KPDES FORM SDAA

Kentucky Pollutant Discharge Elimination System (KPDES)

Socioeconomic Demonstration and Alternatives Analysis

The Antidegradation Implementation Procedure found in 401 KAR 10:030, Section 1(3)(b)3 requires KPDES permit applications for new or expanded discharges to waters categorized as "Exceptional or High Quality Waters" to conduct a socioeconomic demonstration and alternatives analysis to justify the necessity of lowering local water quality to accommodate important economic or social development in the area in which the water is located. This demonstration shall include this completed form and copies of any engineering reports, economic feasibility studies, or other supporting documentation

I. Project Information

Facility Name: BDCC Holding Company 897-5061 AM 4

Location: Approx. 1.25 miles NW from KY-7 and KY-699 intersection.	**County: Perry**

Receiving Waters Impacted: Unnamed Tributaries to Leatherwood Creek and Bear Branch

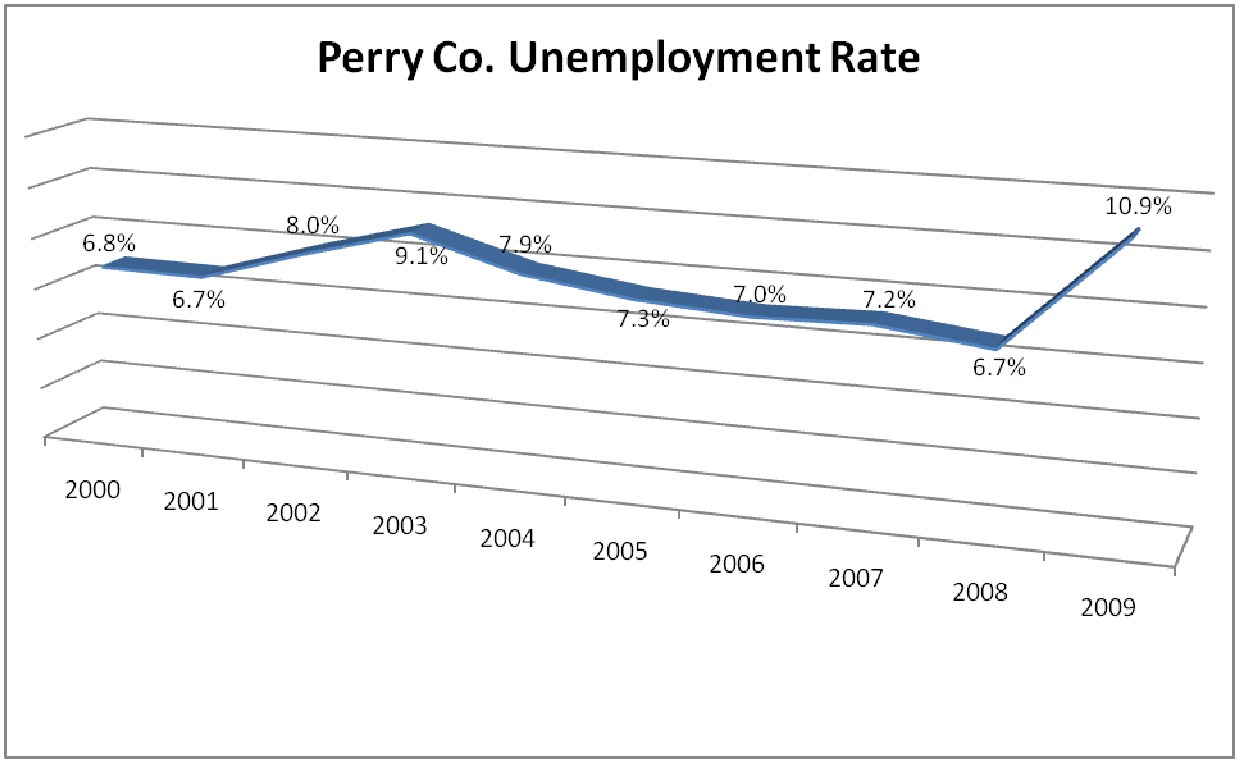
II. Socioeconomic Demonstration

1. Define the boundaries of the affected community:
(Specify the geographic region the proposed project is expected to affect. Include name all cities, towns, and counties. This geographic region must include the proposed receiving water.)

The proposed project is expected to affect the Eastern Coal Field region within the Central Appalachian Ecological region including unnamed tributaries to Leatherwood Creek, Bear Branch, Right Fork and the North Fork of the Kentucky River. Also affected indirectly by this project are the communities of Daisy, Vicco, and Hazard.

2. The effect on employment in the affected community:
(Compare current unemployment rates in the affected community to current state and national unemployment rates. Discuss how the proposed project will positively or negatively impact those rates, including quantifying the number of jobs created and/or continued and the quality of those jobs.)

Unemployment in Perry County, KY has increased from 6.8% in 2000 to 10.9% in 2009 as compared to the entire state, which has varied from 4.2% to 10.5% for the same time period. The United States as a whole has varied from 4% to 9.3% for this period (Workforce Kentucky).



The proposed facility will directly facilitate the continuation of employment for 24 people. In 2009, there were 11,887 people in the Perry County workforce with 1,296 unemployed, yielding a 10.9% unemployment rate. In 2009 there were 2,080,409 people in the Kentucky workforce with 217,537 unemployed, yielding a 10.46% unemployment rate. In 2009 there were 154,142,000 people in the United States of America (USA) workforce with 14,265,000 unemployed, yielding a 9.25% unemployment rate. Using these figures the unemployment rate for Perry County would increase to approximately 11.10% without the jobs facilitated by this mine; however, the unemployment rates for Kentucky and the USA would remain unchanged.

The continuation of 24 high-quality jobs created by the existing operation garners approximately $1,320,000 in annual wages for the employees, averaging $55,000 annually per employee. These jobs are high quality, permanent in nature, and are a source of sustained income for the employees. In addition to boosting the per capita income for the surrounding communities and the state as a whole, the proposed project would provide its workers with an attractive benefits package including, but not limited to, health, dental, and disability insurance and retirement plans. It is also estimated that seasonal employees will be added to the workforce during the summer months and holidays to supplement potential production loss from employee vacation and personal time. Without this proposed project Perry County will lose 24 jobs (not including jobs provided for seasonal employees) and $1,320,000 in wages.

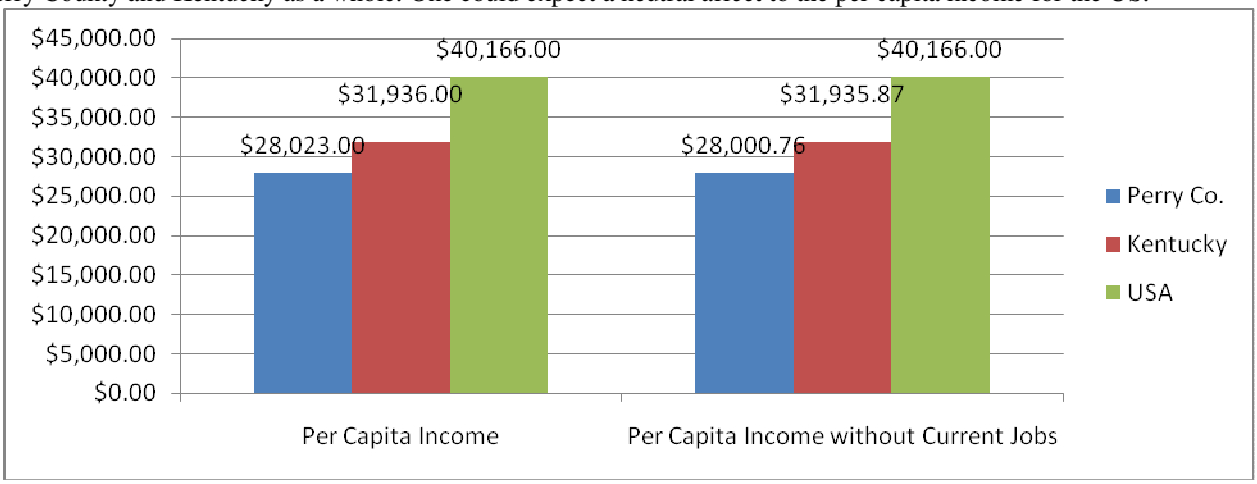
Utilizing the 3:1 ratio of direct and indirect jobs created by the Kentucky coal industry, this proposed project would provide continuation of 24 jobs that are permanent in nature with an additional 96 jobs created in other fields that provide services to the mining industry. These jobs include, but are not limited to, engineering services, equipment supply and maintenance, fuel and lubricant suppliers, and non-mining related suppliers of items such as food services, real estate, and education. During the 2006-07 fiscal year, coal mining in Perry County generated approximately $21,418,788 in coal severance tax dollars. The proposed project will recover approximately 500,000 tons of coal over the life of the mine generating approximately $3,850,000.00 in tax dollars at current spot market prices.

II. Socioeconomic Demonstration- continued

3. The effect on median household income levels in the affected community:

(Compare current median household income levels with projected median household income levels. Discuss how proposed project will positively or negatively impact the median household income in the affected community including the number of households expected to be impacted within the affected community.)

According to 2009 statistics, the per capita income for a resident of Perry County, Kentucky, and the USA was $28,023; $31,936; and $40,166; respectively. The proposed project would provide the continuation of 24 jobs averaging $55,000 per employee and totaling $1,320,000 annually. Without the proposed project, one could expect a decrease the per-capita income in Perry County and Kentucky as a whole. One could expect a neutral affect to the per capita income for the US.



The proposed project would positively affect the surrounding communities by being directly responsible for the continuation of 24 jobs and indirectly responsible for an estimated 96 jobs in fields that provide services to the mining industry.

The company also provides an attractive benefits package to its employees that will include items such as health insurance, retirement plans, and dental and disability insurance. This provides improved living conditions through home improvement, new home construction, better access to medical care, and the creation of generational wealth through company backed savings and retirement plans. Social gains have been made to the area through educational opportunities created through the increase in household income.

4. The effect on tax revenues of the affected community:

(Compare current tax revenues of the affected community with the projected increase in tax revenues generated by the proposed project. Discuss the positive and negative social and economic impacts on the affected community by the projected increase.)

During the 2006-07 fiscal year, coal mining in Perry County generated approximately $21,418,788 in coal severance tax dollars. The project is expected to produce approximately 500,000 tons of coal over the life of the mine. Assuming current coal commodity spot prices of $55 per ton for Central Appalachia, the proposed project will generate approximately $3,850,000 in severance tax dollars for Perry County for the life of the mine. The increased tax revenue to the local community and state as a whole provided by the proposed project would amount to approximately $1,100,000 per year for the life of the mine.

This project would also provide socio-economic benefits to the local communities through an overall increase in per capita income and an attractive benefits package to new workers allowing local households to benefit from enhanced living conditions through home improvement, new home construction, better access to medical care, the creation of generational wealth through company backed savings and retirement plans, and increased educational opportunities. Increases to both the number of people in the workforce and wages for said workforce will benefit the local community and state at large through additional income tax, social security, and Medicaid benefits being paid by each employee.

II. Socioeconomic Demonstration- continued

5. The effect on an existing environmental or public health in affected community:
(Discuss how the proposed project will have a positive or negative impact on an existing environmental or public health.)

From 1974 to 2005 timber production in Kentucky rose from approximately 85,000,000 cubic feet to 180,000,000 cubic feet. Previous logging operations have affected the immediate watershed and surrounding communities to the proposed project area through the introduction of sediment-laden water to the local and regional watersheds. The existing stream has been affected by previous mining, logging, and gas well activities. To remedy these problems and prevent any further influx of sediment-laden water to the local and regional watersheds the proposed project will create pond structures to improve the quality of the discharged water. These structures will provide sediment control for the proposed project until Phase II bond release and subsequent pond structure removal and reclamation. Following BMP practices, the stream will be reconstructed to a form and function that is equal or greater than that of the original stream as it was prior to mining. Once the proposed project is completed the area will be reclaimed to approximate original contour and planted with trees and grasses thus creating a more balanced ecological environment. On-site trash collection and reclamation activities such as replacing topsoil and hydroseeding will help ameliorate potential pollution to the immediate and surrounding communities.

Adherence to the Fugitive Dust Control Plan, section 34.1.A of the MPA-03 DSMRE mining permit application, will benefit the surrounding communities. The fugitive dust control measures will be utilized during site preparation, mining, and reclamation and include, but are not limited to the following: unpaved roads will be subject to watering or chemical stabilization; paving of roads; prompt removal of all dust-forming debris from roads and frequent scraping and compaction of unpaved roads; revegetation, mulching, or otherwise stabilizing the surface of all areas adjoining roads that are sources of fugitive dust; restricting the travel of vehicles on other than established transportation corridors; minimizing the area of disturbed land and prompt revegetation of disturbed lands; planting of special windbreak vegetation at critical or susceptible locations in the permit area. The fugitive dust control plan will minimize the amount of particulates entering the air which could have an impact on public health in the surrounding areas.

6. Discuss any other economic or social benefit to the affected community:
(Discuss any positive or negative impact on the economy of the affected community including direct and or indirect benefits that could occur as a result of the project. Discuss any positive or negative impact on the social benefits to the community including direct and indirect benefits that could occur as a result of the project.)

The project will provide additional socio-economic benefits to the surrounding communities through infrastructure development. Creating additional access roads in the remote areas of the project area provides local residents the opportunity for future development in areas that could not have previously supported such improvements, potentially increasing the land value after reclamation and bond release. The potential for creating pond structures along with additional access roads provide available fire control to once remote areas primed for future development. Livestock or pastureland production is also supported by the potential water made available through utilizing the ponds created by this permit. The local highway system will also benefit from the proposed project through tax revenues anticipated to provide local and regional roadway improvements. The increased revenues generated from the increase in property values and income tax collected will help to provide new and expanded or continued local emergency medical services such as fire, ambulance, and police personnel and equipment.

III. Alternative Analysis

1. Pollution prevention measures:

(Discuss the pollution prevention measures evaluated including the feasibility of those measures and the cost. Measures to be addressed include but are not limited to changes in processes, source reductions or substitution with less toxic substances. Indicate which measures are to be implemented.)

The proposed project, using the SEDCAD computer model for a 25 year/24 hour storm (developed at the University of Kentucky) produced 56,929,079 gallons of runoff in one rainfall event. This excess of on-site water can stored in two ways, underground or above ground. Underground options include underground mine injection and storage in cisterns. Above ground storage can be obtained by the use of bench ponds or in-stream ponds. Once in ponds, it is possible for the water to be reused on-site, chemically treated, or transported to the nearest wastewater treatment plant.

Injection into underground mines was considered as an alternative method of underground storage. Of the existing underground mines in the vicinity of the proposed permit most are still active and present a high risk level for areas of possible excess water discharge storage. In order to provide a safe alternative for subsurface disposal and/or storage of excess water discharge the abandoned underground mines must provide an impermeable medium. To provide an impermeable medium, the underground mine must have seals in place at each opening or entrance, must be absent from any bedrock fractures to prevent re-entrance into the groundwater and surface water systems, and must have enough storage volume to accommodate potentially 56,929,079 gallons of water. The underground mines in the vicinity of the proposed permit area also pose water quality concerns due to unknown amounts of water and the possibility of compromised quality of water currently being stored by the mine. The many levels of risk associated with injecting excess water discharge from the proposed surface mining operations into abandoned underground mines create a dubious option for water storage. The next option considered for underground storage was containing the discharge in septic systems, or cisterns. Septic systems are not designed to handle water of this type; they are intended to breakdown organic and biodegradable materials. Use of such a system would essentially serve the same purpose as a sediment pond. Cistern use for storing the excess water is available for $65,000 per 75,000 gallon cistern, thus bringing an additional $49,265,852 to the cost of excess water storage for the proposed project. Injection into underground mines or into a septic system could adversely affect the local groundwater supply by displacing any water in the area and creating a superfluous pressure-head. Such an increase in pressure-head will create the possibility for additional discharge from these areas and increase the chances for blow outs which could ultimately prove to be a safety hazard for the community as well as the miners in the adjacent active mines. For these listed reasons, the underground storage method was dismissed from further analysis.

An alternative considered for use of above ground stored water would be redistribution over the mine site. On-site water redistribution is maximized through watering haul roads for dust suppression, hydroseeding for reclamation, and watering of reclaimed areas. Typically, water redistribution of this type is limited to 1000 gallons/day/acre on slopes of 6% or less. However, with the terrain of the proposed project area contains slopes of approximately 30% and a possible runoff produced by a 25-year/24-hour storm in excess of 56,929,079 gallons, on-site redistribution would not be feasible. With 419.33 acres of proposed surface disturbances and slopes of approximately 30% on-site, approximately 200 gallons/acre, or 83,866 gallons, of runoff could be reused on the total proposed project area. This leaves an excess of 56,845,213 gallons of water. Collecting and recycling the runoff on-site would require the installation and maintenance of piping, pump stations, and cisterns for an estimated $50,516,252. This cost estimate does not include the removal of said piping, pump stations, and cisterns which totals at $72,878,478 bringing the total cost to $123,394,730. Due to the economic and feasibility constraints associated with the containment of on-site water via piping and cisterns, excess water storage will not be performed on site.

Chemical treatment options at the public water supply were also considered for the proposed project site. Chemical treatment costs can range from $0.50/gallon to $4/gallon and are dependent upon the wastewater constituents. Assuming 3,096,658 gallons of water generated from the 25-year/24-hour storm model and an average cost of approximately $2.25/gallon for the use of necessary chemicals will cost approximately $128,090,428 to chemically treat the discharge from the proposed site. Due to such a large economical vow, this option is not feasible.

Finally, there are three potential methods of transporting water to a wastewater treatment plant, piping via gravity flow or straight-line method, or hauling via tanker trucks. The nearest water treatment plant to the proposed project is located 20.97 river miles (Hazard Wastewater Treatment Plant) and 12.8 road miles away (Vicco Wastewater Treatment Plant). Hazard WTP and Vicco WTP are equipped to handle 3,000,000 gals/day and 100,000 gals/day, respectively. To move water using gravity, 110,697 feet of pipe, at $60/foot of pipe, and 3 pumping stations, at $150,000 a piece, will be needed. This would generate a cost of $6,941,870. To pump to the nearest wastewater treatment plant directly, would require 32,788 feet of pipe

at $60/foot of pipe and 8 pumping stations at $150,000 per station. This would total to $1,967,328. The next option for moving the water from the proposed project area to the treatment facility would be the use of 4,000 gallon capacity tanker trucks at approximately $63,000 per truck. To move the 56,845,213 gallons of excess water and assuming a minimum number of trucks to maximize water transportation efficiency, the cost to transport water by tanker truck will be approximately $64,756,830 for one storm event. The addition of another 56,845,213 gallons of water would only add to the untreated water being discharged to the river unless the treatment facility was upgraded to process additional water. Considering the available options to upgrade a wastewater treatment facility, costs to upgrade this wastewater treatment facility for an additional 56,845,213 gallons of wastewater would range from an estimated $170,535,640 to over $341,071,280. Upgrading to three-times the maximum value would reach a cost of $1,023,213,842. These types of additions to the mining and waste-water control plans will cause unnecessary delays and excessive costs to the proposed project while also contributing to preventable environmental impacts.

Other alternative treatments were considered for the site such as the use of silt fences and straw bales were inadequate for the scale of the proposed site alone, however will be used in conjunction with the proposed water treatment plan.

After exhausting all other alternatives considered above, the proposed pollution prevention measures for the project consists of the use of on-site sediment control structures, or ponds. These ponds will be utilized on the bench of the active mining area and as in-stream structures placed beneath the hollow fill toe as wastewater treatment measures to ensure proper particle settling of on-site water resources prior to off-site discharge. The ponds will be constructed incrementally in conjunction with the proposed mining plan to ensure proper containment and treatment of on-site wastewater. The construction and maintenance of the pond structures associated with the proposed project will cost approximately $126,000 for the life of the mine. The current wastewater containment and drainage control plan for the proposed project are the measures to be implemented.

2. The use of best management practices to minimize impacts: (Discuss the consideration and use of best management practices that will assist in minimizing impacts to water quality from the proposed permitted activity.)

Best Management Practices (BMPs) will be utilized by this proposed project anticipating minimal disturbances in the construction and maintenance of pond structures designed to contain all water collected onsite. BMPs proposed for this application include minimizing surface disturbances, land grading, rip-rap placement where deemed necessary, progressive revegetation, mulching, temporary silt control where practical, and rock check dams to aid in wastewater particulate settling.

Spoil storage disturbances will potentially create a temporary increase in suspended and settleable solids concentrations in the run-off from the storage site during the active phase of the operation. However, the sediment control structures will capture and reduce the suspended matter in the surface run-off before the water is discharged into the receiving streams. Each structure has been appropriately designed to meet the established settleable solids limitations set forth by SMCRA regulations.

A volume weighted acid base account study for the proposed project did not identify acidic overburden strata in the proposed permit area. Based on the geologic data, the overburden should pose no short term acid mine drainage problem. The coal seams to be mined under this permit were found to possess an acid producing potential. However, the majority of the coal will be removed from the site, thus removing the acidic source from the area. During the active phase of the mining operation, the coal will be uncovered and extracted in a timely manner in order to minimize the time during which the seam is exposed to atmospheric conditions. Stockpiled coal will be protected from extraneous water sources. By following the mining and reclamation plan for this proposed project, no short-term acidity problems are anticipated. In the neutral or slightly acidic pH range, iron and manganese are not highly soluble. Baseline water quality data from the drainage area indicated that the natural waters of the area are neutral to slightly acidic and generally exhibit low concentrations of metals. As long as the pH of surface water runoff from the mine area remains in the neutral range, high concentrations of iron and manganese are not anticipated.

The proposed project will utilize the proposed mining and reclamation practices to prevent or minimize pollutants in the collection of on-site wastewater. Practices which may be utilized to minimize water pollutants include, but are not limited to, the following: land shaping to improve stabilization; diverting runoff to appropriate ponds for storage; quickly germinating and growing stands of temporary vegetation to prevent further sedimentation problems; regulating channel velocity of water; lining drainage channels with rock or vegetation; and mulching.

3. Recycle or reuse of wastewater, waste by-products, or production materials and fluids:
(Discuss the potential recycle or reuse opportunities evaluated including the feasibility of implementation and the costs. Indicate which of, of these opportunities are to be implemented)

The only significant reuse of water for the proposed permit operation would be redistribution over the mine area. On-site water redistribution is maximized through watering haul roads for dust suppression, hydroseeding for reclamation, and watering of reclaimed areas. Typically, water redistribution of this type is limited to 1000 gallons/day/acre on slopes of 6% or less. However, with the terrain of the proposed project area contains slopes of approximately 30% and a possible runoff produced by a 25-year/24-hour storm in excess of 56,929,079 gallons, on-site redistribution would not be feasible. With 419.33 acres of proposed surface disturbances and slopes of approximately 30% on-site, approximately 200 gallons/acre, or 83,866 gallons, of runoff could be reused on the total proposed project area. This leaves an excess of 56,845,213 gallons of water. Collecting and recycling the runoff on-site would require the installation and maintenance of piping, pump stations, and cisterns for an estimated $50,516,252. This cost estimate does not include the removal of said piping, pump stations, and cisterns which totals at $72,878,479 bringing the total cost to $123,394,730. Due to the economic and feasibility constraints associated with the containment of on-site water via piping and cisterns, water reuse will not be performed on site.

III. Alternative Analysis - continued

4. Application of water conservation methods:
(Discuss the potential water conservation opportunities evaluated including the feasibility of implementation and the costs. Indicate which of, of these opportunities are to be implemented)

Water conservation opportunities exist for the proposed project. One such water conservation technique is on-site water redistribution, which is limited to watering haul roads for dust suppression, hydroseeding for reclamation, and watering of reclaimed areas. All onsite water usage will be taken from the proposed sediment structures. The aforementioned water re-use techniques will come at a cost of approximately $100,000 annually. These methods for on-site water redistribution will be implemented.

Any ponds retained as permanent impoundments will also provide future benefits to the surrounding community. One conservation method is the use of fire prevention and suppression throughout the proposed project area for the surrounding communities through the use of available water stored within on-site ponds. These ponds will also provide a potential water source for the support of livestock and wildlife.

5. Alternative or enhanced treatment technology:

(Compare feasibility and costs of proposed treatment with the feasibility and costs of alternative or enhanced treatment technologies that may result in more complete pollutant removal. Describe each candidate technology including the efficiency and reliability in pollutant removal and the capital and operational costs to implement those candidate technologies. Justify the selection of the proposed treatment technology.)

On-site water re-use is limited by local topography and designed pond structure storage capacity. The proposed project can produce approximately 56,929,079 gallons of water assuming a 25-year/24-hour storm model. With 419.33 acres of proposed surface disturbances and slopes of approximately 30% on-site, approximately 200 gallons/acre, or 83,866 gallons of runoff could be reused on the total proposed project area. This leaves an excess of 56,845,213 gallons of waste water requiring treatment.

One such treatment method is storing the 56,845,213 gallons, or 174.71 acre-feet of excess water generated on-site and at the treatment facility. Storage of the 174.71 acre-feet of excess water would require the use of additional pond structures at both the proposed project and the wastewater treatment facility. Approximately $8,756,435 will be needed to acquire the land, permits, and construct the ponds necessary to store the excess water. This type of addition to the mining and waste-water control plans will cause unnecessary delays and excessive costs to the proposed project while also contributing to preventable environmental impacts.

There exist three methods of transporting water to a wastewater treatment plant, piping via gravity flow or straight-line method, or hauling via tanker trucks. The nearest water treatment plant to the proposed project is located 20.97 river miles (Hazard Wastewater Treatment Plant) and 12.8 road miles away (Vicco Wastewater Treatment Plant). Hazard WTP and Vicco WTP are equipped to handle 3,000,000 gals/day and 100,000 gals/day, respectively. To move water using gravity, 110,697 feet of pipe, at $60/foot of pipe, and 3 pumping stations, at $150,000 a piece, will be needed. This would generate a cost of $6,941,870. To pump to the nearest wastewater treatment plant directly, would require 32,788 feet of pipe at $60/foot of pipe and 8 pumping stations at $150,000 per station. This would total to $1,967,328. The next option for moving the water from the proposed project area to the treatment facility would be the use of 4,000 gallon capacity tanker trucks at approximately $63,000 per truck. To move the 56,845,213 gallons of excess water and assuming a minimum number of trucks to maximize water transportation efficiency, the cost to transport water by tanker truck will be approximately $64,756,830 for one storm event. The addition of another 56,845,213 gallons of water would only add to the untreated water being discharged to the river unless the treatment facility was upgraded to process additional water. Considering the available options to upgrade a wastewater treatment facility, costs to upgrade this wastewater treatment facility for an additional 56,845,213 gallons of wastewater would range from an estimated $170,535,640 to over $341,071,280. Upgrading to three-times the maximum value would reach a cost of $1,023,213,842. These types of additions to the mining and waste-water control plans will cause unnecessary delays and excessive costs to the proposed project while also contributing to preventable environmental impacts.

After exhausting all other alternatives considered above, the proposed pollution prevention measures for the project consists of the use of on-site sediment control structures, or ponds. These ponds will be utilized on the bench of the active mining area and as in-stream structures placed beneath the hollow fill toe as wastewater treatment measures to ensure proper particle settling of on-site water resources prior to off-site discharge. The ponds will be constructed incrementally in conjunction with the proposed mining plan to ensure proper containment and treatment of on-site wastewater. The construction and maintenance of the pond structures associated with the proposed project will cost approximately $126,000 for the life of the mine. The current wastewater containment and drainage control plan for the proposed project are the measures to be implemented.

III. Alternative Analysis - continued

6. Improved operation and maintenance of existing treatment systems:

(Discuss improvements in the operation and maintenance of any available existing treatment system that could accept the wastewater. Compare the feasibility and costs of improving an existing system with the feasibility and cost of the proposed treatment system.)

The cost to upgrade the existing water treatment facility to sufficiently treat an additional 56,845,213 gallons of wastewater would range from $170,535,640 to over $341,071,280. The nearest downstream wastewater treatment facility is located in Hazard, KY approximately 20.97 miles away from the proposed project and has a daily treatment capacity of 3,000,000 gallons of wastewater. Upgrading the facility to handle close to three times its maximum daily load capacity would require more significant upgrades at a cost of $1,023,213,842.

Chemical treatment options at the public water supply were also considered for the proposed project site. Chemical treatment costs can range from $0.50/gallon to $4/gallon and are dependent upon the wastewater constituents. Assuming 56,929,079 gallons of excess water generated from the 25-year/24-hour storm model and an average cost of approximately $2.25/gallon for the use of necessary chemicals will cost approximately $128,090,428 to chemically treat the discharge from the proposed site. Due to such a large economical vow, this option is not feasible.

After exhausting all other alternatives considered above, the proposed pollution prevention measures for the project consists of the use of on-site sediment control structures, or ponds. These ponds will be utilized on the bench of the active mining area and as in-stream structures placed beneath the hollow fill toe as wastewater treatment measures to ensure proper particle settling of on-site water resources prior to off-site discharge. The ponds will be constructed incrementally in conjunction with the proposed mining plan to ensure proper containment and treatment of on-site wastewater. The construction and maintenance of the pond structures associated with the proposed project will cost approximately $126,000 for the life of the mine. The current wastewater containment and drainage control plan for the proposed project are the measures to be implemented.

7. Seasonal or controlled discharge options:

(Discuss the potential of retaining generated wastewaters for controlled releases under optimal conditions, i.e. during periods when the receiving water has greater assimilative capacity. Compare the feasibility and cost of such a management technique with the feasibility and cost of the proposed treatment system.)

Seasonal or controlled discharge of the approximately 56,929,079 gallons of excess water generated on-site during a 25-year/24-hour storm is best achieved through storage in pond structures. After on-site water recycling is achieved, a surplus of approximately 174.71 acre-feet of excess water would require the use of additional pond structures at both the proposed project and the wastewater treatment facility. Approximately $8,756,435 will be needed to acquire the land, permits, and construct the ponds needed to store the excess water. Storing the excess water in this manner will allow for a controlled or seasonal discharge at the discretion of the operator of the proposed project but at a more significant cost than the proposed treatment options.

After exhausting all other alternatives considered above, the proposed pollution prevention measures for the project consists of the use of on-site sediment control structures, or ponds. The ponds are designed to contain the discharge from the affected watershed and provide seasonally controlled releases of treated wastewater through the outfall structures and/or emergency spillways. These ponds will be utilized as wastewater treatment measures on-bench within the active mining area and as hollow fill drainage collection to ensure proper particle settling of all on-site water resources prior to off-site discharge. The ponds will be constructed incrementally in conjunction with the proposed mining plan to ensure proper containment and treatment of on-site wastewater. All water contained onsite will be directed to the ponds and given the necessary time to allow for sediment settling within each structure. Drainage ditches and corridors will also be designed with appropriate lining, either rock or vegetation, to allow for proper sediment settling prior to offsite discharge. The construction and maintenance of the pond structures associated with the proposed project will cost approximately $126,000 for the life of the mine. The current wastewater containment and drainage control plan for the proposed project are the measures to be implemented.

8. Land application or infiltration or disposal via an Underground Injection Control Well

(Discuss the potential of utilizing a spray field or an Underground Injection Control Well for shallow or deep well disposal. Compare the feasibility and costs of such treatment techniques with the feasibility and costs of .proposed treatment system.)

Injection into underground mines was considered as an alternative method of underground storage Of the existing underground mines in the vicinity of the proposed permit, most are still active and present a high risk level for areas of possible excess water discharge storage. In order to provide a safe alternative for subsurface disposal and/or storage of excess water discharge the abandoned underground mines must provide an impermeable medium. To provide an impermeable medium, the underground mine must have seals in place at each opening or entrance, must be absent from any bedrock fractures to prevent re-entrance into the groundwater and surface water systems, and must have enough storage volume to accommodate potentially 56,929,079 gallons of water. The underground mines in the vicinity of the proposed permit area also pose water quality concerns due to unknown amounts of water and the possibility of compromised quality of water currently being stored by the mine. The many levels of risk associated with injecting excess water discharge from the proposed surface mining operations into abandoned underground mines create a dubious option for water storage. Injection into underground mines or into a septic system could also adversely affect the local groundwater supply by displacing any water in the area and creating a superfluous pressure-head. Such an increase in pressure-head will create the possibility for additional discharge from these areas and increase the chances for any blow outs which could ultimately prove to be a safety hazard. The injected water could possibly re-enter the ground water system and potentially the surface water system due to the likelihood of fractured geologic strata associated with the region. For these listed reasons, the underground storage method was dismissed as a practicable alternative.

9. Discharge to other treatment systems

(Discuss the availability of either public or private treatments systems with sufficient hydrologic capacity and sophistication to treat the wastewaters generated by this project. Compare the feasibility and costs of such options with the feasibility and costs of the proposed treatment system.)

There exist three methods of transporting water to a wastewater treatment plant, piping via gravity flow or straight-line method, or hauling via tanker trucks. The nearest downstream wastewater treatment facility is located in Hazard, KY approximately 20.97 river miles away from the proposed project and has the ability to treat a maximum of approximately 3,000,000 gallons of wastewater per day. Conservative estimates suggest that to upgrade the existing wastewater treatment facility to treat the estimated 56,845,213 gallons of excess onsite water using would cost approximately $170,535,640 to over $341,071,280. Upgrading the facility to handle close to three times its maximum daily load capacity would require more significant upgrades at a cost of $1,023,213,842.

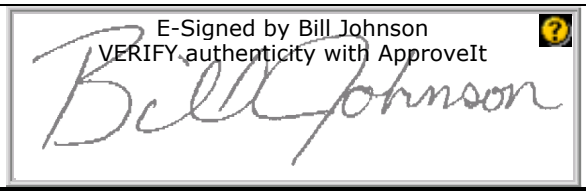
To move water using gravity, 110,697 feet of pipe, at $60/foot of pipe, and 2 pumping stations, at $150,000 a piece, will be needed. This would generate a cost of $6,941,870. To pump to the nearest wastewater treatment plant directly, would require 32,788 feet of pipe at $60/foot of pipe and 8 pumping stations at $150,000 per station. This would total to $1,967,328. The next option for moving the water from the proposed project area to the treatment facility would be the use of 4,000 gallon capacity tanker trucks at approximately $63,000 per truck. To move the 56,845,213 gallons of excess water and assuming a minimum number of trucks to maximize water transportation efficiency, the cost to transport water by tanker truck will be approximately $64,756,827 for one storm event. The addition of another 56,845,213 gallons of water would only add to the untreated water being discharged to the river unless the treatment facility was upgraded to process additional water. Considering the available options to upgrade a wastewater treatment facility, costs to upgrade this wastewater treatment facility for an additional 56,845,213 gallons of wastewater would range from an estimated $170,535,640 to over $341,071,280. These types of additions to the mining and waste-water control plans will cause unnecessary delays and excessive costs to the proposed project while also contributing to preventable environmental impacts.

Chemical treatment options at the public water supply were also considered for the proposed project site. Costs for chemical treatment can vary and are specific to each individual pollutant entering the facility and can typically range from $0.50 to $4/gallon. Assuming 56,929,079 gallons of water generated from the 25-year/24-hour storm model and an average cost of approximately $2.25/gallon for the use of necessary chemicals will cost approximately $128,090,428 to chemically treat the

discharge from the proposed site. Due to such a large economical vow, this option is not feasible.

After exhausting all other alternatives considered above, the proposed pollution prevention measures for the project consists of the use of on-site sediment control structures, or ponds. These ponds will be utilized on the bench of the active mining area and as in-stream structures placed beneath the hollow fill toe as wastewater treatment measures to ensure proper particle settling of on-site water resources prior to off-site discharge. The ponds will be constructed incrementally in conjunction with the proposed mining plan to ensure proper containment and treatment of on-site wastewater. The construction and maintenance of the pond structures associated with the proposed project will cost approximately $126,000 for the life of the mine. The current wastewater containment and drainage control plan for the proposed project are the measures to be implemented.

IV Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title:	**Bill Johnson/Vice President**	**Telephone No.:**	(606)878-7411
Signature:		**Date:**	**12-29-10**