td>
<td>$276,475.00</td>
<td>KLA Roofing &amp; Construction, LLC</td>
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# Bidding Summary (cont.)

### Bidding Summary - January 2021

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<thead>
<tr>
<th>Project ID</th>
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<th>Bid Price:</th>
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<tr>
<td>FDC-018-102511.1</td>
<td>Weis State Forest Structure Replacement, Bridges 18-0008</td>
<td>$249,071.36</td>
<td>Jay Fulbrook &amp; Sons, Inc.</td>
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<td>FDC-310-101700.1</td>
<td>Pine Grove Furnace State Park Paint Water Tank</td>
<td>$72,200.00</td>
<td>Penn State Construction</td>
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<td>FDC-102-102207.1</td>
<td>Black Moshannon State Park Paint Water Tank</td>
<td>$248,848.50</td>
<td>Cottle's Asphalt Maintenance</td>
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<tr>
<td>FDC-317-2721.1</td>
<td>Little Buffalo State Park East Area Paving</td>
<td>$203,043.14</td>
<td>Jay Fulbrook &amp; Sons, Inc.</td>
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<tr>
<td>FDC-320-102482.1</td>
<td>Kings Gap Environmental Education Center, Kings Gap Road, Bituminous Surface Treatment</td>
<td>$129,235.00</td>
<td>Farhat Excavating</td>
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### Bidding Summary - February 2021

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<tr>
<th>Project ID</th>
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<tr>
<td>FDC-800-103258.1</td>
<td>Gallitzin State Forest, Elk State Forest Construct Woven Wire Deer Fencing, Forest District 6 and 13</td>
<td>$377,934.14</td>
<td>Bash Contracting, Inc.</td>
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<td>FDC-800-103258.1</td>
<td>Tioga State Forest and Susquehannock State Forest Construct Woven Wire Deer Fencing, Forest District 15 and 16</td>
<td>$521,969.76</td>
<td>Bash Contracting, Inc.</td>
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<td>FDC-528-07864.1</td>
<td>Locust Lake State Park Design-Build, Sewer Rehab and I/I Repairs</td>
<td>$317,432.00</td>
<td>C &amp; R Directional Boring, LLC</td>
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### Bid Summary Values:

- **November Total Bids/Value:** 5/$882,142.00
- **December Total Bids/Value:** 7/$1,935,834.00
- **January Total Bids/Value:** 11/$2,493,836.80
- **February Total Bids/Value:** 3/$1,217,335.90
- **Total:** 26/$6,529,148.70

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**Interested in Doing Work for DCNR?**

For a list of current projects out for bid, visit the Bureau's current bid proposal page at:

[http://www.dcnr.pa.gov/Business/ConstructionBids/Pages/default.aspx](http://www.dcnr.pa.gov/Business/ConstructionBids/Pages/default.aspx)

Be sure to check back frequently for updates.
Bureau Mission:
To provide multi-disciplined technical support to the other bureaus in DCNR in the areas of project design, project inspections, construction management, contract administration, surveying and other technical advice and consultation.

Questions – Comments?
We value our reader’s feedback. Send your questions or comments to:

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Dan Kaufman, daakuaffma@pa.gov

Administrative Support: Sharia Turner, sharturner@pa.gov

https://www.dcnr.pa.gov/about/Pages/Facility-Design-and-Construction.aspx

From the Editor: Spring is around the corner. The robins and red winged blackbirds are already returning back from their winter migration. Thanks again to the newsletter staff and all the contributing writers for your efforts in publishing the March Issue. Stay safe and healthy everyone.